

Let My People Breathe (LMPB) Doc. 0 My Examination of Studies “Proving” Masks work Introductory Material (An overview of the subject)

The supporting documentation for these notes may be accessed by downloading the zip file attached below:
Evidence Supporting Mask Efficacy.

First, lest’s discuss the issue of bias. Bias is prejudice in favor of one opinion over another. Everyone operates within a certain bias. However, there is what one might call *natural bias*, *malignant bias*, and *bias blindness*. Let’s begin with natural bias.

Natural Bias:

Bias is prejudice in favor of one opinion over another. Everyone begins research with a certain amount bias. For example, every scientist who begins research from a hypothesis has in the statement of their hypothesis declared a favored opinion at the outset of their research. Every thinking person is *biased*, the question is *are they honest?*

The question is not whether or not someone is *biased* but whether they have the character to examine data objectively, willing to yield bias to facts that contradict it—are they honest. Honest research is not necessarily unbiased, but is necessarily objective. It is possible to be

biased and objective at the same time. The controlling factor behind good research is honesty, not bias. Honest bias is what I call *natural bias*. It is natural for people to have opinions that they favor over others.

Bias can be founded upon experience, and experiment, which often informs intuition. We do not need to provide a study proving the effect of what we call gravity on your body free falling from 500 feet. One might have a bias against jumping from an airplane without a parachute, and should not be required to suspend that intuitive bias because someone challenges them saying, but you don't really know what will happen since you have not conducted a proper study to ascertain what will result if you jump. There is what you might call reasonable bias. There is also unreasonable bias. The point here is that the presence of *bias*, by itself, is not sufficient grounds to assume the researchers are *dishonest*. Ultimately, it's about character, not bias.

We cannot know the character of our researchers, but if we understand their bias while we examine the content of their research we can ascertain whether bias is controlling their research, and actively distorting their findings. Bias is not a problem if the researcher is honest and always willing to yield personal or professional bias to facts as they emerge during research. However, if when we examine the content of a research article we observe inconsistent logic, or indications that certain evidence was

purposely ignored, or omitted, or if we see an obvious disconnect between the results of a valid experiment and the conclusions asserted from those results, these are indicators of dishonest research, and if we notice that consistently these conclusions are shaped in defense of the author's bias, we know we are dealing with research tainted by a controlling interest other than truth. One *bias* that ought to control all research is a *truth bias*.

While every effort should be taken to avoid any undue influence of bias in any research, the fact is, bias is impossible to remove entirely. Furthermore, it should not be attempted. An honest researcher will understand his or her own biases, but will studiously submit them to rigorous testing and proving. It is in this spirit that I declare my bias. And in the course of this research, I demonstrate my commitment to challenging my bias. One way I do this is by purposely seeking out and examining every study I could find that supports masks. In fact, I have spent a full 3/4 of my research time looking for evidence that proves against my thesis.

My bias against masks for protection against viral infection is partly cultural, but primarily shaped by my exposure to western medical thinking on this subject. Traditionally, masks have been thought to provide little or no significant protection against a virus in any setting, and especially inadequate for controlling a community wide spread of viral contagions. This is generally agreed to, and

there is here no need to cite the RCTs that establish a well known consensus. (These studies are examined in these notes.) The western consensus on mask efficacy against viral infection was expressed by Fauci in an email correspondence not long before the COVID-19 disease was declared a pandemic: the virus is too small and passes through the typical surgical mask.

Therefore, I offer the following declaration of my bias against wearing masks as protection for both the wearer (PPE) and the community (Source Control) because, 1. no properly constructed and carried out RCT from before COVID, throughout the current pandemic, and to the present, singly or together provide evidence of mask efficacy against viral infection; 2. the significant body of research that supports concern that long use of masks will actually depress immune response to viral infection; 3. the ample research that supports concern that wearing a mask interferes with the bodies natural immune filtration system and, in fact, increases risk of viral infection; 4. the demonstrable fact that masks are not a benign intervention, but actually can cause not only irritation, and annoyance, but real health risks beyond what is mentioned in no. 4, above; and finally, 5. I object to the restriction the recommended masks place on breathing naturally and freely, the annoyance created by moisture build up, need to change and clean them regularly, the covering of faces inhibiting communication and encouraging a sense of isolation, and the sense of oppression created by

governments mandating medical procedures.

And the point is, I demand those imposing a mask mandate on us provide ample and compelling reason why we should abandon the ages long scientific based understanding regarding mask efficacy against viral infection that would justify imposing this intrusion upon our freedom to breath, and to communicate with one another, without the frustration of these artificial barriers.

I consider imposing government mandated masking on the public an intrusion of our liberty, and violation of our personal freedom and autonomy, which is totally unacceptable if it's nothing more than theater, or used to intrude upon us by psychological manipulation. Explanations such as *masks make some people feel better*, or *masks help heighten awareness of a pandemic*, and so forth, are NOT justifications for using the power of compulsion wielded by governments to force masks on the faces of citizens against their will.

The point is, bias or no, the burden of proof is on the government to justify this intrusion upon our lives, and my study shows definitively that they have failed to meet anything resembling proof masks meaningfully contribute to the effort to control the spread of a viral disease.

However, if anyone reading these notes can show that my bias motivated me to 1. ignore evidence contrary

to my bias; 2. manipulate data to conform to my bias; or 3. misrepresent the views of others, I challenge them to bring this to my attention. A simple declaration to that effect is intolerable without citing specific examples that I can examine. To challenge me because I show reasons to disagree with the conclusions of certain scientists, and quote them in support of those findings, is not a “misrepresentation” of their views because they make statements contrary to my conclusions. A misrepresentation requires evidence that I intentionally twisted something said by an author into something the author did not say. It is not represented in a case where I quote something the author says and show why his or her statement compromises his or her thesis, or contradicts his or her conclusions.

My promise to any reading these notes is that every reasonable challenge will be answered; and after I’ve had an opportunity to reexamine my work, if it is discovered I have offended in any of the ways I mentioned in the paragraph above, I will confess the error, and make the necessary correction to my work.

Summary and Conclusion to Natural Bias:

A bias in favor of masks does not alone disqualify a study. I examine bias factors carefully in my examination of the literature that purports to prove masks are efficacious to provide adequate protection against viral

infection. But noting potential bias does not disqualify any study. Ultimately, it is the content of the research that provides the final determination whether the research adequately proves mask efficacy to protect against viral infection.

Presence of bias on either side of the questions regarding mask efficacy does not equate to dishonesty in research. On the other hand, there is what I call *malignant bias*, and *bias blindness*. The presence of such bias betrays dishonest research.

Malignant Bias & Bias Blindness

Bias is considered malignant when researchers present compelling evidence that compromises the claim for adequate mask efficacy and then conclude with a recommendation for universal masking, or, for fear of reprisal, simply defer to government controlled medical advice on the subject. But there is another problem where bias blinds researchers so that otherwise intelligent researchers miss obvious questions that compromise their conclusions. This is what I call *bias blindness*.

Bias should be considered malignant when obvious logical fallacies are used to support conclusions in favor of masks: e.g., 1. *we assume infectiousness of virions as small as ≤ 100 nm, and we know surgical masks don't block that size virion, but because they block larger ones,*

we recommend masking. If the point of wearing the mask is to protect from infection, this reasoning is seriously flawed, and the failure of any one who calls themselves a scientist to acknowledge this and admit the surgical mask is inadequate to protect from *infection* is disingenuous. If the researcher sees the logical fallacy but depends on the ignorance of his readers, or depends on the strength of confirmation bias to manipulate them, I believe such researchers exhibit malignant bias. But it's also possible this arises from failure to see an obvious problem with their argument; this would be a symptom of bias blindness.

Another example: *if we know droplets evaporate quickly, and begin evaporation immediately upon ejection into the atmosphere, and that smaller droplets reach desiccation within milli-seconds, while larger ones desiccate fully within fractions of a second, and then argue that because a surgical mask will capture a fraction of large droplets ($\geq 0.3 \mu\text{m}$, or 300 nm) this provides any real protection from virus spread* is, once again, disingenuous on a level explicable only as evidence of malignant bias or gross bias blindness.

How To Use My Bias Factor Assessments:

For this reason, I use criteria, explained below, to identify factors I believe *might* contribute to bias in the research for every article I vetted in my study of research purporting to support mask use mandates, or

recommendations. Please note: The fact that I identify what I consider *bias factors* in an article does not in and of itself *prove* bias distorted the research. It can serve, however, as explanatory when the content of the research is obviously characterized by any of the concerns I mentioned above.

The *bias factors* include date of publication, authors and their affiliations, the references depended upon by the authors, and their source/s of funding.

These are addressed for each article as PC (considering whether the article is *pre* or *post* COVID which is determined by date of publication), CCP (considering whether there is any discernible *potential* influence of the Chinese Communist Party on the research; something I'll explain further below), and RCT (where I ascertain what sort of research was conducted, specifically, whether or not the study is, or is asserted to be, a Randomized Controlled Trial (RCT)).

Let's examine each of the three categories of bias factors:

PC: When was the study published? A Bias Factor?

PC asks the question when was the study done, or when was it published. This is almost always indicated by the date of publication. I have noticed that research done

before 2005 is relative free from the influence of the potential bias factors I look for in this study.

If the reader pays attention to the date of publication indicated for each research paper examined, a trend is noticeable in the content of those studies.

One of the most curious revelations that emerged from my study was that while the essential science has actually only changed slightly, the attitude of researchers and their conclusions have changed markedly. A trend from a general consensus that masks are *not effective for controlling viral infection* toward a belief that *masks are an essential intervention strategy to control the spread of a virus* begins during and in the aftermath of the first SARS pandemic, SARS-1, in the early 2000s. (I am aware of the debate regarding masks that stirred during the Spanish Flu (1918), but the general consensus arrived at by Western science has guided the medical establishment for the last 100+ years: masks are not adequate for protection against viral infection.)

By the mid 2000s, at about 2005, eastern based researchers began to appear more prominently in Western medical journals and other outlets, which demonstrably favor observational based scientific experiments to the Western “gold standard” of scientific research known as the Randomized Controlled Trial.

Nevertheless, these studies were not dominant, and as noted above they were based on observational science; hence, for the most part, they were ignored by serious scientists who continued to depend on RCTs, something Fauci called the “gold standard” for scientific research. All RCTs consistently showed masks were inadequate to protect from viral infection, and most especially the popular SM, or surgical mask.

But something began to change at about 2010. Though the science did not change remarkably, and the conclusions from RCTs remained constant. However, I began to notice studies purporting to be RCTs in which, again, the science was virtually identical to what it had always been, but the conclusions of the researchers began to soften in favor of masks.

Also, I observed a noticeable shift in western science from an insistence on RCTs to a more favorable attitude toward what is called observational science.

(Later in these notes, I provide definitions for RCT, Observational Science, and so forth. The thing to understand right now is that RCTs are the gold standard of rigorous, empirical study focused on eliminating confounders and supporting conclusions with physical experiments that can be duplicated with consistent results. And while all science depends on observation, the expression *Observational Science* refers to a species of

scientific enquiry that is far less rigorous, much more accommodating to bias, and so way more easily manipulated toward targeted results.

For this reason, serious scientists, Western science especially, had little use for such research. Observational Science (OS) is useful to examine the viability of moving forward with a serious scientific study to examine a hypothesis — that is, an RCT.

RCTs are expensive and can be difficult to manage properly. OS are inexpensive, by comparison, and easier to construct and conduct. OS has never been taken seriously by western science, at least not for anything like scientific conclusions, until recently.

The trend toward embracing OS is particularly noticeable in the period 2010-2020. More recently, 2020-2022, we are seeing an even more concerning development. Some authors affiliated with institutions such as US CDC, NIAID, OSHA, NIOSH, and others are beginning to call for a move away from the RCT toward variations of observational based studies. This amounts to a move away from science toward superstition.

Superstition is premised upon *observations* that are not tested by carefully constructed experiments to validate. They often depend on mere correlation—someone got sick riding in a plane, and so riding in planes makes one sick.

It's a silly example, but illustrative of the problem. A few centuries ago (1600s) scientists believed there was a chemical resident in matter called Phlogiston, that was responsible for the fire that resulted from combustion. [See https://en.wikipedia.org/wiki/Phlogiston_theory] This was premised upon the observation that fire seemed to arise out of matter. This was also used to explain rusting. We would call such belief a superstition today. In the 1700s, science adopted what we now call the *scientific method*. Through employment of the scientific method, oxygen was finally discovered and it was learned that oxygenation is what fuels fires and causes rusting. Conclusions premised solely upon *observations* are like superstitious beliefs that arise from superficial correlations: the sun rises in the east and sets in the west, ergo, the sun revolves around the earth. A man walked under a ladder and bad fortune followed the event — ergo, it's bad "luck" to walk under a ladder. A black cat crossed your path, it startled the horse, the horse threw his rider who died in the fall — ergo, don't let a "black cat cross your path." And so on! Sadly, contemporary science is trending backwards from real science toward superstition — toward something the Bible calls, *science falsely so-called* (I Timothy 6:20).

And examination of dates for publication, together with examination of the type of study (RCT or OS, or some hybrid species of OS that includes some elements of RCT but ultimately depend on correlations to support conclusions) reveals this trend. That is the reason I am

interested in the date of publication.

CCP Bias Factor

CCP stands for the Chinese Communist Party. CCP influence in the US is a phenomenon that began with Nixon, but has grown to the place where the influence of the Chinese Communist Party is ubiquitous throughout the US, Canada, Australia, and the rest of the developed and much of the undeveloped world. The goal of the “Party” has been stated clearly: World dominion. Their strategy for achieving this is to destroy American dominance in the world and bring the US under CCP power, taking its place as the world superpower. The mask debate serves as a microcosm of this larger issue. An examination of CCP dominance in medicine in the US is clearly illustrated by the shift from western to eastern views on the usefulness of masks to control the spread of a virus. We’ve all seen the pictures of hundreds of thousands of Chinese citizens wearing masks during flu seasons. America is increasingly looking like China. In fact, like so much else in America today, it is becoming increasingly clear the pandemic was “made in China.” For these reasons, I’m interested in charting the potential influence of the CCP in the current mask debate. The section of my vetting notes headed CCP looks for potential Chinese Communist Party cultural of professional bias influencing the research or researchers.

Obviously, CCP influence does not comprehend all sources of potential mask-favor bias. Virtually all of the East is culturally conditioned to accept masking as a viable strategy to protect against the spread of a viral disease. That means India, Pakistan, and virtually all of the Arab and Persian nations also. This is also true of many countries on the African continent. I've already mentioned Western countries deeply influenced by CCP: US, Canada, and Australia being three most obvious examples. Therefore, CCP indicates a primary interest in any potential Chinese Communist Party influence for reasons given earlier, but I also use the CCP section more broadly to indicate any cultural or professional bias in favor of masking.

When assessing the CCP category, I consider both cultural and professional bias. Cultural bias refers to the influence of cultural acceptance of masks and professional bias speaks of any concern one might have about protecting their job, or professional status, career advancement, etc. So, the CCP category is actually quite broad.

It might have been better to label this category something like MBI for *mask bias indicators*, or some such. But the fact is, my primary concern is CCP influence. Perhaps I'll go back and add MBI — something like CCP/mbi.

Finally, the CCP section is subdivided into looking at **authors** by name, then **ORIGIN** of the research/ers, which usually assesses author affiliations and government origin. This is followed by **REF**, which examines references depended upon to support the research, and then **FUNDING** which examines the source/s of funding. Let's look at each one.

AUTHOR: *Note—I don't label this subsection. After "CCP:" I list author's names and indicate how many are possibly influenced by cultural bias. Example: CCP: Tang, Wang, Smith (2 of 3). Arab, India Indian, and Persian names are also noted as suggesting the potential for cultural bias in favor of masks.*

It is very important to remember that the fact someone has a name that appears to be Oriental (Chinese, Japanese, Taiwanese, etc.), or Arabic, etc. does not prove bias. It's only noted as suggesting the possible orientation of the authors toward favoring masks. But, as explained above, that does not prove such bias exists, and it certainly does not prove any such bias influenced their research or tainted their conclusions to the point of distorting or ignoring facts.

ORIGIN:

After I examine the names of the authors for suggestions of potential cultural bias, under consideration

for ORIGIN, I examine author affiliation to gain insight into whatever institutional bias might be present. I'm also interested in their country of residence, etc. Obviously, if I notice *CHINA, Beijing*, I'm going to assume CCP control over the research. Likewise any medical establishment institution in the US, Canada, Australia, and to some significant extent, the UK. And yet, this does not justify dismissing the article, and so it is ultimately examined and evaluated based on its content.

REF: or references.

Next, the references are examined for any indications of potential cultural/professional, institutional, and or government bias. The WHO and the US CDC are politicized. Fauci's NIAID is corrupted by his political bias, and so on. Therefore, evidence of a dependence upon these as authorities indicates the possible influence of political bias, etc. And yet, again, this does not prove bias is present, nor does it alone prove whatever bias might be present actually served to distort researchers' findings.

FUNDING: Financial support for the research.

Finally, funding is considered and that concern is obvious to anyone. In fact, researchers are sensitive to the influence of such bias and make clarifying statements to provide assurance this did not interfere with their work.

There are three levels of examination: The levels are fairly represented by the following three descriptive categories: 1. a general perusal; 2. targeted scrutiny; or 3. comprehensive scrutiny. When you understand criteria for each, given below, the vet level of each research article examined will be evident to anyone using my notes. [NOTE: The articles are identified so that any using my notes can find the source article in my archives. At the time I created this identification notation, I was vetting footnote number 1, “Do face masks work? Here are 49 scientific studies that explain why they do.” To guide anyone using my notes to the pdf documentation being examined, I used a document identification system that began with FN01, which points to the root article. The next number, FN01.##, points to the article referenced in FN01, and these are 01-49. The next set of numbers, FN01.01.## refer to a reference within that article, and so on. Please understand, some of this was developed in process and, albeit rarely, there are variations, but in no case do those variation interfere with the reader’s ability to find the document in my archives, which is ultimately the point of the notation. I started the work of examining each of my vetted articles to ascertain their vet level, but stopped as it became evident it was not time well spent. So you will notice some articles do have the vet level noted as follows: (#) FN01.##.##.##.##, the (#) indicates the vet level of that research article. I stopped a little ways into this process for the reason mentioned above. The online link is provided behind the document notification.]

Occasionally, I give an article only a cursory examination, these are usually noted as *not vetted*. If I wanted to include a reference but did not believe it was necessary to examine it, I use (-) before the archive notation: e.g., (-) FN01.00.00.00.00, etc., means the article is noted for reference but was not formally vetted for my notes. These are not counted in my article count.

Vet level 1 means I scanned the study carefully, reading most of the content, looking for specific information. This was often accompanied by searches for key words, such as *diameter*, *virus*, μm , *nm*, $5 \mu m$, or other words related to the claim I was researching, when that search was applicable. Sometimes I searched for method of the study, or checked for *random*, *cohort*, *clinical*, *control*, to help ascertain if there was any claim to a species of RCT buried in the study. Level 1 enquiry usually did not include running down every reference used by TA (The Author/s of the article being vetted) to support a claim or statement.

Vet level 2 means after my level 1 examination, I decided to zero in on certain sections of the article I found particularly interesting or especially pertinent to my interest. These sections were read very carefully, running down all relevant references within that section. So, if I included an examination of at least one or more references used by TA, it is indicated as Level 2.

Vet level 3 means I studied the entire article very closely, running down virtually every reference used. FN01.03... is an example of a level 3 examination. Usually, the references I chase down in a level 3 examination are given a level 1, or 2, look, but it is not unusual for such a reference to be treated as a level three article. Occasionally, I will give a referenced article a level 2, while the references in that article are given a 2 or 3 level examination. Usually, these articles include multiple references that are vetted at varying levels.

My approach was strategic. Focused on the question of mask efficacy, I usually limited my examination to material supporting or contradicting my thesis. Often, however, I broadened the scope of my enquiry beyond my focus.

The focus of my enquiry is explained below.

My Thesis Statement: (What was I looking for in my research?)

I examined well over 700 articles seeking for scientific evidence that would provide proof against or support for the following thesis:

The masks currently recommended for community use do not provide adequate protection from infection or

contagion (that is as PPE or as source control) sufficient to justify mask mandates.

As a sub-thesis, I would add, the aforementioned masks do not pass a cost benefit analysis—there is greater harm than good in the equation. I do not labor to prove the secondary thesis, but I think it becomes evident as the primary thesis is established.

I concentrated on the articles gathered by one investigative reporter who asked “Do face masks work?” and purported to have assembled 49 “scientific studies that explain why they do” (By Russell Falcon for kxan: In-Depth Investigative report, dated August 7, 2021, updated Dec. 23, 2021, and found at <https://www.kxan.com/news/coronavirus/do-face-masks-work-here-are-49-scientific-studies-that-explain-why-they-do/> (as of June 25, 2021) and copied as a PDF in my folder as FN01.00.00.00.00.Do face masks work_ Here are 49 scientific studies that explain why they do _ KXAN Austin). I refer to these, collectively, as the *Falcon articles*. Of the 760+ research articles I examined in my research, 539 of them are connected with my examination of *The Falcon articles*.

I made the *Falcon articles* my primary focus because it was important to me to discover if there was any study with scientific integrity that showed significant protection was afforded either as PPE or source control by the masks

recommended as satisfying the medical establishment's recommendations and government's mandates that were premised upon those recommendations.

Of the 535 articles vetted in these notes (see docs 1 & 2), only one was included that was written specifically to argue against their use (<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> — See SE01.00.00.00.00 (SE stands for Supporting Evidence), included in these notes as FN01.43.01.00.00). It was vetted because it came up in the course of my examination of the Falcon articles.

My effort was to examine every one of the 49 articles Falcon presented as proof masks work. I looked also at every supporting document cited within each those articles that seemed most likely to provide a compelling argument that would contradict my thesis. I truly sought to find any scientific study that actually supported wearing masks. Of all 535 studies vetted, not one article, not one RCT, not one observational study, or cohort, clinical, or controlled trial, or mathematical model, proved mask efficacy against viral infection. I did not say none made that *claim*. Indeed, Falcon is correct to assert all the articles he named *claimed* mask efficacy, and many of them insinuated adequate efficacy to contribute significant protection against viral infection. But when these studies were examined by the criteria I established at the outset of this

study, discussed below, not one study survived the scrutiny. I'll address the *claim* issue in a moment. First, the criteria that served as basis for my scrutiny.

The primary criteria of interest in my study was surgical or cloth mask filtration efficiency for particles in the size range of $\leq 0.125 \mu\text{m}$, which is 125 nm. The reason for this criterion is that it is generally known (there are no objectors) that the SARS-CoV-2 virus particles range in size from 40-140 nm, and that the most common size is 125 nm.

This virtually eliminated every study attempting to argue for mask efficacy in protecting the wearer.

Some studies claimed *modified* surgical and cloth masks provided *some* filtration for particles in the 100 nm range, but although the best performance was about 80% capture, the materials caused unacceptable obstruction to natural respiration with very inconvenient construction required.

Besides, the particle size range for SARS-CoV-2 is 40-140 nm; 125 nm is considered the most common size. Only a very small portion of the hundreds of studies I examined meet this criteria. (Note: I did not dismiss any article on that criteria alone. They were examined for any other information that might be helpful to support the thesis or the antithesis.)

About mid to late 2021 to the present, researchers have given up on promoting the idea that the common surgical or cloth mask would provide any meaningful protection from viral infection; they turned to arguing for *source control*. The *white flag* has been raised in surrender to the overwhelming evidence that surgical and cloth masks cannot provide adequate protection against particles that are smaller than 300 nm (most would stipulate to the limit being 500 nm). This is because even if viral droplets begin at source in sizes large enough to be captured by a mask, they evaporate so quickly that by the time any reach by-standers, they are too small to be captured by a surgical or cloth mask. Curiously, the general public is not made aware of this fact. But there is a discernible shift in what I call *mask propaganda* from use of masks to protect the wearer to wearing them to protect the community.

The shift to a focus on source control (capturing particles at the source) was premised on the belief that particles at source are much larger (300-5000 nm) and may be captured inside the mask at expiration. (All masks, including the N95, are tested against particles that are 300 nm and larger.)

As I proceeded in my enquiry, I noticed a shift occurred. The inadequacy of surgical and cloth masks to protect against infection was given up, and all attention

was turned to masks as source control. Therefore, I had to shift my focus to another question.

The secondary criteria of interest was mask efficiency at capturing larger particles at source and whether this provided adequate source control against viral infection on behalf of the community. As I poured over these studies, I learned that...

1. Not all virus particles begin as droplets that are \geq 300 nm; a significant number of much smaller particles, called micro-droplets, also escape through the recommended masks.

2. Many larger particles escape through leakage (around openings in the masks not sealed properly to the face).

3. Certain mechanisms of physics and aerodynamics actually cause some particles to be jetted through leakage with even greater force than would occur without a mask.

4. Droplets large enough to be trapped inside a mask begin desiccation immediately, which is facilitated, or sped up, by respiration, so eventually every droplet evaporates, releasing the micro-droplet or naked virion into aerosol, or allowing it to be drawn with great force deep into the lower respiratory tract where the wearer is exposed the greatest risk for infection.

5. Droplet moisture gathering on the inside of a common surgical or cloth mask is not only uncomfortable, but also creates a sort of petri dish for the collection and growth of bacteria, some of which can cause diseases.

6. No masks blocks a sufficient number of droplets from 300 nm to 500 nm so as to insure protection against infection, since at best, they only provide 20-50% filtration at that size, meaning 80-50% escape capture. In the extreme scenario, say only 10-20% of the expressed virions escape capture, according to the rule of IAH (Independent Action Hypothesis) any one particle can cause infection, so that when this is taken together with the scientific proof that multiple thousands, I mean, in the hundreds of thousands to the millions of particles generated in 15 to 30 minutes speech, one cough, or sneeze, etc. if only 10% or 20% escape capture, the chances for infection are such that make the mask worthless.

7. Finally, and this is the coup-de-grace in this debate: because researchers must concede to No. 6, they attempt to argue that capture of larger particles, ranging from 5 μm and above, which allows them to argue for filtration rates in excess of 85%-98%, it turns out that our natural filtration system is very efficient at capturing particles in this size range, and does a far superior job.

The recommended masks interfere with our natural filtration system, and in fact aid and abet the virus attack. I'll summarize it below, and explain in detail in my notes.

Our nose captures particles in the $\geq 5 \mu\text{m}$ size range, coats them with mucous, and begins agitating the host to clear their nose, ejecting the virion particles. Those that are not ejected are moved through the nasal passages into the esophagus and swallowed where they are fully neutralized by stomach acids. Particles that enter in through the mouth are caught in the back of the throat, and, again, swallowed, where they are neutralized.

Smaller particles, that by-pass this first safety net, move into the upper respiratory area of your bronchia where many are captured, coated, and slowly worked back up the trachea, to the upper bronchia cilia agitating the host to cough which expectorates the particles from the body.

Some yet smaller virions might by pass this secondary safety mechanism, into the smaller bronchia passages, which reduce smaller and smaller, until only the very tiniest particles actually find their way to the aveoli where they can enter your lung and actually get into your blood stream to cause an infection. At that place, the virus encounters cells that attack them. Only when the host is overwhelmed by a number of virions sufficient to overwhelm this defense, or in cases where the host's

immunity is compromised and cannot mount an adequate defense, does the infectious particle enter the blood. There are other immunity responses that occur within the blood to attack the foreign invaders. So, as you can see, God has created us to fight off any invasion of infectious particles, and we get sick only when that system breaks down. Masks, as I shall show below, actually facilitate the infectious particles in their invasion.

Here is the problem with the mask: it captures and holds next to your face what your body is trying to eject. That's A. THEN COMES B. Whatever droplets it captures with any efficiency at all, would have been subject to capture described above. Then comes C: However, because of the barrier, the $\geq 5 \mu\text{m}$ droplet is trapped on your mask. Depending on the force, or velocity of the droplet, when it hit your mask it was immediately broken down into smaller droplets. What comes next will shock most maskers.

If you are wearing what is called a hydrophobic filter, the droplet will break into smaller droplets and stay trapped in the fibers until they desiccate. The natural course of respiration, blowing and drawing air over the minute droplets, facilitates evaporation. Give it a hot day, or low humidity, the process is even faster, and soon the virion is released from the droplet and FLIES PAST YOUR NATURAL DEFENSES like a bee through a chain link fence.

If you are wearing what is called a hydrophilic filter, it's even worse. Now the droplets absorb into the material, spreading out thinly over the surface, and so drying even more quickly, with the same result: the virions are released and either are launched from the mask into aerosols that move about with air currents indefinitely, or they are drawn right past all your natural filtering barriers, deep into your bronchia, through the opening into your alveoli and into your blood cells where they begin replicating and causing infection.

Examining mask efficacy claims:

Masks do block some particles and therefore should be used: The fact that a surgical or cloth mask can trap *some* large particles does not address the smaller particles that escape capture. The assumption that some masks are reported to have captured *some* particles in the size range that concerns us is “proof” of mask efficacy in protecting against transmission is rejected. The evidence is overwhelming that virus particles aerosolized as small as ≤ 40 nanometers are infectious, and the consensus is that each particle should be considered infectious, with no study proving otherwise. The number of virions present in a cloud, or plume, are so many that the following analogy is actually an underrepresentation. If 100,000 bullets are targeting your head in a single burst, and you succeed to block 80% of those bullets, that means 20,000 bullets hit

their target: how many bullets landing in your brain does it take to kill you?

Of course, the differences are important. We are, thankfully, not talking about bullets, and the chance that one will actually die from SARS-CoV-2 virus disease COVID-19 is actually low (an average 95% recovery rate, and a death rate of 0.3%). But the analogy holds with regard to the efficacy of a mask to protect against infection. Especially when it is considered that those who argue for anything like 80% filtration are talking about masks that are untenable for public use, and impose breathing restrictions, or comfort irritations, or other actual dangers, that make them unfit for general public use. Surgical and cloth masks are useless for blocking micro-droplets, and since evaporation begins immediately, and hence droplet size begins quickly diminishing, most of the particles attacking the surgical or cloth mask pass through easily.

Data shows that when mask mandates are put into place, COVID hospitalizations in a given region decrease (or any variety of such a claim): virtually every article (study) making this assertion will offer in a variety of phrasing the following caveat: correlation does not equate to causation. These studies do not *prove* the introduction of a mask mandate contributed anything to the effect. Indeed, I discerned a disturbing trend in the “science” on this subject develop since the COVID pandemic began. Increasingly, western scientists can be seen moving away

from the “gold standard of scientific research,” which Fauci said was the Randomized Controlled Trial (RCT), to an ever increasing dependance on what is called observational science (OS). Every scientist with integrity will tell you that OS is considered to be very weak in terms of evidence. It is for this reason they are disregarded as providing anything more than supporting consideration for further study. In fact, almost all OS research concludes with a statement to the effect that *further research is necessary*. Some studies purporting to be RCTs will also include such a caveat. However, the difference is that a proper RCT is reproducible by others and provides actual science as a basis for conclusions. An OS does not. To rest scientific conclusions on OS is considered unprofessional at best, and dangerous at the worst. It is tempting to suggest the reason for this drift away from RCTs to OS is because virtually every qualified RCT concludes that masks are not an effective strategy for controlling community spread of a virus. Disturbingly, this drift of western science traditions toward adoption of eastern traditions parallels the political drift from western traditions of individual freedom toward eastern models of collectivism, that is, communism.

My concern is the number of virions that penetrate a surgical or cloth mask; I am less concerned about the number these might capture. Furthermore, I’m concerned that the best the government recommended masks can do is capture particles in a size range our bodies naturally

capture, only masks do not discharge these foreign intruders as our body does. And, as described above, in fact, the masks ends up helping the virus particles succeed at getting past our bodies natural defenses.

Layout of my notes: I used abbreviations to identify criteria of concern and a legend identifying and explaining those abbreviations is provided below. They are presented and explained in the order they are addressed for each article:

The first three are used for every study and assess the study as a whole: (This reviews material covered earlier but is readdressed here in case someone wants to return to this section for a quick reminder of my layout criteria)

PC = The research was produced post or pre COVID-19. This will be followed by the date the article was published.

CCP= Chinese Communist Party bias. I spoke to the issue of bias above. Given the obvious trend from western scientific tradition toward increasing conformity to eastern traditions, and knowing that science as conducted in a free Republic is very different from science conducted in a closed, state controlled environment, I am especially interested in any potential for CCP influence upon the research.

Of course, the mere fact that Chinese persons were involved in the research does not prove CCP bias, but it does raise the question. Besides, there are cultural differences that likely play into a researcher's perspective when interpreting data. I do not claim CCP influence is proven by any of the criteria I used to ascertain that potential. But given the current state of our relations with the CCP, it is important to note where such influence might be expected. So, my concern is particularly with political influence by the CCP over researchers or research. However, I also think it is worthy of notice if there is a potential for eastern culture bias influencing the research. (In the same way eastern based researchers might note western culture bias in research coming from western cultures. Cultural bias in favor of masks is not exclusively a CCP issue. India, Japan, and many other countries demonstrate a bias toward masks that is built into the culture of those countries.)

CCP (cultural, professional, and/or political bias in favor of masks) influence was ascertained by the following criteria:

AUTHORS:

Authors' cultural identification suggested by their names, Chen, Cheung, Leung, etc. This DOES NOT prove bias impacted their research; it only points out the possibility that a cultural bias might be present. (I am

aware of my own bias against masks, and do not assert the presence of bias defacto proves dishonesty in research.) While a Chinese sounding name does not automatically mean that person is under CCP influence, if in addition to this they are operating under CCP auspices (as from any institution in China, or significantly influenced or controlled by China) the suggestion must be considered.

Author's political alignment, or association with CCP influenced or controlled institutions. You will notice ORIGINS: followed by a notice of where this research was done and/or under the auspices of what organizations or institutions. With the current obvious CCP influence over our own CDC, if I see evidence of a prevailing influence from CDC, I assume a measure of CCP influence. It does not prove this, but it is worthy of notice.

REFERENCES: REF: referring to references — next I examine the references cited in the article to discern whether they are dominated by CCP connected authors or influenced institutions.

Proving bias is beyond the scope of my inquiry. I noted only what I considered factors suggesting the possibility that pro-masking bias from cultural and/or political or professional influence might have impacted the researchers.

RCT = Randomized Controlled Trial, *Yes, No, Not*

asserted.

It is accepted that the RCT is indeed the gold standard of scientific research, but I have noticed a post-COVID trend away from this to dependence upon Observational Science (OS). I've also noticed a post-COVID trend toward dependence on what I have identified as hybrid RCTs. These are studies organized like an RCT and that include some elements of an RCT, like randomization, or some elements providing for a control, but they lack either legitimate randomization, or they are group studies that in the end depend on observations that rely on mere correlation, and employ methods that are impossible or extremely difficult to replicate, and/or they fail to consider significant confounders. Some of these are honest about this limitation, and others ignore, or purposely hide these limitations. When these sorts of studies claim to be an RCT, I refer to these as hybrid RCTs. I will sometimes further subcategorize the type of study represented in the article under examination as follows: "RCT: No, Yes, or Not asserted" followed by one or more of the following:

SRL = Systematic Review of the Literature

RL = Review of the literature (My own analysis would be categorized as a review of literature—I do not provide any scientific studies, but depend entirely on the research of others.)

MA = Meta analysis (Defined as, "The process or technique of synthesizing research results by using various statistical methods to retrieve, select, and combine

results from previous separate but related studies. Any systematic procedure for statistically combining the results of many different studies. An analysis resulting from combining the results of diverse statistical studies.”)

Other times I might elaborate more fully on the methods used by the researchers.

This is followed by CONTENT:

CONTENT: Sometimes I will follow this colon with the claim being examined. Other times, I’ll note a reminder of what I’m looking for in the article. In most cases, I don’t offer any such note, but go on to examine the content of the article.

I’ll use the following abbreviations to characterize the content of the article often providing a quotation to illustrate. In many cases, I’ll offer commentary on the comment or claim represented in the quotation. The content of the study will generally be identified as representing one or more of the following that compromise either the integrity of the researchers or of the research:

SS= scientist’s statements without scientific authority. A statement from a scientist is not *science*. Their value depends entirely upon the value of the research supporting the statements, and those statements that have little or even no scientific support are flagged as SS statements.

D = I noticed a post-COVID trend in these studies from an examination of mask efficacy to protect against a virion particle to discussion of mask efficacy against droplets. Virtually all virion transport is via droplets, and I would stipulate the masks in question are efficient to block a droplet in the size range of $>5\mu\text{m}$. Some masks might even capture droplets in the range of 3-5 μm diameters. Some studies have suggested a few specially constructed cloth masks and modified surgical masks can catch *some* particles in the lower ranges of 200-300 nm, and the N95 can capture particles as small as 100 nm. Our question, however, is how many virions escape capture in the range of ≤ 125 nm. Studies that find efficacy for surgical masks to trap infectious laden droplets in the size range above that are considered irrelevant to our interests (See IR, below). However, even the capture of larger droplets, from ≥ 0.126 -10 μm (or 125-10000 nm) do not provide the protection implied because the droplets evaporate almost immediately, and decrease in size through that process. At the point of complete desiccation (complete evaporation of moisture) the virion is released and can be drawn in by inhalation or ejected into the atmosphere by exhalation. Therefore, if a statement in the study qualifies for this D symbol, it is dismissed as irrelevant for our purpose. I interchange D with IR often. However, IR is used also when the study in question does not actually address mask efficacy, but some other aspect of the debate regarding masks.

OS = statements in the study that are premised on

merely anecdotal evidence: also called “observational evidence” or “observational study.” Sometimes I find such statements, or an allusion to such studies, within one that is stipulated to be an RCT. I find that, rarely, a study that identifies as an RCT finds in the process of research no support for what appears to be their thesis, and they are tempted to reach over to an observational study for support. I mark these as OS.

NC= noncommittal statements, such as *could*, *might*, *can*, or *should*. I am aware that in the process of research, some conclusions cannot be asserted to be definitive proof, and an honest researcher will be sensitive to this. Not every qualification of *some* or *may*, or *might* necessarily disqualifies a statement from being considered, but often they do. In a case where the researcher has essentially presented evidence contradicting his claim, and follows this with a *may*, *might*, *can*, *could*, sort of statement, I marked it as NC.

SP = specious arguments (also used for what I discern is deceptive language). Some research is virtually ignored by serious scientists because there are so many examples of specious argument in the study it is not taken seriously. In the interest of being thorough, I did examine these studies, but when I came across examples of specious argument, I marked them SP.

MM = Mathematical Models: I understand the value of mathematical models, but I also understand how easily they are contrived to serve a bias. Furthermore, such models don't qualify, in my mind, as “proof,” but only as

indicators evidencing direction for further research.

AME = Assumed Mask Efficacy. Several of the studies are based on an assumption of mask efficacy and do not qualify as a study researching that question. Often I find statements alleging this or that effect of masking that is evidence of an assumption of mask efficacy that is nowhere adequately supported in the article. Often, support is not even attempted.

IR = Irrelevant, does not address the question of masks, or mask mandates. (Sometimes used for studies that do not address mask capture or penetration of particles in the size range of our interest— $\leq 0.125 \mu\text{m}$, or $\leq 125 \text{ nm}$).

CCav = A compromising caveat — a statement that effectively surrenders the argument to the opposition of the author's evident, or declared thesis. I find a great many such statements throughout these studies, but a qualification of my use of this is required. The statement might be perfectly true, and consistent within the research examined, however, if it ultimately militates against the thesis of that author, or against the general thesis that masks work, I will identify the statement as CCav.

ACK = Acknowledgement that there are outstanding questions re masks. (Virtually all studies examined include such acknowledgements). Because this is a feature of virtually every study examined, I only identify such statements if they are particularly important to my thesis, either by way of affirmation of contradiction, or include information supporting or contradicting my thesis.

CE = Contradictory evidence — sometimes the research examined in an article actually provides direct contradiction against the general thesis of my opponents — those advocating for mask efficacy providing protection from infection by SARS-CoV-2 virus. I mark these statements as CE.

Finally, this study examines all the articles submitted by Russell Falcon in his article titled: *DO face masks work? Here are 49 scientific studies that explain why they do*. Posted August 7, 2021, updated Dec. 23, 2021. As indicated above, this study received examination level 3, and each of the 49 root articles also received a minimum of level two consideration. Every footnote appealed to that was considered relevant to my thesis was investigated on a level 1 or 2 basis, and often were considered as deserving or requiring level 3 examination. Each study noted as “vetted” means I have examined it, and found no support for the statement that the study in question proved masks work. Note, not that the study in question does not *say*, or *assert* mask efficacy, but rather that when examined, it does not support the question of this study, namely, do the typical recommended masks provide adequate protection against virus transmission?

Notation: I created a notation formula that connects my notes on each article to the PDF copied into my research folder for the vetted articles. It really is not important to understand the system I created because the primary

interest is that you can find the online link to each article I examined, and find a PDF copy of that article in my archives. Take the notation from these notes, search the archive folder for that notation to find the document copied there in pdf format for your perusal. (This protects against the very real possibility the online link will be broken, or the article will be removed from the Internet.)

Nevertheless, I'll explain each segment of my notation system as I build the first entry below. This is because readers who are like me in this regard will want to understand what they are looking at.

Because I'm examining the articles connected with the first FOOTNOTE in my book, where I reference Mr. Falcon's article: *Do face masks work? Here are 49 scientific studies that explain why they do*, each entry begins with *FN01*. This is followed by extensions in order to identify footnotes referencing articles I examine from each of these articles, and this goes out to four places. It sounds more complex than it is. But, it looks like this:

FN01.00.00.00.00. (Each successive article identified in this study is given a number from 01-49. e.g., FN01.**01**.00.00.00 refers to the first article referenced by Mr. Falcon, FN01.02.00.00.00, the second, and so on through FN01.49.00.00.00. What are the three additional .00 extensions used for?

The next set of numbers, FN01.01.01 refers to the first reference being examined within that first article—so, FN01.01.01 says you are looking at the first article presented by Mr. Falcon allegedly proving masks work, and then at the first reference found in that article, and this continues to FN01.01.01.01.01. It's a method that allows me to connect all the articles I examine to the primary article I'm vetting.

Much of this developed as needed over the course of my research. Consequently, it's not perfectly consistent, nor is it necessary that it should be. It is only necessary that the reader/student can find the material he or she desires to examine. Therefore, I'm not going to conform the earlier entries perfectly to this system. The variations will be slight, and will not interfere with your ability to access the data in these notes. Again, the only matter that is critical to the reader is that they can find the link to view the article online, and/or go to the Archive folder and find the PDF of the article you might want to examine. (This was done to protect against articles being removed from the web, or that become inaccessible, and/or to provide for students who might not have access to the web.)

Number of studies examined:

535 research articles purported to prove masks work.

162 research articles purporting to prove masks do not

work

58 Technical articles and 13 other articles of interest.

A grand total of 768 articles examined.

PART TWO:

Let My People Breathe (LMPB) Doc. 1 & 2

My Examination of Studies “Proving” Masks work

An Examination of the *Falcon articles* (An examination of every study used by Falcon to say masks work)

The supporting documentation for these notes may be accessed by downloading the zip file attached below: Evidence Supporting Mask Efficacy. Use the links provided below to access the article addressed online, or use file number in these notes to find the corresponding pdf documentation in the folder.

FN01.00.00.00.00.Do face masks work_ Here are 49 scientific studies that explain why they do _ KXAN Austin

Review of the 49 Studies “Proving” Masks Work:
<https://www.kxan.com/news/coronavirus/do-face-masks-work-here-are-49-scientific-studies-that-explain-why-they-do/>

Footnote No. 1 — LMPB1- Covers references 01-39.
For 40-49, see LMPB2.

See LMPB0-My Examination of Studies “Proving” Masks work (doc 0) for introductory material. LMPB0 provides a great overview of this subject and offers important instruction to help you take full advantage of these notes.

(3) FN01.00.00.00.00-

<https://www.kxan.com/news/coronavirus/do-face-masks-work-here-are-49-scientific-studies-that-explain-why-they-do/> PDF: FN01.00.00.Do face masks work_ Here are 49 scientific studies that explain why they do _ KXAN Austin

Vetted in the following notes (doc 1 and doc 2):

(3) FN01.01.00.00.00-

<https://jamanetwork.com/journals/jama/fullarticle/2776536> PDF: FN01.01.1.Effectiveness of Mask Wearing to Control Community Spread of SARS-CoV-2 _ Infectious Diseases _ JAMA _ JAMA Network.pdf

PC: Feb. 2021

CCP: Brooks, Butler: (Work for CDC) / **ORIGIN:** CDC / **REF:** Kada; Furusawa, Iwatsuki-Horimoto; Doung-Ngem, Suphanchaimat, Panjangampatthana; Wang Y., Tian, Zhang; Lyu, Wehby; Bundgaard H.,

Bundgaard JS (6 of 10) / **FUNDING:** CDC

RCT: No.

CONTENT:

D: This article addresses droplet “Most of these droplets are smaller than 10 μm in diameter, often referred to as aerosols. The amount of small droplets and particles increases with the rate and force of airflow during ex-halation (eg, shouting, vigorous exercise).”

D: “Larger droplets fall out of the air rapidly, but small droplets and the dried particles formed from them (ie, droplet nuclei) can remain suspended in the air.”

D: “In recent laboratory experiments, multilayer cloth masks were more effective than single-layer masks, blocking as much as 50% to 70% of exhaled small droplets and particles.”

TA refers to Lindsley WG, Blachere FM, Law BF, Beezhold DH, Noti JD. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *Aerosol Sci*

Technol. Published online January 7, 2021.
doi:10.1080/02786826.2020.1862409Google Scholar

The above article is vetted throughly at
FN01.36.01.2-
https://www.researchgate.net/publication/345985829_Efficacy_of_face_masks_neck_gaiters_and_face_shields_for_reducing_the_expulsion_of_simulated_cough-generated_aerosols_Preprint_version_3
See PDF:
FN01.36.01.2.Lindsley2020Facemasksandshields2020-11-14preprintv3

IR: The particle size range they tested: 0-7 μm .
Interesting! So, does 0 μm begin at the first reduction below 1, the first fractional amount? If it does, then .999 would be 999 nanometers, since 1 μm is 1000 nanometers.

Their findings: an N95 blocked 99% of the cough aerosol, a medical grade procedure mask blocked 59%, a 3-ply cotton cloth face mask blocked 51% and a polyester neck gaiter blocked 47% as a single layer and 60% when folded into a double layer.”

First, the size issue needs to be addressed. If their study is premised on sizes in nanometers from 999 to

7000, this study is not within the range that interests us and is, for my purposes, worthless.

I found several NC statements in this article.

TA (The Author/s) refer to the following RCT:

(2) FN01.01.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>. PDF: FN01.01.01.00.00. Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC

Rated by ECDC as LOW to MODERATE confidence: See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Feb. 2011

CCP: Suntarattiwong, Cowling, Kamimoto, Tawee / ORIGIN: Thailand; Hong Kong, Special Administrative Region, China; US-CDC / REF: Ilyinskii; Singapore; Xu; Aiello; Jefferson; WHO; Kawaoka; USCDC; MacIntyre; etc. / FUNDING: Statement: “BJC has received research

funding from MedImmune Inc.”

RCT: Asserted.

CONTENT:

IR: Does not evaluate mask efficacy from science based conclusions re ability of masks to block aerosols. Searched: *particle, droplet, aerosol, fine particles, penetration, block* with NULL result.

CCav: CONCLUSION: “**Influenza transmission was not reduced by interventions to promote hand washing and facemask use.** This may be attributable to transmission that occurred before the intervention, poor facemask compliance, little difference in hand-washing frequency between study groups, and shared sleeping arrangements. A prospective study design and a careful analysis of sociocultural factors could improve future NPI studies.”

(3) FN01.02.00.00.00-

<https://www.pnas.org/doi/10.1073/pnas.2014564118> PDF: FN01.02.00.00.00.An evidence review of face masks against COVID-19 _ PNAS

PC: Jan. 2021, posted to this site: July 2021

CCP: Huang, Li, Tufekci, Tang, Chu (5 of 18) /
ORIGIN: SFO, Peking University, Beijing, CHINA,
University of North Carolina at Chapel Hill, NC, (thats
one of Fauci's old friend's stomping grounds who
helped him with gfr) Oxford, South Africa, Stanford,
Cambridge, HON KONG, CHINA, Hong King China, LA,
PA, NY, Belgium, SFO, LA — which can all be said to
have ties to CCP. / REF: Ilyinskii, Thoidis; Xu; Tashiro;
Aiello; WHO; US CDC; Kaewchana, Somrongthong,
Suntarattiwong, Lertmaharit, Chotipitayasunondh;
Cowling, Chan, Fang; MacIntyre, Dwyer (9 of 29) /
FUNDING: Statement: "BJC has received research
funding from MedImmune Inc. The opinions,
assertions, findings and conclusions in this report are
those of the authors and do not necessarily represent
the views of the Centers for Disease Control and
Prevention or the Department of the Army or the
Department of Defense."

RCT: No. RL: An "evidence review of face masks ..."

CONTENT:

INFO/CCav: "Because many **respiratory particles become smaller due to evaporation**, we recommend increasing focus on a previously overlooked aspect of

mask usage: mask wearing by infectious people (“source control”) with benefits at the population level, rather than only mask wearing by susceptible people, such as health care workers, with focus on individual outcomes.” [IN other words, because we are seeing ever more clearly that facemasks do not protect against infection due to the fact that respiratory particles become *smaller* through desiccation, we are giving up on PPE use and turning our attention to argument supporting source control use for masks.]

OS: “as well as OBSERVATIONAL EVIDENCE,” PC, SS, CCP — “Wu Lien Teh’s work to control the 1910 Manchurian Plague has been acclaimed as ‘a milestone in the systematic practice of epidemiological principles in disease control.” Note also — “In other parts of the world [read, Western world], however, mask usage in the community. had fallen out of favor, until THE IMPACT OF COVID-19.”

[*** THIS STUDY DISMISSES RCTs, saying “Cochrane and the World Health Organization both point out that, for population health measures, WE SHOULD NOT GENERALLY EXPECT TO BE ABLE TO FIND CONTROLLED TRIALS ...” and admits that at the time of this study, “Only one observational study has directly analyzed the impact of mask use in the

community on COVID-19 transmission.” This study centered in Beijing households.]

NC: WHO statement: “face mask use COULD result in a large reduction in risk of infection.” CAVEAT: “However, the review included only three studies of mask use outside health care settings ...”

This study gets vetted again later in these notes:
FN01.38.00.03 —
<https://pubmed.ncbi.nlm.nih.gov/33431650/>. PDF:
FN01.38.00.03.An evidence review of face masks against COVID-19 - PMC (I’ll need to comb through these and find duplicates)

AME: Assumed mask efficacy, no science is offered in this study to prove it.

?? — depends on CCP studies that make declarations like this: “Wu identified the cloth mask as ‘the principal means of personal protection.’” Everyone knows better and yet these people rest their case on such statements. And get a load of this, “Although Wu designed the cloth mask that was used through most of the world in the early 20th century, he pointed out that the airborne transmission of plague was known since the 13th century, and FACE

COVERING WERE RECOMMENDED FOR PROTECTION FROM RESPIRATORY PANDEMICS SINCE THE 14TH CENTURY.”

Now, that’s about the weirdest thing I’ve read from any paper where western scientists had some significant contribution in its production.

So, let’s see — Wu invented the mask everyone is instructed to wear (royalty payments, perhaps), and he is the guy who identified the “cloth mask” as the principal means of personal protection — okay!

Were they are saying is Wu acted contrary to his interests in stipulating airborne transmission? If so, then this is an admission that masks don’t protect from aerosols, something admitted in most other studies where this is addressed. But the tenor of the poorly written article does not seem to be saying that, or it does seem to be saying that — this is a badly written article.

More background to this article that points to Wu — “Wu reported on experiments that showed a cotton mask was effective at stopping airborne transmission, as well as on observational evidence of efficacy for health care workers.”

Oh, so this straightens things out a bit. Wu “reported on experiments” that showed a cotton mask was effective at stopping airborne transmission, and he also pointed to observational evidence supporting mask use for health care workers.

This is amazing! Clearly, if someone spits at you, a mask will block large airborne droplets — but this says NOTHING about nanometer sized particles and micro-droplets.

SS: “Masks have continued to be widely used to control transmission of respiratory infections in East Asia through to the present day, including for the COVID-19 pandemic.” Uh, yeah! So what?

Masks fell out of favor in the west until COVID.

Right!

Now, by the end of 2020, all the world (90%? at least) have turned to CHINA’s wonderful example!

Under DIRECT EVIDENCE OF THE EFFICACY OF PUBLIC MASK WEARING:

CCav: “Cochrane [7] and the World Health Organization [8] both point out that, FOR POPULATION HEALTH MEASURES, WE **SHOULD NOT GENERALLY EXPECT TO FIND CONTROLLED TRIALS**, due to logistical and ethical reasons, AND SHOULD THEREFORE INSTEAD SEEK A WIDER EVIDENCE BASE.”

CCav: “Therefore, WE SHOULD NOT BE SURPRISED TO FIND THAT THERE IS NO RCT FOR THE IMPACT OF MASKS ON COMMUNITY TRANSMISSION OF ANY RESPIRATORY INFECTION IN A PANDEMIC.”

SP: So, having dismissed even the RCTs that have been produced showing that masks WILL NOT WORK because they do not BLOCK something so small as a virion particle — do you see what they did? They simply dismissed all the RCT evidence that runs CONTRARY to their desired conclusion while admitting there are NO RCTs that support their conclusion.

NOTE: I personally examined I THINK IT WAS 17 RCTs that prove masks do not block virions so small as SARS-CoV-2.

CCav: “Only one observational study has directly analyzed the impact of mask use in the community on COVID-19 transmission.” Let’s take a quick look at this one. It’s foot note number 10.

Wang Y., et al., Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing: A cohort study in Beijing, China. *BMJ Global Health* **5**, e002794 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

CCP: Yu Wang, Tian, Zhang, Guo, Wu, etc. Complete list: . Yu Wang¹, Huaiyu Tian², Li Zhang¹, Man Zhang³, Dandan Guo⁴, Wenting Wu¹, Xingxing Zhang³, Ge Lin Kan⁵, Lei Jia¹, Da Huo¹, Baiwei Liu¹, Xiaoli Wang¹, Ying Sun¹, Quanyi Wang¹, Peng Yang³, C. Raina MacIntyre^{6,7}

Totally CCP and OS.

Already vetted in these notes: see
FN01.30.00.00.00-
<https://gh.bmj.com/content/5/5/e002794> PDF:
FN01.30.00.00.00.Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing_ a cohort

study in Beijing, China

It's totally CCP and OS.

(2) FN01.03.00.00.00-

<https://www.youtube.com/watch?v=UNHgQq0BGLI>

(VIDEO) FOR ARTICLE: see

<https://www.nejm.org/doi/full/10.1056/NEJMc2007>

800 PDF: FN01.03.00.00.00.Visualizing Speech-

Generated Oral Fluid Droplets with Laser Light

Scattering _ NEJM.pdf (This is a video representation.)

PC: April 2020

CCP: Dr. R. Yeap, Anfinrud, Stadnytskyi / **ORIGIN:**

NIH (see <https://irp.nih.gov/pi/philip-anfinrud>) US

FDA (see

<https://www.linkedin.com/in/vstadnytskyi/>) / **REF:**

Duguid; Tang; Asadi; Chao (4 of 4) / **FUNDING:** Grant:

National Center for Advancing Translational Sciences

of the National Institutes of Health (NIH)

RCT: Not asserted.

CONTENT:

IR: Particle size outside range of interest: “We

found that when the person said “stay healthy,” numerous droplets ranging from 20 to 500 μm were generated.”

[Laser light revealing masks do block DROPLETS that range in size from 20 to 500 μm YIKES, that’s 20,000 to 500,000 nanometers — what the did not study for is how much virion particles escaped through the mask. These cannot be seen. See Video: <https://www.youtube.com/watch?v=UNHgQq0BGLI>]

D: this study is entirely about droplets and we have stipulated that masks are effective to capture droplets that are 300 nm or larger. The droplets tested for in this study ranged from 20k to 500k nanometers in size.

There is NOTHING in this study that tested for virus particles released into the atmosphere through the masks tested. They examined “droplets” but no viral particles: “We did not assess the relative roles of droplets generated during speech, droplet nuclei, and aerosols in the transmission of viruses. OUR AIM WAS TO PROVIDE VISUAL EVIDENCE OF SPEECH-GENERATED DROPLETS AND TO QUALITATIVELY DESCRIBE THE EFFECT OF A **DAMP CLOTH** COVER OVER THE MOUTH TO CURB THE EMISSION OF DROPLETS.”

IR: They tested a *damp cloth* : “When the same

phrase was uttered three times through a slightly damp washcloth over the speaker's mouth, the flash count remained close to the background level (mean, 0.1 flashes); this showed a decrease in the number of forward-moving droplets (see the bottom trace in Figure 1A)."

*** HOWEVER — there is an incidental value to this study as it shows evidence that droplets, even of this size, evaporate almost instantly. [Based on video and notice that the light flashing on particles indicated they did not remain long in view of the camera.]

The importance of this study is that it does depend on what we may regard as empirical evidence and depends on a scientific method approach. However, it only proves DAMP CLOTH over the mouth inhibits droplets that range in sizes way beyond what is of concern to us.

FN01.04.00.00.00-

<https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00818>. PDF: FN01.04.00.00.00.Community Use Of Face Masks And COVID-19_ Evidence From A Natural Experiment Of State Mandates In The US _ Health Affairs

PC: June 2020

CCP: Lyu, Wehby / ORIGIN: USA-IA — Dept. of Health Management and Policy. REF: Feng, Shen, Xia, Cowling, Furukawa, Chung, WHO, Greenhalgh, Xiao, Gao, Wong, Cheung, Hu, Liu, Guo, Yang, CDC, NYT, etc. / REF: Feng, Shen, Song, Xia, Fan, Cowling; Furukawa, Sobel; Mizumoto, Kagaya, Zarebski, Chowell; Chung; WHO; Greenhalgh; Xiao, Shiu, Gao, Wong JY., Fong, Ryu; MacIntyre, Dwyer, Seale, Cheung; Long, Hu, Liu, Chen, Guo, Yang; US CDC; Al Jazeera News; NYT; News NBC; Nix, Huebinger, Segura; Shah, Ling; Bi, Zheng; State of Maryland Ex. Dept.; Sun, CDC / FUNDING: nd

RCT: No. “Evidence from a Natural Experiment ...”

CONTENT: Compares R in various states relative to mask mandates [and adherence?] — where R refers to infection rates.

The title betrays the weakness of this study — “Evidence from a natural experiment of state mandates in the US.” In other words, this was not a scientific method approach it is premised entirely upon anecdotal evidence.

SP “However, there is now substantial evidence of

asymptomatic transmission of COVID-19.” In the context of examining the question of mask efficacy, this statement is virtually meaningless. Asymptomatic spread does not prove masks work, although it does raise the question, it does not offer the answer. Furthermore, the fact that “all public health authorities call on symptomatic people to wear masks to reduce transmission risk” only stipulates that such is the case and does not provide proof the measure is effective.

CCav: When it comes to RCTs, this study admits: “Researchers have been reviewing evidence from previous randomized controlled trials for other respiratory illnesses, examining mask use and types among people at higher risk of contracting infections (such as health care workers or people in infected households). SYSTEMATIC REVIEWS AND META-ANALYSIS OF SUCH STUDIES HAVE PROVIDED SUGGESTIVE, ALTHOUGH GENERALLY WEAK, EVIDENCE.” Well, I’d like to see their *suggestive* RCTs because I have not found any pre-covid rct suggesting any such thing. TA offered footnote no. 6, ostensibly representing this “evidence.”

CCav: What this doc actually provides is a clear cut compromise to the mask mandate works thesis: CCav: “The estimates from the meta-analyses based on

randomized controlled trials suggest declines in transmission risk for influenza or influenza-like illnesses to mask wearers, although estimates are mostly statistically insignificant possibly because of small sample sizes or design limitations, especially those related to assessing compliance.”

TA refers to Greenhalgh T , Schmid MB , Cypionka T , Bassler D , Gruer L . Face masks for the public during the covid-19 crisis. BMJ. 2020;369:m1435. Crossref, Medline, Google Scholar

Already vetted in these notes: See
FN01.33.02.00.00-
<https://www.bmj.com/content/369/bmj.m1435>. PDF:
FN01.33.02.00.00.Face masks for the public during the covid-19 crisis _ The BMJ Greenhalgh, T., et al. (2020). Face masks for the public during the covid-19 crisis. BMJ, 369, m1435. But it is not fully vetted there.

Find a full vetting of this article at
FN01.38.00.03.25f-
<https://www.bmj.com/content/369/bmj.m1435.long>
PDF: FN01.38.00.03.25f.Face masks for the public during the covid-19 crisis

Completed FN01.04.00.00.00

FN01.05.00.00.00-

<https://www.cmaj.ca/content/192/15/E410> PDF:
FN01.05.00.00.00.Lack of COVID-19 transmission on
an international flight _ CMAJ

PC: April, 2020

CCP: Authors ? / ORIGIN: Canadian Medical
Association Journal / REF: No evidence of dependency
upon culture or professional mask bias. FUNDING: nd

RCT: No. Totally OS

CONTENT:

OS: anecdotal. The title: “Lack of COVID-19
transmission on an international flight.”

This is so NOT SCIENCE — it’s close to pure
superstition. This incident can prove so many things it
proves nothing. For example, such a story could be
used to say COVID transmission is limited to droplet
communication and NOT AEROSOL or AIRBORNE
routes of transmission. Oh, that’s right! That IS what
this study was used to suggest.

Vetted: dismissed with prejudice!

FN01.06.00.00.00-

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31142-9/fulltext#%20](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext#%20). PDF:

FN01.06.00.00.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - The Lancet.pdf

PC: June 2020

CCP: Chu, Akl, Duda, Solo, Yaacoub, Shunemann (4 of 6) / **ORIGIN:** Dept. Health Research Methods, Canada; Dept. Internal Medicine; Beirut, Lebanon / **REF:** Guo, Want, Zhang; Chia, Tan; Cheng, Wong, Chen; Wong, Kwong, Wu; Faridi; Ong, Tan, Chia; Feng, Shen, Xia, Song, Fan, Cowling; MacIntyre, Chughtai; Loeb; Farooqi, Loeb; Cochrane; Jefferson; Yung, Low, Tam; Bai, Wang, Huang; Chen, Ling, Lu; Cheng, Jian, Liu, Ng, Huang, Lin; Wang, Pan, Cheng; HO, Singh; Ki, Han, Son, Park; Kim, Jung, Kim S; Kim, Choi, Jung; Lau, Lau M, Kim, Tsui, Tsang, Wong; Liu, Tang, Fang; Liu, Ye, Zhang, Guohong, Yang, Wang; Loeb; Ma, Wang, Fang; Nishiura; Nishiyama; Chang, Cheung; Park; Park, Kim, Chung, Hwant; Pie, GAO, Yang; Rea, Ryu, Cho, Oh; Chan; Seto, Tsang, Yung; Zhu, Leo; Tuan; Want, Huang, Bai;

Wong, Lee, Tam; Wu, Xu, Zhou; Yin, Gao, Lin; Uy, Wong, Chiu, Lee, Li; Yu, Xie, Tsoi; MacIntyre, Wang, Seal; Greenhalgh; Bahl; Leung, Chu, Shiu (45 of 87) /
FUNDING: WHO.

RCT: No. A LANCET study — this is a “review” of existing studies and not a study itself. SRL: systematic review of literature, and MA: meta-analysis: OS: NO RCTS — “Our search identified 172

OBSERVATIONAL STUDIES across 16 countries and six continents, with NO RANDOMIZED CONTROLLED TRIALS and 44 relevant comparative studies in health-care and non-health-care settings” SP: Keep in mind, when CCP connected studies find NO RCTs on this question it is because they IGNORE the RCTs that speak to this question. And the reason for that is those RCTs contradict their desired result. The way they get away with this, I think, is by saying, well, the RCT you are pointing to does not address SARS-CoV-2 but rather addresses influenza A, or B, etc. However, we know that the coronavirus behaves very similarly to influenza virus.

CONTENT: CLAIM: “They found that ‘face mask use could result in a large reduction in risk of infection.’”

CCav: “robust randomized trials are needed to better inform the evidence for these interventions, but this systematic appraisal of currently best available evidence might inform interim guidance.”

SS: FINDINGS: Transmission lower when masks are combined with physical distancing of 1 m or more. Protection increased as distance lengthened.

NC: Here is the quote: “Face mask use COULD result in a large reduction in risk of infection.” Notice the non committal language as compares to that used to describe the effect of social distancing. No qualifiers were used on the findings for social distancing like *could, may, might*, etc. But when it came to masks, all they could say is that they COULD [possibly] provide some protection.

CCav: Also, notice the symbolic language used to describe the meta analysis of their research on masks concludes with the expression LOW CERTAINTY, followed by, “... with stronger associations with N95 or similar respirators compared with disposable surgical masks or similar” with another *low certainty* rating of this data.

NC: Their recommendations for masks also

include some equivocating language: “The findings of this systematic review and meta-analysis support physical distancing of 1 m or more and provide quantitative estimates for models and contact tracing to inform policy. Optimum use of face masks, respirators, and eye protection in public and health-care settings should be informed by these findings and contextual factors.” And they conclude with a standard CCav: “Robust randomised trials are needed to better inform the evidence for these interventions ...” BUT — they suggest all their work was not entirely in vain for “this systematic appraisal of currently best available evidence MIGHT inform interim guidance.”

FN01.07.00.00.00-

<https://www.science.org/doi/10.1126/science.abg6296>. PDF: FN01.07.00.00.00.Face masks effectively limit the probability of SARS-CoV-2 transmission.pdf

PC: Jan. 2021, May 2021 at this link, and June 2021 published in print.

CCP: Cheng, Ma, Su (3 of 8) / ORIGIN: Germany, China / REF: Aiello, Bundgaard, Chu, Akl, Solo, Want, Zhang, Li, Chang, Shiu, Chan, Chu, Yen, Leung, Cowling, Omura, Horimoto, Nakajima, Chia, Ng, Liu, Ning, Chen, Guo, Gali, Duan, Lan, Kan, Fu, etc. / FUNDING:

Statement: “**Funding:** Y.C. thanks the Minerva Program of the MPG.”

RCT: Not asserted.

CONTENT:

[Information: “Airborne transmission by droplets and aerosols is important for the spread of viruses.” This study acknowledges airborne transmission.]

AME: actually, throughout the article, mask efficacy is assumed. An example: “If most people in the wider community wear even simple surgical masks, then the probability of an encounter with a virus particle is even further limited.” However, the article is written to address the issue, so, if they succeed, than TA would be said to have substantiated the claim.

TAs premise is that masks are effective relative to the viral load present in the atmosphere. He argues for use of masks when the viral load might be more concentrated, as in an indoor setting. However, he does not show this to be true.

D - It focuses on “Airborne transmission buy DROPLETS and aerosols is important for the spread of

viruses.” The study admits: “But their [masks] effectiveness for mitigating severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission is **STILL UNDER DEBATE.**”

The effort is to show the variations in mask efficacy and explain that it is due to viral load in the environment.

The theory is that higher levels of virus particles in aerosol increase likelihood virions will penetrate the typical surgical mask.

CCav: RCTs? “Moreover, randomized clinical trials have shown inconsistent or inconclusive results, with some studies reporting only a marginal benefit or no effect of mask use. Thus, surgical and similar masks are often considered to be ineffective.”

“On the other hand, **OBSERVATIONAL DATA** show that regions or facilities with a higher percentage of the population wearing masks have better control of COVID-19.”

AME: The entire study is premised on the assumption that masks significantly reduce the number of virions that accumulate in the lungs through respiration. But no proof is offered. It’s

entirely SPECIOUS.

IR: In other words, the question is not whether or not indoor environments are likely to have greater levels of virion saturation, that is a given! The question is whether masks actually block the virion particles, and that question is not provided for in this study.

TA does refer to articles supposedly supporting the claim: The effectiveness of masks, however, is still under debate. Compared with N95 or FFP2 respirators, which have very low particle penetration rates (~5%), surgical and similar masks exhibit higher and more variable penetration rates (~30 to 70%) (2, 3).

A. E. Aiello, G. F. Murray, V. Perez, R. M. Coulborn, B. M. Davis, M. Uddin, D. K. Shay, S. H. Waterman, A. S. Monto, Mask use, hand hygiene, and seasonal influenza-like illness among young adults: A randomized intervention trial. *J. Infect. Dis.* 201, 491–498 (2010). GO TO REFERENCE
CROSSREFPUBMEDISIGOOGLE SCHOLAR

Already vetted in these notes:

FN01.38.00.12.00-

<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12.00.Mask use,

hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic

H. Bundgaard, J. S. Bundgaard, D. E. T. Raaschou-Pedersen, C. von Buchwald, T. Todsén, J. B. Norsk, M. M. Pries-Heje, C. R. Vissing, P. B. Nielsen, U. C. Winsløw, K. Fogh, R. Hasselbalch, J. H. Kristensen, A. Ringgaard, M. Porsborg Andersen, N. B. Goecke, R. Trebbien, K. Skovgaard, T. Benfield, H. Ullum, C. Torp-Pedersen, K. Iversen, Effectiveness of adding a mask recommendation to other public health measures to prevent SARS-CoV-2 infection in Danish mask wearers: A randomized controlled trial. *Ann. Intern. Med.* 174, 335–343 (2021).

Already vetted in these notes:

FN01.38.00.03.37c.01.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7707213/#_ffn_sectitle PDF:
FN01.38.00.03.37c.01.Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers (For DISCLOSURES see
FN01.38.00.03.37c.01.DISCLOSURES Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers_ A Randomized Controlled

Trial_ Annals of Internal Medicine_ Vol 174, No 3)

THIS STUDY was RATED BY ECDC as Low to Moderate confidence: see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>, 5

Vetted:

FN01.08.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7191274/>. PDF: FN01.08.00.00.00.A rapid systematic review of the efficacy of face masks and respirators against coronaviruses and other respiratory transmissible viruses for the community, healthcare workers and sick patients - PMC

PC: August 2020

CCP: MacIntyre, Chughtai / ORIGIN: NHMRC — “The National Health and Medical Research Council - main “statutory authority” of the Australian Government responsible for medical research. REF: Aiello, Bahl, Chen, Zhou, Dong, Qu, Gong, Han, — Wuhan China, CDC, etc. / FUNDING: funded by NHMRC — “The National Health and Medical Research Council

- main “statutory authority” of the Australian Government responsible for medical research

RCT: No. However, it purports to be a SRL of RCTs addressing use of respiratory protection by healthcare workers, sick patients, AND COMMUNITY MEMBERS.

CONTENT:

Rated by ECDC as LOW to MODERATE confidence. See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

This purports to depend on RCTs. “A total of 19 randomized controlled trials were included in this study...”

IR: Virtually all information here related to our interest is limited to healthcare settings.

NC “Most of these randomized controlled trials used different interventions and outcome measures. In the community, masks APPEARED to be effective with and without hand hygiene.” “When used by sick patients randomized controlled trials SUGGESTED

protection of well contacts.”

Words like *appeared* and *suggested* indicate SS, a scientist's opinion, and not something proved by the science.

ADMISSIONS: “Randomized controlled trials in health care workers showed that respirators, if worn continually during a shift, were effective but not if worn intermittently. MEDICAL MASKS WERE NOT EFFECTIVE, AND CLOTH MASKS EVEN LESS EFFECTIVE.”

[If medical and cloth masks were ineffective in protecting healthcare workers it seems unlikely they would be efficacious in the general community. — TA did not not identify which 8 RCTs they used to base conclusions re community use.

NC: A lot of *could be* and *suggest* and so forth. Inconclusive.

CONCLUSION: “The study SUGGESTS that community mask use by well people COULD BE BENEFICIAL, particularly for COVID-19, where transmission may be pre-symptomatic.”

In other words, these researchers determined that the 19 RCTs they examined were INCONCLUSIVE.

Also, the researchers established a selection criteria that is not provided and by it excluded 800+ RCTs examining the subject.

The studies examined related to community efficacy of masks are as follows:

FN.01.08.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266257/> PDF: FN01.08.01.00.00.Facemasks, Hand Hygiene, and Influenza among Young Adults_ A Randomized Intervention Trial - PMC.pdf

PC: Jan. 2012

CCP: Aiello (1 of 6) / ORIGIN: USA-MI, referenced by NIH / REF: Aiello (2); Liang; Cowling, Chan, Fang, Cheng, Fung; MacIntyre, Dwyer, Seale, Cheung; Ferng, Wong-McLoughlin, Wang S.; Cowling, Zhou, Ip, Leung; Lau, Choi, Lin (8 of 20)

RCT: No. “A cluster-randomized INTERVENTION trial” RICT? I guess it’s referred to as an Mflu? “A cluster-randomized intervention trial (Mflu)...” Yang is

editor.

CONTENT: Objective: “Our objective was to examine if the use of face masks and hand hygiene reduced rates of influenza-like illness (ILI) and laboratory-confirmed influenza in the natural setting.”

First, I suppose a Cluster-randomized intervention trial is a legitimate scientific trial but when I examine its design, it looks a lot like a species of OS — observational science. Nothing in this trial examines mask efficacy in any direct way, and the number of confounders (some clearly present, many more possible) limits the study too much for my purpose. A proper RCT is discussed at length:

TECH.06.01.Randomised controlled trials—the gold standard for effectiveness research <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6235704/>. See TECH12.Study designs_ Part 4 – Interventional studies <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6647894/> for an overview of study designs. When these docs are assessed, it becomes clear that just because the word *randomized* is in the name of a trial that does not make it an RCT, and can be used in the name of trials that are, in the final analysis, OS. The essential argument against RCTs is that they cannot practically be used to

answer questions regarding large groups, and etc. But this is bogus. The FACT is unless a mask can be SHOWN to block virions at the sizes of our concern then no amount of group studies, no matter how large, is going to suddenly make the mask more efficacious. The idea has to be that the limited amount of protection a mask MIGHT provide extrapolated out over a large enough population will likely provide x number of beneficiaries of their minimal protection. But this is a specious argument. First, all such studies are susceptible to confounders so much so that it's impossible to say with any certainty the mask is what made the difference.

IR: This article does not address questions central to our concerns: droplet or particle size masks were tested for,

When examined closely, it is clear this study does not examine the physical ability of masks to block virions. Rather, it is a highly sophisticate OBSERVATIONAL study where three groups were formed among university students: one group wore masks and used hand sanitizer, one group wore masks only, and the control group did neither, although this is not stipulated. The control group were left alone, no intervention was done, so maybe some wore masks

from time to time, and maybe some used sanitizer from time to time, but they were not part of the group asked to use npi (non-pharmaceutial interventions).
NEVERTHELESS:

The DISCUSSION admits mask+sanitizer reduced incidence of ILI but mask alone had a negligible impact, not “statistically significant.”
“THERE WERE NO SUBSTANTIAL REDUCTIONS IN ILI OR LABORATORY-CONFIRMED INFLUENZA IN THE FACE MASK ONLY GROUP COMPARED TO THE CONTROL.”

In other words, this study used by NIH to support masks actually **DOES NOT PROVE MASKS** are what is responsible for the observed effect.

Vetted: DUPLICATE: See **FN01.38.00.03.37w-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266257/> PDF: FN01.38.00.03.37w.Facemasks, Hand Hygiene, and Influenza among Young Adults_ A Randomized Intervention Trial - PMC (Several supplemental files that are the charts used in the doc.)

FN01.08.02.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC463>

4545/ PDF: FN01.08.02.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC.pdf

Already vetted in these notes: See

FN01.01.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>. PDF: FN01.01.01.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC

A sophisticated OBSERVATIONAL study — and what I mean is that the physics of masks versus virus was not studied. Instead, the researchers set up a sophisticated CONTROLLED observational study in which three groups were watched for whether this or that intervention affected any difference in contracting influenza.

CONCLUSION: “Influenza transmission WAS NOT REDUCED BY INTERVENTIONS TO PROMOTE HAND WASHING AND FACE MASK USE.”

You’ve got to be kidding me. These people are rank liars.

FN01.08.03.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821845/>. PDF: FN01.08.03.00.00.Impact of Non-Pharmaceutical Interventions on URIs and Influenza in Crowded, Urban Households - PMC.pdf

Rated by ECDC as LOW to MODERATE confidence. See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: March-April, 2010

CCP: Larson, Yu-Hui Ferng, Wong-McLoughlin, Wang, Haber, Morse, so it appears at least three have possible Asian culture bias toward masks / ORIGIN: USA-NY, GA / REF: van der Sande; Lee; Kim, Lee; Mossad; Li; Tan; Cowling, Chan, Fang, Cheng, Fung, Wai; Lau JT., Lau M., Kim, Tsui, Tsang, Wong TW; Goh, Lee, Chia, Heng, Chen, Ma; Lau, Tsui, Lau M., Yang; Yang; Nishiura, Chowell; van der Sande, Teunis, Sabel; Li, Leung, Yao, Song; Inouye, Matsudaira, Sugihara; MacIntyre, Dwyer, Seale, Cheung; Lau, Kim, Tsui; Cowling, Fung, Cheng, Fang, Chan, Seto; Lau, Kim, Tsui; Kim, Sorcar, Um, Chung, Lee; NY Dept. Health (20 of

67) / FUNDING: nd - only declared “This study was funded by grant #1 U01 CI000442-01, “Stopping URIs and Flu in the Family: The Stuffy Trial.” Searched grant: Columbia University (NY) is the likely funder.

RCT: No. OS - comparative study,

CONTENT:

Already vetted: **FN01.43.01.02.00-**
<https://journals.sagepub.com/doi/pdf/10.1177/003335491012500206>. PDF: FN01.43.01.02.00.Impact of Non-Pharmaceutical Interventions on URIs and Influenza in Crowded, Urban Households

It’s another like the above, a sophisticated OS (observational study).

HERE is the CRITICAL ISSUE with this study: Finally, THERE WAS NO INCLUSION OF A CONTROL GROUP, THEY DID NOT PREPARE A “NO INTERVENTION” GROUP. This is explained as because “a ‘no intervention’ group was not possible.” This is very important: “The study did not include a ‘no intervention’ group.”

CCav: Also, the researchers labored to explain why

there was so little difference between the groups: after explaining some of the variables apparent in their study, they write, “It is possible, therefore, that some or all of the interventions, even in the comparison/Education group, served to reduce URI rates, making it difficult to find differences among groups.”

CE: It includes a lot of information that contradicts some of their findings, and overall leaves the study inconclusive. This explains why those depending on these studies, or studies like them, frame their conclusions in noncommittal language.

*** But perhaps this little tidbit is the most interesting revelation from this study: discussing the problem of low adherence to mask wearing, “Factors associated with measures such as mask wearing include perceived efficacy of preventive strategies, risk of an outbreak, and risk of contracting influenza. Among 183 elementary school children who received education about avian influenza using fear or humor, the FEAR-RELATED PROGRAM WAS MORE EFFECTIVE AT IMPROVING PERCEPTIONS OF RISK AND PREVENTION BEHAVIORS.” And, now get this: “HENCE, IT IS LESS LIKELY THAT MASK WEARING WILL BE A VIABLE INTERVENTION UNLESS THE

LEVEL OF FEAR IN THE COMMUNITY IS HEIGHTENED, WITH THE CONCOMITANT INCREASE IN ADHERENCE.”

*** How about this, “Surprisingly, in our study, more crowded households AND HOUSEHOLDS IN WHICH THE CARETAKER HAD LESS EDUCATION, were also associated with significantly lower rates of transmission.” SO, does this prove the less educated you are the less likely you are to get sick?

Keep the above in mind when you read that when an index case was a school-age child, their study shows “there was significantly greater secondary transmission, indicating that schoolchildren are major contributors to transmission.”

CCav: The conclusions often bewray the language of the study. Here is the bottom line: “Our finding ... [is] ... that there were significantly more people in the Hand Sanitizer group who reported no symptoms at all during the course of this study, it is possible that alcohol-based hand hygiene MAY OFFER some protection against URIs in the community. However, THE RELATIVELY SMALL NUMBER OF INDIVIDUALS STUDIED TO DATE HAS NOT BEEN ADEQUATE TO PROVIDE AN ESTIMATE OF THE SIZE AND, OVERALL,

THERE WERE NO DIFFERENCES IN INFECTION RATES AMONG THE INTERVENTION GROUPS.” As for masks, they conclude it is a “promising non-pharmaceutical intervention to reduce risk of SECONDARY transmission of rival URI, but IT IS LIKELY THAT ADHERENCE TO MASK WEARING WOULD OCCUR ONLY IF THERE WAS A MAJOR PANDEMIC THAT RESULTED IN A HEIGHTENED LEVEL OF COMMUNITY CONCERN AND FEAR.”

OS: However, the evidence supporting this conclusion is essentially anecdotal even if it was a controlled observational study, it depends on results that are based on observations made of various groups, and does not even include a viable control group.

FN01.08.04.00.00-

<https://academic.oup.com/jid/article/201/4/491/861190?login=false> PDF: FN01.08.04.00.00.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ a randomized intervention trial - PubMed.pdf

PC: Published Feb. 2010 (Received Sept. 2009, accepted Nov. 2009)

CCP: Aiello (1 of 9) / ORIGIN: USA-MI; GA; GA-CDC (x2) / REF: CDC; Liang; Cowling, Fung, Cheng; MacIntyre, Dwyer; Jefferson; Aiello; Aymard (5 of 26) / FUNDING: US-CDC

RCT: No. Stipulated as “A randomized intervention trial.” Described under Methods: “A randomized intervention trial involving 1437 young adults living in university residence halls during the 2006–2007 influenza season was designed. Residence halls were randomly assigned to 1 of 3 groups—face mask use, face masks with hand hygiene, or control— for 6 weeks. Generalized models estimated rate ratios for clinically diagnosed or survey-reported ILI weekly and cumulatively.” I’ve commented often on what I think about these sorts of trials. Useful to explore places for proper RCT work to be done, but inconclusive and generally fraught with confounders.

CONTENT: “We observed significant reductions in ILI during weeks 4–6 in the mask and hand hygiene group, compared with the control group,”

CCav: “Neither face mask use and hand hygiene nor face mask use alone was associated with a significant reduction in the rate of ILI cumulatively.”
NOTE: TA is observing that masks *alone* or hand-

hygiene *alone* are not associated with a significant reduction in rate of ILI. The idea for TA is that when combined, a significant efficacy is derived as from the synergy of the combined efforts. I've seen this repeatedly in observational studies, and in what I call hybrid RCT/OS trials, but NEVER IN A STRAIGHT FORWARD RCT.

So, that's about it. I'll browse through to see if there are any promising surprises:

CE: Why do I find the CCav noted above (CCav: "Neither face ...") and then, under DISCUSSION, I read "We found a significant reduction in the rate of ILI among participants randomized to the face mask and hand hygiene intervention during the later half of this study, ranging from 35% to 51% when compared with a control group that did not use face masks"?

The statement above, under CCav, is the cumulative, this finding under DISCUSSION is restricted to the "latter half of this study." Furthermore, it's an observation based on the combined interventions of mask and hand hygiene. Nevertheless, it leaves open the question why would masks and hand hygiene become significantly effective in the last half and not the first half???

ACK: They, MICHIGAN, had a mild influenza season and a late one, which might have skewed results.

The LIMITATIONS:

CCav: Influenza incidence was low all around. It is believe most ILI cases were not associated with influenza infection — so they did not confirm by RT-PCR or something like that. **They simply measured for self reported symptoms** of ILI.

CCav: The second limitation: THE STUDY WAS UNDERPOWERED TO DETECT LOW REDUCTIONS IN THE RATE OF ILI AND ACROSS STUDY ARMS.

OS: Once again, so many variables are active in a study like this. It was done on a University campus, the students interaction is very broad and random and while it is reasonable to suppose the cases would be similar, it's not possible to say that some anomalous events occurred in this or that group accounting for the differences — especially when so many other studies conclude otherwise and most especially when the masks are tested for ability to block virus studies consistently show weak efficacy.

SP: *** HERE IS THE KEY COMPONENT OF THIS STUDY THAT IS DISTURBING — Given what we now know about PRE PLANNING for the current pandemic, the strong implications that the WEF and global cabal crowd were actually preparing to launch such a pandemic to accomplish the goals Hararri has boasted are being accomplished with the COVID pandemic, breaking down resistance to ubiquitous government surveillance of our daily lives — when I read, “We demonstrated a protective effect of the intervention even with relatively moderate use of face masks throughout the day. We believe that during an influenza pandemic, compliance with interventions will be higher than what we found in this study, particularly if rates of serious complications are high or well publicized. If our findings also apply to laboratory-confirmed influenza infections, the effect on influenza transmission could be substantial, particularly early in a pandemic when vaccine supply will almost certainly be limited, as with the current nH1N1 pandemic [26]. Our results indicate that interventions to reduce the transmission of ILI during a winter season may have substantial effects among individuals who share crowded living conditions,” it is concerning!

This is one of those specious studies that look and sound convincing but close examination betrays that it is, in the end, fraught with all the problems all of these studies encounter — there is simply no way to be sure some anomalous event/s did not create the difference in results, plus, in this case, we are not even sure if those reporting sick actually had influenza —.

IR: These are not, properly speaking, “randomized controlled trials.” The language is specious: “A randomized intervention trial” — like all of the above, this study does not examine the physics of masks versus virus, or even masks versus droplets. It examines the results of observational analysis data obtain via a loosely controlled examination of results from case studies, in which groups are formed based on specified interventions, and the consequences or effects observed are assumed to arise from the interventions.

I don’t say there is no value to these sorts of studies, but only that the value is variable and the results questionable.

OS: “We observed significant reductions in ILI during weeks 4-6 in the mask and hand hygiene group, compared with the control group, ranging from 35% ...

to 51% ..., after adjusting for vaccination and other covariates.”

CCav: “FACE MASK USE ALONE SHOWED A SIMILAR REDUCTION IN ILI COMPARED WITH THE CONTROL GROUP, BUT ADJUSTED ESTIMATES WERE NOT STATISTICALLY SIGNIFICANT.”

NC: The results are stated in NC language: “These findings SUGGEST that face masks and hand hygiene MAY REDUCE respiratory illness in shared living settings and mitigate the impact of the influenza A(H1N1) pandemic.”

FN01.08.05.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf

Rated by ECDC as LOW to MODERATE confidence. See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Feb. 2009

CCP: MacIntyre, Seal, Weed, Gao, (All but one author Australia; Ferguson - UK, London) / ORIGIN: Australia; UK / REF: Lee; Le; Lee; Cowling, Fung, Cheng, Fang, Chan, Seto; Kao, Huang, Huang Y-L., Taai, Wu; Lim, Seet, Lee, Chuah, Ong; Han; US DHHS; Australian health management; 3M tech.; Druce, Tran; Seto, Tsang, Yung, Ching, Ng, Ho; Lo, Tsang, Leung, Yeung, Wu, Lim; Syed, Sopwith; MacIntyre; MacIntyre; WHO (15 of 32) / FUNDING: Statement: “The Office of Health Protection, Department of Health and Ageing, Australia, 3M Australia, and Medical Research Council (UK) provided funding for this trial. The National Health and Medical Research Council and the School of Pediatrics and Child Health, University of Sydney provided salary support.”

RCT: Asserted. Cluster RCT of mask use in households in Sydney, Australia.

CONTENT:

IR: Does not address mask efficacy in blocking virus, rather examines groups who did or did not wear masks and ascertain from that whether masks were a factor in reducing spread. The problems with this sort of study are legion. Searched *particle*, *droplet*, and

nano. Results discussed below:

While I found reference to *particle* in the footnotes, and *droplet[s]* along with *aerosol* in the text, it was only as a recognition of this mechanism of transmission; a specification of large, and aerosol droplets is indicated, along with fomites as mechanisms of transmission; but nowhere does TA stipulate what constitutes an aerosol (usually $<5 \mu\text{m}$) or large droplet (usually $>5 \mu\text{m}$), or touch on the relative size of virions to the size of mask mesh/pores.

SP: I could be mistaken about this, but it seems to me these RCTs that are set up to offer observations from groups, and so on are very nearly as much susceptible to confounders as many of the OS I've examined. I wonder if they are attempting to morph away from a strict RCT to a sort of hybrid thing and slowly transfer away from strict dependence upon RCTs and give some added credibility to their OS. The weaknesses of these studies is revealed in the long list of possible accuracy compromising factors given in the study. Someone might have gotten sick outside the home unrelated to the interventions used. Etc. etc. And this is the problem with these sorts of studies, and why they are not considered reliable.

CCav/NC: ESSENTIALLY, this study concludes: “We concluded that household use of face masks is associated with low adherence and is ineffective for controlling seasonal respiratory disease. However, during a severe pandemic when use of face masks might be greater, PANDEMIC TRANSMISSION IN HOUSEHOLDS **COULD** BE REDUCED.”

CCav: A little incidental revelation occurs when discussing masks: “Therefore, face mask use should have some effect on virus transmission (e.g., interference with hand-nose contact) ...” So, masks don’t block a virus, but they interfere with hand to nose, let’s add, to mouth contact.

NC: Finally: “Masks MAY ... play an important role in reducing transmission.”

FN01.08.06.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/> PDF: FN01.08.6.Preliminary Findings of a Randomized Trial of Non-Pharmaceutical Interventions to Prevent Influenza Transmission in Households - PMC

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: 2008

CCP: Cowling, Fung, Cheng, Fang, Chan, Seto, Yung, Chiu, Lee, Leung (10 of 13) / ORIGIN: Hong Kong, CHINA / REF: Proenca, Arruda; Han; Ungchusak, Auewarakul, Kitphati, Auwanit; Sedyaningsih, Yusharmen; Aledort; Aiello; Yu; WHO (2); Wong, Chan; World Medical Association; Liang, Zeger; Lo; Leung, Ho, Chan, Ho; Uyeki (15 of 40) / FUNDING: US CDC

RCT: No. (Cluster randomized controlled trial of households)

CONTENT:

Description of Method: Three interventions were studied: 1. control, where the households received education about the importance of a healthy diet, and lifestyle, illness prevention, and symptom alleviation protocols. Then, 2. the FACE MASK arm, or group; they received the above, plus education about possible efficacy of masks, and each received a free box of masks, they got 50 masks for each household member.

They were instructed how to wear the masks, and encouraged to wear them a “often as possible at home,” except while eating or sleeping, or out of doors. Then 3. there was the hand hygiene group that received the control intervention, see 1. above, plus education about the potential efficacy of proper hand hygiene. They received a supply of hand sanitizer, specifically a WHO recommended formulation, also liquid hand soap, small bottles of alcohol hand gel and instruction in hand washing protocol.

CE: RESULTS: “Little difference between intervention arms.”

CCav: MAJOR ADMISSION:See Discussion: “While conventional wisdom proposes that hand hygiene, and perhaps surgical masks, COULD be effective measures to reduce household transmission of influenza, ALL AVAILABLE DATA HAVE SO FAR BEEN DERIVED FROM AT BEST OBSERVATIONAL SETTINGS and mostly based on ANECDOTAL EVIDENCE rather than controlled trials.” These researchers boast theirs is the FIRST effort to provide a community based RCT of interventions “against influenza with laboratory confirmed outcomes.” Taken with their results statement: “Little difference between intervention arm,” we now have what TA asserts is a superior study

that confirms the weakness of prior studies as they describe.

IR: With regard to the question of my research, do facemasks provide adequate protection to justify universal mask mandates, or even enthusiastic encouragement for their use, TA admits this study was not “powered” to answer that question: “\Whereas the present study was not powered to assess the relative efficacy of the interventions, IT HAS PROVED SUCCESSFUL IN DEMONSTRATING THE FEASIBILITY OF OUR STUDY DESIGN AND THE LOCAL CHARACTERISTICS OF INFLUENZA TRANSMISSION.”

CCav: “ALTHOUGH WE FOUND LITTLE EFFECT OF THE INTERVENTIONS IN PREVENTING HOUSEHOLD TRANSMISSION, OUR STUDY WAS UNDERPOWERED. NEVERTHELESS, OUR POINT ESTIMATES ARE CLOSE TO NULL, SUGGESTING TRUE EQUIPOISE UNTIL A DEFINITIVE RANDOMIZED TRIAL WITH SUFFICIENT POWER”. which is indicated as being a LARGER SAMPLE SIZE. TA admits their study did not satisfy their objective, stated as follows: “We implemented a study of the feasibility and efficacy of face masks and hand hygiene to reduce influenza trans-mission among Hong Kong household members.”

SP: NOTES: Equipoise is an odd word to use here. It refers to a balancing of forces — and as used here suggests a neutral result. I do appreciate sensitivity to nuance and advocate for introducing what might be a new word to readers when that new word makes a particular contribution to clarification, or elucidation, etc. But sometimes I find writers use obscure words merely to impress, or, worse, to obscure. In this case, it seems to me, TA does not want to say clearly their efforts failed to achieve their objective and so use this convoluted way of saying, effectively, the study failed, or, provided a *neutral result*.

CCav: *** More evidence of the problem with these sorts of trials — “We OBSERVED generally low adherence to interventions.” And “the dropout was higher than anticipated.” The difficulty researchers confront when attempting to determine mask efficacy through observations derived from a “controlled” and “randomized” group study is the confounding confounders, such as those encountered by TA here. “Control” can only go so far with depending on human behavior. Observation is a part of any scientific inquiry, and every scientific conclusion depends on it. But an “observational study,” admitted to be weak by TA, depends on the researcher deriving conclusions premised on insufficient data. That’s why I don’t like

these “cluster randomized controlled trials” — they are observational studies constructed in a manner hopefully to reduce the confounders, but they ultimately depend on human behavior that cannot be sufficiently “controlled.” In this case, **more than half** of the face mask group did not wear a surgical mask at all during the follow-up period. Any conclusions from such a study are going to be **INCONCLUSIVE**.

CCav: Following up on the above comment: The **CONCLUSION**: “There remains a serious deficit in the evidence base of the efficacy of non-pharmaceutical interventions.

FN01.08.07.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>. PDF: FN01.08.07.00.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC

Rated by ECDC as LOW to MODERATE confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: 2012

CCP: Suess, — ? / ORIGIN: Germany. Koch Institute — no apparent CCP connections. / REF: Aiello, Cowling, Chan, Fang, Cheung, Fung, Chu, MacIntyre, Cheung, Lau, X, Kim, WHO, Cheong, etc. / FUNDING: Statement: “This work was financially supported by the German Federal Ministry of Health. The funding source had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.”

RCT: No. A “CLUSTER RANDOMIZED TRIAL”

CONTENT:

CCav: “Previous controlled studies on the effect of non-pharmaceutical interventions (NPI) - namely the use of facemasks and intensified hand hygiene - in preventing household transmission of influenza have NOT PRODUCED DEFINITIVE RESULTS.” This research aims to correct that problem.

Overall, it’s another study that leaves a great deal of data on the field — what possible confounders are there from one household to another, their random and purposed interactions with persons not part of the

study, I mean, it goes on and on.

NOTE: Adherence was considered good at 50%????

CCav: Discussion: “IN PRIMARY INTENTION TO TREAT ANALYSIS OF ALL DATA, the interventions DID NOT LEAD TO STATISTICALLY SIGNIFICANT REDUCTIONS OF SAR IN HOUSEHOLD CONTACTS.” This is followed by what appear to me efforts to mitigate the negative impact of their study:

SP: Confusing language: “However, in a secondary analysis among households with full implementation of the intervention within 36 h after symptom onset, the combined participants from M [masks] and MH [masks + hygiene] groups had a significantly lower chance of influenza infection compared to controls.”

NOTE: A “significantly lower chance”? Wouldn’t you say a “significantly lower incidence”? How did that ascertain the “chance” factor in the above scenario? This could be an example of selected phrasing: *chance* is more subjective, as opposed to *incidence*, which we expect to have reference to specific data and therefore have a more objective basis for the conclusion.

SP: “However, in a secondary analysis among households with full implementation of the intervention within 36 h after symptom onset, the combined participants from M and MH groups had a significantly lower chance of influenza infection compared to controls.”

Furthermore, if this means, and I think it does, that they created a subgroup of households from this study by the criteria they defined as FULL IMPLEMENTATION OF THE INTERVENTION [does this mean MH, i.e., mask and hygiene protocols?] where this was implemented within 36 hours after symptom onset, it appears these researchers decided that in such a case, it would improve the “chances” of other family members to not become infected — so this subset is a group where the interventions were deployed EARLIER — but the fact that they say “better chance” suggests it was not so significant as they imply because they would certainly have declared the meaning of *significant* in this study if it was indeed significant. This device is used when they can say, well, the differential was only 1 or 2 persons out of 10 or 20, or a 100 — but that is significant to the person who got sick! Yet it is meaningless with regard to all others using this data to assess risk.

SP: Another example: “we observed a non-significant, but consistent and substantial reduction ...” So, what is it? Is it “non-significant,” or is it “substantial”? Obviously, the word *substantial* is intended to mitigate the negative impact of *non-significant*. That sort of language is a species of deceit I find distasteful in a paper purporting to be science.

CCav: “The reason for the high SAR of 25% in MH households from 2010-11 season (with 35% the SAR was even higher when only households with Influenza-B positive index patients were considered) REMAINS UNCLEAR.”

CE: After all the presentation of data collected, the summary concludes: “In primary intention-to-treat analysis of all data, the interventions did not lead to STATISTICALLY SIGNIFICANT REDUCTIONS OF SAR in household contacts.

NC: Conclusion: “In conclusion, results of our study contribute to the body of evidence that NPI MAY BE effective in preventing transmission of influenza in households. They believe their study shows the use of “facemasks in particular is tolerable and acceptable for adults and children alike ...” Also that these measures COULD play an important role in interruption of

influenza. transmission within households.

FN01.08.08.00.00-

<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF:

FN01.08.08.00.00.Facemasks and hand hygiene to prevent influenza transmission in households_ a cluster randomized trial - PubMed.pdf

Rated by ECDC as LOW to MODERATE confidence. See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: October 2009

CCP: Cowling, Chan, Cheng, Fung, Sin, Seto, UYng, Chu, Chiu, Lee, Chiu, Lee, Uyeki, Houck ? Leung, — Hong Kong, /ORIGIN: CDC Grant (Added disclaimer that views of authors do not necessarily reflect CDC) — Study conducted with Households in Hong Kong, China. REF: WHO (2); Oshitani, Kamigaki, Suzuki; Aiello; Cowling, Fung, Cheng, Fang, Chan, Seto; Chan, Lim; Tang, Chan, Khong, Guan, Lau; Liang; Cowling, Fang, Leung; MacIntyre, Dwyer, Seale, Cheung; Shih, Lee; Chang, Cowling, Chan, Fang, Seto, Yung (11 of 33)

/FUNDING: nd Assumed copyright holder: American College of Physicians.

RCT: No. A Cluster Randomized Trial — not blinded.

CONTENT:

OS: The description of the study depends on OS based conclusions, in terms of extrapolating the results to the question of prevention. In other words, it's another study where care is taken to set up a "cluster randomized trial" to determine whether group A (control) experiences fewer or more infections than either groups B and C, or etc. **The problem with this approach is that it is simply not possible to rule out all the possible confounders** — it just happened that more persons or households in group A were less fastidious in personal hygiene than the other groups, or it just happened that more persons in group A came into contact with infected persons that occurred in either groups B or C, or the family sizes in group A were larger or smaller, or the living conditions were more or less sanitary, or, and the list goes on with random variations that cannot be anticipated or controlled, including the problem of adherence.

This is why I'm inclined toward those tests that look at whether a mask actually blocks a virion rather than these trials that depend on observations from a controlled trial of groups A, B, C, etc.

NOTE: on construction of the trial Interventions tested: Lifestyle education (control) involving 134 households, hand hygiene (136 households), or [?] surgical facemasks plus hand hygiene (137 households) for all household members. THIS TOTALS 407 people, who tested positive for influenza A or B, or 794 household members in 259 households. A FAIRLY standard definition of groups: Control, M, MH. Outcome: looking for influenza virus infection in contacts confirmed by RT PCR or diagnosed clinically after 7 days.

CCav: RESULTS: 8% of contacts in the 259 households had RT-PCR confirmed influenza virus in the 7 days after intervention. SEE Results: "Hand hygiene with or without facemasks seemed to reduce influenza transmission, but the differences compared with the control group were not significant."

**HAND HYGIENE WITH OR WITHOUT
FACEMASKS SEEMED TO REDUCE INFLUENZA
TRANSMISSION, BUT THE DIFFERENCES**

COMPARED WITH THE CONTROL GROUP WERE NOT SIGNIFICANT.

NC: In 154 households where interventions were implemented within 36 hours of symptom onset there *seemed* to be a reduction of RT-PCR confirmed infection. SEEMED to be.

SS: Conclusions of researches conform to CCP expectations. The Western influenced doctors would likely have concluded there is little or no evidence that masks work.

SS/CE: But in these CCP influenced studies, it always goes from a statement of fact, that there is little difference, to an assertion of positive results: “Hand hygiene and use of facemasks ARE KEY ELEMENTS OF INFLUENZA PANDEMIC PREPAREDNESS PLANS, — then comes the CCav: **But their effect on preventing transmission of infection have not been demonstrated.**

That’s enough for my purpose here since I don’t see any reason to think something in this study will stand out as contributing to my understanding of this situation. Given the CCav noted above, we can put this study into the category of INCONCLUSIVE.

CCav: NOTES:

1. Cowling is connected with the School of Public Health and University of Hong Kong, China.

2. This was a non blinded study. And the setting is Households in Hong Kong.

3. There was no arm testing for masks only: Control group received education only, group 2, hand hygiene, and group 3 both hand hygiene and masks.

4. CONCLUSION: “Hand hygiene with or without facemasks seemed to reduce influenza transmission, BUT THE DIFFERENCES COMPARED WITH THE CONTROL GROUP WERE NOT SIGNIFICANT.”

NC, Seemed to SUGGEST, but the conclusion SS affirms “These findings SUGGEST that nonpharmaceutical interventions are important for mitigation of pandemic and interpandemic influenza.”

DISCUSSION: “We report the largest study to date of the efficacy of facemasks and hand hygiene to prevent influenza virus transmission in households. OVERALL, THE INTERVENTIONS DID NOT LEAD TO

STATISTICALLY SIGNIFICANT REDUCTIONS IN HOUSEHOLD TRANSMISSION, ALTHOUGH WE DID OBSERVE STATISTICALLY SIGNIFICANT REDUCTIONS WHERE INTERVENTIONS WERE APPLIED EARLY AFTER SYMPTOM ONSET IN THE INDEX PATIENT.”

5. Their study cannot establish whether the efficacy they report is owing to hand hygiene or facemasks.

6. Also, “NO EVIDENCE OF EFFICACY WAS FOUND BY INTENTION-TO-TREAT ANALYSIS OR IN LABORATORY-CONFIRMED RESPIRATORY VIRUS INFECTIONS.”

CE: In other words, the efficacy statement is premised upon OBSERVATIONAL reporting of symptoms from persons participating in the trial. However, when we look at the intention-to-treat and laboratory-confirmation tests, NO EVIDENCE OF EFFICACY WAS FOUND.

FN01.09.00.00.00-

<https://www.science.org/doi/10.1126/sciadv.abd308>

3. PDF: FN01.09.00.00.00.Low-cost measurement of face mask efficacy for filtering expelled droplets during speech.pdf (Or see

<https://www.science.org/doi/pdf/10.1126/sciadv.abd3083>)

PC: Sep. 2020

CCP: Authors ? / NC-Duke University, NC, home of Barrick operations, friend of Fauci, implicated in gfr (gain of function research), implicated in creation of SARS-CoV-2; Dept. of Psychology & Neuroscience; Dept. of Chemistry; Dept. of Medicine / REF: Bax, Bax P., Anfinrud; Anfinrud, Bax, A. Bax; Dharmadhikari, Mphahlele, Mathebula; Chu, Akl, Duda, Solo; Leung, Chu, Shiu, Chan, Hau, Yen, Seto, Leung, Cowling; Ong, Goh, Tang, Sooi, Tan, Tan Q., Teoh, Ong, Sharma; Konda, Prakash; Zhong, Konda; Asadi (2) (10 of 16) / FUNDING: Chan Zuckerberg Initiative (See <https://chanzuckerberg.com/> “The Chan Zuckerberg initiative is an organization established and owned by Facebook founder Mark Zuckerberg and his wife Priscilla Chan.” It’s a sort of B&MGF sort of deal.

RCT: Not asserted. “We tested 14 commonly available masks or mask alternatives, one patch of mask material, and a professionally fit-tested N95 mask ...” “For reference, we recorded control trials where the speaker wore no protective mask or covering.” This is the “Stay healthy” video test I’ve seen

elsewhere in these notes.

CONTENT:

This study appears hopeful. Let's see if we find the evidence we are looking for: will any of the masks recommended by govt. medical establishment provide adequate PPE or source control protection from a virus?

D: *** I noticed a shift in focus of studies from particle size to droplet size. While it's true that virtually no particles originate naked, that is, outside a droplet, the droplets desiccate so quickly the fact that a mask might capture a droplet is virtually meaningless, with regard to transmission. Nevertheless, microdroplets have been discovered to carry virions that are in the range ≤ 300 nm, or ≤ 0.3 μm , which can escape capture by virtually all recommended masks. I say *virtually*, only because some recommend masks that require onerous steps to produce, and inhibit breathing to an unacceptable degree. The masks recommended by Fauci, et al. do not provide adequate protection from microdroplets, and even if they do manage to capture droplets that have not already fully desiccated, these droplets continue that process, shrinking as they do, until finally the

mask is challenged by a virion so small it passes through at inspiration, or is launched into the atmosphere as a very small aerosol upon expiration. “The results of our mask study is depicted in Fig. 3A, where we show the relative droplet count for each tested mask.”

CCav: They used a “cell phone camera” and noted this posed certain “limitations,” namely, the size of the droplet recognizable.

Specifically, “The result is visualized in Fig. 4. Figure 4A SHOWS AN EXAMPLE OF THE SCATTERING DISTRIBUTION FOR A 532 - nm ([nanometer]) light scattered from a droplet of 5 μm ([or 5000 nanometers]) diameter and a refractive index of water ($n = 1.33$).”

IR: So we have the same objections here we have with so many of the other studies provided to prove masks work. This study does not examine the physics of mask weave versus virion particle size, but has to do with DROPLETS. Second, the droplets in question are huge by comparison to the virions they might carry — in this case, the smallest droplet appears to be 1000 nanometers to over a million.

IR: The camera used can achieve a size resolution

of 120 μm — *or* 120,000 nanometers.

Therefore, the researchers admit they cannot measure the size of small (aerosol) droplets. The researchers assure us, however, that they can use the images to detect and count the smaller droplets, “down to the sensitivity limit described above” — that is, down to 1000 nanometers. Well, from 120,000 down to 1,000 is significant, indeed. And a 1000 nm droplet will certainly be stopped by a mask with 300 nm holes in the weave. **But their study utterly fails to identify microdroplets, so, we are back to the problems we have with earlier studies.**

Transferred notes FROM FN01.36.01.03.00

CCav: First off, the neck gaiter breaks up the larger droplets into a multitude of smaller ones and actually increases the spread of droplets. The authors say this could be counterproductive.

CCav: “A first limitation is that our experiment implementation samples only a small part of the enclosure, and hence, some droplets that are transmitted through the mask MIGHT NOT BE REGISTERED IN THE LASER BEAM.”

CCav: “The droplet count reflects only a portion of

all droplets ...” and so what this study provides is a study of the relative effectiveness of the various masks and does not concentrate on the question what sized particles penetrate the mask.

CCav: Particle Size: And here comes the size issue again. The camera of the phone did not pick up particles in the size range of our interest, 125 nanometers and smaller.

THE MINIMUM DETECTABLE DROPLET IN THIS STUDY WAS $0.5\ \mu\text{m}$ — or 500 nanometers. Another problem is the narrow range of camera view, covering only about 0.01% of the field. That’s missing a whole lot of particles. However, remember that the interest of this study is not whether these masks block particles so small as an influenza virus; their interest is in which of the masks does the best job of blocking particles that are 500 nanometers or larger.

CCav: It gets worse, because the camera “limits the achievable size resolution (currently $120\ \mu\text{m}$ per pixel (that’s 1200 nanometers)) ...”

“This makes it unfeasible to directly measure the size of small (aerosol) droplets in our setup.”

CCav: The very best they can do is count the droplets down to the 0.5 μm mentioned earlier, or down to a size of 500 nanometers.

We know that surgical masks are sufficiently efficient to block particles that are larger than 300 nanometers.

“Keeping in mind these sizing limitations, we can still estimate the size distribution for the LARGER DROPLETS...”

So, this has to get an IR rating. Not relevant to our immediate interests.

FN01.10.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267357/> (See also:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267357/#resp13834-bib-0004>) PDF:

FN01.10.00.00.00.Rationale for universal face masks in public against COVID-19 - PMC.pdf

Rationale for universal face masking in public against COVID-19

PC: April. 2020

CDC: Sunjaya /ORIGIN: Sydney, Australia / REF: Zhang, Wang, Zheng, Chen, Deng, Leung, Shiu, Long, Liu, Chen, Cheng, Huang, Lau, Yang, Shan, MacIntyre, Wang, etc. / REF: Zhang, Wang W., Wang Y., Deng, Chen, Li, Zheng, Yi, Chen; Leung, Chu, Shiva, Chan, Yen, Li; Longm Hu, Liu, Chen, Guo, Yang, Cheng, Huang; Lau, Tsui, Lau, Yang; Ma, Shan, Zhang, LI, Yang, Chen; Davies, Giri, Kafatos; MacIntyre, Seale, Dung, Hien, Nga, Chughtai, Rahman, Dwyer, Wang (7 of 10) / RUNDING: nd Assumed copyright holder: Asian Pacific Society of Respirology.

RCT: No. It's SS — a statement by scientists offering their rationale for recommending masks with references to science articles/trials that provide no substantial support.

CONTENT:

CCav: *** “Weighing up all these considerations, there is modest evidence to support widespread community use of universal masking, which includes cloth masks to help reduce transmission of SARS-CoV-2.”

CCP: They recommend we look to China, Hong

Kong and Singapore, where mask wearing is pervasive and “where to a significant extent, COVID was contained in combination with known effective strategies.” [This sort of thing is insulting to genuine science: to admit we cannot find anything like hard evidence (the sort that we might find in a legitimate RCT) and then turn around and point to CCP controlled China as a model of mask efficacy is ludicrous. Everyone knows information is not free and transparent in China under CCP control. This sort of thing is insulting to our intelligence and poses a genuine threat to scientific integrity.]

The take away: We can’t find any evidence masks work, but, they seem to help China.

NC/AME: *** This article tries to run the thread of real science through the needle of government expected results: “The theoretical rationale discussed here suggests that along with evidence-based recommendations such as physical distancing and maintaining hand hygiene, universal MASKING MAY HELP IN REDUCING DROPLET-BASED TRANSMISSION of COVID and contribute to flattening and shortening the curve.”

NOTE: “Laboratory studies have shown that

droplets can travel distances as great as 7–8 m, (3) far further than the 1–2 m recommendation for physical distancing advocated by many countries.” See:

Footnote 3. Bourouiba L. Turbulent gas clouds and respiratory pathogen emissions. JAMA 2020. Mar 26. 10.1001/jama.2020.4756. [PubMed]

[CrossRef] [Google Scholar] This article has been vetted: See **FN01.41.05.01.00-**

<https://jamanetwork.com/journals/jama/fullarticle/2763852> PDF: FN01.41.05.01.00.Turbulent gas clouds and respiratory pathogens ...
jama_bourouiba_2020_it_200011

IR: It speaks of the potential for inhalation of “microdroplets and aerosolized SARS-CoV-2 particles,” but does not address the question whether surgical masks can block such.

NOTE: *** “An additional factor is the potential inhalation of microdroplets and aerosolized SARS-CoV-2 particles. Evidence from recent studies suggests that ultrafine aerosol droplets, smaller than 5 μm , may also carry SARS-CoV-2, and these can remain airborne for very much longer. A recent study on patients with seasonal coronavirus also showed that exhaled breath it-self contains viral RNA, (4) although it must be noted that virulence is unclear. Community studies are

required to corroborate these controlled experiments (5) that do not take into account differences between laboratory conditions and environmental factors which affect dispersion and viability such as heat and humidity encountered in the real-world setting.”

This is important to the question of mask efficacy. The aerosolized droplets are consistently considered to be those smaller than 5 μm , that's 5000 nm. The particles we are concerned with are 40-140 nm, with a typical size of 125 nm. These aerosolized particles at 5 μm are monstrosities by comparison. If these $\leq 5 \mu\text{m}$ have a significant hang time, suppose what would be the suspension time of particles in the range of 40-140 nm? The significance of this is what it means to exposure. TA offers two footnotes to support his claim regarding the size and hang time of these small aerosolized particles:

Footnote 4. Leung NHL, Chu DKW, Shiu EYC, Chan K-H, McDevitt JJ, Hau BJP, Yen H-L, Li Y, Ip DKM, Peiris JSM et al Respiratory virus shedding in exhaled breath and efficacy of face masks. Nat. Med. 2020. 10.1038/s41591-020-0843-2. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See
FN01.28.03.00.00-

<https://www.nature.com/articles/s41591-020-0843-2>. PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine

Footnote 5. Van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, Tamin A, Harcourt JL, Thornburg NJ, Gerber SI et al Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. N. Engl. J. Med. 2020; 382: 1564–7. [PMC free article] [PubMed] [Google Scholar]

FN01.10.00.01.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7121658/?report=reader> PDF: FN01.10.00.01.00.Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1 (For SUP see FN01.10.00.01.00.SUP NEJMc2004973_appendix - you will need this to description of methodology. For Disclosures you'll need: FN01.10.00.01.01.Disclosures NEJMc2004973_disclosures)

PC: Mar. 2020

CCP: Authors ? / ORIGIN: USA-MT, NJ, MD, GA - CDC; NIAID (Three authors) / REF: Wu, Huang, Wei, Bai, Zou, Huang, Chen, etc. / FUNDING: Amandine

Gamble received compensation from Defense Advanced Research Projects Agency (DARPA); James Lloyd-Smith received grant \$ from DARPA, National Science Foundation, and Strategic Environmental Research and Development Program.

RCT: Not asserted. In SUP (FN01.10.00.01.00.SUP NEJMc2004973_appendix) we learn the team used laboratory experiments to ascertain active virus in aerosol and/or fomites.

CONTENT:

IR: For my immediate purpose, this article is irrelevant. It does not treat the question of mask efficacy.

INFO: “HCoV-19 = Human Coronavirus and -19 refers to the SARS-CoV-2 virus emerging in China in 2019.

NOTE: *** Another confirmation that aerosols are considered particles $<5 \mu\text{m}$. The particles in this study contained HCoV-19 in a volume of 10 raised to the 5.25th power, or 177828 (rounded), of TCID(50) (Tissue culture infectious dose-50 [See TECH14.Tissue Culture Infectious Dose (TCID50) Assays _ BMG

LABTECH — the 50 refers to the percentage of Tissue Culture Infectious Dose — a measurement of infection when dose exceeds 50% — virus is injected into host cell until damage occurs which indicates infectivity of the virus.) These amounts were generated by a 3-jet collision nebulizer and fed into a Goldberg drum which produced the aerosolized environment needed for the experiment. Anyway, it appears this was a legitimate experiment.

RESULTS: -2 (SARS-CoV-2) and -1 (SARS-CoV-1) were compared. -2 “remained viable in aerosols throughout the duration of our experiment (3 hours), with a reduction in infectious titer from 10^8 to 10^6 TCID per liter of air. This reduction was similar to that observed with SARS-CoV-1, from 10^8 to 10^6 TCID per milliliter (Figure 1A).” From this, it appears -1 was *more* infectious than -2???

-2 more stable on plastic and stainless steel than on copper and cardboard. VIRUS VIABLE UP TO 72 HOURS AFTER SETTLING ON THESE SURFACES. On copper no viable virus was detectable after 4 hrs, no -1 after 8. ONCE AGAIN, IT APPEARS -1 HAD GREATER ENDURANCE. But this flips when virus is tested on cardboard: -1 degraded to none detectable after 24 hrs and -1 after 8. (Was the 24 a typo?)

Conclusion: “Our results indicate that aerosol and fomite transmission of SARS-CoV-2 is plausible, since **the virus can remain viable and infectious in aerosols for hours and on surfaces up to days (depending on the inoculum shed)**. These findings echo those with SARS-CoV-1, in which these forms of transmission were associated with nosocomial spread and super-spreading events, and they provide information for pandemic mitigation efforts.”

—> Back to FN01.10.00.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267357/#resp13834-bib-0004>

NOTE: *** Speaks of “ultrafine aerosol droplets,” and indicates these are “smaller than 5 μm [5000 nanometers] may also carry SARS-CoV-2,” which remain airborne much longer than the larger droplets > 5 μm .

OOO! *** This study claims viral RNA is found in exhaled breath of infected persons, although the virulence of this RNA is unclear!!!!???

CCav” INCONCLUSIVE The study here indicates the need for “studies ... to corroborate these controlled

experiments.”

*** NC: “Mandating universal use of masks for going out, especially in areas of high local transmission and community prevalence of SARS-CoV-2 infection ... COULD MEAN REDUCED DROPLET TRANSMISSION BY PEOPLE WITH ASYMPTOMATIC, PRE-ASYMPTOMATIC AND MILD DISEASE ...”

NOTE RE the above: No clarification is made regarding the size of the droplets or the type of masks. Notice also the equivocating assertion: “COULD.”

CE: *** So, here is a “study” recommending mandating masks and it states, unequivocally: “TO DATE, NO STUDY HAS BEEN DONE TO EXAMINE THE EFFECTIVENESS OF MASKS AGAINST THE SARS-CoV-2 CAUSING COVID-19.” After making this admission, it goes on to confuse the issue by using what I call obscure-speech to contradict what had just been asserted.

SP: The next line: “However, a recent study in patients with seasonal coronaviruses has demonstrated that surgical masks significantly reduced detection of viral RNA in aerosols and shows a trend in reducing viral RNA in droplets.”

So, has there ben NO STUDIES to date, or has there been a study to date?

TA said the virulence of “viral” RNA is in question, “unclear,” but here is a mask the shows promise to block viral RNA.

The size of the droplet in question is not mentioned, if over 300 nm a surgical mask will not block it.

Then comes the great whopper: *** “A recent meta-analysis of randomized controlled trials also showed that SURGICAL MASKS ARE AS EFFECTIVE AS N95 MASKS IN REDUCING TRANSMISSION OF INFLUENZA LIKE DISEASES.” Footnote 6, so we’ve got to take a look at these — see below— “Let’s look at ...”

Finally, a look to Hong Kong during the CoV-1 outbreak supporting the conclusion that masks, mainly surgical, really did the trick — showing they CAN BE PROTECTIVE BY 64%. Okay, they either were protective by 64% or they were not. They were almost protective by 64%, or they were not even close, or????

This is the lousiest bit of science double talk I’ve seen so far.

What this means is, THEY CAME UP WITH SOME SPECULATIONS BASED ON SOME OBSERVATIONS THAT WERE INCONCLUSIVE — that’s why they have to say, “can be protective...” and not “were protective...”

Let’s look at the RCTs indicated in Footnote 6

1. The RCTs in question were gathered and analyzed by the following: Long Y, Hu T, Liu L, Chen R, Guo Q, Yang L, Cheng Y, Huang J, Du L. Effectiveness of N95 respirators versus surgical masks against influenza: a systematic review and meta-analysis. J. Evid. Based Med. 2020. Mar 13. 10.1111/jebm.12381. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.10.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7228345/> PDF: FN01.10.01.00.00.Effectiveness of N95 respirators versus surgical masks against influenza_ A systematic review and meta-analysis - PMC

PC: March 2020

CCP: Long, Hu, Liu, Chen, Guo, Yang, Cheng, Huang, Du (All authors) / ORIGIN: CHINA / REF: Huang, Wang, Y, Li; Chen, Chughtai, MacIntyre; Zhiquing, Yongyun,

Wenxian; Sandaradura; Chughtai, Seale, MacIntyre; Offeddu, Yung, Low, TAm; MacIntyre, Zhang, Chughtai; MacIntyre, Dwyer; MacIntyre, Wang Q.; MacIntyre, Wang Q., Seale; MacIntyre, Wang Q., Rahman; Cowling, Zhou, Ip, Leung, Aiello; Balazy, Adhikari; Cowling, Fung, Cheng; Ohde, Takahashi, Tokuda, Omata, Fukui; Aiello; Barasheed, Almasri; MacIntyre, Seale, Dung; Cowling, Fang; Wang M., Barasheed, Rashid; Chughtai, Seale, Dung, Rahman, MacIntyre; Sokol; MacIntyre, Chughtai, Rahman; Zhang, Li; Suntarattiwong; Cowling, Chan, Fang (24 of 40) / FUNDING: nd Assumed copyright holder: CHinese Cochrane Center, West China Hospital of Sichuan U.

RCT: No. SRL and META-ANALYSIS

CONTENT: Claim: TA selected six RCTs involving 9,171 participants. The study concluded: “There were no statistically significant differences in preventing laboratory-confirmed influenza ..., laboratory-confirmed viral infections ..., laboratory-confirmed respiratory infection ..., and influenza-like illness ... using N95 respirators and surgical masks.”

Well now, that’s quite a statement. NO RCT I’ve seen supports such a conclusion, but these folks found 6. Okay, let’s look closer.

Let's start with their CONCLUSION: THE USE OF RESPIRATORS COMPARED WITH SURGICAL MASKS IS NOT ASSOCIATED WITH A LOWER RISK OF LABORATORY-CONFIRMED INFLUENZA."

IR: The researchers did not provide any information re what particle sizes they compared, or used to determine mask efficacy.

SP: The suggestion is that N95s ought not to be used by the general public, and the basis is that they don't help any more than surgical masks do, **HOWEVER, MEDICAL STAFF SHOULD USE THEM WHEN IN CLOSE CONTACT WITH INFLUENZA PATIENTS OR SUSPECTED PATIENTS.**

SP: The types of RCTs included were cluster types, something I've addressed earlier, and included in the criteria are **NONRANDOMIZED CONTROLLED STUDY**. (I examine the distinctions between these species of so-called *randomized controlled* studies and what is regarded to be the gold-standard of scientific research, the Randomized Controlled Trial in another place. See TECH06.00 and TECH06.01 for explanation of an RCT; see TECH07 for explanation of a cluster type; see TECH12 for an examination of various study designs. It

seems clear to me the frustration generated by the inability to construct an RCT that will validate their observational studies has led either to experimentation with these cluster studies or some have turned to these modifications in order to escape the burden of proof required by a proper RCT. As for “meta-analysis, in case that is not self-evident, see TECH15.Meta-analysis_ What, Why, and How - Students 4 Best Evidence <https://s4be.cochrane.org/blog/2016/12/02/meta-analysis-what-why-and-how/.pdf> — in summary, it is an effort to combine results of several other individual studies into one study, and statistical analysis is used to *congeal* the data.)

Okay, now, wait a minute, This is supposed to be a meta-analysis of 6 RCTs. See first paragraph.

CE: Now we are being told the criteria for inclusion in this study included NONRANDOMIZED controlled studies. Nonrandomized or randomized?

NOTE: TA rationale for making the claim that N95s don't provide better protection than the SM (surgical mask) or PM (procedural mask) or MM (medical mask) — all essentially the same with the exception of some fitting issues) appears to be the problem with

compliance. People don't like wearing the N95 and so compliance is very low. When the cases are AVERAGED OUT, this brings DOWN THE AVERAGE effectiveness of the N95 to a par with surgical masks.

CCav: “**N95 respirators** are used to prevent users from inhaling **small airborne particles and must fit tightly to the user's face. Surgical masks are designed to protect wearers from microorganism transmission and fit loosely to the user's face.**5,6”

Stipulated: 5. Zhiqing L, Yongyun C, Wenxiang C, et al. Surgical masks as source of bacterial contamination during operative procedures. J Orthop Translat. 2018;14:57-62. [PMC free article] [PubMed] [Google Scholar] Not vetted in these notes. Noted here for future evaluation if needed. The docs are supportive of my thesis.

6. Lawrence RB, Duling MG, Calvert CA, Coffey CC. Comparison of performance of three different types of respiratory protection devices. J Occup Environ Hyg. 2006;3(9):465-474. [PubMed] [Google Scholar]. This one already vetted in these notes: See **FN01.42.04.00.00-**
<https://pubmed.ncbi.nlm.nih.gov/16857645/> PDF: FN01.42.04.00.00.Comparison of performance of three different types of respiratory protection devices - PubMed

CCav: “There are several limitations to this study. First, some RCTs had a HIGH RISK OF BIAS due to lack of allocation concealment and blinding.” Second, “the number of included studies focusing on the community was small,” making the results unreliable. Third, “we identified RCTs from published systematic reviews, which may result in the omission of relative RCTs.” And “finally, there might be publication bias, and we cannot assess it due to an insufficient number of included RCTs.”

These *limitations* actually render the entire study of no real value.

Below are the references listed in this study:
(These are the STUDIES FN01.10.01.00.00 used.

FN01.10.02.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7159299/>. PDF: FN01.10.02-Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China - PMC

PC: Feb. 2020

CCP: Huang, Wang, Li, Ren, Zhao, Zhang, Hu, Fan,

Xu, Gu, Cheng, Ye, etc. (All authors) / ORIGIN: NIH pub. Wuhan, China, Beijing, Peking, Wuhan / REF: WHO (7); US CDC; Tan, Zhao, Ma; Gao, Wang Y., Gu; Lee, Hui, Wu; Assiri, Al-Tawfiq, Al-Rabeeah; Wong CK., Lam, Wu AKL; Zhang; He, Ding, Zhang; Nguyen-Van-Tam, Lim; Arabi, Mandourah, Al-Hameed; Chu; Arabi, Alothman; Cui, Li, Shi; Ge, Li, Yang; Wang M., Hu (22 of 37) / FUNDING: Statement: “Ministry of Science and Technology, Chinese Academy of Medical Sciences, National Natural Science Foundation of China, and Beijing Municipal Science and Technology Commission.”

RCT: No. OS

CONTENT:

NOTE: In 2019, “A recent cluster of pneumonia cases in Wuhan, China, was caused by a novel betacoronavirus, the 2019 novel coronavirus (2019-nCoV).” This was what they were calling SARS-CoV-2 at first. This is referring to what came to be called COVID-19 disease. *Beta* refers to a group of coronavirus’ — Alpha, Beta, Gamma, and Delta are the four groups. These are distinguished by the crown-like spikes on their surface, and identify the types that can infect mammals.

(<https://www.cdc.gov/coronavirus/types.html>)

IR: This study has NOTHING TO DO WITH MASKS. The only reference to masks was the N95 and they only noted that these were used as precautions in the Jin Yin-tan Hospital in Wuhan as a precaution against the possibility of infection during aerosol-generating procedures.

FN01.10.03.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>. PDF: FN01.10.03.00.00.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC (A few other articles have this name, differentiate by: Tom Jefferson)

Already vetted in these notes: See

FN01.38.00.08.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>

FN01.11.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7835129/>. PDF: FN01.11.00.00.00.Face Mask Use in the Community for Reducing the Spread of COVID-19_ A Systematic Review - PMC.pdf

PC: Jan. 2021

CCP: Authors ? (Alice Fauci) / ORIGIN: Rome, Italy, Milan; UK-London; Canada; Bolivia; France / REF: WHO (5); Chen; US CDC (3), Greenhalgh; ECDC; Ngonghala, Iboi, MacIntyre; Iboi, Kuang; Wong, Cowling, Aiello; Wang; Aiello, Davis, Uddin; Aiello, Davis, Uddin; All-Jasser, Kabbash, AlMazora, Memish; Alfelali; Bae, Kim, Cha, Lim, Jung; Chen, Liao; Alp0Mudaimagh, Turkistani; Cui, Zhang, Feng, Guo, Zhang Y.; Davies, Giri; Ke Kai; Guha, Mejia-Alfaro; Kim; Lai, Poon, Chueng; Lau, Taiui, Lau, Yang; Li, Guo, Wong KC, Chung, Gohel, Leiung; Cowling; Tian, Xuefei, Tang, Liu; van der Sande, Teunis, Sabel; Wu; Yan, Guha; Zhang, Peng, Ou, Zeng; Liang, Gao, Cheng, Zhou, Uy; Chu, Akl, Duda, Solo; Cheng, Wong, Chuang, So, Chen (36 of 74) / FUNDING: nd unless in supplementary materials. No, it's a data sheet. Assumed copyright holder: authors, including Fauci.

RCT: No. SRL and MA

CONTENT:

Face Mask Use in the Community for Reducing the Spread of COVID-19: A Systematic Review.

CCav: Under FINDINGS: “Our search identified 35 studies, including three randomized controlled trials (RCTs) (4,017 patients), 10 comparative studies (18,984 patients), 13 predictive models, nine laboratory experimental studies. FOR REDUCING INFECTION RATES, THE ESTIMATES OF CLUSTER-RCTS WERE IN FAVOR OF WEARING FACE MASKS VS. NO MASK, **BUT NOT AT STATISTICALLY SIGNIFICANT LEVELS.**”

OS: “Similar studies were reported in OBSERVATIONAL STUDIES.”

MM: However, mathematical models come to the rescue and indicate “an important decrease in mortality when the population mask coverage is near universal, regardless of mask efficacy.”

SP: A convenient way to dismiss that obstacle? Okay, so how does that work? Mask efficacy being ruled as irrelevant, these mathematical models contrive to show an “important decrease in mortality when the population mask coverage is near-universal”?

CCav: Outcomes: “Although NO EPIDEMIOLOGIC STUDY ON WEARING FACE MASKS IN THE

COMMUNITY FOR REDUCING THE SPREAD OF COVID-19 HAS BEEN PUBLISHED ...” they come up with “a number of studies” that “gave AN INDIRECT ESTIMATE of the protective efficacy of masks of other viral respiratory infections from agents similar to SARS-CoV-2.

CCav: *** Under DISCUSSION: “We found very low-certainty evidence that wearing a face mask is associated with a reduced risk of primary infection in RCTs as well as in observational studies.”

MM: Ultimately, they had to turn to models to find support for use of masks.

FN01.12.00.00.00-

<https://www.sciencedirect.com/science/article/pii/S0269749120334862>. PDF: FN01.12.00.00.00.Mask use during COVID-19_ A risk adjusted strategy - ScienceDirect.pdf

PC: May 2020, published in Elsevier: Nov. 2020

CCP: Wang, Pan, Tang, Ji, Shi (All authors) / ORIGIN: China-Beijing, Nanjing, Jiangsu; and USA-Durham, NC — Barrick’s home base. / REF: Aiello; Aldila; Barasheed; Bureau of Disease Control and

Prevention [?]; US CDC (3); Chen, Chen A., Wang B., Yi, Ding, Wang J., Wang H., Shi, Wang G, Xu; Du, Du X., Wang E., Dai, Lu, Han, Pang, Zhai, Yang, Wu, Li, Yang J, Wang; ECDC, Feng, Geng C., SHen, Xia, Song, Fan, Cowling; Greenhalgh; Jiangbei New; Lau, Lau, Tsui, Lau, Yang; Li, Pei, Chen, Song, Zhang, Yang, Shaman; Liu, Ning, Chen, Guo, Liu, Gali, Sun; Luo, Zheng, Xiao, Yang, Jing, Wang Z., Xie, Luo, Li, Li H., TAn, Xu, Hu; MacIntyre, Dwyer, Seale, Cheung, Gao; MacIntyre, Chughatai; Ministry of Health; Mizumoto, Kagaya, Zarebski, Chowell, Ong, Tan, Chia, Lee, Ng, Wong K, Marimuthu; Lee; PUnG, Chiew, Young, Chin, Chen, Poh, Low, Lum, Koh, Mak, Cui, Lin, Heng, Len, Lye, Lee, Kam, Tan, Loh, Thoon, Khong, Suhaimi, Chan, Zhang, Oh, Ty, Tow, Chua, Chaw, Ng, Abdul-Rahman, Sahib, Zhao, Tang, Low, Raj, Chan, Lin, Said, Lee, See, Tan, Chan, See, Peh, Cai, Chen, Soo, Chow, Wei, Ang; Qiu; Song, Pan, Kan, Xu, Yi; Standardization administration of CHINA; UN Secretary Gen.; US News (2); Wong, Cowling, Aiello; WHO (6); Wang; Wu, Leung G, Leung; Wu, Li, Wei, Zhou, Lyu, Zhang, Zhao, He, Li, Gao, Zhang, Liu, Zhou, Guo, Zhang, Zhang J., Liu, Zhang; Xie, Jiang, Guo, Pu, Gong, Lin, Ma, Chen, Long, Si, Yu, |Jiang, Yang, Shi, Yang; Xinhua; Yin; Zhang, Wang, Xue; Zhang, Feng, Qu, Zeng, Liu, Cui, Hong, Zhou, Huai, Chuang, Leung, Feng, Luo, Shen, Zhu, Yu; Zhang, Diao, Yu, Pei, Lin, Chen (42 of 57) / FUNDING: nd

RCT: Not asserted. Reference is made to RCTs in body of text: “Wong et al. reviewed 10 randomized controlled trials and concluded that the hand hygiene alone [sic-alone?] did not have statistically significant efficacy against laboratory-confirmed influenza (Wong et al., 2014).” This is IR. He refers to a study by Aiello, et al in 2010

A.E. Aiello, G.F. Murray, V. Perez, R.M. Coulborn, B.M. Davis, M. Uddin, D.K. Shay, S.H. Waterman, A.S. Monto
Mask use, hand hygiene, and seasonal influenza-like illness among young adults: a randomized intervention trial. *JID (J. Infect. Dis.)*, 201 (2010), pp. 491-498 Already vetted in these notes:

FN01.38.00.12.00 —

<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12.00.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic

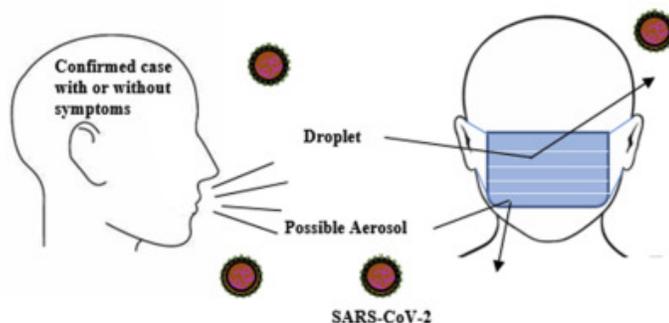
CONTENT:

CCav: “...there is a lack of consensus across cultures on whether wearing face masks is an effective physical intervention against disease transmission.”
Something this study set out to address. Now see 4.

Conclusion: “In the context of rapid spread of COVID-19 globally, there is a lack of consensus on the mask use as a NPI amide [sic-amid?] the pandemic.”

IR: This study does not address mask efficacy, but only addresses the “controversies surrounding mask wearing, and provides suggestions for the use of facial masks during the COVID-19 pandemic.”

What a neat little picture — proving nothing!



IR/D — it’s about droplets. But I cannot find what size range was tested in this study, only the range of distance the droplets might travel. TA mentions droplets that can form aerosols “which are able to spread to a wider range (>1 m) with the air currents and survive for a longer time in the environment.” But the usual reference to consensus regarding what size particles are considered aerosols, usually < 5 μm , is found in this article. I don’t know, therefore, what size particles TA is describing in his diagram, but given all

the data I've mined from this research thus far, it is likely to represent particles in the size range of from 4 μm to 4.9 μm , or, just under 5 μm . This size range is outside our concern.

STIPULATED: “Droplet transmission from respiratory tract” — “daily face-to-face talk breathing, cough and sneezing may result in droplet transmission from respiratory tract.”

I found one reference that might be helpful:

FN01.12.01.00.00-

<https://www.sciencedirect.com/science/article/pii/S2095927321007702>. PDF: FN01.12.01.00.00.Filtration efficiency of face masks against aerosolized surrogate SARS-CoV-2 at different social distances - ScienceDirect (For “Methods” etc, see SUP: FN01.12.01.01.00.SUPP 1-s2.0-S2095927321007702-mmc1.docx)

PC: December 2021; March 2022

CCP: Tang, Li, Ding, Mao, Deng, Cha, Zhuang, Ding, Wang, Zhao, Kan, MacIntyre, Xu, Shi (One author, Jones ?) / ORIGIN: China-Beijing, Nanjing; Australia; USA-Salt Lake City, UT / REF: Ma, Qi, Chen; Wang, Pan,

Tang; US CDC; WHO; Lai, Poon, Cheung, Kwon, Lo; Ueki, Furusawa, Iwatsuki-Horimoto; Leung, Chu, Shiu; Kim, Bae, Kim; van der Sande, Teunis, Sabel; Konda, Prakash (10 of 15) / FUNDING: Statement: “This work was supported by the National Institute of Environmental Health (NIEH), the Chinese Center for Disease Control and Prevention (GWTX05 and SWJC05), and the Capital Health Development Scientific Research Project (2021-1G-2172). We acknowledge Sino Biological Inc. and Bio-Rad in Beijing for the provision of digital PCR measurements.”

RCT: Not asserted. See SUPP for description of methods. It looks like they did construct a lab experimental method.

CONTENT:

IR/D: “In this study, the sizes of droplets/aerosols that were generated by the sneezing aerosol simulator **ranged from 0.3 to 10 μm** using a laser particle counter (Y09-301, AC-DC, Jiangsu Sujing GroupCo., Ltd., Suzhou, China), and numerous aerosols ($<5 \mu\text{m}$) travelled $>2 \text{ m}$ (Table S1 online), indicating that the simulator successfully produced both droplets and aerosols.”

*** From the above the following is clear — this study was limited to particles in the size range of 0.3 μm (300 nm) to 10 μm (10,000 nm), and we stipulate an increasing efficacy of masks for blocking particles/droplets beginning at 300 nm. But the size of our concern is 40-140 nm, with an average particle size of 125 nm. Remember that the droplets evaporate quickly, shrinking as they do, into micro-droplets of a size that can penetrate the mask, or completely desiccate freeing naked virions to be inhaled or launched into aerosols easily.

IR: “For example, surgical masks reduced the release of seasonal coronaviruses in coarse and fine aerosols to undetectable levels, and N95 (and equivalent) respirators efficiently blocked SARS-CoV-2 particles released from coughing patients [10], [11].” TA stipulated their range of detection to be at 300 nm, so anything below this would be included in the undetectable levels—in other words, this study declares “surgical masks reduced the release of seasonal coronaviruses ... [all the way down to] detectable levels” that is, $\geq 0.3 \mu\text{m}$ - or 300 nm.

CCav: NOTE: *** This become more concerning when we understand that these masks only filter some, not all the virions in that size range: “The single-use

mask showed moderate FEs [Flitration Efficiency] (80.33% outward and 88% inward) when assessed at 0 m from the source but has improved FEs at 0.5 m (97.33% outward and 98.67% inward) and 1 m (97.67% outward and 97.67% inward) from the source (Fig. 1 and Table S3 online). The cloth mask had the poorest FE (e.g., 55% outward and 69.33% inward at 0 m from the source, Fig. 1 and Table S3 online), affirming that surgical masks provided approximately twice as much protection as homemade masks [12]. The reasons for the improved performance of the single-use and cloth mask with distance from the source are unclear. It is possible that in the outward system, the single-use and cotton cloth masks disrupt the turbulent jet of the sneeze, which limits the transport of aerosols. As for the inward system, the FE generally increases as the air velocity decreases, and the velocity of the sneeze's turbulent jet likely decreases with distance. The FEs of the cloth mask and single-use mask observed here were somewhat different from those found in other research, with FEs ranging from 10% to 86% [13]. The differences may be due to variations in fabric materials, fiber density (thread count), number of fabric layers, and different experimental conditions, e.g., aerosol composition, aerosol size distribution, particle electrical charge, and challenge velocity."

*** We would have to know what was the size distribution of the virions captured, however, reason dictates that more of the smaller and fewer of the larger droplets would have escaped capture. That means if the average efficacy, or efficiency, was 80.33% for all droplets attacking the mask, most of those captured would be the larger droplets, and fewer of the smaller sized particles would have been blocked. In other words, a whole lot of smaller particles escape capture — probably closer to an inversion of these numbers. In other words, the masks might capture 20% of the detectable virions, allowing 80% of those to penetrate the mask. What exacerbates this concern the chance for infection is virtually unaddressed by the mask, since many studies confirm the concentration of infectious virus is found in the smaller, aerosolized particles. This is perhaps in part because in the larger particles, the virions are suspended in an environment that is made up mostly of moisture, but in the smaller droplets, a greater amount of the droplet is infectious virus.

TA refers to
N.H.L. Leung, D.K.W. Chu, E.Y.C. Shiu, et al.
Respiratory virus shedding in exhaled breath and efficacy of face masks Nat Med, 26 (2020), pp. 676-680.

and

Already vetted in these notes: **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine.pdf

M.C. Kim, S. Bae, J.Y. Kim, et al. Effectiveness of surgical, KF94, and N95 respirator masks in blocking SARS-CoV-2: a controlled comparison in 7 patients Infect Dis (Lond), 52 (2020), pp. 908-912

Rated by the ECDC as LOW to MODERATE, and VERY LOW: see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

FN01.13.00.00.00-
<https://www.sciencedirect.com/science/article/pii/S2352431620301802> PDF:
FN01.13.00.00.00.Performance of fabrics for home-made masks against the spread of COVID-19 through droplets_ A quantitative mechanistic study - ScienceDirect.pdf

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: August 2020, published in Elsevier Oct. 2020

CCP: Cheng, Hong (Two of 7) / ORIGIN: USA-IL / REF: Nguyen-Van-Tam; **US CDC (2)**; Wei, Li; Hu, Song, Xu, Jin, Chen, Xu, Ma, Chen, Lin, Zheng, Wang J., Hu, Yi; Zou, Ruan, Huang, Liang, Huang H., Hong, Yu, Kang, Song, Xia, Guo, Song T., He J., Yen, Wu; Pan, Chen, Xia, Wu, Li, Ou, Zhou, Liu; Leung, Chu, Shiu, Chan, Hau, Yen, Li, Ip, Seto, Leung, Cowling; Chughtai, Seale, MacIntyre; van der Sande, Teunis, Sabel; Shakya; Davies, Giri; Konda, Prakash, Guha; Duguid; Han, Weng, Huang; Chao, Wan, Morawska; WHO; Chen; Davies; Lee, Liu (2); Yeh, Liu (2); Lee; Xu; Kim, Chung, Jo, Lee, Kim, Woo, Park, Kim, Kim H., Han; Kwon, Park, Jang, Cho, Park D., Kim, Bae, Jang; Zhu, Kato, Yang; Park, Kim, Park CH., Han, Alnaji, Wang, Fan; Han, Park, Woo; Iboi, Phan, Kuang, Gumel; Li, Pham (29 of 59) / FUNDING: nd

RCT: Not asserted. See 3. Methods for description of how this study was constructed. They used an MS100 USB Microscope, Teslong to count the threads

of fabrics tested. They tested water absorption with a small droplet (100 μl) of water on dry fabric. A μl is only a little under 0.034 ounces. 100 μl is 3.3814 ounces, or a little under 3.5 ounces. To generate droplets, they used a metered-dose inhaler. They loaded the nozzle with 10 μl of distilled water (about 1/3 oz.), and recorded droplet ejecta with a camera at 10k frames per second. Droplets were illuminated with a laser (50 mJ Terra PIV dual cavity YLF laser). They could detect droplets with diameters greater than $\sim 0.1 \mu\text{m}$ in diameter; that's 100 nm.

CONTENT:

To discover whether this study resulted in establishing adequate FE for surgical masks we must study the figures and accompanying notes. Go to RESULTS and DISCUSSION.

SP: I'm using SP here because I did not create a category for statements that lack specificity re very important information. At Fig. 1 "Distinction between aerosol filtration and large droplet blocking by fabrics," We find the following:

"(A) Typical mechanisms of particle capture and transport during aerosol filtration: Particles 1, 2, and 3

are captured by the fiber via interception, impaction, and diffusion, respectively. Particle 4 is smaller than the inter-fiber spacing and is transmitted through the fabric, carried by air flow. Particle 5, being larger than the inter-fiber spacing, is captured by straining. Particle 6 is subsequently captured by settling/caking. (B) Blocking of nanoparticles carried by large droplets. Top and bottom rows represent transmission through hydrophilic and hydrophobic fabrics, respectively. Droplets impact the fabric with high velocity, squeeze through the pores, and part of the volume can transmit. This process involves energy costs associated with interfacial energies and shear stresses, which may be influenced by fabric porosity, fabric type, and viscosity of the droplet. Energy barriers for transmission increase with decreasing pore size, increasing droplet viscosity, as well as hydrophobicity of the fabric. For example, interfacial energy barrier for transmission through hydrophobic fabric is much higher than that for hydrophilic one.”

*** WHEN you read through this you’ll notice sizes are represented as *larger* and *smaller* — the actual size of the particles represented in the diagram are not stipulated. The particle size issue is addressed below: see “Under Fig. 3. ...”

This continues.

SP: TA tells us about “well-established theoretical and experimental body of literature” that examined aerosol filtration by fibrous materials, testing particles in a size range of “~10 nm [is that a typo??? — perhaps not, see] to ~5-10 μm and lists seven studies, but does not tell us what sizes are represented by particles 1-5 in their chart. ????. This seems like a very obvious thing to do, so one wonders whether there was something in that information they did not want to highlight?

CCav: What follows is not a statement of conclusion by TA but a statement of the PROBLEM they are trying to address. It reveals some important information about the problems associated with mask mitigation of a virus that should be understood:
Notice: 1. Even large droplets can push virions through a mask if the velocity is sufficient. 2. Models used cannot measure this adequately. 3. Goal of this study is to provide insight into this problem.

“Some particles can pass through the inter-fiber spaces (i.e. pores) as projectiles or be carried across by bulk fluid flow. Particles that are larger than the pores are simply blocked by straining or

settling/caking. **This is where the key distinction between established aerosol filtration models and blocking of large droplets emerges: While large solid particles will simply be blocked, a large droplet with sufficient momentum can squeeze through the pores of the fabric against shear stress and surface tension barriers (Fig. 1B).** This is a complex phenomenon involving non-equilibrium processes, interface energies, and short time-scale events. **Existing models of aerosol filtration may therefore not be sufficient in predicting outcomes.** This reveals a gap in the understanding of the potential effectiveness of cloth face coverings in blocking virus particles carried by large droplets. **Our goal here is to close this gap, at least partially, through experimental studies with 11 different household fabrics and commercial medical mask.** We first identify the essential parameters for droplet blocking outlined below.”

The next part of the PROBLEM is the necessary trade off between breathability and blocking efficiency. Again, this is marked as CCav, but not because TA asserts any false claim but because the information provided offers important clarity to the problems we face dealing with the question of mask efficacy:

CCav: “Breathability and droplet blocking efficiency — the two key parameters for face coverings: Any mask material must offer sufficient breathability (i.e., air permeability) and yet efficiently block virus particles carried by droplets. **In contrast to fit-tested respirators, medical masks or cloth face coverings typically cannot ensure tight sealing against the contours of the face. As a result, a significant portion of the air released during breathing, sneezing, and coughing may escape through the gaps, potentially carrying some of the respiratory droplets with virus particles with it [32].**”

CCav: *** VERY IMPORTANT REVELATION CONCERNING THE BREATHABILITY ISSUE: **A mask material with low breathability (high resistance to air flow across the mask) will result in relatively large leakage, defeating the purpose of the mask, and providing a false sense of protection — even if the mask material itself is highly efficient at filtering respiratory droplets. Higher breathability can lead to less leakage as more air will pass through the mask material which can block some of the droplets. However, higher air permeability may also correspond to lower blocking efficiency. The problem of finding an appropriate material for a**

home-made mask therefore involves a trade-off between breathability, B , and efficiency, E , of blocking virus particles carried by droplets. Hence, we consider B and E as the two critical parameters for mask materials. Throughout the rest of the manuscript, we refer to [sic-this?] as “droplet blocking efficiency” for short.”

Now I will scour the study to see if they found any mask material that adequately provides for B and E , efficiently blocking virions to provide adequate protection from infection.

By the way, the MM (Medical Mask) was the benchmark for their comparisons.

Under Fig. 3. DROPLET CHALLENGE TEST we find the following: “High-speed snapshots of droplets hitting **and penetrating** the medical mask. Scale bars: 10 mm. (E) Brightfield [sic?] and fluorescence images of droplets collected on a petri dish. Scale bars: 10 μm . (F) Confocal images of homogenized bead collection; representative images from samples with high and low bead density. Scale bars: 100 μm .” In the diagram, “Transmitted droplets” indicate those that penetrated the masks. The scale is a bit confusing because nowhere on the diagram provided do we find a 100

μm scale. Also, nothing tells us what are the sizes of the particles penetrating the masks — only that particles do penetrate every mask.

The scale bars are the bars you see at the lower right corner of each snapshot. For the droplets hitting and penetrating the mask.

Sets of snapshots:

1. High-speed snapshots of droplets hitting and penetrating the medical mask — scale bar it $10\ \mu\text{m}$. (We are not told what size particle is appearing in the section for those that penetrated, but if you compare it to the scale bar, it's pretty small. But it would be very helpful to know or at least have a stated approximation of the size.

2. Then we have snapshots of the droplets collected on petri dishes and the scale bar for those is $100\ \mu\text{m}$. These are the large droplets captured on the mask.

3. Then you have the droplets that escape the mask under high density and low density lighting. In the high density lighting, you can see a veritable cloud of particles escaped the mask.

Again, however, I don't know what are the sizes of the particles imaged on the diagram discussed above, or of those represented in these images. Guesses can be made, but it does not seem likely to rightly represent particle size. At least if they stipulated that much it would be helpful.

The only thing I can ascertain from this study, thus far, is that very fine particles penetrate the MM in sizes below what all other studies of this sort have stipulated: $\leq 0.3 \mu\text{m}$. The $100 \mu\text{m}$ scale should be understood to greatly increase the size of the particles visible and probably correspond to the usual sizes ascertained by every other like study I've examined.

WAIT: Here, at 1.2 Droplet blocking efficiency: it looks like we are going to get some size descriptions.

INFORMATION: TA asserts SARS-CoV-2 diameter ranges from 70-100 nm: "We loaded the nozzle of the inhaler with a suspension of 100 nm-diameter fluorescent nanoparticles (beads) in distilled water. The fluorescent beads mimic SARS-CoV-2 virus (70–100 nm-diameter) [35], [36] in terms of size..."

One problem - they tested for the high end of the

particle size range: 70-100. They used 100 nm-diameter fluorescent nanoparticles (beads) in distilled water.

They detected droplets expressed by the inhalers in the range of, on the low end, 0.1 μm to $\sim 1 \mu\text{m}$. One thing that is consistently frustrating with this study is that it seems TA skirts stipulating the sizes of the droplets that are captured versus those that escape and penetrate the masks?????

If we study Table 2, where they share their results, we might find some help.

Okay, I begin to see why ECDC rated this LOW to MEDIUM and VERY LOW.

CCav: ***Apparently, this studies blocking efficiency of the *fabric* and not that of the *mask*. Mask fit does not factor in this study. That is the ONLY way they could EVER have gotten a 98.5% FE for a MM against particles in the size range beginning at 100 nm. Second, since the stipulated size range of the virus we are examining is 70-100, (which is odd, since consensus is 40-140 with 125 being typical) but nevertheless, they did not test for the range 70-99 (or 40-99). It must be assumed that a sufficient number of

virions in that size range would be present in a real life scenario and that these would penetrate the mask in sufficient quantities to expose both the wearer and those around him or her to infection.

NOBODY has found these masks are sufficient at blocking 0.3 μm particles, much less particles that are almost a third this size. These things must answer the question why ECDC rated this study so low.

Even the revered N95 only provides 95% filtration efficiency — how can these guys claim a SM/MM/PM — or standard medical mask, provides greater efficiency than the N95 from a test like this?

Another problem is that we don't actually know what droplet size they used for the evaluation. In other words, they never expressly say the 98% efficiency is for blocking droplets in the size of 100 nm. That is the smallest sized beads they used, but they are not telling us expressly whether that was their criteria for adequate blocking—for all I know, they might have used the standard 0.3 μm threshold, or even the <5 μm threshold.

Further evidence something is off with this study is that the find MM 99.7% effective at blocking

particles from a distance of 300 μm , or 300,000 nm, or about 0.012 inches.

Take aways:

If all the beads tested for penetration are 100 nm, the “cloud” I see in snapshots F at high density certainly show a significant number of particles getting through.

I need more information about how well the “beads” correspond to a living virus. It’s possible some features of a virion are not factored into this study.

I should check the references TA used to support claim that his work complements existing knowledge from studies on the aerosol filtration efficiency of household fabrics: 14-19.

And also the “well-established theoretical and experimental body of literature on aerosol filtration by fibrous materials”: 25-31 He tells us the particle sizes considered are often with the ~ 10 nm to ~ 5 - 10 μm range. Let’s see what study examined filtration capacity at 10 nm. There should be more than one, since he said this occurs *often*.

CLAIM: I'll start with the studies TA says supports the claim that “often” studies have been done to test mask efficacy for particles as small as 10 nm.

Reference 25. Chen C.Y. Filtration of aerosols by fibrous media
Chem. Rev., 55 (3) (1955), pp. 595-623
View PDF CrossRefView Record in Scopus Google Scholar

Idon't have access to this 1955 article. However, I found Filtration of aerosols by fibrous media, at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7128136/> which cites a study by Pui D.Y.H., Kim S.C., titled “Penetration of nanoparticles through respirator.” That article is not available at the link provided, so I found this: Nanoparticle Penetration through Filter Media and Leakage through Face Seal Interface of N95 Filtering Facepiece Respirators at <https://academic.oup.com/annweh/article/56/5/568/159920?login=false> and it is accessible.

FN01.13.01.00.00-

<https://academic.oup.com/annweh/article/56/5/568/159920?login=false>. PDF:
FN01.13.01.00.00.Nanoparticle Penetration through Filter Media and Leakage through Face Seal Interface

of N95 Filtering Facepiece Respirators _ Annals of Work Exposures and Health _ Oxford Academic (For SUPP: See FN01.13.02.01.00.SUPP 2011-11-07_Supplementary_file_available_to_reviewers)

PC: June 2012

CCP: Authors ? / ORIGIN: NIOSH, published by Oxford University / REF: Chen, Huang; Chen, Willeke; Zhuang; Honda, Adhikari; Han, Lee; Haruta, Honda; Huang, Chen, Chang; Lee; Liu, Lee; Zhuang; NIOSH; Qian, Willeke; Lee; Zhuang (13 of 34) / FUNDING: Statement: “This work was supported by the National Institute for Occupational Safety and Health.”

RCT: Not asserted.

CONTENT: These are not being vetted for the purpose of determining whether their argument supports claims that masks work. These are being vetted to ascertain whether they support the claims of the prior article, FN01.13.00.00.00 who cited these as representing prior work they were complementing.

What I’m looking for is evidence that 70-100 nm sized particles have been found to penetrate the N95.

As I suspected, this study examines penetration at levels <100 nm in size: “National Institute for Occupational Safety and Health recommends the use of particulate respirators for protection against nanoparticles (<100 nm size).”

NO ONE recommends SM for protection against particles in this size range. I’m beginning to appreciate more why ECDC looked at FN01.13.00.00.00 and raised an eyebrow before they stamped it VERY LOW confidence.

It mentions the critical factor of seal, and that is something the FN01.13 TA did not address, except to demonstrate their knowledge that this is a critical issue:

ADMISSION OF PROBLEM: “In contrast to fit-tested respirators, medical masks or cloth face coverings typically cannot ensure tight sealing against the contours of the face.”

RECOGNITION OF THE NEED: “Cloth face coverings could therefore be made more effective by ensuring proper sealing against the face contour.”

So, TA for **FN01.13.00.00.00-**

<https://www.sciencedirect.com/science/article/pii/S2352431620301802> — Performance of fabrics ... did not set up a trial that would realistically account for sealing issues.

Continuing **FN01.13.01.00.00** — This study tested for penetration of particle sizes in the 20-800 nm range: “To better understand the significance of particle penetration through filter media and through face seal leakage, **this study was expanded to measure filter penetration at sealed condition and TIL with artificially introduced leaks for 20–800 nm particles** at 8–40 l minute volumes for four N95 models of filtering facepiece respirators (FFRs) using a breathing manikin.”

RESULTS: “Results showed that the MPPS [Most Penetrating Particle Size] was ~45 nm for all four respirator models. Filter penetration for 45 nm size particles was significantly ($P < 0.05$) higher than the values for 400 nm size particles.” This implies, however, that some 400 nm particles do penetrate the N95. And that comports with all we already know, which is why N95s have a 95% efficacy rating and not 100%.

THEN: we see that leakage, something that will

certainly exacerbate any efficacy compromises we expect to see in SM (surgical masks), greatly compromise the N95: “Artificial leakage of test aerosols (mode size~75 nm) through increasing size holes near the sealing area ofFFRs showed higher TIL values for 45 nm size particles at different minute volumes, indicating that the induced leakage allows the test aerosols, regardless of particle size, inside theFFR, while filter penetration determines the TIL for different size particles.”

This is enough to demonstrate how crazy it is that TA for FN01.13.00.00.00 claims the SM provides better protection than the N95.

Reference 26. Friedlander S.K. Theory of aerosol filtration Ind. Eng. Chem., 50 (8) (1958), pp. 1161-1164

View PDF CrossRefView Record in Scopus Google Scholar

Another inaccessible article: 1958. Here is an alternate:

FN01.13.02.00.00-
<https://www.sciencedirect.com/science/article/pii/S1004954112603565>. Aerosol Filtration Application

Using Fibrous Media—An Industrial Perspective

PC: June 2012

CCP: Chuanfang Yang /ORIGIN: USA-MN / REF:
Chen; Yang; Pourdeyhimi; Pui, Kim (4 of 17) /
FUNDING: Chinese Journal of Chemical Engineering;
copyright holder: Chemical Industry and Engineering
Society of CHINA ... etc.

RCT: Not asserted.

CONTENT: These are not being vetted for the purpose of determining whether their argument supports claims that masks work. These are being vetted to ascertain whether they support the claims of the prior article, FN01.13.00.00.00 who cited these as representing prior work they were complementing.

NOTE: Source control use of surgical masks noted: “In contrast, surgical face masks have not traditionally provide [sic - provided?] protection to the wearers but have been used to keep mouth generated particles from harming a patient in a healthcare situation.”

Reference 27. C.N. Davies Filtration of aerosols J. Aerosol Sci., 14 (2) (1983), pp. 147-161 Google Scholar

Paid access: Abstract only

FN01.13.03.00.00-

<https://www.sciencedirect.com/science/article/abs/pii/0021850283900393>. PDF:

FN01.13.03.00.00.Filtration of aerosols - ScienceDirect

PC: 1983

CCP: Davies / ORIGIN: UK=Colchester: U. of Essex;
Dept. of Chemistry, Aerosol Lab. / REF: Abstract only,
not available. / FUNDING: nd

RCT: Not asserted.

CONTENT:

Nothing in this abstract provides any helpful information.

An alternative article: “Aerosol Filtration: For Aerosol filtration in fibrous media, the ratio of dp/dg is often of the order of 1/10.

FN01.13.03.01.00-

<https://www.sciencedirect.com/topics/chemical->

engineering/aerosol-filtration. PDF:
FN01.13.03.01.00.Aerosol Filtration - an overview _
ScienceDirect Topics

PC: 2012 / 2022 — [Nanofiber Filter Technologies for Filtration of Submicron Aerosols and Nanoaerosols, 2022](#)

CCP: Woon-Fong Leung / ORIGIN: Hong Kong, CHINA / REF: Not available in the excerpt. / FUNDING: nd

RCT: Not asserted.

CONTENT:

Testing using sodium chloride to characterize filter performance. (NaCl),

Yes, this article addresses testing for particle sizes in the range of our interest, and talks about “standards for face mask and respirator” — but I cannot access the full article.

“Subsequently, we discuss other noncommon testing aerosols, such as silver nanoparticles, for testing the small aerosol size <50 nm. The size of the

silver oxide nanoparticles can be controlled by the furnace temperature on the silver. Aerosols of 100 nm can be generated from polystyrene latex solution that is conveniently used for testing face masks. For 0.3 μm and above, ISO test dusts from the fine to coarser grades are also available for filter testing.”

Reference 28. Lee K.W., Liu B.Y.H. Theoretical study of aerosol filtration by fibrous filters *Aerosol Sci. Technol.*, 1 (1982), pp. 147-161
View PDF CrossRef View Record in Scopus Google Scholar

FN01.13.04.00.00-

<https://www.tandfonline.com/doi/pdf/10.1080/02786828208958584>. PDF: FN01.13.04.00.00.Theoretical Study of Aerosol Filtration by Fibrous Filters

PC: 1982; online: June 2007

CCP: Lee, Liu / ORIGIN: USA-MN: U. of MN, Mechanical Engineering Dept., Particle Tech. Lab. / REF: Davies (2); Kuwabara; Lee (2); Yeh (3) (7 of 23) / FUNDING: Statement: “This research was supported by the U.S. Environmental Protection Agency under research grant ...”

RCT: Not asserted.

CONTENT:

IR: Nothing here to report. Nothing including the word *particle* has any reference to size and the words *mask* or *surgical* or *procedural*, or even *N95* are not found in this article.

Continuing with FN01.13.00.00.00-
<https://www.sciencedirect.com/science/article/pii/S2352431620301802> — Performance of fabric ...

Reference 29. K.W. Lee, Liu B.Y.H. Experimental study of aerosol filtration by fibrous filters *Aerosol Sci. Technol.*, 1 (1982), pp. 35-46
Google Scholar

Paid access: Abstract only.

FN01.13.05.00.00-
<https://www.tandfonline.com/doi/abs/10.1080/02786828208958577>. PDF:
FN0113.05.00.00.Experimental Study of Aerosol Filtration by Fibrous Filters_ Aerosol Science and Technology_ Vol 1, No 1

PC: Oct. 2008

CCP: Lee & Liu / ORIGIN: US-MN Minneapolis: U. of MN; Mechanical Engineering Dept. Particle Technology Laboratory / REF: Lee; Liu, Lee (2); Liu, Pui; Liu, Yu; Wong; Yeh; Yeh, Liu (8 of 15) / FUNDING: nd

RCT: Not asserted

CONTENT:

Affirmative: the particle sizes investigated are in the range stipulated by TA of FN01.13.00.00.00 — “Using this technique, the filtration efficiencies of filters made of uniformly sized fibers have been measured by the use of particles in the 0.035–1.3 μm diameter range. Filter solidity has ranged from 0.0086 to 0.42.”

Reference 30. Yeh H.-C., Liu B.Y.H. Aerosol filtration by fibrous filters - I Theor. Aerosol Sci., 5 (1974), pp. 191-204
ArticleDownload PDFGoogle Scholar

Another paid access article. Abstract only.

FN01.13.06.00.00-

<https://www.sciencedirect.com/science/article/abs/pii/0021850274900494>. PDF:

FN01.13.06.00.00.Aerosol filtration by fibrous filters—
I. theoretical - ScienceDirect.pdf

PC: March 1974

CCP: Yeh, Liu / ORIGIN: US-MN Minneapolis: U. of
MN, Mechanical Engineering Dept., Particle Tech. Lab.
/ REF: Abstract only, ref. not accessible. / FUNDING:
nd Assume the University.

RCT: Not asserted

CONTENT:

Does not quite get to the size range within our query: “A previously developed theory of aerosol filtration by fibrous filters has been verified using filters of uniform sized fibers and monodisperse aerosols of D1-2-ethylhexyl phthalate (DOP). The filters consisted of dacron fibers of 11.3 μm dia. and the **DOP particles ranged in size from 0.37 to 1.07 μm** . Filter fiber volume fraction was varied between 0.013 and 0.085, and the filtration pressure from 0.2 to 1 atm. The experimental results, together with

similar results reported by other investigators, were compared with the theoretically predicted values and good agreement was found.”

Reference 31. Yeh H.-C., Liu B.Y.H. Aerosol filtration by fibrous filters - II Exp. Aerosol Sci., 5 (1974), pp. 205-217
ArticleDownload PDFView Record in ScopusGoogle Scholar

Paid access, Abstract only.

FN01.13.06.01.00-
<https://www.sciencedirect.com/science/article/abs/pii/0021850274900500>. PDF:
FN01.13.06.01.00.Aerosol filtration by fibrous filters—II. experimental - ScienceDirect.pdf

PC: March 1974

CCP: Yeh, Liu — DITTO prior article. This is part two of that article, but the Abstract offers no new matter.

RCT: Not asserted

CONTENT:

This is actually part II of the previous article and the Abstract is the same.

Next, I'll examine the articles TA cites as support for his claim that his work complements existing knowledge from studies on the aerosol filtration efficiency of household fabrics: 14-19.

Reference 14.

Chughtai A.A., Seale H., MacIntyre C.R.
Use of cloth masks in the practice of infection control -
evidence and policy gaps Int. J. Infect.
Control, 9 (3) (2013) Google Scholar

FN01.13.07.00.00-

https://scholar.google.com/scholar_lookup?title=Use%20of%20cloth%20masks%20in%20the%20practice%20of%20infection%20control%20-evidence%20and%20policy%20gaps&publication_year=2013&author=A.A.%20Chughtai&author=H.%20Seale&author=C.R.%20MacIntyre (Select [PDF])
FN01.13.07.00.00.11366-Article Text-46468-1-10-20130906 — Use of cloth masks in the practice of infection control - evidence and policy gaps.

PC: 2013

CCP: Chughtai, Seale, MacIntyre / **ORIGIN:**
AUSTRALIA-NSW U. of NSW, Faculty of Medicine,
School of Public Health and Community; Westmead:
Ntl. Ctr for Immunization Research and Surveillance of
Vaccine Preventable Diseases, Children’s Hospital /
REF: OSHA, CDC (6), WHO (3), NIH; GOVT/ Agencies
(15); MacIntyre, Want Q., Seale; MacIntyre, Wang Q;
Seale, Dwyer, Cowling; Dung, Hien, Nga; Yang, Seale,
MacIntyre; Seale, MacIntyre; Wu; Pang, Zhu, Xu; Ha,
Hien; Foo, Goon, Leow; Tan; van der Sande, Teunis,
Sabel; MacIntyre, Dwyer; Ferng, Wong-McLoughlin;
Aiello; Cowling, Chan, Fang; Chughtai, Seale,
MacIntyre; Imai, Takahashi, Hoshuyama (~41 of 74) /
FUNDING: nd Assumed Faculty of Medicine, School of
Public Health and Community, NSW U.

RCT: Not asserted.

CONTENT:

AME: “Cloth masks are commonly used in low and middle income countries. It is generally believed that the primary purpose of cloth masks is to prevent spread of infections from the wearer. However, historical evidence shows that they have previously been used to protect health care workers (HCWs) from

respiratory infections.” Of course, this is true, but the point is it demonstrates the bias of TA in this article.

CCav: **“Currently there is a lack of evidence on the efficacy of cloth masks. In this paper, we examined the evidence around the efficacy of cloth masks** and discuss the use of cloth masks as a mode of protection from infections in HCWs.”

For help re the size of particle necessary for infection, see TECH60.USE THIS FOR UNDERSTANDING SIZE OF VIRUS What size particle is important to transmission of COVID-19_ _ Aerosol Laboratory.pdf
<https://www.aerosol.mech.ubc.ca/what-size-particle-is-important-to-transmission/>

Well, unless they have found something no one else till 1974 had found, and no one since, by the way, their objective is a futile one.

CCav: And, it appears, the prediction of the above proved true: **“Our results highlight that there is currently no published research on the efficacy of cloth masks.** The few available studies on cloth masks are either descriptive or in-vitro. Studies show that some fabrics may provide better protection than

others, and that in-vitro filtration capacity improves with increasing fineness of fabric and number of layers. The presence of moisture, distance traveled by the droplets and the design of mask were identified as other important factors related to the in-vitro filtration efficacy. **Cloth masks may provide some protection and reduce exposure to respiratory aerosols, but this is unproven in the absence of a RCT.** Given that cloth masks are widely used around the world and are not adequately addressed in infection control guidelines, research is required to test the clinical efficacy of cloth masks.”

It demonstrates the status of science on the question of mask efficacy against aerosols in the 1970s, and the fact is, nothing new in the science, no new RCT, has proved otherwise.

Footnote 15. van der Sande M., Teunis P., Sabel R. Professional and home-made face masks reduce exposure to respiratory infections among the general population
PLoS One, 3 (7) (2008), Article e2618
View PDF CrossRef View Record in Scopus Google Scholar

Already vetted in these notes: **FN01.38.00.19.00**

—
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

Reference 16.

Shakya K.M., Noyes A., Kallin R., Peltier R.E.
Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure J. Expo. Sci. Environ. Epidemiol., 27 (2017), pp. 352-357 View PDF
CrossRef View Record in Scopus Google Scholar

Already vetted in these notes:

FN01.38.00.03.39c-

<https://www.nature.com/articles/jes201642>. PDF: FN01.38.00.03.39c. Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure _ Journal of Exposure Science & Environmental Epidemiology

Reference 17

Davies A., Thompson K.A., Giri K., Kafatos G., Walker J., Bennett A. Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? Disaster med Public Health Prep., 7 (2013), pp. 413-418 View PDF CrossRef View Record in Scopus Google Scholar

Already vetted in these notes: **FN01.38.00.03.31-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

Continuing with **FN01.13.00.00.00-**
<https://www.sciencedirect.com/science/article/pii/S2352431620301802> — Performance of fabrics ...

Reference 18. Rengasamy S., Eimer B., Shaffer R.E. Simple respiratory protection—Evaluation of the filtration performance of cloth masks and common fabric materials against 20–1000 Nm size particles *Ann. Occup. Hyg.*, 54 (7) (2010), pp. 789-798
View PDFView Record in Scopus Google Scholar

Already vetted in these notes:
FN01.38.00.03.39d-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7314261/>. PDF: FN01.38.00.03.39d.Simple Respiratory Protection—Evaluation of the Filtration Performance of Cloth Masks and Common Fabric Materials Against 20–1000 nm Size Particles - PMC

Reference 19.

Konda A., Prakash A., Moss G.A., Schmoltdt M., Grant G. D., Guha S. Aerosol filtration efficiency of common fabrics used in respiratory cloth masks ACS Nano., 14 (5) (2020), pp. 6339-6347 View PDF CrossRef View Record in Scopus Google Scholar

Already vetted in these notes: **FN01.38.00.03.39** - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/>. PDF: FN01.38.00.03.39.Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks - PMC. For SUPP: see FN01.38.00.03.39.SUPP nn0c03252_si_001

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Continuing with **FN01.13.00.00.00**- <https://www.sciencedirect.com/science/article/pii/S2352431620301802> — Performance of fabrics ...

Probably, the articles vetted here (See above-Reference 25-31) should have been put in the TECH file, but I'll leave them here as pertaining to the FB01.13.00.00.00 showing that TA is correct to point to these articles as having addressed the question of particle size and mask penetration. Whether TA's

effort succeeds at adding anything substantial to that effort is another question.

From ECDC's assessment, the effort failed to meet the standards of a proper RCT. In some respects, apparently, it has value, so the rating of LOW to MODERATE, but in other respects, the study exhibits serious flaws and to was rated VERY LOW confidence. My own assessment (see above) might reveal some of the issues with this article that warranted that ECDC rating.

*** Probably the outstanding issue with this article is the fact that their methodology is not so radically different, they did not come up with a new way to measure particles escaping capture or being captured, and yet they came up with results that are so far afield any found in this field of study. Maybe the most significant contributor to that phenomenon is that they did not explore TIL, or Total Inward Leakage. The inhaler was placed at very close proximity to the fabric tested in every case. This would vastly reduce the TIL factor, and assuming, as the TA suggests, the masks were well sealed, it would in many cases eliminate the leakage problem. Even at that, a 96-98% efficacy for Surgical Masks against a particle in the size range of 100 nm is extreme, and so possibly the

nanoparticle sized “bead” they used has some properties that make them less penetrating than a live virion.

FN01.14.00.00.00-

<https://www.nature.com/articles/s41591-020-1132-9> PDF: FN01.14.00.00.00.Modeling COVID-19 scenarios for the United States _ Nature Medicine.pdf. (For SUPP: see FN01.14.00.00.00.SUPP - METHODS 41591_2020_1132_MOESM1_ESM

PC: November 2020

CCP: Zheng, Xiochen Dai, Ma, Xu, Zhang (5 of 89 authors, most of whom are ?) / **ORIGIN:** IHME COVID-19 Forecasting Team [?]. IHME is the Institute for Health Metrics and Evaluation, dedicated to evaluating global health statistics and impact, based at the University of Washington, in Seattle, headed by Christopher J.L. (See About IHME: <https://www.healthdata.org/about>). Board members: Chen, President Emeritus, China Medical Board, USA; Victor Dzau, President, National Academy of Medicine (NAM) (Formerly Institute of Medicine (IOM)); Jane Halton, Adjunct Professor, Universities of Sydney and Canberra; “Non Executive Director, ANZ Bank; and Chair, CEPI Board, former Secretary of the Australian

Department of Finance; Julie A. Nordstrom, Advisory Board of UW Medicine; Member of Board of Trustees for Save the Children, US. / **REF:** WHO (2); Xu (2); Wang Y.; Zhu; Ngonghala; Leung; Chu; Liang; Wang, Tang, Feng; Shaman; Lyu, Wehby; Zheng; GBD (6); Wang; Khan (22 of 51) / **FUNDED:** Statement: “With initial funding by the Bill & Melinda Gates Foundation ...” (see <https://www.healthdata.org/about/history>); “partners” with the White House, and WHO, and “many others.” **“In 2017, IHME received a new investment of \$279 million from Bill & Melinda Gates Foundation to expand our work over the next decade.”**

RCT: No.

CONTENT:

SS: “Non-pharmaceutical interventions (NPIs) are, therefore, the only available policy levers to reduce transmission¹⁶.” [Reference: Anderson, R. M., Heesterbeek, H., Klinkenberg, D. & Hollingsworth, T. D. How will country-based mitigation measures influence the course of the COVID-19 epidemic? *Lancet* 395, 931–934 (2020).]

*** The reason I stipulate this as SS: By November

2020, Hydroxychloroquine (HCQ) and Ivermectin were identified as effective therapeutics, but the government medical establishment had its hands thrust deeply into the pockets of Big-Pharma and deceptively claimed these ineffective, going so far as to construct a fake science report, published in Lancet, called the Lancet Study, that was PROVED to be fraudulent, in order to dissuade the public from trusting HCQ and providing a specious premise for the government medical establishment (gme) to prohibit these therapeutics from being prescribed by doctors or disseminated by pharmacies.

AME: “Several NPIs [Non-Pharmaceutical Interventions] have been put in place across the United States in response to the epidemic (Fig. 1), including the dampening of transmission through the wearing of face masks and social distancing mandates (SDMs) aimed at reducing contacts through school closures, restrictions of gatherings, stay-at-home orders and the partial or full closure of nonessential businesses. Increased testing and isolation of infected individuals and their contacts will also have had an impact¹⁷.” [Reference: Peak, C. M., Childs, L. M., Grad, Y. H. & Buckee, C. O. Comparing non-pharmaceutical interventions for containing emerging epidemics. Proc. Natl Acad. Sci. USA 114, 4023–4028 (2017).]

TA cites Footnote 18. Ngonghala, C. N. et al. Mathematical assessment of the impact of non-pharmaceutical interventions on curtailing the 2019 novel coronavirus. *Math. Biosci.* 325, 108364 (2020), and Footnote 19. Lasry, A. et al. Timing of community mitigation and changes in reported COVID-19 and community mobility—four US metropolitan areas, February 26–April 1, 2020. *MMWR Morb. Mortal. Wkly Rep.* 69, 451–547 (2020), to support the claim: “These NPIs are credited with a reduction in viral transmission.”

FN01.14.01.00.00-

<https://www.npr.org/sections/goatsandsoda/2020/04/10/829890635/why-there-so-many-different-guidelines-for-face-masks-for-the-public> PDF:
FN01.14.01.00.00.Why Guidelines For Face Masks Are So Varied During The Coronavirus Crisis _ Goats and Soda _ NPR

PC: April, 2020

CCP: Huo Jingnan / ORIGIN: NPR / REF: Not necessary to trace, they are found in embedded links throughout the article, but this is not a science study, only an article about the history of mask mandates

during the COVID pandemic.

RCT: No.

CONTENT:

CE: Feb. 29, 2020: US Surgeon General Dr. Jerome Adams Tweeted: “Seriously people- STOP BUYING MASKS! They are NOT effective in preventing general public from catching #Coronavirus, but if healthcare providers can’t get them to care for sick patients, it puts them and our communities at risk!”

CS: (Because I did not have a classification for situations where “authorities” and “experts” make statements that contradict prior statements, or heretofore known science, I added CS - contradictory statements.). A month after the Surgeon General declared masks are NOT EFFECTIVE in preventing general public contagion, Fri. April 3, the CDC recommended Americans wear “cloth face coverings fashioned from household items or made at home from common materials ... as an additional, voluntary public health measure.”

CCav: Under “Shifting guidelines” — the report begins: “In order to understand the range of

guidelines, the first issue to consider is the DATA ON THE POTENTIAL BENEFITS OF MASKS. AS WITH SO MANY POINTS SURROUNDING THE NOVEL CORONAVIRUS, THERE'S NOT A CLEAR-CUT FINDING.”

SP: So they go next to a *however*, sort of, however we are getting more reports of concern about asymptomatic spread, and pre-symptomatic spread, and that's why we need masks: “But there is emerging research and data that suggests transmission of COVID-19 by asymptomatic and pre-symptomatic individuals. Such research has been coming out at least since February; the latest report is from Singapore on April 1. These studies emphasize that people can spread the virus before realizing that they are sick — and that wearing a mask in public could help keep the infected person from spreading infectious droplets.”

This argument is specious because no evidence is provided showing anything different has been learned about masks changing the statement prior this: “There's not a clear-cut finding.”

NC: Research coming out of SINGAPORE , CCP — studies that are based on “PEOPLE CAN SPREAD THE VIRUS BEFORE REALIZING THAT THEY ARE SICK —

AND THAT WEARING A MASK IN PUBLIC COULD HELP KEEP THE INFECTED PERSON FROM SPREADING INFECTIOUS DROPLETS.”

CS: This report explains that even highly informed people would have said masks do not work because **THEY WOULD HAVE READ CDC GUIDANCE, WHO GUIDANCE:** "I think that if you talk to even the highly informed members of the general public and ask[ed] them a week, or two or three weeks ago, if the face masks work, they would say 'no' because they would have read CDC guidance, WHO guidance.”

Exactly!

CCP: A Chinese scientist says governments should not have played down the importance of face masks — Leiyu Shi — Johns Hopkins.

—> Back to **FN01.14.00.00.00-**
<https://www.nature.com/articles/s41591-020-1132-9>

Under RESULTS:

1/6 of all deaths occurred in New York alone. CA and WA issued strict SDM and MM. Highest rates of

death per day occurred in NY, NJ and Texas. “Since the first death was recorded in the United States in early February 2020, cumulative through 21 September 2020, 199,213 deaths from COVID-19 have been reported in the United States (Fig. 2); **a sixth of those (16.6%) occurred in New York alone. Washington and California issued the first sets of state-level mandates on 11 March 2020...**”

However, I find that NY implemented social distancing immediately and mask mandates were in place

FN01.14.02.00.00-

<https://covid19.healthdata.org/global?view=cumulative-deaths&tab=trend> PDF: FN01.14.02.00.00.COVID-19 Projections

PC: June 10, 2022 (Last update).

CCP: IMHE — as per above, funded by BMGF — Bill & Melinda Gates Foundation: see “With initial funding by the Bill & Melinda Gates Foundation ...” (see FN01.14.00.00.00 <https://www.healthdata.org/about/history>); “partners” with the White House, and WHO, and “many others.” **“In 2017, IHME received a new investment**

of \$279 million from Bill & Melinda Gates Foundation to expand our work over the next decade.”

RCT: No. Projections of deaths by Oct. 1, 2022

CONTENT:

IR: This has nothing to do with mitigation issues, but is an estimate of the number of deaths attributable to COVID-19 by Oct. 1, 2022.

SS/AME: All reference to masks efficacy are AME, no effort is made to support the claim: “Mask use represents the percentage of the population who say they always wear a mask in public. Mask use can reduce transmission by 30% or more.”

I read the charts and in each case, the correspondence between mask use and daily deaths shows NO CORRELATION in decreased deaths with increased mask use. See DAILY DEATHS, and compare the tracking of MASK USE. They have, unfortunately, separated these two charts making it difficult to see, but if you study them together, you’ll see there is virtually NO relationship between increased mask use and decreased deaths.

Daily deaths [↗](#)

[↗ Trend](#)

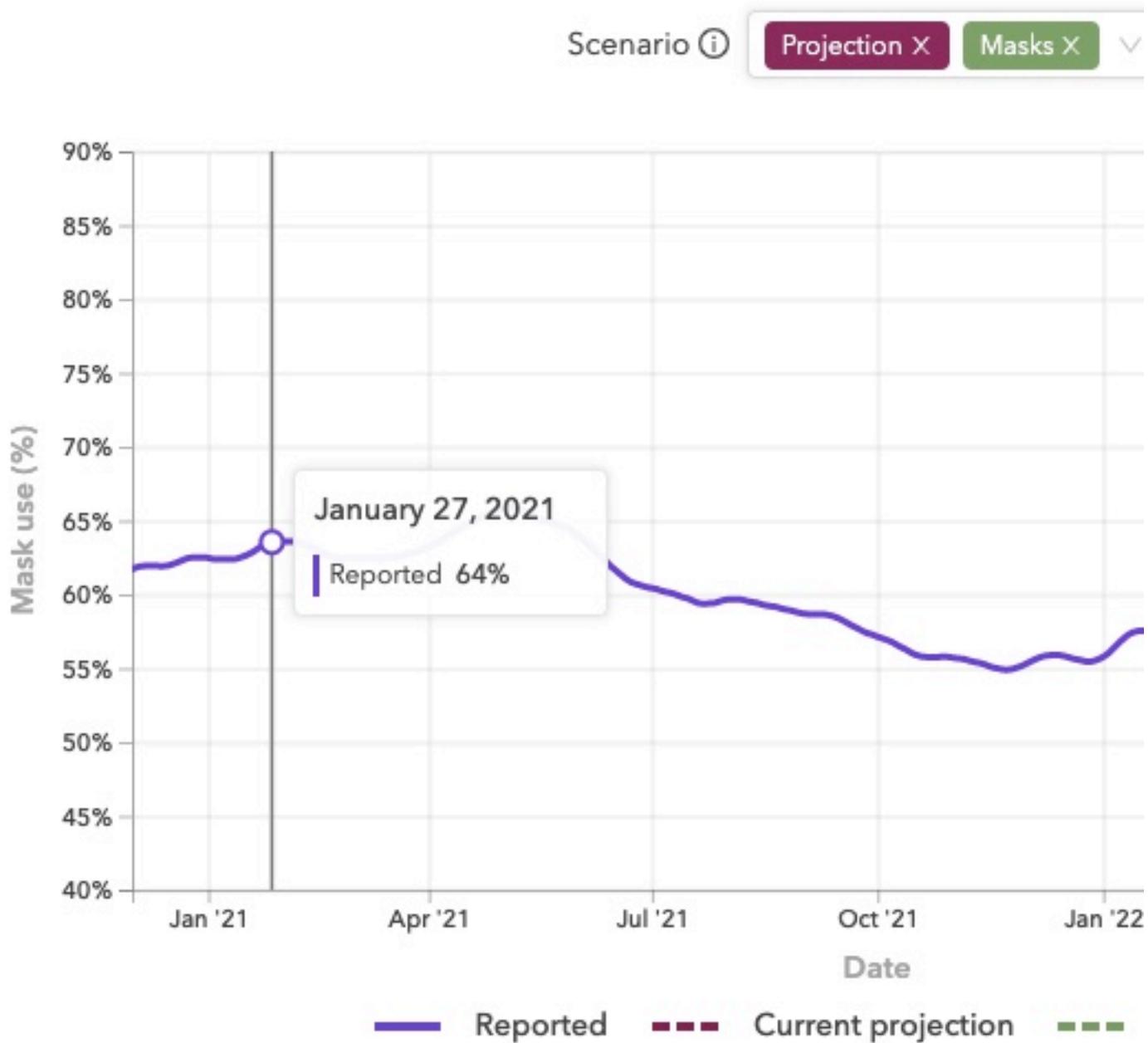
Daily deaths is the best indicator of the progression of the pandemic, although the infection and deaths.



Mask use [↗](#)

[Trend](#)

Mask use represents the percentage of the population who say they always wear a mask to reduce the transmission by 30% or more. [↗](#)



Data sources: Premise (US only); The Delphi Group at Carnegie Mellon University 19 Trends and Impact Surveys, in partnership with Facebook; Kaiser Family Foundation Tracker survey.

I copied the two pertinent charts into this document so you can compare them. It's clear that the daily death rate does not track with mask use, and furthermore, it's clear that daily death rate does not correlate to increased or decreased mask use.

By the way, the 80% mask use indicated refers to the goal, or the projection, not to actual reported mask use. Reported mask use is tracked by the purple graph line.

—> Back to **FN01.14.00.00.00** — Modeling COVID-19 scenarios for the US

NC: “Regardless, toward the end of 2020, masks **COULD HELP** to contain a second wave of resurgence while reducing the need for frequent and widespread implementation of SDMs.”

CLAIM: “Although 95% mask use across the population may seem a high threshold to achieve and maintain, on a neighborhood scale this **LEVEL HAS ALREADY BEEN OBSERVED IN AREAS OF NEW YORK ...**”

TA references

<https://www.nytimes.com/2020/08/20/nyregion/ny-c-face-masks.html>). Let's check it out: See

FN01.14.03.00.00-

<https://www.nytimes.com/2020/08/20/nyregion/ny-c-face-masks.html> PDF: FN01.14.03.00.00.Are New Yorkers Wearing Face Masks_ Here's What We Found - The New York Times

PC: August 2020

CCP: Andy Newman, for NYT. / ORIGIN: NYT. (As of 8/13/22, I cannot access without subscription. Fortunately, I captured this in a PDF earlier). / REF: It's a news not a science article and does not provide a list of references.

RCT: No. OS

CONTENT:

Remember that NY suffered the highest death rate in the nation (See above)

INFORMATION: Those ignoring the mask rule are twice as likely to be men. Men were also more likely to

be wearing their masks incorrectly, that is, not covering nose, dangling from one ear, etc.

OS: Observers watched passersby at 13 street corners and one beach boardwalk. The observed nearly one in three men were unmasked; one in six women were unmasked. Highest compliance was found in Flushing, Queens, and Park Slope, Brooklyn where “over 95 percent of the people were masked.”

SP: Here is a great example of propaganda writing: “On a sultry evening on the boardwalk in Rockaway Beach, only 20 percent of passers-by were enjoying the fresh salt air through a mask.” *Enjoying the fresh salt air through a mask???*

NOTE: Anyway, TA claim that in NY there is at least one community where mask wearing compliance reached 95%, is supported by observers who participated in the effort to count them from July 27-30 between 9 am and 7 pm. At each of 14 locations, the “enumerators” (people who did the counting) tallied between 340 to 567 people, and excluded partially masked people. Partially masked included all who had at least one breathing orifice uncovered. Only persons walking about were counted, no one traveling by bike, or skateboard, or in cars. THEY INCLUDED PEOPLE

WHO WERE EATING, DRINKING, OR SMOKING??? How does that work? While it does not seem reasonable to suppose they spent the entire day doing their count, nothing I find says otherwise.

CLAIM: The claim is that where mask use has been widely adopted, SINGAPORE, SOUTH KOREA, HONG KONG, JAPAN, and ICELAND — “transmission has declined and, in some cases, halted” SEE

—> Back to **FN01.14.02.00.00-**
<https://covid19.healthdata.org/global?view=cumulative-deaths&tab=trend> PDF: FN01.14.02.00.00.COVID-19

I’ve verified three times that this is the correct link provided by TA in FN01.14.00.00.00. Nothing in the linked doc offers any commentary on mask use in Singapore, South Korea, Hong Kong, Japan, or Iceland???

So, I looked at the footnote no. 33 attached to the following sentence: It is obscured in the PDF, I’ll check the root article: FN01.14.00.00.00-
<https://www.nature.com/articles/s41591-020-1132-9> — I found footnote 33:

Lyu, W. & Wehby, G. L. Community use of face masks and COVID-19: Evidence from a natural experiment of state mandates in the US. Health Aff. <https://doi.org/10.1377/hlthaff.2020.00818> (2020).

Already vetted in these notes: **FN01.04.00.00.00-**
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00818>. PDF: FN01.04.00.00.00.Community Use Of Face Masks And COVID-19_ Evidence From A Natural Experiment Of State Mandates In The US _ Health Affairs.

CCav: What this doc actually provides is a clear cut compromise to the mask mandate works thesis: CCav: “The estimates from the meta-analyses based on randomized controlled trials suggest declines in transmission risk for influenza or influenza-like illnesses to mask wearers, although estimates are mostly statistically insignificant possibly because of small sample sizes or design limitations, especially those related to assessing compliance.” See vetted.

—> Back to **FN01.14.00.00.00-**
<https://www.nature.com/articles/s41591-020-1132-9>

Back to the CLAIM that mask mandates in South Korea, Singapore, Hong Kong, Japan and Iceland decreased transmission significantly and in some cases almost halted it altogether.

*** YET, when Omicron came out, these countries were devastated by sudden surge of cases. See the following documentation:

FN01.14.00.01.00-

<https://www.scmp.com/news/asia/east-asia/article/3167202/coronavirus-south-korea-singapore-omicron-fuelled-wave-pushes> PDF: FN01.14.00.01.00.Coronavirus_ from South Korea to Singapore, Omicron-fuelled wave pushes cases to record highs _ South China Morning Post

FN01.14.00.02.00-

<https://www.phnompenhpost.com/international/singapore-reveals-three-big-concerns-omicron-variant-impacts-hospitals>. PDF: FN01.14.00.02.00.Singapore reveals three big concerns as Omicron variant impacts hospitals _ Phnom Penh Post

FN01.14.00.03.00-<https://asianews.network/as-it-happened-south-koreas-deadly-omicron-experiment/> PDF: FN01.14.00.03.00.As it happened_

South Korea's deadly Omicron experiment - Asia News Network Asia News Network

FN01.14.00.04.00-

<https://www.japantimes.co.jp/news/2022/02/10/national/science-health/stealth-omicron-subvariant-spreads-japan/> PDF: FN01.14.00.04.00.The 'stealth' subvariant of omicron is spreading in Japan. What impact could it have_ _ The Japan Times.pdf

FN01.14.00.05.00-

<https://www.nytimes.com/2022/03/18/opinion/omicron-created-a-perfect-storm-in-hong-kong.html>
(Have to pay a subscription to access. Use
<https://www.sphpc.cuhk.edu.hk/post/hong-kong-omicron-outbreak> PDF:
<https://www.sphpc.cuhk.edu.hk/post/hong-kong-omicron-outbreak>

FN01.14.00.06.00-

<https://www.icelandreview.com/society/covid-19-in-iceland-chief-epidemiologist-preaches-patience-as-authorities-adapt-to-omicron-impact/>. PDF:
FN01.14.00.06.00.COVID-19 in Iceland_ Chief Epidemiologist Preaches Patience as Authorities Adapt to Omicron Impact

*** None of these are vetted (PC, CCP, RCT, etc.) because they are *IR* relative to my research concerns. But as auxiliary to this research, while they certainly do not contribute evidence proving masks do not work, they do confirm that claims for mask efficacy based on what amounts to anecdotal evidence is inadequate.

In all of the reports, the countries listed as examples of mask efficacy corresponding to their aggressive implementation of mask mandate policy are shown to have been severely impacted by the Omicron variant, while countries that were not as aggressive, or who were experiencing significant push back and resistance to MM experienced a milder impact from this variant.

—> Back to the **FN01.14.00.00.00** TA CLAIM that mask mandates in South Korea, Singapore, Hong Kong, Japan and Iceland decreased transmission significantly and in some cases almost halted it altogether.

I notice that TA refers us to the Supplementary Information for corroboration of his claim. I've already debunked the claim, but here is the SUPPLEMENT and if I find in it anything worth reporting, I'll bring it in right here. See PDF: FN01.14.00.00.00.SUPP -

METHODS 41591_2020_1132_MOESM1_ESM —
nothing to report so far as I'm concerned.

—> Back to **FN01.14.00.00.00** —

<https://www.nature.com/articles/s41591-020-1132-9>

CCav: Then come the necessary CAVEATS: “We wish to reiterate to decision-makers that THERE ARE A MULTITUDE OF LIMITATIONS IN ANY MODELING STUDY OF THIS TYPE; AND EXTENDED DESCRIPTION OF THE LIMITATIONS SPECIFIC TO THIS STUDY IS PROVIDED (METHODS).” The link takes us to FN01.14.05.Modeling COVID-19 scenarios for the United States

<https://www.nature.com/articles/s41591-020-1132-9.pdf> — let's take a look.

The above link provided a PDF download of the document **FN01.14.00.00.00** that I've been evaluating, and not the METHODS — the section of the document explaining the limitations is under the title METHODS. Essentially, this part of the study seeks to identify the factors that might skew their results. Once again, THESE ARE NOT RCTs, these are meta-analysis studies that provide useful information if based on RCTs — but alone, they provide little information that

is helpful.

[NOTE: There is no FN01.14.05.00.00—not sure how I skipped that. Maybe it will show up later and I'll bring it to this place: 14.05]

FN01.14.06.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7252217/>. PDF: FN01.14.06.00.00.Mathematical assessment of the impact of non-pharmaceutical interventions on curtailing the 2019 novel Coronavirus. (NOTE: These vets are out of numerical order because I decided to add them after I had looked at .14.01... .14.05.)

PC: May 2020

CCP: Ngonghala, Iboi, Eikenberry, MacIntyre / **ORIGIN:** USA-FL, AZ, MA; Australia-Sydney. / **REF:** WHO (7); Li, Guan, Wu, Wang, Zhou, Tong, Leung, Lau, Wong; Dong, Du (2); US CDC (2); Yin; Bai, Yao, Wei, Tian, Jin, Chen, Wang M., The Ntl Acad. of Sciences; Bi, Zheng; Lai, Shih, Ko, Tang, Hsueh; Bi, Wu, Mei, Ye, Zou, Zhang, Liu, Wei, Zhang; Tognotti; Wu, Xu, Zhou, Lin, He, Zhu, Liang, Chin; Lau, Tsui, Lau, Yang; Wang CJ., Ng; Aiello, Davis; Yang, Cao, Qin, Wang X., Cheng, Pan, Dai, Sun, Zhao, Qu; Xu, Wu, Jiang, Xu, Ying, Ma, Li, Wang H.,

Zhang, Gao; Ong, Low, Tan, Loh, Ng, Ang, Mak; Tian, Hu, Lou, Chen, Kang, Xiang, Chen, Wang D., Liu N., Liu D.; Zou, Ruan, Huang, Liang, Huang, Hong, Yu, Kang, Song, Xia; Li, Pei, Chen, Song, Zhang, Yang, Shaman; Iboi, Phan, Kuang; He; van der Sande, Teunis, Sabel; Davies; Tang, Wang X., Li, Tang, Xiao, Wu; IHME (B&MGF); Geng, Zhang; Park, Gumel, Wu (314 of 71) / **FUNDING:** Statement: “One of the authors (ABG) acknowledge the support, in part, of the Simons Foundation (Award 585022) and the National Science Foundation (Award 1917512). CNN acknowledges the support of the Simons Foundation (Award #627346).”

RCT: No. MM

CONTENT: All references in this article that are pertinent to the question of this research have already been vetted in these notes.

SP/SS: “Using face-masks in public (including the low efficacy cloth masks) is very useful in minimizing community transmission and burden of COVID-19, provided their coverage level is high. The masks coverage needed to eliminate COVID-19 decreases if the masks-based intervention is combined with the strict social-distancing strategy.”

Nothing in this study provides evidence supporting the claim that “low efficacy cloth masks,” or surgical (SM; aka procedural, or medical) masks for that matter, are “very useful in minimizing community transmission...”

OS: *** MM’s are a species of observational science and fraught with many similar confounders. Probably the most significant is the fact that no MM can provide a model that embraces all possible factors contributing to the result examined, and the vulnerability of such models to the skewing impact of compromised, or polluted, data. This study depends on the accuracy and integrity of the data collected from government medical establishment sources that have been compromised by CCP influence, and a bias against therapeutics proven effective; ostensibly in order to promote the panic needed to compel citizens to submission to arbitrary government control with the aim of driving the population to take the jab.

CLAIM: “We estimated the efficacy of face-masks (em) based on the results of a number of clinical trials. For instance, data from Driessche et al. [53] shows that surgical masks reduced P. aeruginosa infected aerosols produced by coughing by over 80% in cystic fibrosis patients.” Let’s take a look.

FN01.14.07.01.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7380927/>. PDF: FN01.14.07.01.00.Particle sizes of infectious aerosols_ implications for infection control (For SUPP: see FN01.14.07.01.00.SUPP mmc1)

PC: Sep. 2020

CCP: One author: Kevin P Fennelly ? / **ORIGIN:** Fennelly USA-MD / REF: Chou, WHO, US CDC, Canadian Agency for Drugs and Technologies in Health / **REF:** Chou, Fu; WHO; Public Health England; US CDC; Canadian Agency for Drugs; Bin-Reza; Long, Hu, Liu; Wong, Lee, Tam; Tang; Xie, Li, Chwang, Ho, Seto; Bahl, Doolan, Chughtai, MacIntyre; Singh; Huynh; Yan; Leung, Chu, Shiu; Zheng, Chen, Yao, Li; Kawada, Yamazato, Shinozawa; Wan, Lu, Tsai; Shaikh, Sriraman, Vaswani, Oswal; Abdulwhhab, Birring; Wu; Zhang, Wang Z., Tong; Matuka, Singh; Leung, ZXhou, Chu; Yip; Apau, Ahrenholz; Shiu, Huang, Ye; Kulkarni, Lee; Zuo; Yadana, Nguyen; Wan, Huang, Huang Y; Tseng, Chang, Li; Li, Huang, Yu, Wong, Qian; Yu, Li, Wong; Yu, Qiu, Tse, Wong; Kim, Chang, Sung; Liu, Ning, Chen; Guo, Wang, Zhang; Cheng, Wong, Chan; Ong, TAn, Chia; Faridi, Niazi, Sadeghi; Sia, Yan, Chin; MacIntyre; Mandalakas; Lutong, Bei; Gao; MacIntyre, Wang Q.;

MacIntyre, Wang Q, Seale; Zhuang; Lee; Qian; Wang CC; Pan, Wu; Wu; Wu; Morawska, Tang (56 of 145) / **FUNDING:** nd Perhaps the author's org: Division of Intramural Research, Pulmonary Branch, National Heart, Lung and Blood Institute (NHLBI), NATIONAL INSTITUTES OF HEALTH (NIH). Or the copyright holder: Elsevier Ltd.

RCT: No. A RL.

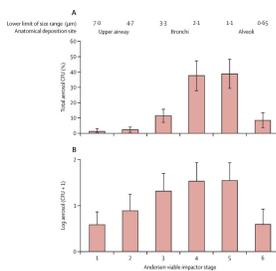
CONTENT:

I'm interested in anything TA can tell me about the particle size of Cystic Fibrosis.

INFORMATION: "Pseudomonas aeruginosa has been collected from cough aerosols in patients with cystic fibrosis.²⁷ These patients generated a particle size distribution that was only slightly larger than that noted in patients with tuberculosis (figure 1)."

I'm looking at Figure 1 and TA uses a dot operator in some convoluted manner. The label informs me this row of numbers represent the "Lower limit of size range (μm). Following this is a row beginning 7.0, 4.7, 3.3, 2.1, 1.1, and 0.65, only the dot is not placed on the baseline like a decimal, but between the sets of

numbers midway between top and bottom of the numbers, a floating decimal? I've researched this and it's extremely irritating because there is no DEFINITIVE explanation why this is done. I suppose we can rule out the multiplication dot operator since it makes no sense to represent 1x1, or 0x65. It might signify a range, but that is odd, since typically no one would cite a range as 7 to 0, and then 4 to 7, besides the oddity of 3 to 3, or 1 to 1. The only thing that makes sense is that it's being used as a decimal. (FUME!!!! — I hate this sort of imprecision and lack of clarity.)



In any event, it's clear that the sizes of particles examined here are from 650 nm to 7000 nm which are beyond the sizes of our interest.

*** See also under Influenza and other viruses:
“Particles smaller than 4.7 µm were collected at all three sampling sites. At 6 ft (1.83 m), hardly any large

particles (ie, $\geq 4.7 \mu\text{m}$) were detected.” Again, the particle size is outside our criteria of interest. Remember, when one of these reporters stipulates a bottom number for a range, if they say “smaller than,” they would use the lowest possible number, and therefore if the bottom of their range is stipulated to be “smaller than,” or $< 4.7 \mu\text{m}$, the particles will not be smaller than $< 4 \mu\text{m}$, or at the very least, not smaller than $3 \mu\text{m}$, which, in either case, puts us in a range way outside our criteria: $4.7 \mu\text{m} = 4700 \text{ nm}$ and our interest is in particles in a size range of 40-140 nm, or 125 nm.)

—> Back to **FN01.14.00.00.00-**

<https://www.nature.com/articles/s41591-020-1132-9> PDF: FN01.14.00.00.00.Modeling COVID-19 scenarios for the United States _ Nature Medicine.pdf

OS: See *** above. Used COVID-19 case and mortality data from 1 Feb. 2020 to 21 Sept. 2020 — To study the effectiveness of “non-pharmaceutical interventions in the United States they examined data gathered at the state level from 22 Sept. through 28 Feb. 2021.

NC: Their finding summary: “We find that achieving universal mask use (95% mask use in

public) COULD BE sufficient to ameliorate the worst effects of epidemic resurgences in many states.”

NC: SO, here we go again. Equivocal conclusion — COULD, IF they reach 95% participation, and offer an estimate of the number of lives that COULD be saved IF — at 129,574 (in a range of 85,284-170-867) — and this is utter NONSENSE. It is based on the same sort of math used by a young couple creating their first budget. After all the pencil work is done, real life kicks in!

FN01.14.08.00.00-

<https://bestlifeonline.com/first-states-mandate-masks/> — PDF: FN01.14.08.00.00.These Were the First States to Mandate Masks. Here's How They're Doing_.pdf

PC: June 2020

CCP: Allie Hogan, writing for BestLife. / ORIGIN: BestLife news. / REF: CDC: <https://bestlifeonline.com/cdc-warns-coronavirus-surge/> ; Wei Lyu and Wehby: <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00818?stream=top> ; and etc. the references are embedded in links within text and because this is not a

scientific but rather a news story I see no purpose in running these down. I offered the two to show why I suspect CCP dependency.

RCT: No, a news article

CONTENT:

INFORMATION: New York governor “On April 17, [2020] Governor Andrew Cuomo announced face masks would be required in places where people are unable to maintain social distancing.” See... <https://bestlifeonline.com/first-states-mandate-masks/>. Yet the highest level of deaths occurred in NY between Feb. and Sept. of 2020.

—>Back to **FN01.14.00.00.00** — “The highest levels of daily deaths at the state level between February and September of 2020 occurred in New York ...” at 998 cases p/day. The article goes on to report that New Jersey and Texas were runners up at 311 and 220 deaths p/day.

—> Back to **FN01.14.08.00.00**. Maryland instituted MM (mask mandates) a day after NY and experienced far fewer COVID deaths.

Hawaii instituted mask mandates even though they had a very low incidence of COVID cases: highest number of new cases in a day was 34 up to April, 2020. After implementing mask mandates, they reported no more than 5 new cases (not deaths, cases) a day through May. Then, suddenly the state reported a spike of 27 new cases on June 28. So, what happened? They were still under mask mandate laws.

In any event, such observations are notoriously fraught with confounders — so many other factors can and most likely did impact the outcomes that it's impossible to make any definitive conclusions about mask efficacy from this data. Again, correlation does not constitute causation.

—> Back to **FN01.14.00.00.00** — This study is based entirely on such data examined in light of one criteria — mandates imposed by the respective states.

NOTE: So many other factors contribute to the spread it's impossible to be definitive about projections based on this sort of analysis. This study offers no definitive results. Factors such as season, weather, exposure to sun, wind, no wind, etc. etc. etc.

CCav: “Mask use has emerged as a contentious

issue in the United States with only 49% of US residents reporting that they ‘always’ wear a mask in public as of 21 Sept. 2020 (see FN01.14.02.00.00 — <https://covid19.healthdata.org/global?view=cumulative-deaths&tab=trend>)

FN01.15.00.00.00-

<https://onlinelibrary.wiley.com/doi/full/10.1002/mds3.10163>. PDF: FN01.15.00.00.00.How effective is a mask in preventing COVID-19 infection_

PC: December 2020

CCP: Wang, Deng, Shi (All authors) / **ORIGIN:** USA-OH; The NIH is the medical counterpart fo the The National Science Foundation, a government agency receiving 10.14 BN in funding from US Taxpayer / **REF:** Aiello; Asadi; Bahl, Chughtai, MacIntyre; Bai, Yao, Wei, Tian, Jin, Chen, Wang; Balazy, Adhikari, Sivasubramani; Farooqi, Alhazzani; US CDC (8); Chan, Yuan, Zhang, Poon, Chan, Lee, Fan, Liang, CAo, Tang; Chan, Yuen; Cheng, Wong, Chuang, So, Chen, Sridhar, Chan, Hung, Ho, Yuen; Cheng, Wong, Kwan, Hui, Yuen; Chia, Tan, Ong, Gum, Lau, Lim, Lim A., Lee, Son, Young, Chan; Cowling, Fung, Cheng, Fang, Chan, SEto, Yung, Chiu, Lee, Uyeki, Leung; Davies, Giri, Kafatos; Iboi, Phan, Kuang; Feng, Shen, Xia, Song, Fan, Cowling; Ho,

Lin, Weng, Chuang; Huang, Li, Tufekci, Zdimal, Tang L., Tang V., Bax, Shaikh, Chu; Huang, Wang, Li, Zhao, Hu, Zhang, Fan, Xu, Gu, Cheng, Yu, Xia, Wei, Wu, Xie, Yin, Li, Liu, Cao; Hui, Chow, Chu, Ng, Lee, Gin, Chan; Jung, Kim, Lee, Lee J., Kim, Tsai, Yoon; Kohanski, Lo; Konda, Prakash, Guha; Li, Guan, Wu, Wang X., Zhou, Tong, Leung, Lau, Wong J., Xing, Xiang, Wu, Li, Chen, Li, Liu, Zhao, Liu M.; Liu, Liao, Qian, Yuan, Wang F., Liu Y, Wang Z., Wang F., Liu, Zhang; Liu, Ning, Chen, \Guo, Liu, Gali, Sun, Duan, Cai, Liu, Xu, Ho, Kan, Fu, Lan; Chong; Ma, Shan, Zhang, Li, Yang, Chen; MacIntyre, Dwyer, Seale, Cheung; MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu, Zhang, Wang; MacIntyre, Dwyer, Seale, Cheung, Gao; Morawska, Cao; Morawska, Cjhao, Li; Wu, Kahn; Ntl Acad. of Sciences; NBC News; Parmet, Sinha; Qu, Xiong, Fan, Kang; Sung A., Sung J., Chao; Time; Tsuda; US EPA; van der Sande, Teunis, Sabel; Wang D., You, Zhou, Zong, Huang, Zhang, Yong, Cheng, Yang, Guo, Long, Liu, Huang, Du; Wang J., Du; Wang Y., Tian, Zhang L., Zhang M., Guo, Wu, Zhang X., Kan, Jia, Huo, Liu, Wang X., Sun, Wang Q., Yang, MacIntyre; **WHO (5)**; Yang, Seale, MacIntyre, Zhang H., Zhang Z., Zhang Y., Wang X., Li, Pang, Wang Q.; Zhao, Liao, Xiao, Yu, Wang H., Wang Q., Lin, Chu L., Chu M., Chu S., Cui; Zhou, Yue, Mu, Zhang (61 of 102) / **FUNDED**: National Science Foundation

RCT: Not asserted. *Randomized* appears several times but always in the references; likewise *trial* — this might be one of the very few if not the only study I've looked at that did not provide any declaration re methods of their research. This appears to be a sort of topic report. I don't even notice an extensive effort to "review literature," although many of the same articles I've vetted already appear in the references.

CONTENT:

ACK: "Wells reported that droplets with diameters greater than $100\ \mu\text{m}$ can settle to the ground in less than 1 s without significant evaporation while the droplets smaller than $100\ \mu\text{m}$ may evaporate quickly and dry into droplet nuclei within 6 s (Wells, 1934). The droplet nuclei, which are generally considered to be particles with diameters $<5\ \mu\text{m}$, can remain in the air for hours (Asadi et al., 2020). Larger droplets with virus content spread less significantly, but smaller droplets may propagate further distances (Morawska & Cao, 2020). Another research found that aerosols containing the COVID-19 virus can remain in the air for 3 h (Van Doremalen et al., 2020)."

I will stipulate to all facts asserted in the above paragraph. 1. Droplets $\geq 100\ \mu\text{m}$ will likely settle

quickly, in less than 1 second, and will likely do so before complete desiccation; 2. Droplets $<100\ \mu\text{m}$ [and, by the way, that's 100,000 nm], may evaporate quickly and dry into droplet nuclei; within 6 seconds, at the very least — I've read some studies that suggest they begin evaporation immediately and can become airborne within 1-3 seconds 3. Droplet nuclei are by consensus regarded as particles that are $< 5\ \mu\text{m}$, and they can remain suspended for a very long time, hours, in fact; 4. smaller droplets propagate farther and pose a great risk for transmission.

ACK: Another admission that until COVID-19, no one (in the West) took wearing masks as prevention seriously: “One of the major strategies in preparedness and response to COVID-19 is effective utilization of personal protective equipment (PPS) among which the masks of different kinds are on the top of the list especially for activities in the public places. **HOWEVER, THE UNDERLYING MECHANISMS OF MASKS IN PREVENTING VIRUS TRANSMISSION HAVE NOT BEEN WELL IDENTIFIED AND THE CURRENT EXPERIMENTAL DATA STILL SHOW INCONSISTENT OUTCOMES THAT MAY MISLEAD THE PUBLIC.**”

Yeah, this inconclusive “science” on the question betrays the lack of certainty in the conclusions of

“scientists.”

Under TRANSMISSION MODE OF COVID-19

ACK: “One of the major routes of transmission of COVID-19 virus is primarily via DROPLETS from speaking, coughing or sneezing.”

ACK: Here is a killer: “While 95% of droplets is [sic] smaller than 100 μm , the majority are in the range from 4-8 μm . When the size threshold reaches a minimum around 5-10 μm , the droplets are usually denoted as the respiratory droplets.”

Written by Chinese (verb agreement problems) —
CCP —

ACK: The doc states the smaller the droplet size the longer its range for travel.

SS: This study states, WITH ZERO EVIDENCE, “Only with a proper protection of a mask in daily life can a social distancing of 1.8 m (or 6 feet) be reasonable assumed an effective protection.” The evidence TA would likely point to is the statement preceding this that studies show the distances travelled by droplets makes it unreasonable to expect

a 6 ft distancing rule will provide adequate protection, and that therefore, masks should be worn:

INFO: “When the size threshold reaches a minimum around 5–10 μm , [5000-10000 nm] the droplets are usually denoted as the respiratory droplets (World Health Organization, 2020). Bahl et al. (2020) summarized recent studies on COVID-19 transmission and concluded that the **droplets spreading distance is increasing with the decreasing droplets size**. The droplets with sizes of 1 to 5 mm [1000-5000 nm] can generally **spread in a distance over 1–2 m from the source of infection** (Wang & Du, 2020). The research of Bourouiba et al. (2014) showed that **droplets of 30 μm can have a horizontal range up to 2.5 m away from the cougher due to cloud dynamics, while the smaller droplets may even reach 4–6 m**. According to these studies, the range of respiratory droplets transmission appeared to be a major factor in virus transmission. **Only with a proper protection of a mask in daily life can a social distancing of 1.8 m (or 6 feet) be reasonably assumed an effective protection (Setti et al., 2020).**”

*** So, the SS indicates my rejection of the foundation of their hypothesis. And the reasons are

many, however for our immediate purpose, I'll point out that the mask is not going to protect against the droplet ejecta that manages to reach beyond really only a few feet of the infected person since by that time they have evaporated so much, the droplets, or many of them, are microdroplets by that point. Furthermore, even if your mask captures a larger droplet of ≥ 300 nm, it will desiccate very quickly releasing the naked virion to be drawn in at inspiration or launched into the atmosphere at expiration in the course of normal breathing.

AME: So we have statements without any scientific support assuming masks block transmission of a virus when they block a droplet carrying the virus.

Then there are the typical caveats: *** “Prolonged use of any face mask, including the N95 respirator can apply CONSIDERABLE FACIAL STRESSES causing quite discomfort. [sic-Foreign language issues. — CCP]. For some persons with severe chronic lung disease, wearing a mask may make breathing more difficult, but not because of CO₂ retention.” They note the fact that the additional filtration layer in the “air filtering respirators” and I cannot tell if they mean the N95, or if they are referring to some mask in between the N95 and the surgical mask. The next paragraph is “N95

masks are one of the most common *air filtering respirators* which are currently in high demand ...” so I think he is referring to the N95. We would stipulate that the N95 provides at least meaningful protection against expiration and/or inhalation of particles in the size range of our criteria: 125 nm.

CS: This study tells us the N95 can block particles as small as .3 μm — which is 300 nm — at an efficacy of 95%. I’ve read studies that show these will block particles as small as 100 nm.

CCav: This article points out the changing guidance: funny, it points to RCTs — every time we go to RCTs the result is the same — masks don’t work.

CCav: I had trouble finding a section in this study that zeroes in on surgical masks. Found this statement: “A surgical mask is mainly intended for health professionals including physicians and nurses FOR PROTECTION DURING MEDICAL PROCEDURES. IT IS DESIGNED TO PREVENT LIQUID DROPLETS AND AEROSOLS FROM THE WEARER’S MOUTH AND NOSE. THEY ARE ALSO DESIGNED TO PREVENT CROSS-CONTAMINATION BETWEEN RESPIRATORY PARTICLES OF A WEARER AND BODY FLUID OF PATIENTS DURING SURGERY. **ALTHOUGH SURGICAL**

MASKS ARE NOT DESIGNED TO FILTER OUT VIRUSES WHICH ARE SMALLER THAN BACTERIA, they can be effective as respirators, such as N95 for preventing influenza among health care personnel and against respiratory droplets during the outbreak. (He cites Radonovich et al. 2019, and Bartoszko et al. 2020).

Curiously, the links to these two studies was broken and I could not access them from the document link.

But I found a study in which Radonovich participated that is titled *N95 Respirators vs Medical Masks for Preventing Influenza Among:*

FN01.15.01.00.00.N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel_ A Randomized Clinical Trial _ Infectious Diseases _ JAMA _ JAMA Network
(<https://jamanetwork.com/journals/jama/fullarticle/2749214>)

Already vetted in these notes: see
FN01.38.00.03.43-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724169/>. PFD: FN01.38.00.03.43.N95 Respirators vs

Medical Masks for Preventing Influenza Among Health Care Personnel - PMC

I've examine this study later in these notes — it is what I have described earlier as an observational study masquerading as an RCT. It's called a "cluster randomized trial" that examines various patient outcomes, but does not examine, scientifically, the efficacy of the masks. The result was disappointing to the researchers, at least if they hoped to find a margin of 25% differentiation between the N95 and the surgical mask: "In addition, THERE WERE NO SIGNIFICANT DIFFERENCES BETWEEN THE N95 respirators and medical masks in the rates of acute respiratory illness, laboratory-detected respiratory infections, laboratory-confirmed respiratory illness, and influenza-like illness among participants."

—> Back to **FN01.15.00.00.00-**
<https://onlinelibrary.wiley.com/doi/full/10.1002/mds3.10163>. PDF: FN01.15.00.00.00.How effective is a mask in preventing COVID-19 infection_

SP: TA asserts surgical masks can be "as effective as respirators, such as N95 for preventing influenza..." and the study he references actually found neither was any more effective than the other — so it's true that

the mask can be “as effective” but the point of the study was that neither was all that impressive.

So this guy does not provide any scientific data explaining how the surgical mask effectively blocks virus, after stating that was not a feature for which they were designed, but points to a study that says the N95 does not do any better at protecting from influenza than the surgical mask, to say the surgical mask is as effective as the N95 and then proceeds to talk about the N95 — it’s double talk and downright DISHONEST — AND THAT IS THE PROBLEM WITH THIS SORT OF STUDY. It’s observational, and susceptible to the subjective influences and perspective of the observer.

Clearly, this fellow WANTS the surgical mask to be seen as an effective preventative measure against transmission of COVID and he is interpreting the data according to that objective.

CCav: “Based on these mechanisms (interception, inertial impaction and diffusion), particles near $0.3\ \mu\text{m}$ are more likely to pass through the filter than any other sizes (TSI Incorporated, 2020).” Oh, really? Well, $0.3\ \mu\text{m}$ equals 300 nm, and so a particle that is 120 nm in a droplet that is 300 nanometers is LIKELY to pass

through a surgical mask. In fact, this size is more likely to pass through the filter **THAN ANY OTHER SIZE.**

His conclusion is that “Both surgical masks and N95 respirators **CAN** provide similar protection for the healthcare workers during non-aerosol generation care, but N95 is recommended for the high-risk environments (Bartoszko et al., 2020).”

As to the rest, all of his evidence is based on observational studies.

FN01.16.00.00.00-

<https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2774266>. PDF:

FN01.16.00.00.00.Evaluation of Cloth Masks and Modified Procedure Masks as Personal Protective Equipment for the Public During the COVID-19 Pandemic.pdf

PC: December 2020; published in JAMA in 2021

CCP: Clapp, Sickbert-Bennet, Zeman, Weber, W. Bennett (U. of NC), Samet (US EPA), et al. / **ORIGIN:** UNC (Baric’s hometown:

<https://www.med.unc.edu/microimm/directory/ralph-h-baric-phd-1/>), Center for Environmental Medicine

[?], JAMA; prepared “For the US Centers for Disease Control and Prevention Epicenters Program / **REF:** Hou, Okuda; To, Tsang, Leung; CDC; Cowling; Leung Chu, Shiu; Chu, Akl, Duda, Solo; Yung, Low, Tam; Cheng, Wong, Chuang; Sickbert-Bennett, Clapp; Zhu, Zhang, Wang; Lee, Liu (11 of 13) / **FUNDING:** CDC and UNC/US, which is US EPA,

RCT: Not asserted. Did employ lab tests and tested for particles in a size range fitting my criteria: used NaCl (Sodium Chloride) with a median diameter of 0.05 μm (or 50 nm).

CONTENT:

CCav: Limitations: “We acknowledge that there are limitations to these findings.” 1. Tests were limited to one subject, and facial contours, etc. from person to person can be expected to change the FFE (Fitted Filtration Efficiency); 2. and this one is the most interesting: “The size of the NaCl particles used in this study (0.05 μm) may not reflect the most penetrating particle size for all of the mask materials tested.” We know the SARS virus particles range from 40-140 nm with an average diameter of 125 nm. One wonders why a test that shows at least *some* filtration against particles that are 0.05 μm , or 50 nm would not

adequately demonstrate filtration for SARS viral particles.

That's when we discover that the masks they tested were not the common masks distributed freely by govt. or recommended for general public use. Otherwise, there would be no need to make this differentiating statement: "The most penetrating particle size for nonelectret filter media (filters that collect particles by aerodynamic rather than electrostatic mechanisms) can range from 0.2 μm to 0.5 μm .¹² As a result, the reported FFE values at 0.05 μm may slightly overestimate the FFE of particles in the most penetrating size range." TA does follow with what appears to be a rational statement, saying it "is clear that protection against aerosols of 0.05- μm particles would also confer similar or better protection against much larger aerosols or droplets..." which makes the caveat puzzling.

See FN01.16.01.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7357397/> PDF: FN01.16.01.00.00.Filtration Performance of FDA-Cleared Surgical Masks: Synopsis:
"Surgical masks showed penetration levels of approximately 55-85% and 70-90% at flow rates of 30 and 100 liters/minute, respectively, for 300 nm particles. The most penetrating particle size (MPPS)

was in the 200-500 nm range. Surgical masks were found to be less efficient compared to dust-mist (DM) and dust-mist-fume (DMF) respirators.” Which agrees with the statement above, and indicates that the masks we are recommended to use for community control of the SARS-CoV-2 virus are effective only at between 55-85% for 300 nm particles—something I’ve seen confirmed repeatedly throughout my research.

See also **FN01.16.02.00.00-**
https://cdn.shopify.com/s/files/1/0384/4145/1653/files/armbrust501_final.pdf?v=1643402777 PDF:
FN01.16.02.00.00.K210101-S003.Letter.SE.pdf — a \$30 mask that has ASTM Level 3 rating filters 98% of microorganism particulates that are 0.1 μm , or 100 nm. See: “Surgical masks meeting ASTM Level 2 or Level 3 are able to filter 98% or more of bacteria and 0.1 μm particulates, while ASTM Level 1 can only filter $\geq 95\%$ bacteria. ASTM Level 3 performs the best in terms of filtration and fluid resistance, but Level 1 has the best breathability.” — FN01.16.03.00.00-
<https://supplyhawk.org/pages/what-do-the-astm-levels-mean>. PDF: FN01.16.03.00.00.What do the ASTM Levels mean_

The point I’m making is that these EPA TA understand the above, and in the context of that

understanding offer the caveat under limitations that it's *possible* their tests do not reflect efficacy against the masks commonly recommended for use by the public: “The size of the NaCl particles used in this study (0.05 μ m) may not reflect the most penetrating particle size for all of the mask materials tested,” even though the NaCl particles are actually smaller than the average size of a virus—albeit, not as small as the lowest in the range of 40-140 nm. My research indicates that the masks we are asked to wear are non electret filter media that where the MOST PENETRATING PARTICLE SIZE is 200-300 nm.

Then, see a RETRACTED article published by NIH once upon a time that rejects the current hypothesis: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7680614/>

******FN01.16.04.00.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7680614/>. PDF: FN01.16.04.00.00.Facemasks in the COVID-19 era_ A health hypothesis. (The RETRACTION NOTIFICATION is found at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8114149/>, see PDF: FN01.16.04.01.00.Retraction notice to “Facemasks in the COVID-19 era_ A health hypothesis” [Medical Hypotheses 146 (2021) 5]

I think I'll provide a summary vetting for this article:

PC: November 2020; retracted July 2021

CCP: Baruch Vainshelboim — / **ORIGIN:** Cardiology Division, Veterans Affairs Palo Alto Health Care System, Stanford U. / **REF:** WHO (4); Sohrabi, Alsafi, Khan; Fauci A.S.; US CDC (2); Zhu, Zhang, Wang W., Li, Yang, Song; MacIntyre, Seale, Dung, Hien, Nga, Chughtai; Konda, Prakash, Guha; Leung, Chu, Shiu, Chan, Hau; Gao, Yang, Chen, Deng, Yang S., Xu; Chou; Chu, Akl, Duda, Solo; Kao, Huang KC., Huang YL., Tsai, Wu; OSHA; Naeije; Zheng, Wang Y., Wang X.; Ong, Goh, Tang, Sooi, Tan (20 of 67) / **FUNDING:** nd

RCT: Not asserted.

CONTENT: Synopsis: “Nov 22, 2020The data suggest that both medical and non-medical facemasks are ineffective to block human-to-human transmission of viral and infectious disease such SARS-CoV-2 and COVID-19, supporting against the usage of facemasks. Wearing facemasks has been demonstrated to have substantial adverse physiological and psychological effects.”

Even dismissing FN01.16.04.00.00, the overabundance of evidence supports my point that “they” simply cannot come up with any real science that supports mask efficacy within my criteria.

Let’s look at one more example of consensus regarding the range of particle sizes the commonly used surgical masks offer:

<https://www.osti.gov/biblio/1631577-aerosol-filtration-efficiency-common-fabrics-used-respiratory-cloth-masks>

FN01.16.05.00.00-

<https://www.osti.gov/biblio/1631577-aerosol-filtration-efficiency-common-fabrics-used-respiratory-cloth-masks>. FULL TEXT:

<https://www.osti.gov/servlets/purl/1631577>. PDF: FN01.16.05.00.00.1631577

PC: April, 2020

CCP: Konda, Prakash, Guha (3 of 6) / **ORIGIN:** USA-IL Lamont: Center for Nanoscale Materials, Argonne National Lab; Worker Safety & Health Division; Chicago: Univ. of Chicago, Pritzker School of Molecular Engineering / **REF:** Cowling; National

Academies of Science (3); MacIntyre, Seale, Dung, Hien, Nga, Chughtai, Rahman, Dwyer, Wang Q.; Shakya; Davies, Giri; van der Sande, Teunis, Sabel; Morawska (2), Cao; Wang J., Du; Zhang, Li, Xie, Xiao; WHO; Ching, Leung M., Leung D., Li, Yuen; Lai, Poon, Cheung; Leung, Chu, Shiu, Chan, Hau, Yen, Li, Ip, Seto, Leung, Cowling; Jung, Kim, Lee S., Lee J., Kim, Tsai, Yoon; Zhuang, Niezgodá; Haruta; Huang, Fan, LI, Nie, Wang F., Wang H., Wang R., Xia, Zheng, Zuo, Huang; Perumalraj; Balazy, Toivola, Adhikari, Sivasubramani; Balasy, Toivola (20 of 42) / **FUNDING:** Sponsored: US Department of Defense, and office of Naval research.

RCT: Not asserted.

CONTENT:

The abstract of this article provides all information needed: “Importantly, there is a need to evaluate filtration efficiencies as a function of **aerosol particulate sizes in the 10 nm – 10 µm range, which is particularly relevant for respiratory virus transmission.** We have carried out these studies for several common fabrics including cotton, silk, chiffon, flannel, various synthetics, and their combinations. **While the filtration efficiencies for various fabrics when a single layer was used ranged from 5-80%**

and 15-95% for particle sizes <300 nm and >300 nm respectively, the efficiencies improved when multiple layers were used, and when using a specific combination of different fabrics. Filtration efficiencies of the hybrids (such as cotton-silk, cotton-chiffon, cotton-flannel) was >80 % (for particles <300 nm) and >90 % (for particles >300 nm). We speculate that the enhanced performance of the hybrids is likely due to the combined effect of mechanical and electrostatic-based filtration. Cotton, the most widely used material for cloth masks performs better at higher weave densities (i.e., threads per inch) and can make a significant difference in filtration efficiencies. Our studies also imply that gaps (as caused by an improper fit of the mask) can result in over a 60% decrease in the filtration efficiency, implying the need for future cloth mask design studies to take into account issues of “fit” and leakage, while allowing the exhaled air to vent efficiently. Overall, we find that combinations of various commonly available fabrics used in cloth masks can potentially provide significant protection against the transmission of aerosol particles.”

The range of concern corroborates all I’ve seen thus far: 10 nm to 10 μ m (10000 nm).

CCav: Notice that when TA talks about filtration efficacy, he speaks of particles in the size range of <300 nm to >300 nm. Remember, when one of these papers establish a bottom range at <300, if in fact this included particles <200, of course they would have stipulated <200 — so, to stipulate <300 means anything >200 to ≤ 299 nm. Which makes this IR for our purposes.

IR: particle size outside range of our criteria.

SP: As per usual, TA first offers a caveat that completely compromises their assertion for mask efficacy against a virus but concludes with a positive affirmation of their efficacy: “Overall, we find that combinations of various commonly available fabrics used in cloth masks can potentially provide significant protection against the transmission of aerosol particles.”

*** So, the point is secured: the impressive study provided by the EPA fails to consider masks that are non electret, and the fact that electret masks lose their electrostatic characteristic rather quickly: See <https://www.pppnonwovencloth.com/info/why-does-the-electrostatic-electret-effect-of-69293783.html>

“Electret is charging. The melt blown [a procedure for producing nano-fibers for masks, and other uses] nonwoven fabric passing through the electret initially reached 95 +, but THE CONSIDERATION EFFECT FELL DOWN AFTER A FEW DAYS, MAINLY DUE TO THE EXTREMELY UNSTABLE ELECTROSTATIC FIELD AND THE ATTENUATION OF CHARGE.”

I should add this article to my folder:

**** **FN01.16.06.00.00-**

<https://www.pppnonwovencloth.com/info/why-does-the-electrostatic-electret-effect-of-69293783.html>.

PDF: FN01.16.06.00.00.Why does the electrostatic electret effect of melt blown fabric not last long_ - Knowledge - Huizhou Xintai Non-woven Fabric Co., Ltd.pdf (NOTED: PC: April 2022; CCP: Huizhou Xintai, Guangdong Province, China. RCT: Not asserted, but information is based on lab tests. CONTENT: See above, ***

NOTE: We have all experienced electrostatic activity in fabric and noticed that it is unstable and easily discharged. Electrostatic characteristic of melt blown non woven cloth if carefully treated can be expected to continue efficacy for a number of hours, or even a day. I owned such a mask, and the instructions

required me to wash and microwave the mask every day to revive its efficacy. And even with this care, over time, the electrostatic characteristic of the fabric decreased until no longer effective to its purpose.

AND the major point is, even with masks of this sort, the efficacy is NOT ADEQUATE to provide protection against infection since according to consensus the default expectation should be that even one infectious virion can be contagious, and yet multiple thousands escape mask capture even by one of these electret charged masks. The study mentioned above tested the mask at its peak efficiency, and so fails to satisfy my criteria for a mask that provides adequate protection against virions in the size range of 40-140 nm, with most being about 125 nm.

—> Back to **FN01.16.00.00.00-**
<https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2774266>

CE: UNDER RESULTS: Here is the entire section under Results:

“This study evaluated the FFE of 7 consumer-grade masks and five procedure mask modifications.
[1] **The mean (SD) FFE of consumer-grade face**

masks tested in this study ranged from 79.0% (4.3%) to 26.5% (10.5%), with the washed, 2-layer nylon mask having the highest FFE and the 3-layer cotton mask having the lowest. The cotton bandana folded into a multilayer rectangle affixed to the ears with rubber bands, as described by the US Surgeon General, provided a mean (SD) FFE of 49.9% (5.8%). Folding the bandana bandit style produced a similar result (mean [SD] FFE, 49.0% [6.2%]). The tested mean (SD) FFE of the single-layer polyester gaiter/neck cover balaclava bandana was 37.8% (5.2%). [2] **The single-layer polyester/nylon mask, which is attached with tie strings, tested at a mean (SD) FFE of 39.3% (7.2%).** [3] **The polypropylene mask with nonelastic (fixed) ear loops tested at a mean (SD) FFE of 28.6% (13.9%).**

As expected based on data from our previous work,⁹ a National Institute for Occupational Safety and Health– approved 3M 9210 N95 respirator used as a reference control provided very high mean FFE (98.4% [0.5%]; n = 1) (Table). [4] **The medical procedure masks with elastic ear loops tested in this study had a mean (SD) FFE of 38.5% (11.2%) (Figure 3A), which was lower than that of medical surgical masks with tie strings (71.5% [5.5%]; n = 4).** [5] **Tying the ear loops and tucking in the corners of the procedure mask to minimize gaps in**

the sides of the mask increased the mean (SD) FFE to 60.3% (11.1%) (Figure 3B). [6] The “fix-the-mask” 3-rubber band modification and the nylon hosiery sleeve modifications, which were also intended to reduce gaps between the mask and the wearer’s face, improved mean (SD) FFE to 78.2% (3.3%) and 80.2% (3.1%), respectively.

[7] Modifications to improve the seal of the mask against the face by increasing the tension of the ear loops also improved FFE. Attaching the ear loops to the ear guards device using the center hooks (tightest option) increased procedure mask mean (SD) FFE to 61.7% (6.5%). Similarly, joining the ear loops behind the wearer’s head using a claw-style hair clip increased the procedure mask mean (SD) FFE to 64.8% (5.1%). [8] None of the modifications tested enhanced procedure mask FFE to the level of an N95 respirator.”

Let’s examine the results of these tests in light of our query: do face masks provide adequate protection against infection from viral particles in the size range of 40-140 nm with an average size of 120-125 nm. (By the way, my evaluation criteria adjusts as my understanding of this subject increases. Before, I stated my criteria for examining masks efficacy were virions that are 125 nm.) Taking each statement of

interest, numbered as [#]:

[1] The very best masks fail my criteria: **“The mean (SD) FFE of consumer-grade face masks tested in this study ranged from 79.0% (4.3%) to 26.5% (10.5%), with the washed, 2-layer nylon mask having the highest FFE and the 3-layer cotton mask having the lowest.”** The best masks were electret, and made of fibers that are borderline with regard to comfort (fit requirements are onerous, complicated, and uncomfortable, and breathability compromised). And yet these only provided 79% efficacy, at BEST. Of course, this means 21% of the virions passed through the mask. We have learned that the numbers of virions in a cloud of ejecta, even from normal breathing, exceeds many thousands, and given the default expectation that any one of these should be expected to be infectious, certainly in a volume of thousands, well, there is simply no adequate protection afforded by even the best of the masks tested.

[2] The above renders consideration for [2]-[3] moot.

[4] Also falls into the category of MOOT, however, because it addresses the most popular community use

masks, let's take a look: "The medical procedure masks with elastic ear loops tested in this study had a mean (SD) FFE of 38.5% (11.2%) (Figure 3A), which was lower than that of medical surgical masks with tie strings (71.5% [5.5%]; n = 4)." This is really bad! These masks, even when electret, and when the electrostatic charge is at its peak, only provided 38.5% efficacy. Good night, that means 62% of the virions attacking the mask penetrated.

[5] "Tying the ear loops and tucking in the corners of the procedure mask to minimize gaps in the sides of the mask increased the mean (SD) FFE to 60.3% (11.1%) (Figure 3B)." The inconvenience of this for the community virtually disqualifies it from any serious consideration. Maybe in a healthcare setting, when the procedure would be part of one's job, or employment, and where exposure is intense, and etc. Nevertheless, a 60.3% efficacy is inadequate for anything like a claim for "protection."

[6] "The "fix-the-mask" 3-rubber band modification and the nylon hosiery sleeve modifications, which were also intended to reduce gaps between the mask and the wearer's face, improved mean (SD) FFE to 78.2% (3.3%) and 80.2% (3.1%), respectively." Like [5], no way this has any

practical value for community masking. An over 80% fitted filtration efficiency (FFE) approaches a level of protection that is meaningful, but it does not justify a mandate that intrudes universally upon everyone, and does not provide adequate community protection since exposure is assumed to be “universal” and accumulative over time. Besides the fact that the fit of these masks adjusts over the period a subject is wearing it, and etc. etc. etc. We need an efficacy in the range of an N95 - 98-98%, but the trade off in comfort, and breathability is too much for use as a community resource.

[7] As you can see, the effort to add modifications only exacerbates the complications associated with mask wearing, and likewise the discomfort and breathability issues. All of that, yet they don't provide better than 64.8% protection.

[8] And here is the summarizing CCav: “None of the modifications tested enhanced procedure mask FFE to the level of an N95 respirator.” I would consider this study to be one of the best I've read and will book mark it as such — ****. And yet it, sadly, it does not satisfy criteria.

CCav: Their conclusion says “Evidence from

previous studies suggests that even face masks with an FFE less than 95% (eg, surgical masks) are effective in preventing the acquisition of epidemic coronaviruses (SARS-CoV-1, SARS-CoV-2) by health care clinicians, EXCEPT POSSIBLY DURING AEROSOL-GENERATING PROCEDURES.”

METHODS: So, they put a guy in a chamber where the environment is controlled to replicate a standard room setting.

They infused into that chamber a cloud of particles that were 0.05 μm in size. They discovered that the surgical mask provided the following protection:

A cotton mask, three layers, with a thin flexible metal nose bridge had an FFE (fitted filtration efficiency) of only 26.5%. That means 74.5% of the particles penetrated the mask.

Improvised face coverings, cotton bandanas, etc., achieved an FFE of 50%.

The consumer grade masks and medical procedures mask modifications were tested against a test aerosol of 0.05- μm NaCl particles. The best

provided 44.7% FFE.

The study does not provide a look at the data, but only provides summary reports of the data. It has confusing reporting: 79.0% (4.3%) and 26.5% (10.5%), discussed above.

CCav: This study was done 2021 — it is NOT REPRESENTED as an RCT — why? The range of protection afforded by the masks they tested ranged from 26.5% to 79.0% FFE. With modifications, the efficiency increased to 38.5% to as much as 80.2%. (Compromising caveat because it admits inadequate efficacy in their report.)

Essentially, the study showed support for the following conclusion: “Simple modifications can improve the fit and filtration efficiency of medical procedure masks; however, the practical effectiveness of consumer-grade masks available to the public is, in many cases, comparable with or better than their non-N95 respirator medical mask counterparts.”

THIS COMES CLOSEST to a study that suggests mask efficacy, but even this is, 1. limited to one test subject, 2. does not test for a particle the size in question, which is presented as a limitation, even

though it tested for a particle size significantly smaller [???], 3. does not provide the actual scientific data accumulated from the study but only presents summary of that data, so we don't get to see the actual results of the test, 4. it is not identified as an RCT, but a comparative study without offering any explanation what this means, and 5. ultimately this study proves that masks do not protect from infection from virions because none of the masks tested provided adequate filtration, and 6. if the electrostatic issue is addressed, and it is understood that the common so-called surgical mask available to the public are non electret, or have a quickly discharging electrostatic characteristic, we are back to what ALL the other studies have repeatedly found: surgical masks are only somewhat effective at blocking particles in the size range of 20-300 nm at best, with an increased efficacy as particle sizes increase above 300 nm.

FN01.17.00.00.00-

<https://www.acpjournals.org/doi/full/10.7326/M20-2567> PDF: FN01.17.00.00.00.Cloth Masks May Prevent Transmission of COVID19 An Evidence-Based, Risk-Based Approach (For DISCLOSURES: See FN01.17.00.00.02.DISCLOSURES _authors_conflictFormServlet_M20-2567_ICMJE_M20-2567-Conflicts)

PC: Sept. 2020

CCP: Fu (1 of 10) / ORIGIN: CANADA-Ontario Hamilton: Joseph's Hospital, McMaster U.. NETHERLANDS-Leiden: Leiden U. Medical Center. UK-London: Francis Crick Institute. AUSTRALIA-NSW, Sydney: "The George Institute for Global Health and Concord Repatriation General Hospital. GERMANY-Munich: U. of Nurnberg and KfH Kidney Center. BRAZIL-Curitiba: Pontifical Catholic U. of Parana. US-MI Ann Arbor: Arbor Research Collaborative for Health, DOPPS Program Area; TX-Houston, Baylor Col. of Medicine. SWEDEN-Stockholm: Karolinska Institutet. **REF:** ASTM International; Furuhashi; Davies, Giri; Konda, Prakash; Quesnel; MacIntyre, Seale, Dung (6 of 10). / **FUNDING:** Some authors: Funding or Affiliations: AstraZeneca, Novo Nordisk, European Union, McMaster Univ. Canada, Ministry of Health, Ontario, Pfizer.

RCT: Not asserted.

CONTENT: CLAIM: Cloth Masks May Prevent Transmission of COVID-19: An Evidence-Based, Risk Based Approach.

ACK: “Although no direct evidence indicates that cloth masks are effective in reducing transmission of SARS-CoV-2, the evidence that they reduce contamination of air and surfaces is convincing and should suffice to inform policy decisions on their use in this pandemic pending further research.”

***So, let’s give up on trying to prove masks block infectious virions in any meaningful way to prevent contagion, and let’s try something *can* prove and that is a reduction in the number of virions expressed in ejecta and therefore a reduction in the number of virion particles on fomites.

SP: THE POINT OF THIS ARTICLE IS TO SHOW NOT THAT SOME PARTICLES CAN PENETRATE BUT THAT SOME PARTICLES ARE STOPPED.

*** This is actually very dangerous. It gives people a false hope that, for example, if a barrier stops twenty virions, but thirty get through, you have achieved some sort of protection. The fact is, this provides NO PROTECTION from contagion.

CCav: Something they admit from the very beginning when they say there is NO DIRECT EVIDENCE that cloth masks are effective in reducing

transmission.

SP: *** This paper wants to argue that we should all wear masks because it is possible that they block SOME particles.

CCav/CE: Furthermore, they admit: “Cloth does NOT STOP isolated virions.” It continues with an *however* that is strange: “However, most virus transmission occurs via larger particles in secretions, whether aerosol (<5 μm) or droplets (>5 μm), which are generated directly by speaking, eating, coughing, and sneezing; aerosols are also created when water evaporates from smaller droplets, which become aerosol-sized droplet nuclei.”

SP: From the above quote, it is evident TA is reaching to support mask mandates, and so I include this as a species of specious argument (SP). The statement above actually confirms a statement I make in the booklet—when the droplet evaporates, the virion escapes and can penetrate the mask.

So, you see what I mean? The *however* seems strange. *Although* would have been better. Anyway, they dismiss the FACTUAL data that CLOTH DOES NOT STOP VIRIONS (that are smaller than 5 μm , especially

when in aerosol sizes, and **HERE IS THE PLACE FOR THEIR HOWEVER:** However, “The point is not that some particles can penetrate but that some particles are stopped.” So TA admits they are moving away from proving masks are efficacious to block penetration and decided instead to focus on mask efficacy to block **SOME VIRIONS —**

NOTE: *** Well, I don’t think that is the point! It’s the virions that penetrate that concern us since we are talking about an onslaught of multiple thousands of droplets in a single cough, or sneeze, and many thousands in speaking, especially over a period of 15 minutes or more — and in this regard, essentially, the **MASKS DO NOT PROTECT.**

Mask efficiency is measured by specific criteria and that is the reason boxes containing these masks clearly state they are **NOT INTENDED TO PROTECT ANYONE FROM GETTING COVID.**

FN01.18.00.00.00-

<https://www.eurosurveillance.org/content/10.2807/1560->

7917.ES.2020.25.49.2000725?crawler=true<https://bmjopen.bmj.com/content/6/12/e012330> PDF:

FN01.18.00.00.00.Eurosurveillance _ Community use

of face masks and similar barriers to prevent respiratory illness such as COVID-19_ a rapid scoping review **** I think this is a show case study that goes to great lengths to be honest and transparent, albeit betraying a bias toward masks in the end.

PC: August 2020

CCP: Brainard, Jones, Lake, Hooper, Hunter /
ORIGIN: UK-Norfolk: Norwich School of Medicine, U. of East Anglia; School of Environmental Sciences / **REF:** **WHO (3);** Johns Hopkins; Cajanan; Asgri; Wu, Huang, Zhang, He, Mikng; Sikora; Wong V., Cowling, Aiello; bin-Reza; Wang M., Barasheed, Rashid, Bashir; Chu, Akl, Duda, Solo; Cowling, Zhou, Leung, Aiello; MacIntyre, Chughtai; Barasheed, Alfelali, Mushta, Alshehri, Attar; Aiello, Davis; Aiello, Uddin; Cowling, Chan, Fang, Cheng, Fung, Wai; Cowling, Fung, Cheng, Fang, Chan, Seto; Ferng, Wong-Mcloughlin, Wang S.; Lau J., Lau M., Kim, Wong E., Tsui, Tsang; Lau, Tsui, Lau, Yang; MacIntyre, Dwyer, Seale, Cheung; Suntarattiwong; Choudhry, Al-Mudaimagh, Turkistani, Al-Hamadan; Alfelali, Barasheed O.; Badahdah, Bokhary, Tashani; Tahir, Abbas, Ghafoor, Shahid; Hashim, Ayub, Mohamed, Hasan, Harun, Ismail; Zhang, Liu, Yang, Zhang Y., Li; Tuan, Horby, Dinh, Mai, Zamboon, Shah; MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu; Wu, Ma,

Yang Z., Yang P., Chu, Zhang; Afgarshe, Adb-Alla, Ahmed Q.; Fan, Liu, Shao, Qi, LI, Pan; Sulaiman, Wahab, Naing; Shirah, Zafar, Alferaidi, Sabir; Zhang; Zhang R., Zhang AL., Wang Y.; Cheng, Wong, Chuang, So, Chen, Sridhar; Lyu, Wehby; Al-Jasser, Kabbash, Almazoroa; Barasheed, Almasri, Badahdah; Emamian, Hassani, Fateh; Kim, Nam, Lee, Chang, Lee; Shin, Wakabayashi, Sugita, Yoshida, Sato, Sonoda; Uchida, Kaneko, Hidaka, Yamamoto, Honda, Takeuchi; Wu, Xu, Zhou, Lin, He; Zhang, Peng, Ou, Zeng, Liu (49 of 74) / **FUNDING:** Statement: “**Funding:** This research was not supported by any funder.”

RCT: Not asserted. “This is an analysis of published aggregated secondary data...”

CONTENT: A “rapid scoping review” of literature seeking evidence that community use of face masks and similar barriers [may] prevent respiratory illness such as COVID-19.

SS: “We assessed the quality of evidence using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) framework. GRADE assessment was based on the RCT data and supported (strengthened) or contradicted (weakened) by observational data [35].”

It seems inappropriate to claim an observational study weakens an RCT because it shows contrary results without minutely factoring in any and all identifiable confounders. This assumption that an OS study weakens a properly executed RCT seems to be biased.

NOTE: On article selection methods, I notice TA does not stipulate the criteria used to accept or reject studies after full text reviews. Also, it appears to me the studies were weighted in favor of cohort and case-control, where RCTs were considered to be “weakened” when these other types might be compromised by them.

CCav: Once again, when RCTs are consulted, the results are consistent: “The three RCTs, which measured the prevention of primary infection, indicated a slight, non-significant, reduction in the odds of primary infection with ILI”

CCav: Likewise from the five cohort comparisons: “Evidence from the five cohort comparisons suggested face masks provided *some* primary protection ... , **ALTHOUGH THESE FINDINGS WERE NOT SIGNIFICANT.**”

CCav: The pooled data from four case-control studies and eight cross-sectional studies “suggested that face-mask wearing was protective, BUT EFFECTS WERE HIGHLY HETEROGENOUS.” The “but” is a term of contradiction and shows that what follows is a qualifier of the effect of which they boast. In other words, these data “suggested” mask wearing provided some measure of protection, how much is not stipulated here, “BUT” — this is somewhat compromised by the fact that the effects were scattered, very diverse, no strong sense of a common denominator surfaced as data were examined. The import of this clarification is that it says the results are so widely separated no consistent pattern is discernible, and the isolated parts of this study allow for significant confounders to have skewed the results.

CCav: Once the noticeable outliers are removed from the pooled data (see above) the results come back to “no longer significant.” Interesting that this also lessened the heterogeneity problem, at least “slightly.” I would have to examine the data my self to ascertain what “slightly” means to TA.

*** As per typical, all the compromising caveats considered, these folks are determined to push

through to the end result of favorability for mask wearing, and it seems to me obvious this is because that is the desired result, indeed, it is the expected result.

CCav: The number of instances where non-significant protection results were noted: “neither significant,” “non-significant relationship between mask wearing and avoiding infection,” “mostly not significant,” “non-significant relationship,” “very small, non-significant protective effect,” “infection fell modestly and not significantly,” “one case-study ... where both infected and non-infected household members wore masks indicated a large risk reduction BUT THIS WAS NOT SIGNIFICANT ...” [?], under Secondary transmission and early commencement of face-mask wearing: “face-mask wearing ... ≤ 36 hours after index patient became symptomatic ... worn by either ill person, well person, or both ... [after] statistic and risk of biases for RCTs are presented ... [showed] face-mask wearing was not protective in this subgroup analysis ...,” and after logistic regression adjustments were applied to the prior considered study, “face-mask wearing (<36 hours after symptom onset) COULD BE PROTECTIVE, BUT acknowledged that their models were underpowered.”

CCav: “The quality of evidence is problematic.”
Their conclusion is that RCT evidence
“underestimated efficacy,” while “observational
studies have overestimated how protective face-mask
wearing can be because of unmeasured co-factors that
cause confounding.”

INFORMATION: This is helpful with regard to
stipulating the sorts of confounders observational
studies fail to take into account: “For example, those
who choose to wear masks may be more risk averse in
general so undertake many protective activities
alongside wearing a mask. Therefore, specific accurate
estimates of the degree of protectiveness of face masks
from the currently available evidence base are
unreliable.” Another I would add is the possibility one
group presents a greater number of persons typically
more healthy immune wise than another group; etc.
etc. etc. Also, and this is intimated by TA, it is expected
that transmission will be different in different settings.

CE: Zhang[’s] ... case-control study ... significantly
favored no mask wearing by index patients ... and
found negligible attack rate differences between case
and control households when contacts wore masks.”

CCav: Take the above with the number of

occasions TA honestly pointed out the studies that were downgraded for bias or low quality evidence: one example: “Housemates wearing masks once another household member has contracted ILI may modestly reduce the odds of further household members becoming ill by around 7%. Low quality evidence (downgraded twice overall for risk of bias, imprecision and inconsistency).” Here is another example: A study purports to show after a family member becomes sick, masks “may modestly reduce the odds of further household members becoming ill by around 19%. THIS WAS LOW QUALITY EVIDENCE (downgraded twice overall for risk of bias, imprecision and inconsistency).”

CCav: TA admits, with genuine transparency and clarity, that searching the database with key word “mask” would likely produce a collection of articles more likely to be in favor of mask wearing, and could leave out of their array important studies that show otherwise. “In practice, the search strategy meant that our search terms were slightly biased into finding articles where masks had been protective rather than having no effect.”

*** NOTE: IN the ongoing effort to put masks on the public, several shifts have developed over the

course of this debate. First, the focus was on finding proof masks block virions adequately to support universal mask mandates for the public as PPE (Personal Protective Equipment). This failing, the debate has turned to a focus on source control, the alleged efficacy of masks to block ejecta from entering the atmosphere as aerosols and so protecting others. This is also collapsing under scrutiny, and so the debate is morphing into a discussion of whether or not masks reduce the volume of virion exposure so as to lesson the severity of infection, or retard the duration of infection. It's like "they" take a position, and when it becomes clear that position is untenable, they fall back, and entrench on that fallback position, until mounting evidence makes it clear it cannot be held, and fall back again. Eastern "science" does not have this problem. They avoid RCTs and are content with observational studies. This is the stuff of superstition, and cultures premised on eastern-mysticism are susceptible. Western culture, however, is suspicious of superstition and requires empirical, fact based evidence to support a conclusion. This is an approach that arose out of a Christian worldview. Like Paul, I look at the current trends in "science" and say, I perceive you are too superstitious.

FN01.19.00.00.00-

https://wwwnc.cdc.gov/eid/article/26/8/20-1498_article PDF: FN01.19.00.00.00.The Practice of Wearing Surgical Masks during the COVID-19 Pandemic 20-1498

PC: August 8, 2020.

CCP: Cho-Han Chiang, Cho-Hsien Chiang, and Yee-Chun Chen / **ORIGIN:** TIAWAN-Taipei: Ntl. Taiwan U. College of Medicine; Fu-Jen Catholic U.; Taiwan Hospital; Taichung: Chung Shan Medical U. / **REF:** Xiao, Shiu, Wong, Fong, Leung, Feng, Shen, Xia, Song, Fan, Cowling, Poon, Quah, Loh, Kim, Lim, Jung / **REF:** Xiao, Shiu, Gao, Wong J., Fong, Ryu; Leung, Chu, Shiu, Chan, Hau; Feng, Shen, Xia, Song, Fan, Cowling; Ng. Poon, Puar, Quah, Loh, Wong; Bae, Kim MC, Kim JY, Cha HH, Lim, Jung (5 of 5) / **FUNDING:** nd I would assume funding provided by the affiliates of TA.

RCT: No. This is a letter of response to another article published by Xiao et al. that “found no significant reduction in influenza transmission with the use of surgical masks in the community, based on 10 randomized controlled trials.”

CCav: “Although evidence is limited for their [masks] effectiveness in preventing transmission of

severe acute respiratory syndrome coronavirus 2, either for source control or to reduce exposure, the wearing of masks by healthy persons MAY PREVENT POTENTIAL ASYMPTOMATIC OR PRESYMPTOMATIC TRANSMISSION.”

Here we go again. Even though we don't have any evidence, it just MIGHT WORK.

Here is the study these authors address in their letter:

FN01.19.01.00.00-

https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article. PDF:

FN01.19.01.00.00.Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings— Personal Protective and Environmental Measures - Volume 26, Number 5—May 2020 - Emerging Infectious Diseases journal - CDC. See also

SE02.00.00.00-

https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article — PDF:

SE02.00.00.00.Nonpharmaceutical Measures for Pandemic Influenza - CDC [https-](https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article)

[/wwwnc.cdc.gov/eid/article/26/5/19-0994_article](https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article). (Supplemental: For hand hygiene see Figure 1, see

FN01.19.01.01.00.Figure 1 - Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings—Personal Protective and Environmental Measures - Volume 26, Number 5—May 2020 - Emerging Infectious Diseases journal - CDC; for MASKS see **FN01.19.01.02.00-MASKS** Figure 2 - Nonpharmaceutical Measures for Pandemic Influenza in Nonhealthcare Settings—Personal Protective and Environmental Measures - Volume 26, Number 5—May 2020 - Emerging Infectious Diseases journal - CDC

PC: May 2020 (Four months later, Cho-Han et al. responded with a rebuke— the timing here is interesting. At first, CDC was not in favor of advocating masking at all much less universal masking, and that much less mask mandates. This grew over time. But August, CDC was recommending masks and supportive of mask mandates.)

CCP: Xiao, Shiu, Gao, Wong, Fong, Ryu, Cowling (All authors) / **ORIGIN:** CHINA-Hong Kong: University of HK, CDC / **REF:** Uyeki, Katz; WHO (2); AKI; Wong, Cowling, Aiello; Aiello, Uddin; Aiello, Uddin; Cowling, Chan, Fang, Cheng, Fung, Wai; Cowling, Fung, Cheng, Fang, Chan, Seto; Ferng, Wong-McLoughlin, Wang S.; Ram, Khatun-e-Jannat, Islam; SuntarattiwongSuntarattiwong; Mukherjee;

Suntarattiwong, Shaman; Aiello; Ahmen, Memish, Allegranzi; US CDC (2); Zayas, Ghiang, Wong E.; Abd-Alla; Balaban, Hammad, Afgarshe, Abd-Alla, Ahmed; Barasheed, Lamasri, Badahdah; MacIntyre, Dwyer, Seale, Cheung; MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu; US FDA; Chughtai, Seale, MacIntyre; Sandora, Shih; Dwyer, Jana; Zhang, Li; Shiu, Leung, Cowling; Tang; Gao, Wei, Cowling, Li (32 of 50) / **FUNDING:** Statement: “This study was supported by the World Health Organization. J.X. and M.W.F. were supported by the Collaborative Research Fund from the University Grants Committee of Hong Kong (project no. C7025-16G).”

RCT: Not asserted. It is a review of literature: expressly, 10 RCTs. I’ll list them here for future reference:

CONTENT:

Staying to purpose, I will not labor to examine this article carefully at this time, my focus is on finding anything in any scientific study that actually supports masking to protect against a virus. However, since this came up in the course of that enquiry, I wanted to add it to my folder.

I notice this article is dated post covid, but the content is pre covid in that nowhere in this article do TA address SARS-CoV-2, or COVID-19, or severe acute respiratory syndrome, or coronavirus. It's about flu virus.

CCav: “In our systematic review, we identified 10 RCTs that reported estimates of the effectiveness of face masks in reducing laboratory-confirmed influenza virus infections in the community from literature published during 1946–July 27, 2018. In pooled analysis, we found **no significant reduction in influenza transmission with the use of face masks** (RR 0.78, 95% CI 0.51–1.20; I = 30%, p = 0.25) (Figure 2).” (Of course, in this case, this statement is a confirming statement, but it is compromising against the root article I'm vetting with this study.)

Here are the 10 RCTs examined by TA: Some of these have been vetted in these notes:

9. Aiello AE, Murray GF, Perez V, Coulborn RM, Davis BM, Uddin M, et al. Mask use, hand hygiene, and seasonal influenza-like illness among young adults: a randomized intervention trial. *J Infect Dis.* 2010;201:491–8. DOI PubMed Google Scholar

Already vetted in these notes: **FN01.38.00.12.00-**
<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic

10. Aiello AE, Perez V, Coulborn RM, Davis BM, Uddin M, Monto AS. Facemasks, hand hygiene, and influenza among young adults: a randomized intervention trial. PLoS One. 2012;7:e29744. DOI PubMed Google Scholar

Already vetted in these notes: **FN.01.08.01.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266257/> PDF: FN01.08.01.00.00.Facemasks, Hand Hygiene, and Influenza among Young Adults_ A Randomized Intervention Trial - PMC.pdf

11. Cowling BJ, Chan KH, Fang VJ, Cheng CK, Fung RO, Wai W, et al. Facemasks and hand hygiene to prevent influenza transmission in households: a cluster randomized trial. Ann Intern Med. 2009;151:437–46. DOI PubMed Google Scholar

Already vetted in these notes: **FN01.08.08.00.00-**
<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF:

FN01.08.08.00.00.Facemasks and hand hygiene to prevent influenza transmission in households_ a cluster randomized trial - PubMed.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

12. Cowling BJ, Fung RO, Cheng CK, Fang VJ, Chan KH, Seto WH, et al. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. PLoS One. 2008;3:e2101. DOI PubMed Google Scholar

Already vetted in these notes: **FN01.08.06.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/> PDF: FN01.08.6.Preliminary Findings of a Randomized Trial of Non-Pharmaceutical Interventions to Prevent Influenza Transmission in Households - PMC. **Rated by ECDC as LOW to MODERATE confidence:** see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

13. Larson EL, Ferng YH, Wong-McLoughlin J, Wang S, Haber M, Morse SS. Impact of non-pharmaceutical

interventions on URIs and influenza in crowded, urban households. Public Health Rep. 2010;125:178–91. DOI PubMed Google Scholar

Already vetted in these notes: **FN01.08.03.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821845/>. PDF: FN01.08.03.00.00.Impact of Non-Pharmaceutical Interventions on URIs and Influenza in Crowded, Urban Households - PMC.pdf

[14 was not listed as one of the RCTs used by TA]

15. Simmerman JM, Suntarattiwong P, Levy J, Jarman RG, Kaewchana S, Gibbons RV, et al. Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand. Influenza Other Respir Viruses. 2011;5:256–67. DOI PubMed Google Scholar

Already vetted in these notes: **FN01.01.01.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>. PDF: FN01.01.01.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC

16. Stebbins S, Cummings DA, Stark JH, Vukotich C, Mitruka K, Thompson W, et al. Reduction in the incidence of influenza A but not influenza B associated with use of hand sanitizer and cough hygiene in schools: a randomized controlled trial. *Pediatr Infect Dis J*. 2011;30:921–6. DOI: [PubMedGoogle Scholar](#)

Not vetted in these notes.

IR: Not relevant to my query - does not address masks.

17. Suess T, Renschmidt C, Schink SB, Schweiger B, Nitsche A, Schroeder K, et al. The role of facemasks and hand hygiene in the prevention of influenza transmission in households: results from a cluster randomised trial; Berlin, Germany, 2009-2011. *BMC Infect Dis*. 2012;12:26. DOI: [PubMedGoogle Scholar](#)

Already vetted in these notes: **FN01.08.07.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>. PDF: FN01.08.07.00.00. The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC

[18-32 not listed as among the RCTs used by TA]

33. Barasheed O, Almasri N, Badahdah AM, Heron L, Taylor J, McPhee K, et al.; Hajj Research Team. Pilot randomised controlled trial to test effectiveness of facemasks in preventing influenza-like illness transmission among Australian Hajj pilgrims in 2011. *Infect Disord Drug Targets*. 2014;14:110–6. DOI PubMed Google Scholar

Already vetted in these notes:

FN01.38.00.03.37v-

<https://pubmed.ncbi.nlm.nih.gov/25336079/>. PDF: FN01.38.00.03.37v. PURCHASE BLOCKED ABSTRACT ONLY Pilot Randomised Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011 - PubMed

34. MacIntyre CR, Cauchemez S, Dwyer DE, Seale H, Cheung P, Browne G, et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis*. 2009;15:233–41. DOI PubMed Google Scholar

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and

Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

35. MacIntyre CR, Zhang Y, Chughtai AA, Seale H, Zhang D, Chu Y, et al. Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness. *BMJ Open*. 2016;6:e012330. DOI: [10.1136/bmjopen-2016-012330](https://doi.org/10.1136/bmjopen-2016-012330) PubMedGoogle Scholar

Already vetted in these notes:

FN01.38.00.03.25e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223715/>. PDF: FN01.38.00.03.25e.Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness - PMC.

Rated by ECDC Low to MODERATE confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

FN01.20.00.00.00-

<https://academic.oup.com/jtm/article/27/3/taaa056/5822103?luicode=10000011&lfid=231522type%3D>

1%26t%3D10%26q%3D%23%E6%9C%9F%E5%88%8A%23&featurecode=ne&u=https%3A%2F%2Facademic.oup.com%2Fjtm%2Farticle%2F27%2F3%2Ftaaa056%2F5822103. PDF: FN01.20.00.00.00.Community universal face mask use during the COVID 19 pandemic—from households to travellers and public spaces _ Journal of Travel Medicine _ Oxford Academic

PC: April 2020

CCP: MacIntyre, Hasanain (2 of 2) / **ORIGIN:** AUSTRALIA-NSW Kensington: University of New South Wales, Kirby Institute, Biosecurity Program; US-IL Chicago: Chicago Med. School, Rosalind Franklin U. of Med. and Science / **REF:** US CDC; WHO; MacIntyre, Zhang, Chughtai; MacIntyre, Chughtai; MacIntyre, Dwyer; Barasheed, Lamasri, Badahdah; Leung, Chu, Shiu; Zou, Ruan, Huang; Bai, Yao, Wei; MacIntyre, Seale, Dung (2); van der Sands [sic=Sande], Teunis, Sabel; Davies, Giri; Greenhalgh (14 of 17) / **FUNDING:** 3 M in background of funding, and NHMRC (National Health and Medical Research Council. see mhmr.gov.au — Australia)

RCT: No. It's practically a letter, very short; not a scientific study at all.

CONTENT:

NOTE: Interesting, at this time CDC was recommending masks while WHO was not.

CCav: From WHO: “Messaging by WHO and by many countries suggests that mask use in the community has no benefit, and should only be used by sick patients (also referred to as ‘source control’”³ Now, this is weird. In support of the claim that messaging from WHO discouraged masks, MacIntyre, et al. references MacIntyre CR, Zhang Y, Chughtai AA et al. Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness. *BMJ Open* 2016; 6:e012330-e.

Already vetted in these notes:

FN01.38.00.03.25e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223715/>. PDF: FN01.38.00.03.25e.Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness - PMC.

Rated by ECDC Low to MODERATE confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

What seems to me odd is you would expect a reference to some WHO doc supporting this. Instead, she sends us to another of her publications. So I looked at the WHO reference, Footnote 2, and it's a RUSSIAN language doc. ????. This seems to me very unprofessional work. Then I went to the study she referenced, vetted in these notes, and did not see any reference to WHO's position on masking, only discussion re masks as source control. I ascertain, therefore, the footnote was not to send us to documentation re statement that WHO was messaging face masks not useful for community control, but rather to provide her insights into the issue of masks for *source control*. In fairness, the footnote marker is within the parenthesis at 'source control.' So!

NOTE: Here is an interesting observation by TA re WHO messaging against use of masks for community spread mitigation: "Such messaging may be driven more by concerns about critical shortages of personal protective equipment for health workers than by scientific evidence." That's a rather harsh criticism.

To counter WHO's lack of enthusiasm for masks, TA offers reference to another of her own studies: MacIntyre CR, Chughtai AA. Facemasks for the prevention of infection in healthcare and community

settings. *BMJ* (Clinical research ed) 2015; 350: h694-h.

Already vetted in these notes: **FN01.31.01.00.00-**
<https://pubmed.ncbi.nlm.nih.gov/25858901/> PDF:
FN01.31.01.00.00.Facemasks for the prevention of
infection in healthcare and community settings -
PubMed (DUP: Fn010.31.02.00.00). Vetted:

*** It's hard to find a more dedicated advocate for masks. I've read through hundreds of these studies — nothing, and I mean NOTHING corroborates the following statement: “In trials of hand hygiene, health education and masks together, hand hygiene alone was not effective but masks were effective when used with hand hygiene. The RCTs which measured both hand hygiene and masks measured the effect of hand hygiene alone, but not of masks alone. Therefore, the protective effect of masks and hand hygiene combined could be due to both interventions together, or the effect of masks alone.⁴” And she refers us back to the above footnote, to the same study used above to tell us more about source control, a study that proves neither that hand hygiene alone is ineffective or that masks alone are. Everything I've read that speaks of hand hygiene used in tandem with masks is suggestive that the hand hygiene likely had the greater impact on results. I'm not of a mind at present to run all that

down, but if I drop it into my booklet, I'll provide the cross references to support the observation.

MacIntyre refers to a RCT that she claims shows surgical masks, alone, of the surgical and P2 types, “reduced infection risk in households with a sick child if parents complied with mask use.” She refers us to another of her studies: MacIntyre CR, Cauchemez S, Dwyer DE et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009; 15:233–41.

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

CCav: “In more than one trial, interventions had to be used within 36 hours of exposure to be effective.” Once again, MacIntyre refers us to her study cited already, I think three times:

Already vetted in these notes: **FN01.31.01.00.00-**
<https://pubmed.ncbi.nlm.nih.gov/25858901/> PDF:
FN01.31.01.00.00.Facemasks for the prevention of
infection in healthcare and community settings -
PubMed (DUP: Fn010.31.02.00.00). Vetted:

SP: “There has been no randomized controlled trial to test effectiveness of UFMU in public spaces. However, if masks are protective in high transmission, closed settings such as households and college dormitories as proof of principle, they should also be protective in lower transmission settings such as public spaces.”

*** Because the question is whether mask use is effective to provide protection against something so small as a virion not whether it can be useful in an environment, like a hospital on a ward filled with infectious patients, where a wide variety of aggressive pathogens might be present, and truthfully, it continues to be an open question whether surgical masks are of any real value in that environment, by the way, but our question is whether surgical masks can protect from aerosols and whether they offer sufficient protection to warrant them being mandated, and whether it would not be preferable to allow some exposure to build immunity — .

SP: Claim: RCTs don't generally examine masks from the perspective of "source control" — *** but they do, actually. RCTs that examine mechanical penetration of masks provide insight into how virions act in exhalation and in inhalation. The argument is that at the "source" the virion particle is typically carried in large droplets and large droplets ($\geq 5 \mu\text{m}$), as I would stipulate, can be captured in a surgical mask. What is not considered by people like MacIntyre is the fact that these begin to evaporate immediately, whether captured within hydrophilic or hydrophobic mask fibers. In hydrophilic fibers, the moisture is quickly absorbed and actually more quickly releases the virion particles to become aerosolized or inhaled by the mask wearer. For hydrophobic fibers, the captured droplet will evaporate quickly as subject respirates — and reaches desiccation within, and I'll go way out on the time frame here, a minute, okay, say two (but it's more like 10-15 seconds) when the droplet is fully desiccated and the virion is released into either an aerosol or inhaled by the mask wearer.

SP: Claim - the few RCTs that examine the issue of source control suggest "some prevention of onward transmission by mask use in sick people." She references 4, 6. Footnote 4 is a MacIntyre study that

has been repeatedly referenced by TA in this article, see above, see Already vetted in these notes: Face Mask Use and Control ...

Reference 6 refers us to Johnson DF, Druce JD, Birch C, Grayson ML. A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. Clin Infect Dis: Off Publ. Infect Dis Soc Am 2009; 49:275–7.

Already vetted in these notes: **FN01.38.00.13.00-**
<https://academic.oup.com/cid/article/49/2/275/405108?login=false>. PDF: FN01.38.00.13.00.Quantitative Assessment of the Efficacy of Surgical and N95 Masks to Filter Influenza Virus in Patients with Acute Influenza Infection _ Clinical Infectious Diseases _ Oxford Academic

SP: The escape clause: “*they suggest some prevention.*” As everyone knows, a *suggestion* is not the same thing as proof, and *some prevention* can mean anything from one dubious case out of a hundred, to one of a thousand, without taking into consideration the myriad of confounders that might account for the effect.

MacIntyre refers to the Hajj study and claimed “A

study in Haj pilgrims showed that UFMU [Universal Face Mask Use] including by people with symptoms reduced influenza-like illness.” She cites Barasheed O, et al. Pilot randomised controlled trial to test effectiveness of facemasks in preventing influenza-like illness transmission among Australian hajj pilgrims in 2011. Really?

Al-Asmary, S, et al. Acute respiratory tract infections among Hajj medical mission personnel, Saudi Arabia. International Journal of Infectious Diseases 2007; 11: 268–272.CrossRefGoogle ScholarPubMed Tells us there was NO EVIDENCE OF A PROTECTIVE EFFECT FROM MASKS.

And another study of Hajj attendees, the same Hajj migration MacIntyre references above, vetted at

Already vetted in these notes: See **FN01.38.00.03.37v-**
<https://pubmed.ncbi.nlm.nih.gov/25336079/>. PDF: FN01.38.00.03.37v.PURCHASE BLOCKED ABSTRACT ONLY Pilot Randomised Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011 - PubMed —

In the abstract, we learn that according to LAB RESULTS from testing members of the two groups there was NO DIFFERENCE. The part of the study to which MacIntyre is disingenuously referring is not a statement of fact about effect, it is a report that is based on observational information depending on the voluntary reports of individuals regarding symptoms — BUT WHEN SCIENCE STEPPED IN, AND THE PILGRIMS WERE ACTUALLY TESTED THE LAB RESULTS SHOWED **NO**

NOTE: This is enough to dismiss MacIntyre with prejudice. She already has a rating from ECDC of LOW to MODERATE confidence, and by my standards, this is so blatant a misuse of data, it snuggles up so close to a lie it's difficult to make the distinction.

NOTE: MacIntyre threw WHO under the bus earlier [something that does not give me any grief, I'm just saying...] now she throws the CDC under also: After pointing out that CDC recommended cloth face masks use in the community 'in public settings where other social distancing measures are difficult to maintain ...,' she follows with, "However, cloth masks are not as well studied as disposable masks." And points us to a CCav:

CCav: “The only published RCT of cloth masks found that the rate of infection in hospital health care workers (HCWs) was higher than in HCW swearing surgical masks.” She cites, guess who, yep, herself, again: MacIntyre CR, Seale H, Dung TC et al. A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. *BMJ Open* 2015;5:e006577-e.

Already vetted in these notes: **FN01.38.00.03.23**

* —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC. **Rated by ECDC as VERY LOW confidence:**

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Yikes, MacIntyre has received a LOW TO MODERATE confidence rating from ECDC, and now gets a VERY LOW confidence rating. That girl is toast!

**** **FN01.21.00.00.00-**

<https://link.springer.com/article/10.1007/s11524-021-00517-2>. PDF: FN01.21.00.00.00.Effects of New

York's Executive Order on Face Mask Use on COVID-19 Infections and Mortality_ A Modeling Study

PC: March 2021

CCP: Shen, Zu, Liu, Yi, Guiqiang, Guo, Xiao, Zhuang, Yan, Zhang (10 of 16) / **ORIGIN**: CHINA: Shaanxi: Xian Jiaotong U. Health Science Center, School of Public Health, China-Australia Joint Research Center for Infectious Diseases; School of Mathematics; School of Electrical Engineering; US-NY New York: NY U., College of Global Public Health, Dept. of Public Health Policy and Management; Icahn School of Med. at Mt. Sinai, Depot. of Pop. Health Science and Policy; PA Philadelphia: U. of PN, Leonard Davis Institute of Health Economics; FL Gainesville: U. of FL, Dept. of Mathematics; Dept. of Obstetrics, Bynecology, and Reproductive Science. AUSTRALIA-Melbourne: Monash U., School of Pub. Health and Preventive Med., Dept. of Epidemiology and Preventive Med. / **REF**: Govt. Departments of health (2), CDC (1), Sohrabi, Alsafi; Wadhera RK., Wadhera P; Feng, Shen, Xia, Song, Fan, Cowling; Wang CJ., Ng; Cheng, Wong S., Chuang; Zhang, Tao, Shen, Guo; MacIntyre, Dwyer; Lai, Poon, Cheung; Chu, Akl, Duda; Shen, Peng, Xiao, Zhang; Shen, Peng, Guo, Rong, Li, Ziao, Zhuang G., Zhang L; Bai, Lu, Hu; Zhang, Tao, Wang J., ONg, Tang, Zou; Zhang, Tao,

Zhuang; Ngonghala, Iboi; Zhang, Shen, Ma; Greenhalgh; Tan; Lyu, Wehby; Bai, Yao, Wei, Tian, Jin, Chen (23 of 26) / **FUNDING:** Statement on funding: “This work was supported, in part, by the National Natural Science Foundation of China (81950410639 (L. Zhang), 11801435 (M. Shen), 11631012 (Y. Xiao), 11971375 (J. Zu)); Outstanding Young Scholars Support Program (3111500001 (L. Zhang)); Xi’an Jiaotong University Basic Research and Profession Grant (xtr022019003 (L. Zhang), xzy032020032 (L. Zhang)) and Xi’an Jiaotong University Young Scholar Support Grant (YX6J004 (L. Zhang)); Bill & Melinda Gates Foundation (20200344 (L. Zhang)); China Postdoctoral Science Foundation (2018M631134, 2020T130095ZX); the Fundamental Research Funds for the Central Universities (xjh012019055, xzy032020026, xzy032020027); Natural Science Basic Research Program of Shaanxi Province (2019JQ-187, 2019JM-273); Xi’an Special Science and Technology Projects on Prevention and Treatment of Novel Coronavirus Pneumonia Emergency (20200005YX005); Science Foundation for COVID-19 of Xi’an Jiaotong University Health Science Center and Qinnong Bank (2008124); Zhejiang University special scientific research fund for COVID-19 prevention and control (2020XGZX056). Y. Guo was supported by Career Development Fellowships of the Australian National Health and

Medical Research Council (numbers APP1107107 and APP1163693). L. Rong was supported by National Science Foundation (DMS-1950254). A. Zebrowski and B.G. Carr was supported by the National Heart, Lung and Blood Institute of the National Institutes of Health (R01HL141841-01). Y. Li was supported by the National Heart, Lung and Blood Institute of the National Institutes of Health (R01HL141427). The contents of this paper are solely the responsibility of the authors and do not necessarily represent the official views of the funding institutions.”

RCT: No. Searched *randomized, randomised, controlled, trial, cohort, review*, with null result.
METHOD: Used “modeling”: “We developed a dynamic compartmental model to describe transmission ...” and they describe their formulas for analysis — I would characterize this study as systematic analysis of data.
Oops, noticed in the title: A Modeling Study.

CONTENT:

*** IR/AME/OS: This study does not examine mask efficacy, but assumes efficacy based observations derived from examining data collected from govt. agencies and hospitals. The physical properties of virus versus masks are not taken into consideration.

Merely the data showing, according to their interpretation, that more or less persons tested positive or died from COVID — which numbers from the govt. medial establishment sources are dubious since, 1. the PCR test was calibrated at an unacceptable threshold so persons were identified as positive who showed no clinically identifiable symptoms, buttressing their desire to generate fear about asymptomatic transmission, resulting in an admitted high incidence of false positives, and 2. persons were being diagnosed as having died from COVID when in fact their death was not caused by that disease, and 3. these incidents occurred with sufficient regularity to corrupt, or pollute the data.

FALSE POSITIVES ARE A REAL PROBLEM:

(Some, if not most, of the following are not directly related to my query. These will be prefaced with a (-) and only if compelled by interest, I'll not vet those articles for the present work.)

FN01.21.00.00.01-<https://swprs.org/the-trouble-with-pcr-tests/> PDF: FN01.21.00.00.01.The Trouble With PCR Tests – Swiss Policy Research (Went in 8/15/22 — Page Not Found??? Can't find in archives. Duck Duck Go is Duck Duck GONE! Switched SEARCH Engine to ourfreedomsearch.com and FOUND

IT.

PC: October 2020 / Updated June 2021

CCP: None noted. Although the WHO was challenged with this information and confirmed it in an information notice, Jan. 2021: “In January 2021, the WHO fully confirmed the above analysis: ‘WHO guidance ‘Diagnostic testing for SARS-CoV-2’ states that careful interpretation of weak positive results is needed. The cycle threshold (Ct) needed to detect virus is inversely proportional to the patient’s viral load. Where test results do not correspond with the CLINICAL PRESENTATION, a new specimen should be taken and retested using the same or different technology. WHO reminds (PCR test) users that disease prevalence alters the predictive value of test results; as disease prevalence decreases, the risk of false positives increases.” / **REF:** It is not a proper use of my time to provide a list of sources here for two reasons: First, these references are embedded in text links which makes it onerous to investigate the source of each one; and Second, I chase almost all of these down in the following examination of the Swiss Policy Research source. / **FUNDING:** Swiss Policy Research.

RCT: No. This is not a study but research of studies

(RL- review of literature) confirming the hypothesis that the PCR tests are not reliable as a diagnostic tool for a virus infection.

CONTENT: THE QUESTION: “how useful are population-wide PCR coronavirus tests?”

INFO: This Swiss study corroborates what the inventor of the PCR test has stated repeatedly: his PCR technology is NOT useful for diagnosing viral infection and has explained why. **Kary Mullins**, the Nobel Prize winner for his invention of this amazing technology, was in conflict with Fauci’s use of his technology to diagnose HIV/AIDS — he said, Fauci knows “Nothing” — PCR tech is not a diagnostic tool for viruses: see video: See...

FN01.21.00.00.02-

<https://www.who.int/news/item/20-01-2021-who-information-notice-for-ivd-users-2020-05> (TITLE: WHO Information Notice for Users 2020/05: Nucleic acid testing (NAT) technologies that use polymerase chain reaction (PCR) for detection of SARS-CoV-2 — Jan. 2021), PDF: FN01.21.00.00.02.WHO Information Notice for Users 2020_05 <https://www.who.int/news/item/20-01-2021-who-information-notice-for-ivd-users-2020-05>

No need to vet. This merely documents that WHO recognized a problem with its instructions for use of the PCR test and submitted this statement to correct and replace earlier instructions. INFO article on WHO recommendations for use of the PCR test.

FN01.21.00.00.03-

<https://thegoldwater.com/news/44099-Inventor-of-PCR-Test-Says-Fauci-Knows-Nothing-His-Test-Is-Not-Diagnostic-Tool-For-Viruses> PDF:

FN01.21.00.00.03.Inventor of PCR Test Says Fauci Knows _Nothing_ & His Test Is Not Diagnostic Tool For Viruses. Audio Recording: see SE03.Kary Mullins Statement RE Fauci, and PCR used to detect virus.<https://thegoldwater.com/news/44099-Inventor-of-PCR-Test-Says-Fauci-Knows-Nothing-His-Test-Is-Not-Diagnostic-Tool-For-Viruses>

Kary Mullins clarifies his statement re PCR usefulness as a diagnostic, saying the PCR cannot tell you if you are sick. See...

FN01.21.00.00.04-<https://int.artloft.co/was-the-inventor-of-the-pcr-test-saying-that-it-is-not-suitable-as-a-diagnostic-tool/> PDF: FN01.21.00.00.04.Was the inventor of the PCR Test saying that it is not suitable as

a diagnostic tool_ Audio Recording: see SE04.Kary Mullins Statement RE Efficacy of PCR to Diagnose "Sickness"-<https://int.artloft.co/was-the-inventor-of-the-pcr-test-saying-that-it-is-not-suitable-as-a-diagnostic-tool/>

Continuing **FN01.21.00.00.01-**
<https://swprs.org/the-trouble-with-pcr-tests/> — The Trouble With ...

First link in this report (<https://swprs.org/the-trouble-with-pcr-tests/>) takes us to a page providing 20 important support documents regarding “Facts About COVID” — I’ll list them below: **(-) means the articles are listed and reviewed but vetted for reasons already explained: the references are embedded in text and all found to be of interest are presented in these notes.**

(-) FN01.21.00.00.04a-
<https://swprs.org/covid19-facts/>. PDF:
FN01.21.00.00.04a.Facts about Covid – Swiss Policy Research

COVID FACTS: 1-12

1. Lethality: confirmed: excluding nursing homes,

the fatality rate is about 0.1% to 0.5% in most countries WHICH IS MOST CLOSELY COMPARABLE TO THE MEDUIM INFLUENZA PANDEMICS OF 1936, 1957, AND 1968.

Fatality Rate: See

(-) FN01.21.00.00.05-

<https://swprs.org/studies-on-covid-19-lethality/> PDF: FN01.21.00.00.05.Studies on Covid-19 Lethality – Swiss Policy Research

Comparison to Influenza:

(-) FN01.21.00.00.06-

<https://swprs.org/covid-versus-the-flu-revisited/>. PDF: FN01.21.00.00.06.Covid versus the flu, revisited – Swiss Policy Research

2. Age Profile: median age of COVID deaths is OVER 80 YEARS in most Western countries (78 in the US), and only about 5% of the deceased had NO MEDICAL PRECONDITIONS. IN many Western countries, ABOUT 50% OF ALL COVID DEATHS OCCURRED IN NURSING HOMES.

Median Age: (See above, Fatality Rate.

Only 5% COVID fatalities in age profile (Over 80 years) had No Preconditions:

(-) FN01.21.00.00.07-

<https://archive.ph/20200529022809/https://www.bloomberg.com/news/articles/2020-05-26/italy-says-96-of-virus-fatalities-suffered-from-other-illnesses>.
PDF: FN01.21.00.00.07.Italy Says 96% of Virus Fatalities Suffered From Other Illnesses - Bloomberg

~50% In Nursing Homes:

(-) FN01.21.00.00.08-

<https://swprs.org/studies-on-covid-19-lethality/#care-homes>. PDF: FN01.21.00.00.08.Studies on Covid-19 Lethality – Swiss Policy Research

3. Vaccine protection: “Covid vaccines provide a very high, but rapidly declining protection against severe disease. Vaccination cannot prevent infection and transmission. A prior infection generally confers superior immunity compared to vaccination (in part due to mucosal immunity).”

Rapidly declining vaccine efficacy:

(-) FN01.21.00.00.09-

<https://swprs.org/how-effective-are-covid-vaccines-really/>. PDF: FN01.21.00.00.09.How effective are covid vaccines, really_ – Swiss Policy Research

Vax cannot prevent transmission or infection:

(-) FN01.21.00.00.10-

<https://swprs.org/israel-highest-infection-rate-in-the-world/>. PDF: FN01.21.00.00.10.Israel_ Highest infection rate in the world – Swiss Policy Research

Natural Immunity Superior:

(-) FN01.21.00.00.11-<https://swprs.org/the-power-of-natural-immunity/>. PDF: <https://swprs.org/the-power-of-natural-immunity/>.The Power of Natural Immunity – Swiss Policy Research

4. Vaccine injuries: Covid vaccinations can cause severe and fatal vaccine reactions, including cardiovascular, neurological and immunological reactions. Because of this, the risk-benefit ratio of covid vaccination in healthy children and adults under 50 years of age remains controversial.

Vaccine Reactions: [This data is outdated but

still revealing, because it's much worse now.]

(-) FN01.21.00.00.12-

<https://swprs.org/covid-vaccine-adverse-events/>.

PDF: FN01.21.00.00.12.Covid Vaccine Adverse Events
– Swiss Policy Research

Adverse Events:

(-) FN01.21.00.00.13-

<https://swprs.org/covid-vaccine-adverse-events/>.

PDF: FN01.21.00.00.13.Covid Vaccine Adverse Events
– Swiss Policy Research

5. Excess mortality: Global pandemic excess mortality is close to 20 million deaths, which is about 15% compared to normal global mortality or about 0.25% compared to global population. Some of the additional deaths were caused by indirect effects of the pandemic and lockdowns.

20 million deaths:

(-) FN01.21.00.00.14-[https://swprs.org/the-](https://swprs.org/the-lockdown-skeptics-at-the-who/)

[lockdown-skeptics-at-the-who/](https://swprs.org/the-lockdown-skeptics-at-the-who/). PDF:

FN01.21.00.00.14.Covid Mortality_ A Global Overview
– Swiss Policy Research

Indirect effects:

(-) FN01.21.00.00.15-

https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm. PDF:

FN01.21.00.00.15.Drug Overdose Deaths in the U.S. Top 100,000 Annually.pdf

6. Symptoms: About 30% of all infected persons show no symptoms. Overall, about 95% of all people develop at most mild or moderate symptoms and do not require hospitalization. Obesity, in particular, is a major risk factor for severe covid.

Asymptomatic:

(-) FN010.21.00.00.16-

<https://epi.ufl.edu/articles/35-percent-of-all-covid-19-infections-never-show-symptoms.html>. PDF:

FN010.21.00.00.16.Articles - 35 percent of all COVID-19 infections never show symptoms - Emerging Pathogens Institute - University of Florida [Consider this in light of the fact stipulated above that using the PCR as a diagnostic is not recommended without corroborating clinical diagnosis — that is, examination for presenting symptoms.]

95% Cases MILD:

(-) FN01.21.00.00.17-

<https://swprs.org/studies-on-covid-19-lethality/#hospitalizations>. PDF:

FN01.21.00.00.17.Studies on Covid-19 Lethality – Swiss Policy Research

Obesity a Major Risk Factor:

(-) FN01.21.00.00.18-

<https://swprs.org/obesity-and-the-pandemic-update/>. PDF: FN01.21.00.00.18.Obesity and the Pandemic (Update) – Swiss Policy Research

7. Treatment: For people at high risk or high exposure, early or prophylactic treatment is essential to prevent progression of the disease. Numerous studies found that early outpatient treatment of covid can significantly reduce hospitalizations and deaths.

Early Treatment ESSENTIAL:

(-) FN01.21.00.00.19-<https://swprs.org/on-the-treatment-of-covid-19/>. PDF: FN01.21.00.00.19.On the Treatment of Covid-19 – Swiss Policy Research

[Add this to the major confounder that HCQ and Ivermectin were banned from use when multiple doctors testified to the efficacy of these as treatments, and evidence that Fauci, et al. were aware of their therapeutic value against this virus.]

8. Long covid: Up to 10% of symptomatic people experience post-acute or long covid, i.e. covid-related symptoms that last several weeks or months. Long covid may also affect young and previously healthy people whose acute covid infection was rather mild.

Post-Acute Long Covid:

(-) FN01.21.00.00.20-

<https://swprs.org/post-acute-covid-long-covid/>. PDF:
FN01.21.00.00.20.Post-Acute Covid and Long Covid –
Swiss Policy Research

9. Transmission: Indoor aerosols appear to be the main route of transmission of the coronavirus, while outdoor aerosols, droplets, as well as most object surfaces appear to play a minor role.

Main transmission route:

FN01.21.00.00.21-

<https://www.nature.com/articles/d41586-020-02058-1>. PDF: FN01.21.00.00.21.Mounting evidence suggests coronavirus is airborne — but health advice has not caught up

PC: July, 2020

CCP: Dyani Lewis, freelance journalist / ORIGIN: Melbourne, Australia / REF: Embedded links / FUNDING: Nature online magazine.

RCT: No. [MASKS: This statement actually presents favorably on the issue of masks, but does not offer any measurements on efficacy]. The article does refer to one study already vetted in these notes in support of masks, but nothing is said about supporting mask mandates. Let's take a look:

CONTENT:

[Sub title: "Governments are starting to change policies amid concerns that tiny droplets can carry SARS-CoV-2. And after months of denying the importance of this, the World Health Organization is reconsidering its stance."

INFORMATION: "Converging lines of evidence

indicate that SARS-CoV-2, the coronavirus responsible for the COVID-19 pandemic, can pass from person to person in tiny droplets called aerosols that waft through the air **and accumulate over time.**” The accumulation factor is something I’ve not factored in and it actually exacerbates the problem with mask efficacy, creating a scenario of greater exposure to droplets in the penetrating size range against most masks.

NC/IR: “Researchers say that one big unknown remains: how many virus particles are needed to trigger an infection? That’s one reason that Allegranzi would like to see randomized trials that demonstrate that interventions aimed at controlling aerosols actually work. **One example, she says, would be a trial showing that tight-fitting respirator masks offer better protection than do more loosely fitting medical masks in a health-care setting.**”

They offer a systematic review claiming to find 10 studies of COVID-19 and related coronaviruses that together show “face masks do reduce the risk of infection” (11). It’s Chu, D. K. et al. Lancet 395, 1973–1987 (2020). No link, title search yielded:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC726>

3814/

Already vetted in these notes:

FN01.06.00.00.00-

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31142-9/fulltext#%20](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext#%20). PDF:

FN01.06.00.00.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - The Lancet.pdf

CCav: See below: apparently the support for masks found in this article did NOT REFLECT the opinion of the Swiss researchers compiling this material: Interestingly, the immediate followup to the above article, showing the virus is transmitted by aerosols, something generally agreed to at this point, the Swiss researchers offer a statement regarding mask-efficacy:

10. Masks: Face masks had no influence on infection rates, which was already known from studies prior to the pandemic. Even N95 masks had no influence on infection rates in the general population. Moreover, long-term or improper use of face masks can lead to health issues.

Face Masks had NO INFLUENCE on
INFECTION rates:

(-) **FN01.21.00.00.22**-<https://swprs.org/face-masks-evidence/>. PDF: FN01.21.00.00.22.Are Face Masks Effective_ The Evidence. – Swiss Policy Research.pdf ((-) = NOT VETTED HERE. See SE005.00.00.00.Are Face Masks Effective_ The Evidence. – Swiss Policy Research—*vetted this document very thoroughly* see **SE005...**)

Prior-knowledge of masks ineffectiveness
against virus:

(-) **FN01.21.00.00.23**-<https://swprs.org/face-masks-and-covid-the-evidence/>. PDF: FN01.21.00.00.23.Are Face Masks Effective_ The Evidence. – Swiss Policy Research.pdf (See SE005.00.00.00.Are Face Masks Effective_ The Evidence. – Swiss Policy Research copy.pdf) [The CONCLUSION of this very extensive study: “Face masks in the general population might be effective, at least in some circumstances, but there is currently little to no evidence supporting this proposition. If the coronavirus is primarily transmitted via indoor aerosols, face masks are unlikely to be protective. Thus, health authorities should not assume or suggest

that face masks will reduce the rate or risk of infection.”]

Even N95s ineffective: See

(-) **FN01.21.00.00.23**-<https://swprs.org/face-masks-and-covid-the-evidence/#d-effectiveness-of-n95-ffp2-mask-mandates>. PDF: FN01.21.00.00.23.Are Face Masks Effective_ The Evidence. – Swiss Policy Research.pdf

SE005.02.12.00.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers _ BMJ Open <https://bmjopen.bmj.com/content/5/4/e006577>

Long term use known to cause health issues:
See

(-) **FN01.21.00.00.23**-<https://swprs.org/face-masks-and-covid-the-evidence/>. PDF: FN01.21.00.00.23.Are Face Masks Effective_ The Evidence. – Swiss Policy Research.pdf (See SE005.00.00.00.Are Face Masks Effective_ The Evidence. – Swiss Policy Research copy.pdf) — go to H) Risks associated with face masks. See SE005.01.01.00-SE005.01.10.00 for articles touching

on the problem masks cause.)

NOTE: I'm filling up my folder with material not directly related to the question of masks. However, albeit tangential, this is important material to my research. For FN01.21 ... I'll have to cull out those related to masks for the total count of studies vetted on this topic (-17). From here forward, the links will take me to info if later I want to explore it. Here I'll only add FN01 notes to those touching on mask efficacy or closely related issues. Furthermore, there is no need to vet these articles from the spr (Swiss Policy Research) because that org is already vetted in SE005.)

11. Lockdowns: In contrast to early border controls (e.g. by Australia), lockdowns had no significant effect on infection rates. However, according to the World Bank lockdowns caused an “historically unprecedented increase in global poverty” of close to 100 million people.

12. Children and schools: In contrast to influenza, the risk of severe covid in children is rather low. Moreover, children were not drivers of the pandemic and the closure of schools had no impact on infection rates in the general population. (To continue this

segment, go to COVID FACTS 13.

Risk to children low: (ALL FN01.21.00.00.24a-s are (-))

COVID AND CHILDREN:

FN01.21.00.00.24-<https://swprs.org/covid-and-kids-the-evidence/>. PDF: FN01.21.00.00.24.Covid and Kids_ The Evidence. – Swiss Policy Research.pdf

1. Covid in children remains mostly asymptomatic (about 40% of all cases) or mild.

(-) FN01.21.00.00.24a-
<https://academic.oup.com/cid/article/73/9/e2875/5952826?login=false>. PDF: FN01.21.00.00.24a.Severe Acute Respiratory Syndrome Coronavirus 2 Infections Among Children in the Biospecimens from Respiratory Virus-Exposed Kids (BRAVE Kids) Study _ Clinical Infectious Diseases _ Oxford Academic

2. Both the risk of infection and the risk of transmission are significantly lower in children, but not in adolescents, compared to adults. Infection risk increases linearly with age from 10 to 20 years.

Risk to children lower than other demographics:

(-) FN01.21.00.00.24b-

<https://www.nature.com/articles/d41586-020-03496-7>. PDF: FN01.21.00.00.24b.How Children's Immunity Can Beat COVID d41586-020-03496-7

Risk increases with age from 10 - 20 years.

(-) FN01.21.00.00.24c-

<https://www.washingtonpost.com/world/2020/12/15/coronavirus-countries-closing-schools/>. PDF: FN01.21.00.00.24c.Many countries vowed to keep schools open through the winter coronavirus surge. That's starting to change. - The Washington Post.pdf

3. Both children and adults get infected mostly by adults and adolescents, not by children.

(-) FN01.21.00.00.24d-

<https://academic.oup.com/jpids/article/10/9/919/6007439?login=false>. PDF: FN01.21.00.00.24d.Severe Acute Respiratory Syndrome-Coronavirus-2 Transmission in an Urban Community_ The Role of Children and Household Contacts _ Journal of the Pediatric Infectious Diseases Society _ Oxford

Academic

4. Transmission in school settings is low, even without masks, especially if symptomatic children stay at home. Teachers are not at higher risk of infection than people in other occupations.

Transmission in schools low:

(-) FN01.21.00.00.24e-

<https://www.cdc.gov/mmwr/volumes/70/wr/mm7004e3.htm>. PDF: FN01.21.00.00.24e.COVID-19 Cases and Transmission in 17 K–12 Schools — Wood County, Wisconsin, August 31–November 29, 2020 _ MMWR

Masks have little if any effect on school transmissions:

(-) FN01.21.00.00.24f-

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.26.1.2002011>. (pdf: <https://www.eurosurveillance.org/docserver/fulltext/eurosurveillance/26/1/eurosurv-26-1-1.pdf?expires=1657215992&id=id&accname=guest&checksum=0F2134C78E07E356F2F81BCA59E778C7>) PDF: FN01.21.00.00.24f.Minimal Transmission From Children eurosurv-26-1-1

Teachers not at higher risk:

(-) **FN01.21.00.00.24g-**

<https://publications.aap.org/pediatrics/article/147/4/e2020048090/180871/Incidence-and-Secondary-Transmission-of-SARS-CoV-2>. PDF:

FN01.21.00.00.24g.Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools _ Pediatrics _ American Academy of Pediatrics

5. In contrast to influenza, children and schools are not major ‘drivers’ of the coronavirus pandemic, and school closures have had a very limited impact on overall infections.

(-) **FN01.21.00.00.24h-**

<https://www.bloomberg.com/news/articles/2020-07-19/covid-s-spread-in-schools-is-questioned-in-latest-nordic-study>. (Bloomberg requires subscription to see article. Tried:

<https://www.straitstimes.com/world/europe/nordic-study-suggests-open-schools-dont-spread-coronavirus-much> PDF: FN01.21.00.00.24h.Nordic study suggests open schools don't spread coronavirus much _ The Straits Times. (See also: Jewish World Review:

https://jewishworldreview.com/0720/nordic_schools_open.php3)

6. True “long covid” (i.e. symptoms lasting longer than 3 months) is very rare in children (about 1%) and is not more frequent than in children without a coronavirus infection.

(-) FN01.21.00.00.24i-TWEET:

<https://nitter.net/apsmunro/status/1438461046956646405> PDF: FN01.21.00.00.24i.Alasdair Munro The best data For kids LONG COVID Rare.pdf. (About 1% of children infected, which itself is quite rare.)

7. Covid-related multisystem inflammatory syndrome in children (MIS-C) is a serious but very rare condition, affecting between 1 in 5000 and 1 in 50,000 children (i.e. less than 0.02%). Of note, covid vaccination itself may cause MIS-C (due to an immune reaction to the spike protein).

Complications from COVID rare in children:

(-) FN01.21.00.00.24j-

<https://www.rcpch.ac.uk/news-events/news/rcpch-responds-reporting-numbers-cases-paediatric-multisystem-inflammatory>. PDF:

FN01.21.00.00.24j.RCPCH responds to reporting on numbers of cases Paediatric Multisystem Inflammatory Syndrome (PIMS) _ RCPCH

Multisystem Inflammatory Syndrome (MIS) in Children has occurred in 2 out of 100,000 children; less than 0.01%:

(-) **FN01.21.00.00.24k-**

<https://www.nhlbi.nih.gov/news/2021/longitudinal-study-follows-multisystem-inflammatory-syndrome-children-mis-c> PDF: FN01.21.00.00.24k.Longitudinal study follows multisystem inflammatory syndrome in children (MIS-C) _ NHLBI, NIH

COVID Vaccine may actually CAUSE MIS-C:

(-) **FN01.21.00.00.24L-**

<https://www.ema.europa.eu/en/news/meeting-highlights-pharmacovigilance-risk-assessment-committee-prac-30-august-2-september-2021>. PDF: FN01.21.00.00.24L.Meeting highlights from the Pharmacovigilance Risk Assessment Committee (PRAC) 30 August – 2 September 2021 _ European Medicines Agency

8. The cell receptors used by the novel

coronavirus are regulated by sexual hormones and their expression is therefore age-dependent and significantly lower in children below 12. The new coronavirus variants (N501Y.V1-3) do not preferentially infect children, either.

Because age-dependent, COVID significantly lower in children below 12:

(-) FN01.21.00.00.24m-

<https://medicalxpress.com/news/2020-11-covid-children-1.html>. PDF: FN01.21.00.00.24m. Why does COVID-19 seem to spare children_ New study offers an answer

COVID does not preferentially infect children:

(-) FN01.21.00.00.24n-

<https://www.nature.com/articles/d41586-021-00139-3>. PDF: FN01.21.00.00.24n. What new COVID variants mean for schools is not yet clear

9. Studies and media reports claiming children and schools are major 'drivers' of the pandemic often don't distinguish between school closures and other measures, or between children and adolescents, or between children infecting adults and

adults infecting children.

Failure to distinguish between School closures and OTHER INTERVENTIONS:

(-) FN01.21.00.00.24o-TWEET:

<https://nitter.net/BallouxFrancois/status/1356199977769431041> (SOME TWEET CONTENT UNAVAILABLE because ELON has gotten intimidated???) PDF: FN01.21.00.00.24o.Prof Francois Balloux (@BallouxFrancois)_ _The paper does NOT evaluate the effect of school closures. Instead it conflates all 'educational settings' into a single category, which includes universities. 2__nitter.pdf

Failure to differentiate between children infecting adults, or vice versa:

(-) FN01.21.00.00.24p-TWEET:

<https://nitter.net/apsmunro/status/1292852036720091136>. PDF: FN01.21.00.00.24p.Alasdair Munro A study from SK got lots of attention for reportedly showed children aged 10 - 19 were just as, or more infectious than adults with #COVID19 But that was not the whole story This study on the very same chil

10. Nevertheless, cases of transmission at

school and of children infecting their parents do occur regularly. Teachers and parents at risk should consider prophylactic treatment options.

Transmission at school and cases of children infecting parents do occur regularly:

(-) FN01.21.00.00.24q-

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.29.2001352>. (pdf:
<https://www.eurosurveillance.org/docserver/fulltext/eurosurveillance/25/29/eurosurv-25-29-1.pdf?expires=1657218667&id=id&accname=guest&checksum=CB65547CA658F70F3D7DCBE0FED364C0>)
PDF: FN01.21.00.00.24q.Children do infect parents and transmission does occur in school settings
eurosurv-25-29-1

Teachers and parents at risk should consider prophylactic treatment options: (Ivermectin(

(-) FN01.21.00.00.24r-<https://swprs.org/why-ivermectin-works-and-where-to-buy-it/>. PDF:
FN01.21.00.00.24r.Ivermectin_ Possible modes of action against covid, and where to buy it – Swiss Policy Research

11. Many states and countries could drive down coronavirus infections without closing elementary schools, e.g. Florida, France, Iceland, Ireland, Japan, Sweden and Switzerland, among others.

Already addressed above: see

FN01.21.00.00.24h-

<https://www.bloomberg.com/news/articles/2020-07-19/covid-s-spread-in-schools-is-questioned-in-latest-nordic-study>. (Bloomberg requires subscription to see article. Tried:

<https://www.straitstimes.com/world/europe/nordic-study-suggests-open-schools-dont-spread-coronavirus-much> PDF: FN01.21.00.00.24h.Nordic

study suggests open schools don't spread coronavirus much _ The Straits Times. (See also: Jewish World Review:

https://jewishworldreview.com/0720/nordic_schools_open.php3) No. 5.

12. The social, psychological, educational and in some cases even physical impact of lockdowns and other restrictions is generally most severe in children and adolescents.

(-) FN01.21.00.00.24s-

<https://www.bbc.com/news/health-55863841>. PDF:
FN01.21.00.00.24s.Covid_ The devastating toll of the
pandemic on children - BBC News

FURTHER RESEARCH ON COVID AND CHILDREN:
The above .24a-s will suffice for the present.
Nonetheless, I'll keep the following additional research
for future reference, but will not add PDFs of each link
in my archive.

2. Studies

For a comprehensive overview of pediatric covid
studies see the DFTB portal.

1. Immune response: “The kids lacked
nucleocapsid-specific antibodies, which suggests that
they aren’t experiencing widespread infection.
Children’s immune responses seem to be able to
eliminate the virus before it replicates in large
numbers.” (Nogrady, Nature, December 2020)

2. Household transmission: “Children are
unlikely to cause household COVID-19 clusters or be
major drivers of the pandemic even if attending school.
Interventions aimed at children are expected to have a
small impact on reducing SARS-CoV-2 transmission.”
(Soriano-Arandes, Clinical Infectious Diseases, March
2021)

3. Deaths: “In the USA, UK, Italy, Germany,

Spain, France, and South Korea, deaths from COVID-19 in children remained rare up to February 2021, at 0.19 per 100 000 population, comprising 0.54% of the estimated total mortality from all causes in a normal year.” (Bhopal, *The Lancet Child and Adolescent Health*, March 2021)

4. Austria: “In school children, the infection rate with SARS-CoV-2 is low and associated with a mild or asymptomatic course of disease. Virus spreading seemed to occur more likely in intergenerational contacts than among siblings in the same household. () Virus spreading from child-to-child in the same household seems to occur rarely.” (Szepfalusi, PAI, January 2021)

5. Germany 1: “Only few and mostly small COVID-19 school outbreaks had been reported in Germany overall, suggesting that the containment measures are sufficient to reduce spillover into the community.” (Kampe, *Eurosurveillance*, September 2020)

6. Germany 2: “Our investigation suggests that child-to-child transmission in schools and childcare facilities is uncommon and not the primary cause of SARS-CoV-2 infection in children.” (Ehrhardt, *Eurosurveillance*, September 2020)

7. Iceland: “This 40,000-person study found that children under 15 were about half as likely as

adults to be infected, and only half as likely as adults to transmit the virus to others. Almost all the coronavirus transmissions to children came from adults. But if children are poor catchers and slight spreaders, schools should simply mirror what's happening in the wider community.” (Parshley, NG, December 2020)

8. Ireland: “No evidence of secondary transmission of COVID-19 from children attending school in Ireland, 2020. () In summary, examination of all Irish paediatric cases of COVID-19 attending school during the pre-symptomatic and symptomatic periods of infection (n = 3) identified no cases of onward transmission to other children or adults within the school and a variety of other settings.” (Heavey, Eurosurveillance, May 2020)

9. Israel 1: “This analysis does not support a major role of school reopening in the resurgence of the COVID-19 curve in Israel. Easing restrictions on large scale gatherings was the major influence on this resurgence.” (Somekh, CID, January 2021)

10. Israel 2: “We estimate that the susceptibility of children (under 20 years old) is 43% of the susceptibility of adults. The infectivity of children was estimated to be 63% relative to that of adults.” (Dattner, Medrxiv, October 2020)

11. Italy: “Our analysis does not support a role for school opening as a driver of the second wave

of SARS-CoV-2 epidemics in Italy, a large European country with high SARS-CoV-2 incidence.” (Gandini, Medrxiv, January 2021)

12. Korea: “Korea had a successful transition from school closure to online and off-line school opening, which did not cause significant school-related outbreak among the pediatric population.” (Yoon, YKMS, November 2020)

13. Norway: “This prospective study shows that transmission of SARS-CoV-2 from children under 14 years of age was minimal in primary schools in Oslo and Viken, the two Norwegian counties with the highest COVID-19 incidence () symptomatic children were asked to stay home from school () Use of face masks is not recommended in schools in Norway.” (Brandal, Eurosurveillance, January 2021)

14. Sweden/Finland: “There was no measurable difference in the number of coronavirus cases among children in Sweden, where schools were left open, compared with neighboring Finland, where schools were shut, according to the findings.” (PHAS, July 2020)

15. Switzerland: “In a setting of high incidence of SARS-CoV-2 infections, unrecognized virus spread within schools was very low. Schools appear to be safe with the protective measures in place (e.g., clearly symptomatic children have to stay

at home, prompt contact tracing with individual and class-level quarantine, and structured infection prevention measures in school).” (Kriemler, Medrxiv, December 2020)

16. UK 1 (families): “Among 9,157,814 adults ≤ 65 years, living with children 0-11 years was not associated with increased risks of recorded SARS-CoV-2 infection, COVID-19 related hospital or ICU admission but was associated with reduced risk of COVID-19 death. Living with children aged 12-18 years was associated with a small increased risk of recorded SARS-CoV-2 infection, but not associated with other COVID-19 outcomes. () Among 2,567,671 adults > 65 years there was no association between living with children and outcomes related to SARS-CoV-2. We observed no consistent changes in risk following school closure.” (Forbes, Medrxiv, November 2020)

17. UK 2 (families): “Increased household exposure to young children was associated with an attenuated risk [!] of testing positive for SARS-CoV-2 and appeared to also be associated with an attenuated risk of COVID-19 disease severe enough to require hospitalisation.” (Wood, Medrxiv, September 2020)

18. USA (Wisconsin): “Among 191 cases identified in students and staff members, only seven (3.7%) cases, all among students, were linked to in-

school spread. () Despite widespread community transmission, COVID-19 incidence in schools conducting in-person instruction was 37% lower than that in the surrounding community.” (CDC, MMWR, January 2021)

19. USA (North Carolina): “In the first 9 weeks of in-person instruction in North Carolina schools, we found extremely limited within-school secondary transmission of SARS-CoV-2, determined by contact tracing.” (Zimmermann, Pediatrics, January 2021)

20. USA (child care programs): “Within the context of considerable infection mitigation efforts in US child care programs, exposure to child care during the early months of the US pandemic was not associated with an elevated risk for COVID-19 transmission to providers.” (Gilliam, Pediatrics, January 2021)

21. USA (Michigan; families): “In all cases where a household sick contact was identified, there was no evidence of child-to-adult transmission, and only one case of child-to-child transmission. A parent was the most common index household sick contact. () This is consistent with other studies that suggest that children are not the primary vectors for SARS-CoV-2 infection as was initially suspected; rather children are most commonly infected by adult sick contacts.”

(Pitman-Hunt, PIDS, November 2020)

22. ECDC: “Children of all ages are susceptible to and can transmit SARS-CoV-2. Younger children appear to be less susceptible to infection, and when infected, less often lead to onward transmission than older children and adults. () Transmission of SARS-CoV-2 can occur within school settings and clusters have been reported in preschools, primary and secondary schools. Incidence of COVID-19 in school settings appear to be impacted by levels of community transmission. Where epidemiological investigation has occurred, transmission in schools has accounted for a minority of all COVID-19 cases in each country.” (ECDC, December 2020)

FURTHER RESEARCH ON COVID AND CHILDREN (FN01.21.00.00.24-): The above .24a-s will suffice for the present. Nonetheless, I’ll keep the following additional research for future reference, but will not add PDFs of each link in my archive.

3. Explanation of contrary evidence

Studies apparently showing that children and schools play a major role in the covid pandemic often didn’t distinguish between children and adolescents, or between schools and universities, or between school closures and other concurrent measures, or

between children infecting adults and adults infecting children. Nevertheless, it is clear that even children do contribute to the pandemic.

1. Schools: A much-cited modelling study published in *Nature Human Behaviour* in November 2020 on the effectiveness of worldwide covid-19 government interventions appeared to show that ‘school closures’ were the second most effective measure, but the study did not distinguish between schools and universities, treating both as ‘educational settings’.

2. India: A large Indian study published in *Science* appeared to show that children transmit the coronavirus as often as adults, but the study did not properly identify index cases and considered primarily symptomatic children, not children in general.

3. South Korea: A study from South Korea appeared to show that children and adolescents aged 10 to 19 years were just as infectious as adults, but the study did not consider shared exposure to other adults, which fully explained the apparent effect.

4. UK: A British government report appeared to show that children and adolescents have lower susceptibility but much higher transmissibility, but other large studies could not confirm this.

5. Israel: A well-known case study described

an outbreak in an Israeli high school in May 2020. But a later and more comprehensive study found “no major role of school reopening in the resurgence of the COVID-19 curve in Israel”.

6. USA: A US study described virus transmission in three child care facilities. But a later study found that “exposure to child care during the early months of the US pandemic was not associated with an elevated risk for COVID-19 transmission to providers.”

This concludes segment on COVID and CHILDREN. Now I return to addressing COVID 19 FACTS and move to FN01.21.00.00.25–

COVID FACTS: 13-20 (Pick up from COVID FACTS: 1-12)

13. PCR tests: The highly sensitive PCR tests are prone to producing false positive or false negative results (e.g. after an acute infection). Overall, PCR and antigen mass testing had no impact on infection rates in the general population (exception: to sustain border controls).

PCR tests prone to false positives:

(-) **FN01.21.00.00.25**-<https://swprs.org/the-trouble-with-pcr-tests/>. PDF: FN01.21.00.00.25.The Trouble With PCR Tests – Swiss Policy Research (See **FN01.21.00.00.01**-<https://swprs.org/the-trouble-with-pcr-tests/> PDF: FN01.21.00.00.01.The Trouble With PCR Tests – Swiss Policy Research: DUP

THE PROBLEM WITH PCR CORONAVIRUS TESTS: All to the point that false positives are a real problem. (The issues with PCR tests are numerous:) No need to vet each article since the source has been vetted (SE005) and my interest in these articles is limited to the support they offer to the assertions stipulated:)

1. There can be large-scale test kit contamination, as both the US and the UK (and several African countries) discovered during the early phase of the pandemic.

(-) **FN01.21.00.00.25a**-
<https://archive.ph/20200504232944/https://www.telegraph.co.uk/news/2020/03/30/uks-attempt-ramp-coronavirus-testing-hindered-key-components/>. PDF: FN01.21.00.00.25a.Coronavirus testing effort hampered by kits contaminated with Covid-19

2. There can be testing site or lab contamination, which has led to countless false positive results, school closures, nursing home quarantines, canceled sports events, and more.

(-) FN01.21.00.00.25b-TWEET:

<https://nitter.net/FrankfurtZack/status/1299762933073838082>. PDF: FN01.21.00.00.25b.Zacki PCR is prone to contamination by very small amount of viral particles. Hypothesis_ we usually don't notice contamination, especially when it is happening _before_ putting the probes into the PCR apparatus. This may even mimick.pdf

3. The PCR test can react to other coronaviruses. According to lab examinations, this happens in about 1% to 3% of cases if only one target gene is tested, as is the case in many (but not all) labs and as the WHO itself has recommended to avoid ambiguous positive/negative test results.

CONFOUNDERS: PCR can react to OTHER coronaviruses:

(-) FN01.21.00.00.25c-GERMAN:

<https://web.archive.org/web/20210528104205/https://www.instand-ev.de/System/rv->

files/340%20DE%20SARS-CoV-2%20Genom%20April%202020%2020200502j.pdf
(Got a 404 from the source doc link on this article; retrieved this from way-back archives. Captured here for my archives: PDF: FN01.21.00.00.25c.SARS-CoV-2 Genom April 2020

CONFOUNDERS: WHO recommends testing for 1 target gene:

(-) FN01.21.00.00.25d-
<https://www.who.int/publications/i/item/10665-331501>. PDF: FN01.21.00.00.25d.WHO-COVID-19-laboratory-2020.5-eng.pdf

4. The PCR test can detect non-infectious virus fragments weeks after an active infection, or from an infection of a contact person, as the US CDC confirmed.

(-) FN01.21.00.00.25e-
<https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html>. PDF: FN01.21.00.00.25e.Ending Isolation and Precautions for People with COVID-19_ Interim Guidance (Another CONFOUNDER)

5. The PCR test can detect viable virus in quantities too small to be infectious.

CONDITIONS for accurate testing: IF virus NOT WIDESPREAD in population; IF no contamination; IF labs test for at least two target genes _ RISK OF FALSE-POSITIVES is low:

Explains why New Zealand had zero positive tests for weeks at a time:

(-) FN01.21.00.00.25f-

<https://www.worldometers.info/coronavirus/country/new-zealand/>. PDF: FN01.21.00.00.25f.New Zealand COVID - Coronavirus Statistics - Worldometer

BUT WHEN CONDITIONS ABOVE NOT MET:

(-) FN01.21.00.00.25g-

<https://www.businesswire.com/news/home/20200717005397/en/CDC-Coronavirus-Test-Kits-Generate-30-False>. PDF: FN01.21.00.00.25g.CDC Coronavirus Test Kits Generate 30% False Positive and 20% False Negative Results - Connecticut Pathologist's Newly Published Findings Confirm _ Business Wire (You have to read through the "Do Not Sell" banners —

concerned this might mean the author does not want me to quote him in any publication I present for sale, I'll have to obscure the author's name when citing this reference. (RAS = Reference: Author Sensitivity)

ABOUT CT, or CYCLE THRESHOLD when using PCR testing:

The lower the virus concentration in the sample, the more CYCLES are required to achieve a POSITIVE result:

****FN01.21.00.00.25h-[Linked article not accessible without subscription to NY Times — alternates sought: DISCOVERY: CDC assiduously HIDES this information from the public. I've examined five separate article answering to the search: WHAT ARE CURRENT CYCLE THRESHOLDS FOR PCR COVID TESTING — and not one provides the answer to that question.

THE CDC IS CORRUPT TO THE CORE.

Here is an article that established PROOF the wicked DO NOT WANT YOU TO KNOW THE CT of your PCR test:

<https://www.publichealthontario.ca/en/About/News>

/2021/Explained-COVID19-PCR-Testing-and-Cycle-Thresholds

(-) ******FN01.21.00.00.25h1-**

<https://www.publichealthontario.ca/en/About/News/2021/Explained-COVID19-PCR-Testing-and-Cycle-Thresholds>. PDF: FN01.21.00.00.25h1.Explained_COVID-19 PCR Testing and Cycle Thresholds _ Public Health Ontario

Under *Why aren't cycle threshold reported on test results?*

“Like with other PCR tests (including non-COVID-19 tests), **it is not recommended to provide Ct values on test results in Ontario (and Canada)**. PCR tests tell us if the virus is present or not in the sample provided to the lab; however, there are other factors to consider in interpreting lab results. Ct values are not directly comparable from one PCR test kit to the next, and can change with increased transportation times, sample storage conditions, and sample collection method.

Because of this, Ct values can help support lab specialists in validating results as well as reviewing complex cases. However, they need to be considered alongside the other important factors we discussed

earlier – like exposure history and individual characteristics. At PHO, Ct values are available to health care professionals upon request, and low level detected results (Ct value 35 to 38) are indicated on the laboratory report (since November 2020). We also have specialists who are available to health care professionals who have any questions on interpreting lab results or want to discuss complex cases. There is still a lot to learn about Ct values and more research is required to fully understand Ct values and their link to disease onset, severity and infectiousness.” — **I will not subject myself to any PCR test where they do not provide the ct value used.**

Let’s see if the Europeans are more forthcoming:

(-) FN01.21.00.00.25h2-
<https://correctiv.org/faktencheck/2020/09/30/nein-es-sind-nicht-90-prozent-aller-pcr-tests-in-den-usa-falsch-positiv/> (Translated from GERMAN). PDF: FN01.21.00.00.25h2.Nein, es sind nicht 90 Prozent aller PCR-Tests in den USA falsch-positiv (Translation: No, it’s not 90 percent of all positive PCR testes in the US that are false positives.)

NOTE: I cannot find the word *cycle* in this

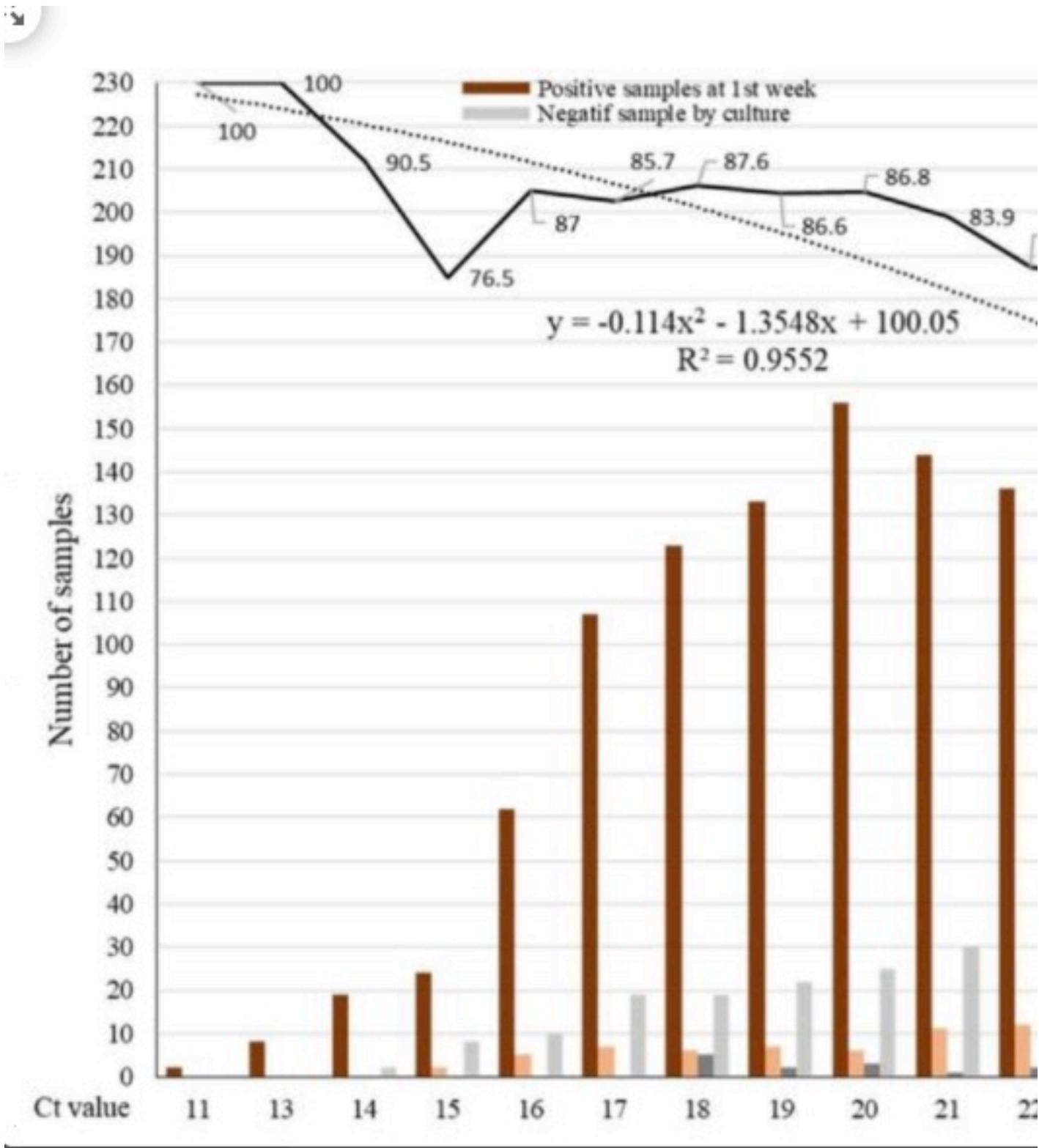
article that connects it to any claim re threshold used in Europe????

SO, links do NOT CONFIRM spr statement that Many US labs work with 35 tp 45 cycles, while many European labs work with 30 to 40 cycles. But this diversion was productive. The fact “they” want to hide from the public what threshold they use is very telling. If they want to ramp up the case count, they can ramp up the ct, when they want to cool it off, they can tamper down the ct. GOD DELIVER US FROM THESE CONTROLLING TECHNOCRATIC DESPOTS.

CLAIM: French professor Didier Raoult shows a ct of 25 produces results where about 70% of samples remained positive in cell culture (that is, were infectious), at a ct of 30 only 20% were positive; at 35 only 3%, and above 35 NONE:

(-) FN01.21.00.00.25i-

<https://academic.oup.com/cid/article/72/11/e921/5912603>. PDF: FN01.21.00.00.25i.Proof His CT In PCR
Not useful ciaa1491



While this is flatly denied by all public

declarations from govt. medical establishment types, the facts bear out the following: any PCR test with a ct set at ≥ 35 produces results that are 97% FALSE POSITIVE—(Unless other factors are present, like specific conditions in the lab in question, and if a sample was already positive at a lower threshold, say 20). Now you know why they DON'T WANT YOU TO KNOW THE CT FOR THEIR TESTS.

The NY Times article (accessible only with subscription:
<https://www.nytimes.com/2020/08/29/health/coronavirus-testing.html>) “Any test with a cycle threshold above 35 is too sensitive. I’m shocked that people would think that 40 could represent a positive. A more reasonable cutoff would be 30 to 35.”

The “rationale” for using such high ct values in PCR tests for COVID, according to spr: “From a lab perspective, it is safer to produce a “false positive” result that puts a healthy, non-infectious person into quarantine, than to produce a “false negative” result and be responsible if someone infects their grandmother.”

(-) **FN01.21.00.00.25j**-<https://www.news-medical.net/news/20200827/Two-viral-gene-targets->

needed-in-SARS-CoV-2-detection-by-PCR-say-researchers.aspx. PDF: (Had to jump through hoops to get the PDF version) — Finally received it: FN01.21.00.00.25j.Two-viral-gene-targets-needed-in-SARS-CoV-2-detection-by-PCR-say-researchers

CLAIM: “More recently, US researchers found that single-gene tests were false-negative due to **new virus mutations**.” CONFIRMATION: “...mutations can arise that impair recognition of RT-PCR primers and decrease diagnostic sensitivity.”

14. Contact tracing: Manual contact tracing and contact tracing apps on mobile phones had no effect on infection rates. Already in 2019, a WHO study on influenza pandemics concluded that contact tracing is “not recommended in any circumstances”.

Contact tracing and apps had NO EFFECT on infections rates:

(-) **FN01.21.00.00.25k**-<https://inference-review.com/assets/pdf/articles/on-the-futility-of-contact-tracing.pdf>. PDF: FN01.21.00.00.25k.On the Futility of Contact Tracing

The assertion is in the title of the article and TA proceeds to justify the claim in the article content. So far as CLAIM is concerned, the claim is supported by this doc.

WHO study on influenza pandemics concluded contract tracing is **NOT RECOMMENDED UNDER ANY CIRCUMSTANCES:**

(-) FN01.21.00.00.25L-

<https://apps.who.int/iris/bitstream/handle/10665/329438/9789241516839-eng.pdf#page=9>. PDF: FN01.21.00.00.25L.9789241516839-eng (See page 9, Table 1. Recommendations on the use of NPIs by severity level: **NOT RECOMMENDED IN ANY CIRCUMSTANCE: CONTACT TRACING.**)

15. Vaccine passports: Vaccine passports had no impact on infection rates as vaccination cannot prevent infection. Vaccine passports could, however, serve as a basis for the introduction of digital biometric identity and payment systems. NSA whistleblower Edward Snowden warned as early as March 2020 that surveillance could be expanded during the pandemic.

Vaccine passports: no impact on infection

rates:

SEE: (-) FN01.21.00.00.10-

<https://swprs.org/israel-highest-infection-rate-in-the-world/>. PDF: FN01.21.00.00.10.Israel_Highest_infection_rate_in_the_world – Swiss Policy Research

Vaccine passports, a path toward digital biometric ID and Payment systems: (Real Mark of the Beast stuff)

(-) FN01.21.00.00.25m-

<https://swprs.org/vaccine-passport-agenda/>. PDF: FN01.21.00.00.25m.The “Vaccine Passport” Agenda – Swiss Policy Research

VACCINE PASSPORTS: A PATH TOWARD

TOTALITARIANISM: I’ve included the text of this here and captured links to PDF to preserve access to documents:

“Vaccine passports”: saving or enslaving humanity?

SPR and other independent geopolitical analysts have been arguing since the early days of the coronavirus pandemic that the pandemic might be used as a pretext or catalyst to impose a global digital biometric

identity system, introduced as “vaccine passports”, that may later be expanded into a Chinese-style “social credit” population control system.

Snowdens’ warning:

<https://www.vice.com/en/article/bvge5q/snowden-warns-governments-are-using-coronavirus-to-build-the-architecture-of-oppression>

(-) FN01.21.00.00.25m1-

<https://www.vice.com/en/article/bvge5q/snowden-warns-governments-are-using-coronavirus-to-build-the-architecture-of-oppression>. PDF:

FN01.21.00.00.25m1.Snowden Warns Governments Are Using Coronavirus to Build ‘the Architecture of Oppression’

GERMAN BLOG: US corporations are becoming world passport authorities:

(-) FN01.21.00.00.25m2-TRANSLATED:

<https://norberthaering.de/macht-kontrolle/id2020-ktdi-apple-google/>. PDF: FN01.21.00.00.25m2.ID2020, Known-Traveller und Kontaktverfolgung durch Google und Apple_ US-Konzerne werden zur Weltpassbehörde – Geld und mehr

Former US Pres. Clinton proposed to introduce a “national network of ‘contact tracers’” —AUDIO:

(-) FN01.21.00.00.25m3-VIDEO:

<https://swprs.org/facts-about-covid-19-archive/#foobox-8/66/-Ug9XHT9JQQ> AUDIO:

FN01.21.00.00.25m3.AUDIO Clinton proposes a “national network of ‘contact tracers’” (aiff)

Cuomo, when gov of NY, instituted contact tracing army.

(-) FN01.21.00.00.25m4-

<https://www.cbsnews.com/news/contact-tracing-new-york-cuomo-plan/> PDF: FN01.21.00.00.25m4-Cuomo Institutes NAZI like Contact Tracing ARMY

Many other countries, like UK, calling for biometric “immunity passports.”

(-) FN01.21.00.00.25m5-

<https://www.biometricupdate.com/202101/ready-or-not-biometric-payment-cards-and-immunity-passports-have-arrived> PDF:

FN01.21.000.00.25m5.Ready or not, biometric payment cards and immunity passports have arrived _
Biometric Update

(The link provided did not produce an article but simply produced the <https://www.msn.com/en-us> page; I could not find any specific article on the topic. Alternatively, I found the above article which suffices to establish confirmation.)

Biometric tracing presented as an “only way out” —scenario. Blair (lately stepped down) calls for SURVEILLANCE state to combat COVID:

(-) FN01.21.00.00.25m6-
<https://www.theguardian.com/world/2020/apr/24/surveillance-a-price-worth-paying-to-beat-coronavirus-says-blair-thinktank>. PDF:
FN01.21.00.00.25m6.Surveillance a price worth paying to beat coronavirus, says Blair thinktank _ Coronavirus _ The Guardian

Silicon Valley Palantir to play key role: Once again, spr link goes to msn page and not to article. Search by topic: found one related:

(-) FN01.21.00.00.25m7-
<https://thedailyblog.co.nz/2020/05/07/madness-of-palantir-being-given-mass-surveillance-tracing-contract/>. PDF: FN01.21.00.00.25m7.Madness of

Palantir being given mass surveillance tracing contract _ The Daily Blog

Does confirm claim.

Contact monitoring of Israeli done by Domestic Intelligence service called Shin Bet:

(-) FN01.21.00.00.25m8-

<https://www.techdirt.com/2020/04/03/controversial-spyware-vendor-nso-group-is-helping-israeli-government-spy-own-citizens/>. PDF:
FN01.21.00.00.25m8.Controversial Spyware Vendor NSO Group Is Helping The Israeli Government Spy On Its Own Citizens _ Techdirt

Countries like Russia and China want to massively expand surveillance:

(-) FN01.21.00.00.25m9-

<https://www.npr.org/sections/coronavirus-live-updates/2020/04/01/825329399/moscow-launches-new-surveillance-app-to-track-residents-in-coronavirus-lockdown> PDF:
FN01.21.00.00.25m9.Moscow To Launch New Surveillance App To Track Residents In Coronavirus Lockdown _ Coronavirus Updates _ NPR

Using the pandemic to expand population control
NOT NEW:

(-) FN01.21.00.00.25m10-

<https://swprs.org/wp-content/uploads/2020/04/rockefeller-foundation-scenarios-2010.pdf>. PDF:
FN01.21.00.00.25m10.rockefeller-foundation-scenarios-2010 (May. 2010—about the time “they” were rolling out their big pandemic planning scenarios)

We’ve been warned: more than 500 scientists has sounded the alarm:

(-) FN01.21.00.00.25m11-

<https://www.esat.kuleuven.be/cosic/sites/contact-tracing-joint-statement/>. PDF:
FN01.21.00.00.25m11.Contact Tracing Joint Statement

Johns Hopkins linked with US security apparatus leading COVID management in US:

(-) FN01.21.00.00.25m12-

<https://unlimitedhangout.com/2020/04/investigative-series/all-roads-lead-to-dark-winter/>. PDF:

FN01.21.00.00.25m12.All Roads Lead to Dark Winter (Here is an excerpt from this article:

“The leaders of two controversial pandemic simulations that took place just months before the Coronavirus crisis – Event 201 and Crimson Contagion – share a common history, the 2001 biowarfare simulation Dark Winter. Dark Winter not only predicted the 2001 anthrax attacks, but some of its participants had clear foreknowledge of those attacks.” See also: During the presidency of George H.W. Bush in the early 1990s, something disturbing unfolded at the U.S.’ top biological warfare research facility at Fort Detrick, Maryland. Specimens of highly contagious and deadly pathogens – anthrax and ebola among them – had disappeared from the lab, at a time when lab workers and rival scientists had been accused of targeted sexual and ethnic harassment and several disgruntled researchers had left as a result.

In addition to missing samples of anthrax, ebola, hanta virus and a variant of AIDS, two of the missing specimens had been labeled “unknown” – “an Army euphemism for classified research whose subject was secret,” according to reports. The vast majority of the specimens lost were never found and an Army spokesperson would later claim that it was “likely some were simply thrown out with the trash.”

(Reports: See

(-) FN01.21.00.00.25m13-

<https://web.archive.org/web/20020409022746/http://www.ctnow.com/news/specials/hc-detrick0120.artjan20.story?coll=hc-h>; PDF: FN01.21.00.00.25m13.ctnow.com_ SPECIALS.pdf

[It might be worth considering that spr is reaching into some pretty “dark” stuff, that would be considered “conspiracy” theory material. I have seen enough of this material to appreciate the relevance of it to the line of enquiry pursued by spr, but it does expose them to some eyebrow raising in some quarters.]

Microsoft founder, Gates, is the most important private sponsor of WHO, and vaccine industry leader, and biometric ID projects visionary financed a GLOBAL HEALTH PROGRAM OF THE US Council on Foreign Relations beginning as early as 2003:

Doc. LINK https://swprs.org/facts-about-covid-19-archive/#foobox-8/67/wQSYdAX_9JY goes to VIDEO BANNED FROM YOUTUBE, no longer accessible.

As for confirmation that Gates’ funding for WHO

almost matches the US (...25m14), and the CFR Global Health Initiative funded by BMGF (...25m15):

(-) FN01.21.00.00.25m14-

<https://www.usnews.com/news/articles/2020-05-29/gates-foundation-donations-to-who-nearly-match-those-from-us-government>. PDF:

FN01.21.00.00.25m14.Gates Foundation Donations to WHO Nearly Match Those From U.S. Government _ US News.pdf

(-) FN01.21.00.00.25m15-

<https://www.cfr.org/news-releases/council-establishes-senior-fellowship-global-health-and-foreign-policy-grant-bill>. PDF:

FN01.21.00.00.25m15.Council Establishes Senior Fellowship in Global Health and Foreign Policy with a Grant from the Bill & Melinda Gates Foundation _ Council on Foreign Relations

In particular, NSA whistleblower Edward Snowden warned already back in March 2020 of the “permanent destruction of rights” and the creation of an “architecture of oppression”. Japan-based geopolitical analyst, James Corbett, highlighted the fact that governments around the world have been busy building extensive technical infrastructure that is

unlikely to get dismantled anytime soon.

While “vaccine passports” have of course been entirely ineffective and indeed counterproductive at the medical level, this doesn’t really matter at the strategic level, if their primary strategic purpose is to introduce QR-based or even RFID-based identity systems that may later be linked to other personal health and financial data as well as to digital currencies and payment systems.

Snowden’s warning (Part 2):

(-) FN01.21.00.00.25m16-VIDEO:

https://www.youtube.com/watch?v=-pcQFTzck_c

AUDIO: FN01.21.00.00.25m16.AUDIO Snowden Interview 2019 (German interview, Snowden English.)

(-) FN01.21.00.00.25m17-

<https://www.youtube.com/watch?v=du5k1BrG8eE>

AUDIO: FN01.21.00.00.25m17.Snowden - Someone Will Abuse

(-) FN01.21.00.00.25m18-

<https://www.corbettreport.com/digitalid/> did NOT ARCHIVE. Corbett Report, Episode 415 - The Global Digital ID Prison — 52 minutes.

Vaccine passports have been ineffective and counterproductive:

(-) FN01.21.00.00.25m19-

<https://www.newsweek.com/leaked-uk-government-doc-claims-vaccine-passports-could-actually-cause-covid-spread-1642685>. PDF:

FN01.21.00.00.25m19.Leaked U.K. Government Document Claims Vaccine Passports Could Actually Cause COVID Spread.pdf

“They” (WEF, Deep State, Globalists, etc.) want to link the vaccine passport, health surveillance system to our finances in digital currencies and general health information:

(-) FN01.21.00.00.25m20-

<https://www.newsweek.com/people-get-microchips-implanted-that-include-vaccine-records-amid-new-covid-restrictions-1655916>. PDF:

FN01.21.00.00.25m20.People Get Microchips Implanted That Include Vaccine Records Amid New COVID Restrictions

A Global Campaign

Indeed, in February 2021, digital identity lobby group ID2020, funded by the Gates Foundation and

the Rockefeller Foundation, created the “Good Health Pass” collaboration that currently includes 125 member corporations from the fields of technology, health, transport and payment systems. In September, the collaboration urged US President Biden in an open letter to “recognize the need for verifiable digital health passes as a precursor to large scale vaccination and testing mandates.”

In August, the WHO published a document, sponsored by the Gates Foundation and the Rockefeller Foundation, detailing technical specifications for the global implementation of “vaccine certificates”, as outlined already back in March 2020 by Bill Gates himself. Of note, the five WHO project managers developing the technical specifications previously worked for the Gates Foundation or the Rockefeller Foundation or for other projects funded by one of these foundations.

Gates/Rockefeller Funded Good Health Pass system:

(-) FN01.21.00.00.25m21-

<https://www.goodhealthpass.org/members>. PDF:
FN01.21.00.00.25m21.Good Health Pass Collaborative Members

Urging PINO Biden to get behind “digital health passes” as precursor to large scale vaccination and testing MANDATES:

(-) FN01.21.00.00.25m22-

https://drive.google.com/file/d/1Bq_CgbVgwQ6PIDsD-mcB6ETF37alDO2/view PDF:
FN01.21.00.00.25m22.BidenLtr_092321

Gates/Rockefeller sponsored WHO published doc detailing tech specifications for global implementation:

(-) FN01.21.00.00.25m23-

https://www.who.int/publications/i/item/WHO-2019-nCoV-Digital_certificates-vaccination-2021.1.
PDF: FN01.21.00.00.25m23.Digital documentation of COVID-19 certificates_ vaccination status_ technical specifications and implementation guidance, 27 August 2021

The above WHO doc follows Gates’ plan outlined in March of 2020:

(-) FN01.21.00.00.25m24-

<https://www.youtube.com/watch?v=JDjw8-3VZp8>
AUDIO: FN01.21.00.00.25m24.AUDIO: Gates Declaring

Need for GLOBAL HEALTH PASSPORTS — Certificates proving health status.

Five WHO project managers previously worked for GATES Foundation or the Rockefeller Foundation or other projects funded by one of these:

(-) FN01.21.00.00.25m25-TWEET:

<https://nitter.net/machtwach/status/1453442774133616641>. PDF: TWEET: FN01.21.00.00.25m25.Marcel Gasser #WHO-Dokumentation #Rockefeller Stiftung und der Bill & Melinda #Gates Stiftung finanziert. Faktenchecker behaupten, dass diese dadurch keinen Einfluss auf das Dokument .pdf

French government and defense industry contractor, Thales Group, described “vaccine passports” as “a precursor to digital ID wallets, offering citizens unparalleled convenience and security.”

In the European Union, which had been planning the introduction of “vaccine passports” since 2018, EU Commission president von der Leyen argued that the EU “must consider mandatory covid vaccinations”, despite the fact that EMA still hasn’t fully approved the vaccines, and the use of all of these vaccines has already been suspended or restricted in several

countries over safety concerns.

French: defense contractor, Thales Group, described vaccine passports as precursor to digital ID wallets:

(-) FN01.21.00.00.25m26-TWEET:

<https://nitter.net/ThalesDigiSec/status/1425351446573297667>. PDF: TWEET:

FN01.21.00.00.25m26.Thales Digital Identity & Security #Vaccinepassports are a precursor to Digital ID wallets, offering citizens unparalleled convenience and #security. Read more about their rollout here_ [http__thls.co_mGuI50FG59G_nitter.pdf](http://thls.co_mGuI50FG59G_nitter.pdf)

EU (European Union) planned vaccine passports since 2018:

(-) FN01.21.00.00.25m27-<https://off-guardian.org/2020/05/22/report-eu-planning-vaccination-passport-since-2018/>. PDF:

FN01.21.00.00.25m27.REPORT_EU Planning “Vaccination Passport” Since 2018 – OffGuardian

EU Commission president insisted EU must consider MANDATORY COVID VACCINATIONS:

(-) FN01.21.00.00.25m28-

<https://www.theguardian.com/world/2021/dec/01/eu-must-consider-mandatory-covid-jabs-says-von-der-leyen>. PDF: FN01.21.00.00.25m28.EU must consider mandatory Covid jabs, says Von der Leyen _ Coronavirus _ The Guardian

EU commission president careless re evidence the vaccines pose health risks and have not been approved by EMA:

(-) FN01.21.00.00.25m29-

<https://www.bloomberg.com/news/articles/2021-10-08/iceland-joins-nordic-peers-in-halting-moderna-covid-vaccinations>. PDF: FN01.21.00.00.25m29.Iceland Joins Nordic Peers in Halting Moderna (MRNA) Covid Vaccinations - Bloomberg

&

(-) FN01.21.00.00.25m30-

<https://www.riotimesonline.com/brazil-news/modern-day-censorship/taiwan-suspends-pfizers-second-dose-covid-vaccine-for-adolescents-over-heart-risks/>. PDF: FN01.21.00.00.25m30.Taiwan suspends Pfizer's second dose Covid vaccine for

adolescents over heart risks _ The Rio Times _ Brazil News

In general, the fact that millions of “unvaccinated employees” are threatened with losing their jobs – regardless of their actual immunity status and the fact that natural immunity provides far better protection than vaccination – is another indication that strategic objectives appear to be more important than actual medical or epidemiological considerations. For instance, English care homes recently had to suspend 50,000 unvaccinated employees, jeopardizing the care of 30,000 residents.

Strategic objectives (pushing citizens into digital currency, establishing a massive surveillance state globally, control of movement, etc.) and NOT HEALTH is driving the onerous oppressive measures undertaken by govts. worldwide: like NO JAB NO JOB.

(-) FN01.21.00.00.25m31-

<https://www.nakedcapitalism.com/2021/10/things-are-getting-messy-in-draghis-italy.html>. PDF:

FN01.21.00.00.25m31.Things Are Getting Messy In Draghi's Italy _ naked capitalism

(-) FN01.21.00.00.25m32-

<https://www.theguardian.com/world/2021/nov/10/care-homes-in-england-set-to-lose-50000-staff-as-covid-vaccine-becomes-mandatory>. PDF:
FN01.21.00.00.25m32.Care homes in England set to lose 50,000 staff as Covid vaccine becomes mandatory
_ Social care _ The Guardian

Although everyone knows natural immunity is far superior:

SEE: (-) **FN01.21.00.00.11-**

<https://swprs.org/the-power-of-natural-immunity/>.
PDF: <https://swprs.org/the-power-of-natural-immunity/>. The Power of Natural Immunity – Swiss Policy Research

Sweden and Russia

The global nature of this campaign might explain why even in a country like Sweden, which has managed the coronavirus pandemic without any major restrictions, the government in November suddenly decided to introduce “vaccine passes” for some indoor events (even excluding recovered people). In fact, Sweden might quickly turn from a bastion of lockdown resistance into a pioneer of “more secure and easier” RFID-based identity systems (i.e. implantable microchips).

Even in Sweden, where the COVID pandemic has been managed without major restrictions, NEVERTHELESS, the govt. there introduced VACCINE PASSES — goes to proof this is NOT ABOUT HEALTH:

(-) FN01.21.00.00.25m33-

<https://www.thelocal.se/20211117/analysis-will-sweden-introduce-covid-vaccine-passes/>. PDF:
FN01.21.00.00.25m33.Sweden to introduce vaccine passes for events of over 100 people

Sweden poised to become a pioneer of RFID-based ID systems: that's implantable microships—

(-) FN01.21.00.00.25m34-

<https://www.newsweek.com/people-get-microchips-implanted-that-include-vaccine-records-amid-new-covid-restrictions-1655916>. PDF:
FN01.21.00.00.25m34.People Get Microchips Implanted That Include Vaccine Records Amid New COVID Restrictions

Finally, the Russian Federation, seen by some as a geopolitical alternative to the Western system, is also rapidly moving towards vaccine mandates and national QR “health passes”. The main difference

appears to be that in Russia, vaccine certificates are more likely to be fake – despite the fact that Russia has already reached a total pandemic excess mortality of about one million people.

Overall, it looks like many governments are focused not primarily on a rational and evidence-based response to the pandemic, but on maintaining the narrative of a heroic fight against the pandemic and “the unvaccinated” – a narrative that may later be written into history books. The digital identity agenda is using this “public health” narrative as a shield to neutralize or break resistance.

Russian Federation seen as geopolitical alternative to the “Western system”? [Really? Was not aware!]

Russian FEDERATION moving toward vaccine mandates and NTL QR Health Passes:

(-) FN01.21.00.00.25m35-
<https://edwardslavsqat.substack.com/p/i-believe-we-are-facing-an-evil-that> PDF:
FN01.21.00.00.25m35._I believe we are facing an evil that has no equal in human history_

Opposition and Protests

Nevertheless, in many countries significant civilian, political or legal resistance has formed against the introduction of vaccine mandates and “vaccine passports”. Many Western countries have been seeing some of the largest political protests in decades, though often ignored, downplayed or vilified by corporate and government-controlled media (see social media channels below).

However, in contrast to general strikes or civilian “color revolutions”, mere protests have often been rather ineffective politically. In fact, an Australian professor, writing on the Global Agenda blog of the World Economic Forum, recommended framing “vaccine passports” as “freedom passes” to “divide the opposition” while simply ignoring “noisy protestors” (the article was later removed).

PROTESTS:

(-) FN01.21.00.00.25m36-

<https://www.youtube.com/channel/UCA2jUUNoi3vNuTOaiNDLOsA/videos>. PDF:

FN01.21.00.00.25m36.PROTESTS Live World - YouTube

WEF rep suggests moving forward with vaccine passports presented as FREEDOM PASSES to

“divide the opposition.” (ARTICLE REMOVED: archived here)

(-) FN01.21.00.00.25m37-

<https://archive.ph/j12Vc> PDF:

FN01.21.00.00.25m37.How 'framing decisions' can impact the issue of vaccine passports__ World Economic Forum

In some countries, though, opposition to vaccine mandates or “vaccine passports” has reached the highest political or judicial sphere. Some notable examples include the United States, Canada, Spain, Switzerland, some Eastern European countries, and Brazil.

In the US, federal judges have blocked or suspended four of five national vaccine mandates that would have affected federal employees, government contractors, companies with more than 100 employees, and most healthcare workers. In addition, several US states have prohibited the use of “vaccine passports”. On the other hand, states like New York have enacted far-reaching vaccine mandates, and foreign national air travelers to the US are required to be “fully vaccinated”.

US Judges BLOCK or SUSPEND four of five

national vaccine mandates:

(-) FN01.21.00.00.25m38-TWEET:

<https://nitter.net/kerpen/status/1468280247766462479> PDF: FN01.21.00.00.25m38.Phil Kerpen _Biden's five mandates_ OSHA - stayed - enjoined nationally Contractor - enjoined nationally Federal employee - punted to next year Military - still moving forward, unvaxed _flagged,_ blocked from promotion_reenli (I should be able to find articles discussing each of these and will consider doing that later, if needed or desired.)

Several US States have prohibited the use of vaccine passports:

(-) FN01.21.00.00.25m39-

<https://www.beckershospitalreview.com/digital-transformation/vaccine-passports-10-states-with-bans-limitations-green-lights.html> PDF: FN01.21.00.00.25m39.US States Respond to Vaccine Mandates

In Canada, the Premier of Ontario had to rescind a vaccine mandate for healthcare workers, admitting that it would have resulted in the “potential departure of tens of thousands of health-care workers.” On the

other hand, the Canadian government recently made “full vaccination” a mandatory requirement for all air and rail travel (beginning at age 12) – again ignoring the medical evidence that vaccination simply doesn’t prevent infection and transmission.

In Spain, federal courts have rejected several proposals to introduce regional or national “vaccine passports”, calling them “ineffective and unconstitutional”. Spanish courts also declared the 2020 lockdowns as unconstitutional and ordered the government to return all fines to citizens. However, some regional “covid passport” schemes have recently been approved by Spanish courts.

In Switzerland, there recently was a national referendum on “covid passports”. While citizens below 40 mostly rejected them, citizens over 65 overwhelmingly supported them, having been told by the government that they would help protect them. Thus, the new law was accepted by 62% overall.

Hopeful sign in Switzerland, while the older generation are susceptible to govt. manipulation, those under 40 are resisting:

(-) FN01.21.00.00.25m40-

<https://medicalxpress.com/news/2021-11-swiss-vote-covid-restrictions-infections.html>. PDF:

FN01.21.00.00.25m40.Swiss vote to approve COVID restrictions as infections rise (Unfortunately, that still put the vote at 62% in favor of “covid passports.”

In some Eastern European countries, interest in covid vaccines was so low that governments had to suspend their vaccination campaigns, despite some of the highest covid death rates in the world. In Croatia, 2500 former military and policemen have formed a “volunteer battalion”, to “send a message to the ruling party that they oppose vaccine passports.” (video)

Some European countries rebelled en masse to covid vaccines and efforts to bully or manipulate them into subservience:

(-) FN01.21.00.00.25m41-
<https://www.euronews.com/my-europe/2021/06/08/why-did-romania-s-vaccination-campaign-derail-after-a-successful-start>. PDF:
FN01.21.00.00.25m41.Why did Romania's vaccination campaign derail after such a good start_ _ Euronews

In Croatia, 2500 former military and police band together, form a “volunteer battalion” opposing vaccine passports and send a message they will stand up to ruling party:

(-) FN01.21.00.00.25m42-VIDEO embedded in
TWEET:

https://nitter.net/echo_chamberz/status/1463332843438821379 PDF: TWEET:

FN01.21.00.00.25m42.Echo Chamber Croatian men have formed a “volunteer batallion”, composed of ex-military & police, to send a message to the ruling party that they oppose vakseen passports_nitter

In Brazil, president Bolsonaro appears to strongly oppose “covid passports”, having described them as a “leash” and adding that “I would rather die than lose my freedom.” However, it looks like Bolsonaro has limited influence over some major cities like Rio de Janeiro, which have decided to introduce a vaccine mandate for various places, including tourist attractions.

Overall, it seems evident that this is a fight not over some public health policy technicalities, but over fundamental political conceptions and the future of Western and indeed global society.

Brazilian president Bolsonaro takes firm stand **AGAINST VACCINE PASSPORTS**: declares he would rather **DIE** than lose his freedoms:

(-) FN01.21.00.00.25m43-

<https://dailynewsbreak.org/i-would-rather-die-than-lose-my-freedom/>. PDF:

FN01.21.00.00.25m43.Brazilian President Bolsonaro Defies VACCINE PASSPORTS, would rather die than lose freedom

Covid: A “Plandemic”?

Does the “vaccine passport” strategic agenda indicate that the coronavirus pandemic itself is in fact a pre-planned “plandemic”, engineered simply to enforce global biometric identity systems while claiming to protect citizens from a virus? From a purely scientific perspective, this indeed remains a distinct possibility. The genetic evidence shows that the novel coronavirus is likely lab-engineered (about 90% probability). Such a lab-related scenario is consistent with either a Chinese lab leak (similar to many previous lab leaks), or with a premeditated release disguised as a Chinese lab leak (similar to the 2001 “anthrax letter” operation, already linked to covid), or some combination thereof.

The PLANDEMIC allegation supported by all the above: PLUS

Genetic evidence shows novel coronavirus

likely lab-engineered:

(-) **FN01.21.00.00.25m44-**<https://swprs.org/on-the-origin-of-sars-coronavirus-2/>. PDF:
FN01.21.00.00.25m44.On the Origin of SARS
Coronavirus 2 – Swiss Policy Research (The volume of data now available on this question overwhelms any opposition. When I have time, I'll assemble that evidence here.)

CCP has leaked virus before:

SEE (-) **FN01.21.00.00.25m44-**
<https://swprs.org/on-the-origin-of-sars-coronavirus-2/#a-previous-pandemics-and-epidemics> PDF
FN01.21.00.00.25m44.On the Origin of SARS
Coronavirus 2 – Swiss Policy Research — see A.
PREVIOUS pandemics and epidemics:

1. The two most recent (mild) global pandemics were the 1977 'Russian flu' and the 2009 'swine flu'. In both of these cases, modern genetic research indicates that a lab escape was the most likely origin of the pandemic virus (see here and here). Yet in both cases, the World Health Organization (WHO) initially excluded this possibility (see here and here).

2. The origin of the first SARS coronavirus in 2002 remains unknown, but a natural origin is generally assumed. However, since the discovery of SARS-1, at least four lab escapes of the virus from P3 and P4 high-security labs in Singapore, Taiwan and China have been documented.

3. In December 2021, it was confirmed that a scientist had got infected with the SARS-CoV-2 Delta variant after exposure in a Taiwanese P3 high-security lab.

4. The 2007 outbreak of foot and mouth disease in Britain was also “very probably caused by a leak from a local laboratory”, according to a British government report.

5. Concerned scientists have repeatedly warned of the risks involved in so-called “gain-of-function” virus research, which seeks to enhance the virulence or infectiousness of viruses through genetic engineering and other methods.

Reasonable to speculate COVID a disguised premeditated lab leak in the vein of the 2001 Anthrax letter:

(-) FN01.21.00.00.25m45-

<https://covertactionmagazine.com/2021/09/10/anthrax-attacks-directed-against-public-officials-following->

9-11-had-all-the-markings-of-a-false-flag-operation/
PDF: FN01.21.00.00.25m45.Anthrax Attacks Directed
Against Public Officials Following 9_11 Had all the
Markings of a False Flag Operation - CovertAction
Magazine

SPR TA sends us back to
<https://unlimitedhangout.com/2020/04/investigative-series/all-roads-lead-to-dark-winter/> for doc.
supporting allegation the Anthrax letter op has been
linked to COVID???

SEE: (-) **FN01.21.00.00.25m12-**
<https://unlimitedhangout.com/2020/04/investigative-series/all-roads-lead-to-dark-winter/>. PDF:
FN01.21.00.00.25m12.All Roads Lead to Dark Winter

Alleged in this article:

The Anthrax letter attack was investigated from
2001 to 2010, when it was closed, unresolved. Aspects
of that investigation remain classified.

The lab connected to this is USA, Fort Detrick,
known to have worked closely with virologists and
virology labs in Wuhan, CHINA.

—> Back to (-) **FN01.21.00.00.04a-**
<https://swprs.org/covid19-facts/>. PDF:
FN01.21.00.00.04a.Facts about Covid – Swiss Policy
Research

COVID FACTS (CONTINUED)

I'll begin notation as FN01.21.26.00.00 to correct for the problem created by upticking the notations from the end of the string. That did not work well; created the awkward need to use letters a-z when working through footnotes, or references from an article.

16. Virus mutations: Similar to influenza viruses, mutations occur frequently in coronaviruses. The omicron variant, which may have emerged from vaccine research, showed significantly higher infectiousness and immune escape, but 90% lower lethality.

Mutations occur frequently in SARS-2 virus as they do with influenza:

(-) **FN01.21.26.00.00-**
<https://swprs.org/coronavirus-variants-what-next/>
PDF: FN01.21.26.00.00.Coronavirus Variants_ What's
Next_ – Swiss Policy Research

The OMICRON: some think it emerged from vaccine research, showed higher infectiousness and lower lethality: [Also, it's usual for normal evolution of a virus to follow this patten?]

(-) FN01.21.26.01.00-

<https://www.stopgof.com/english/omicron-origin/>.
PDF: FN01.21.26.01.00.Omicron origin - English _
Strictly scientific lab leak evidence

(-) FN01.21.26.01.00-

<https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v1>. PDF: FN01.21.26.01.00.Clinical outcomes among patients infected with Omicron (B.1.1.529) SARS-CoV-2 variant in southern California _ medRxiv.pdf (Current version: <https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v3>: PDF: FN01.21.26.01.01-FN01.21.26.01.01.Clinical outcomes associated with Omicron (B.1.1.529) variant and BA.1_BA.1.1 or BA.2 subvariant infection in southern California _ medRxiv.pdf)

17. Sweden: In Sweden, covid mortality without lockdown was comparable to a strong influenza season and somewhat below the EU average. About

50% of Swedish deaths occurred in nursing homes and the median age of Swedish covid deaths was about 84 years.

Sweden, without onerous lockdowns, COVID mortality comparable to a strong influenza season and a bit below the EU average:

(-) **FN01.21.27.00.00-**
<https://swprs.org/judgment-day-sweden-vindicated/>.
PDF: FN01.21.27.00.00.Judgment day_ Sweden vindicated – Swiss Policy Research

(-) **FN01.21.27.01.00-**<https://swprs.org/studies-on-covid-19-lethality/#5-percentage-of-covid-19-deaths-in-care-homes>. PDF: FN01.21.27.01.00.Studies on Covid-19 Lethality – Swiss Policy Research (See 5) Percentage of Covid-19 deaths in care homes.

(-) **FN01.21.27.02.00-**<https://swprs.org/studies-on-covid-19-lethality/#age> PDF: FN01.21.27.02.00.Studies on Covid-19 Lethality – Swiss Policy Research (See 3) Median age of Covid-19 deaths per country.

18. Influenza viruses: Influenza viruses largely disappeared during the coronavirus pandemic.

This was not a result of “covid measures”, but a result of temporary displacement by the novel coronavirus, even in countries without measures (such as Sweden).

(-) **FN01.21.28.00.00**-<https://swprs.org/the-return-of-the-flu/> PDF: FN01.21.28.00.00.The Return of the Flu – Swiss Policy Research (I’ve seen this before but I’m pressed for time and less is required to go ahead and add it just in case than to do the search. Will sort it out later.)

19. Media: The reporting of many media was rather unprofessional, increased fear and panic in the population and led to a hundredfold overestimation of the lethality of the coronavirus. Some media even used manipulative pictures and videos to dramatize the situation.

Reporting aimed at increasing fear:

(-) **FN01.21.29.00.00**-<https://swprs.org/the-propaganda-pandemic/>. PDF: FN01.21.29.00.00.The Propaganda Pandemic – Swiss Policy Research

Hundredfold overestimation of lethality:

(-) **FN01.21.29.01.00**-

<https://archive.ph/20200830045016/https://www.telegraph.co.uk/news/2020/08/20/uk-public-believe-coronavirus-death-toll-100-times-higher-really/>. PDF: FN01.21.29.01.00.UK public 'believe coronavirus death toll 100 times higher than it really is'

Media manipulated public with over dramatized propaganda:

(-) FN01.21.29.02.00-

<https://nypost.com/2020/04/01/cbs-admits-to-using-footage-from-italy-in-report-about-nyc/>. PDF: FN01.21.29.02.00.CBS admits to using footage from Italy in report about NYC (NOTE: CBS ADMITS...)

20. Virus origin: Genetic evidence points to a laboratory origin of the new coronavirus. Both the Virological Institute in Wuhan (WIV) as well as some US laboratories that cooperated with the WIV performed various kinds of research on similar coronaviruses.

Already examined this article: On the Origin of SARS Coronavirus 2 —

—> Back to **FN01.21.00.00.00-**

<https://link.springer.com/article/10.1007/s11524->

021-00517-2. PDF: FN01.21.00.00.00.Effects of New York's Executive Order on Face Mask Use on COVID-19 Infections and Mortality_ A Modeling Study to conclude vetting FN01.21.

CCP: It's dominated by CCP science. CCP biased.

SP: It talks about a growing body of evidence supporting the conclusion that masks work and there is no doubt that after the CCP directed Fauci to promote face masks, the engines of science propaganda have geared up and produced hundreds of studies to promote mask use. The problem is, there are no actual RCTs that support it.

MM: This is a "model" study and that means the scientists construct a model to support their conclusions. It's the same nonsense we have dealt with in the evolution issue. Draw some neat pictures, connect colored boxes by lines and intriguing notation and viola, PROOF.

OS: The entire study is OS.

FN01.22.00.00.00-

<https://theunion.org/sites/default/files/2020-09/IJTLD%20June%200244%20Leung%20FINAL.pdf>

PDF: FN01.22.00.00.IJTLD June 0244 Leung FINAL.pdf
TITLE: “Mask wearing to complement social distancing
and save lives during COVID-19.”

PC: April, 2020

CCP Leung, Cheng, Lam, Migliori (3 of 4) /
ORIGIN: CHINA-Hong Kong, Chest and Heart Diseases
Assoc., Hong Kong Tuberculosis; U. of HK. UK-
Birmingham: U. of Birmingham, Institute of Applied
Health Research. ITALY-Tradate: Instituti Clinici
Scintifici Maugeri. / **REF:** Li, Guan, Wu; MacIntyre,
Seale, Dung; WHO; Leung, Lam, Cheng / **FUNDING:** nd
Assumed CHINA

RCT: No. OS

CONTENT:

SP: One argument the author seems to present as
powerful: “To most people who live in countries such
as China and South Korea, the refusal to wear masks to
complement social distancing is irrational when
countries are prepared to accept a far more extreme
measure such as lockdowns.”

I’ve noticed this is a regularly occurring line of

logic in Chinese literature and I can only account for it by my experience in Russia back in the early 90s. The communist system creates a kind of strange mindset, strange to me! The people resisting the masks also resist the lockdowns. The comparison is wholly without basis.

Besides that, one might object to wearing masks because they are convinced they do not work and yet accept lockdowns — because they did not know lockdowns don't work either.

CLAIM: “While [1] there have not been randomised controlled trials to show the efficacy of mask wearing, [2] surgical masks on tuberculosis patients are reported to have reduced aerosol transmission to guinea pigs by 56%.⁵ Ignoring for one moment the much higher efficacy of surgical masks in intercepting infectious droplets at source, [3] a 56% decrease in infectivity would transform a basic reproductive number (R0) of 2.2,6 to give an effective reproductive number of 0.97. [4] Theoretically at least, if everyone wears a mask during all person-to-person contact, the progressive decrease in the number of new infections in successive generations would eventually bring the pandemic down.”

[1] CCav: admission that there are no RCTs supporting the claim is a compromising caveat to everything that follows.

[2] Surgical masks effective on tuberculosis patients: See FN01.27.00.00.00, NOTE: “This study depends on experience dealing with Tuberculosis which is a bacterium, which, according to https://erj.ersjournals.com/content/54/suppl_63/PA4605 range in size from the smallest at 0.5 to 1 μm in length to the classical rods with a “mean length in 2-4 μm , and long filamentous forms over 6-7 μm in length, while Mtb width did not change significantly. It’s in a horseshoe pattern (see https://en.wikipedia.org/wiki/Mycobacterium_tuberculosis). Here is a study (<https://microbenotes.com/mycobacterium-tuberculosis/>) that indicates size is * 0.5 x 3 μm — showing the diameter is 0.5 μm . So the length ranges from 0.5-1 μm to 6-7 μm with a mean length of 2-4 μm , and diameter maintains at 0.5 μm . To translate into nanometers: the diameter is 500 nanometers and the length ranges from 500 to 7000 with a mean length of 2000-4000 nm on the small side.” The point here is that the diameter of tuberculosis bacteria is 500 nm, while the diameter of SARS-CoV-2 is 40-140 nm. This

is not a comparable comparison.

SEE: FN01.22.01.00.00-
https://en.wikipedia.org/wiki/Mycobacterium_tuberculosis PDF: FN01.22.01.00.00.Mycobacterium tuberculosis - Wikipedia

SEE: FN01.22.02.00.00-
<https://microbenotes.com/mycobacterium-tuberculosis/>. PDF: FN01.22.02.00.00.Mycobacterium tuberculosis- An Overview - Microbe SEE:
“Morphology of Mycobacterium tuberculosis: ... 5. They measure 0.5 μm x 3 μm (Though not stipulated, its most likely this measures diameter x length.)

[3] IR: Reducing infectivity of bacteria causing Tuberculosis is not relevant to reducing infectivity of virus causing COVID because of the particle size differential.

[4] IR: Once again, a theoretical hypothesis premised on an irrelevant comparison is irrelevant to our concern here.

CLAIM: “[1] Also, studies on the protective efficacy of masks are hampered by the fact that healthcare workers may be infected by the flu

virus in ways other than from just patient contact. [2] Studies on protective efficacy in cluster trials are further hindered by cross-transmission among healthcare workers through social contact and shared use of facilities outside patient care. [3] As healthcare workers in each cluster are often infected in a synchronized manner, this reduces the effective sample size largely to the number of clusters. The published study only had 75 clusters randomly assigned into three groups: cloth mask, surgical mask and usual practice.⁹ **[4] Chance was likely a key factor in the observation of an exceptionally high infection rate in the cloth mask group, and attributing this to the type of mask may be nothing more than speculation.** We believe it is scientifically unsound to reject cloth masks for community use on the basis of this one study.”

[1] CCav: ***This goes to evidence supporting my thesis concerning the weaknesses inherent in what are called “cluster trials.” I agree that such studies are hampered in just the way TA describes. That is the reason I argue for straight RCTs, which TA has admitted DO NOT SUPPORT MASK WEARING: “While there have not been randomised controlled trials to show the efficacy of mask wearing ...” — as for their argument given to counter this deficit, I addressed it

above. Masks can be expected to offer some viable protection against a virion that is 500 nm or greater in size. The virions we are talking about are generally 125 nm.

[2] CCav: ***Same as [1]. I stipulate to the weakness brought forward by TA and use this as argument to insist on straight RCTs to confirm mask efficacy.

[3] CCav: ***Same as [1] and [2] — stipulated.

[4] CCav: ***Same as [1], [2], and [3] above — stipulated — “chance” is likely a “key factor” in these “observations” in the same way it plays in to all OS type studies, and the basis of every argument asserted by TA to argue in favor of mask efficacy. SCIENCE consistently proves against their thesis. These folks are too superstitious.

FN01.23.00.00.00-

<https://www.futuremedicine.com/doi/full/10.2217/fmb-2020-0292>. PDF: FN01.23.00.00.00.COVID-19_mask efficacy is dependent on both fabric and fit _ Future Microbiology.pdf

PC: Dec. 2020

CCP: Darby, Krishanakumar, Przjalowski, McGowan, Jeffers, Giltinan, Lewis, Smith, Sleator (3 of 9) / **ORIGIN:** IRELAND-Cork: Bishoptown, Cork Institute of Tech, The Centre for Advanced Photonics & Process Analysis; Mechanical Energy System Simulation Optimisation Group; Blackrock Castle Observatory; Dept. of Biological Sciences. / **REF:** Wu, Zhao, Yu; Sun, He, Wang; Song, Zhang, Tu; Ahn, Shin, Kim; Zhai; Cheng, Wong, Chuang; Liu, Zhang; Leung; Xu, Li; Lai, Poon, Cheung; Fu; Huang J, Huang V; Leung, Chu, Shiu; Lin, Gupta, Chen; Morawska; Van Der Sande; Zhou, Wei, Choy; Huang. / **FUNDING:** Statement: “Authors S Darby, A Giltinan, N Smith and RD Sleator are members of the National Standards Authority of Ireland (NSAI) expert advisory group on face coverings contributing to SWiFT 19 and CWA 17553. S Darby is also a member of CEN/TC248/WG38 on face coverings. This work was funded by Science Foundation Ireland under the SFI COVID-19 Rapid Response Funding Call (proposal ID 20/COV/0253). The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.”

RCT: Not asserted. A scientific study described under Materials & Methods.

CONTENT:

IR: Tested for particle sizes outside range of interest: “Materials & methods: ... The aerosol consisted of 10% NaCl in water from a nebulizer (Omron NE-C28P, mass median aerodynamic diameter of 3 μm) fed through one of the lung ports of a dummy head (Laerdal airway management trainer) lying face upward on an optical bench.” 3 μm equals 3000 nm, our size concern is 40-140 nm. (The only reference to nm sizes was with re to the camera used and it was 488 nm.)

SS/CCav: FLAT STATEMENT followed by CAVEAT: See Tweetable abstract: “Face masks are an effective means of stemming the spread of COVID-19. HOWEVER, mask performance varies considerably depending on the fabric from which they are made, and how they fit on the face.”

This article promotes the Wuhan lie: “On 26 December 2019, a 41-year-old male was admitted to the Central Hospital of Wuhan, presenting with fever, dizziness and an unproductive cough [1]. The patient,

a worker at a seafood market in Wuhan, was one of the first reported cases of a newly emerging severe respiratory disease, which we now know as COVID-19. Metagenomic analysis of a sample of the patient's bronchoalveolar lavage fluid revealed that the causative agent of COVID-19 is a coronavirus (CoV); named SARS-CoV-2, owing to its phylogenetic relatedness to a group of SARS-like coronaviruses (genus Beta coronavirus, subgenus Sarbecovirus)."

CCav: They admit the masks are not particularly good an PROTECTION — so they talk about “source control”: “Face masks worn in a pandemic function more effectively as source control rather than protection[17].”

CCav: “Particles can escape from the masks in two ways-either direct penetration of the fabric, or leakage around the sides. [18]”

The tests this study looks at have no measurement for leak testing, whether inward or outward (penetrating the mask during inhalation or exhalation).

CCav/CE: In fact, this entire paragraph is a perfect

example of a fully compromising caveat providing contradictory evidence against any assertion in favor of mask efficacy:

“Face masks worn in a pandemic function more effectively as source control rather than protection[17]. Particles can escape from the mask in two ways- either direct penetration of the fabric, or leakage around the sides [18]. While inward leakage testing is part of the requirements for personal protective equipment (PPE) masks in European Standard (EN) 149, the standard for medical masks, EN 14683, does not have any requirement for a leakage test – neither inward nor outward. The European Committee for Standardisation Workshop Agreement (CWA) 17553 for face coverings also has no quantitative fit test. In fact, to our knowledge, a standard test for outward leakage does not exist. When both leakage and fabric penetration are considered for workplace usage of PPE, the result is the assigned protection factor. These values typically show far lower protection than would be assumed from the performance of the fabric alone. We propose a new metric to take into account outward leakage, which we call outward suppression factor. One would expect outward leakage to be more challenging to fix as the exhaling pressure potentially reduces the seal.”

IR: See above IR: “It is also important to note that the aerosol used in the current experiment setup has a mass median aerodynamic diameter of 3 μm ” good night, that’s 3000 nm. It goes on to say, “but is also a broad distribution with 10% of the mass in particles larger than 10 μm .” Of course, 10 μm is 10,000 nanometers.

The article says: “this covers the range of particle sizes emitted from speech, but whether this also correlates to the infectious particles IS NOT CURRENTLY KNOWN.” That was Dec. 2020, and it seems to me I have studies dated around that time that stipulate the SARS-CoV-2 virus size was 125 nm. or 0.125 μm . I’m not going to stop and do that work here, but in any case, if it was known by some that does not mean our Irish TAs had that information available to them at the time they constructed their study. It is helpful that they did at least recognize this limitation in their study and stipulated it.

TA offers two references to studies that examined mask efficacy against “submicron particles.” Let’s take a look:

Rengasamy S, Eimer B, Shaffer RE. Simple

respiratory protection—evaluation of the filtration performance of cloth masks and common fabric materials against 20–1000 nm size particles. *Ann. Occup. Hyg.* 54(7), 789–798 (2010).
Medline, CAS, Google Scholar

Already vetted in these notes: See
FN01.38.00.03.39d —
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7314261/>. PDF: FN01.38.00.03.39d.Simple Respiratory Protection—Evaluation of the Filtration Performance of Cloth Masks and Common Fabric Materials Against 20–1000 nm Size Particles - PMC

CONCLUSION SUMMARY: This study seems to have limited testing to particle sizes in the range of 410-4588 nm, which is above our threshold of 300 nm [and far exceeds our concern size of 40-140 nm]. “Average penetration levels for the three different cloth masks were between 74 and 90%, while N95 filter media controls showed 0.12% at 5.5 cm s⁻¹ face velocity.” Essentially, the findings corroborate earlier examined studies, and demonstrate masks are not protective for either PPE or source control.

And

Van Der Sande M, Teunis P, Sabel R. Professional and home-made face masks reduce exposure to respiratory infections among the general population. PLoS ONE 3(7), e2618 (2008).
Crossref, Medline, Google Scholar

Already vetted in these notes: See
FN01.38.00.19.00 —
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

CONCLUSION SUMMARY: “Here is mention of 0.02 μm to 1 μm but it’s a reference to the Portacount® that was used to register particles floating in the air with sizes between 0.02 μm to 1 μm , covering “most of the size range of infectious respiratory aerosols.” This article contained gross internal contradictions. Nevertheless, in the end of the day, it corroborates masks do not provide adequate protection against “submicron particles.”

—> Back to **FN01.23.00.00.00-**
<https://www.futuremedicine.com/doi/full/10.2217/fmb-2020-0292>

SP: Then it concludes with reference to all the “proof” there is out there that masks work as supportive of their studies — so... It’s odd how often I run into this situation where the TA lays out what amounts to CE and then declares with “authority” from somewhere else not here stipulated in contradiction against the evidence TA just referenced. ?????

IR: I dismiss this study on the ground that it does not examine the issue of droplet evaporation, and ignores the fact that the virions are 125 nm while they are talking about blocking something that ranges from 3000 to 10000 nm.

FN01.24.00.00.00-

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0240285>. PDF:

FN01.24.00.00.00.Selection of homemade mask materials for preventing transmission of COVID-19_ A laboratory study _ PLOS ONE.pdf

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Oct. 2020

CCP: Wang, Yanjun, Xiaoli, Zong, Huang, Zhang, Xin, Cheng, Yang, Guo, Youlin, Liu, Huang J, Du (All authors) / **ORIGIN:** CHINA / **REF:** WHO (2); Ntl. plan; Australian Health; US DHHS; MacIntuyre, Dwyer, Seale, Cheung; Wu, Huang; Hou, Zhou, Xu, Wang D., Xu, Jiang; van der Sande, Teunis, Sabel; Davies; US CDC; Ntl. Hlth. Com. PRC; Li, Zong, Sun, Li; Furuhashi; Wu, When, Li; State Food and Drug Admin-CHINA; Chinat Ntl. Textile and Apparel; Chen. Zhai, Liu, Yu, Xu; Zhu, Li; Zou, Xu, Xu J., Wu, Niu; Han, Ma, Hu, Hao; Li, Tian (22 of 32) / **FUNDING:** Statement: “We thank scientific and technological project supported by West China Hospital of Sichuan University for tacking COVID-19, and also thank technology innovation project supported by Chengdu Science and Technology Bureau for tacking COVID-19.”

RCT: No. Noted as a *Laboratory Study*.

CONTENT:

IR: The study focuses on bacterial filtration, which we know are sizes significantly larger than virus: “Our study found that the bacterial filtration efficiency of homemade masks failed to meet the standards of surgical masks.” But they liked double layers and so on.

NC: They found that some combinations of material used for homemade masks **COULD REACH THE EFFICACY LEVEL OF THE SURGICAL MASK.**

IR: But we have already shown the surgical mask does not protect from a virus. So!

FN01.25.00.00.00-

<https://bmjopen.bmj.com/content/11/4/e045941>.

PDF: FN01.25.00.00.00.Role of masks, testing and contact tracing in preventing COVID-19 resurgences_ a case study from New South Wales, Australia _ BMJ

Open — SEE FULL PDF with SUPP:

FN01.25.00.00.00.FULL PDF e045941.full.pdf

PC: October 2020, published April 2021

CCP: Stuart, Abey Suriya, Kerr, Mistry, Klein, Gray, Hellard, Scott (1 of 9) / **ORIGIN:** DENMARK-Copenhagen: U. of Copenhagen, Dept. of Mathematical Sciences. AUSTRALIA-VICTORIA Melbourne: Burnet Institute; The Alfred Hospital, Dept. of Infectious Diseases; U. of Melbourne, Dept. of Epidemiology and Preventive Med.; NSW-Sydney: U. of Sydney, School of Physics; UNSW Sydney, The Kirby Institute; ; Denmark; USA-WA Seattle: **B&MGF**, Institute for Modeling,

Global Health Division. / **REF:** Huag; Dehning; Hsiang; Han; Nong; Nguyen, Doan; The Guardian; BBC News; He, Lau, Wu; Gao; He, Guo, Mao; Chin, Chu; Wang, Ng; Duong, Le, Ha; Yu; Lu; Sun, Wang, Gao; Chu; Australian Bureau of Statistics; ABC News; Australian Govt. Dept. Health; Liang, Gao, Cheng; Leung, Chu Shiu; Doung-Ngern; IHME; WHO; Lancet; Lee. (27 of 62) / **FUNDING:** nd Assumed from institutions represented by TA.

RCT: No. This is a “simulation study.” Also, in title, called a “case study.”

CONTENT:

IR: Results are inconclusive and subject to disqualifying confounders: In this case, the study conflates too many co-interventions. Here is an example. They combine masking, with testing and assert that where testing is robust, 90% or higher, the infection rate is lower. So, how are we supposed to attribute any efficacy from masks in such a study? It could be entirely a matter of testing, and might have little or nothing to do with masking.

CCav: “We find that the relative impact of masks is greatest when testing and tracing rates are LOWER

and vice versa.” They attribute a significant reduction in infection rates where testing rates reached 90% of symptomatic cases, and 90% of people with known contact history. Then say, “However, across comparable levels of mask uptake and contact tracing, the NUMBER OF INFECTIONS OVER THIS PERIOD WAS PROJECTED TO BE 2-3 TIMES **HIGHER** IF THE TESTING RATE WAS 98% INSTEAD OF 90%, and 8-12 times higher if the testing rate was 65% or 30-50 times higher with a 50% testing rate.”

Think about what that tells you about the efficacy of masks — how about NOTHING! This sounds like a study of the efficacy of testing and tracing, the masks are incidental.

Read the RESULTS section and tell me you see something different. Clearly, the study shows no direct correlation between mask wearing and infection rates, but a clear connection between testing and tracing and infection rates. But this is nonsense — of course if you increase testing (and we are well aware of the problems with the ct settings on the PCR tests creating false positives) you will have higher incidence of “cases.”

Nevertheless, the study concludes that their work

“suggests that testing, tracing, and masks can all be effective means of controlling transmission,” even though no direct correlation was established between masks and these other strategies.

UNDER STRENGTHS and LIMITATIONS:

SP: They fail to present one of the key limitations, the fact that the contribution made by masks is not separated from the contribution made by contact tracing and aggressive testing. Also, the study is entirely contrived, it’s a “modeling study; no personal data were used and patient/public involvement was not required.” It’s all about “estimates” and “projections,” no actual scientific trial was conducted.

Regarding the masks, our specific interest, see under Table 1. “We also considered variations on mask uptake and effectiveness.”

AME: There is an assumption of mask efficacy worked into the model, NO TESTS WERE DONE TO ESTABLISH MASK EFFICACY.

CCav: *** Here is a sample of the typical caveat I find in all these so-called studies: “On efficacy, we note that ALTHOUGH THE BODY OF EVIDENCE

SUPPORTING THE EFFECTIVENESS OF MASKS for protecting against transmission between individuals is NOW CONSIDERABLE, [no reference is offered] THE SIZE OF THE EFFECT IS **DIFFICULT TO DETERMINE**, WITH ESTIMATES IN THE RANGE OF 20%-80% AND VARYING DEPENDING ON WHETHER ONE OR BOTH PARTIES WEAR MASKS, or whether spillover behavioural [sic] changes on people's attention to other NPIs are captured." This is a bunch of gobbledygook — reducing it to what it actually says looks like this, *we cannot say anything definitive about the efficacy of masks, estimates of their value range from 20% [effectively worthless] to 80% [significant, but still not providing anything like "protection"], so while we pretend this study establishes masks as a viable strategy to mitigate a flu pandemic, we really have no idea what contribution IF ANY masks actually make.*

CCav: Because of this “uncertainty regarding the effectiveness of masks,” the researchers admit they ASSUMED masks will reduce the per-contact probability of transmission by 30% — they reference [footnote 5, “but also consider 15% and 45% in a sensitivity analysis presented in the online supplemental materials.” They recommend we view their estimates as “averages” since “We do not model the differences between both people wearing masks

versus source only versus target only.”

When I attempted to look at the referenced article, footnote 53, see above, it provided a link: https://scholar.google.com/scholar_lookup?author=IHME&title=COVID-19%3A+What%E2%80%99s+New+for+June+25&publication_year=2020. This link rendered a “Sorry, we couldn’t find this article.” So I searched the title of the article:

Found: 1. IHME. COVID-19: What’s New for June 25 2020 Found it, saved a PDF here: IHME. COVID-19: What’s New for June 25 2020 at the following link:

FN01.25.01.00.00-

https://www.healthdata.org/sites/default/files/files/Projects/COVID/Estimation_update_062520.pdf PDF: FN01.25.01.00.00.IHME COVID-19 What's New for June Estimation_update_062520.pdf

PC: June, 2020

CCP: Not named / ORIGIN: Institute for Health Metrics and Evaluation (IHME) — **\$279 MILLION investment from the Bill & Melinda Gates Foundation in 2017.** / REF: no references. /

FUNDING: nd Assumed IHME.

RCT: No. A prediction re COVID-19

CONTENT:

AME/NC: Having looked at this study, it does not represent itself as an RCT examining the effectiveness of masks, but, like the study under examination, assumed effectiveness, and merely offered estimates based on their assumptions projecting results if x number of the population wears them versus not wearing them. For example: NC: “Increasing mask use to rates of 95% COULD REDUCE the number of estimated deaths due to COVID-19 substantially around the world.” Further, NC: “We estimate that increasing mask use COULD lead to reductions in the number of deaths by greater than 50% in many locations around the world, including countries in Africa ... Europe ... as well as in some US states.”

—> Back to **FN01.25.00.00.00-**
<https://bmjopen.bmj.com/content/11/4/e045941>.

IR: CONCLUSION: This is study is totally inadequate to establish any conclusion regarding the efficacy of masks since the researches did not test for

that efficacy, but depended upon other similarly inadequate studies to arrive at an ESTIMATE they used in their “modeling.”

CCP, SS, OS, PC, MM (Mathematical Models — this sort of study is fraught very susceptible to the influence of bias, depends entirely upon the honesty and integrity of the researcher/s.)

FN01.26.00.00.00-

<https://www.nature.com/articles/s41467-020-17922-x> PDF: FN01.26.00.00.00.Face mask use in the general population and optimal resource allocation during the COVID-19 pandemic _ Nature Communications

PC: 2020

CCP: Colin J. Worby, Hsiao-Han Chang / **ORIGIN:** USA-MA; Taiwan; Colin: Broad Institute of MIT and Harvard. Hsiao-Han Department of Life Science & Institute of Bionformatics and Structural Biology, National Tsing Hua University, Taiwan. / **REF:** Sohrabi, WHO; Johns Hopkins U; Qiu; Bai; Lancet; Leung, Lam, Cheng; Greenhalgh; US CDC; UK-Dept. Transport; WHO; Wang, Ng; Banerjee; Chu; MacIntyre; Cowling; Tang; Davies; Leung; Cowling; Li, Lam, Chen, Tan;

Mizumoto, Kagaya, Zarebski, Chowell; Nishiura; Chen; Zunyou Wu; Wu HL., Huang, Zhang, He, Ming (25 of 46). / **FUNDING:** Statement: “This study was supported by the Ministry of Science and Technology in Taiwan (MOST 109-2636-B-007-006). C.J.W. received support from the National Institute of Allergy and Infectious Diseases (grant number U19AI110818). The funders had no role in preparation of the manuscript.”

Worby is a statistical modeler. He has worked for NIH. And the Center for Communicable Disease Dynamics, Harvard TH Chan School of Public Health, Boston, MA.

RCT: No. Compartmental Models; MM

CONTENT:

ACK: Typical caveat: “While there is broad agreement that travel restrictions and social distancing are beneficial in limiting spread, RECOMMENDATIONS AROUND FACE MASKS ARE INCONSISTENT.”

MM/AME: “Here we use mathematical modeling to examine the epidemiological impact of face masks ...”

and on it goes. Another study that assumes a certain level of efficacy from masks and speculates projections based on that assumption.

What we are looking for is research that establishes scientific basis for the assumptions.

SP/MM/AME: Here, the researchers essentially premise their work on the assumption that even IF masks are ONLY 25% effective, they can reduce infection significantly when spread out over a large population. The estimate that “even if limited distribution of masks offering only 25% protection and containment would result in significant drop in death rates (does not indicate what significant means), “2. Even if only 10% of people used the masks offering 25% protection, the death rate would drop 5%, 3. If people used homemade masks that offered even 5% protection and containment, death rates would drop from 2.5 to 2.26 percentage points.” This is utter foolishness. IF, IF, IF — and extrapolating their *IF* out over multiple millions of people— it is impossible to test their hypothesis, it’s a mathematical modeling game that answers nothing.

NOTE: TA stipulate only to the fact that the eastern cultures recommended masks early as a virtually

traditional practice in those cultures, but the west was slow to come to this conclusion.

The question is WHY did the west begin modeling eastern practice when up to COVID no western scientific study concluded masks were an effective prevention?

AME: Anyway, this study is worthless regarding our question because it is premised on the assumption that masks work and then creates its modeling from that assumption.

FN01.27.00.00.00-

<https://erj.ersjournals.com/content/55/6/2001260.full>
PDF: FN01.27.00.00.00.Universal use of face masks for success against COVID-19_ evidence and implications for prevention policies _ European Respiratory Society

The European Respiratory Journal

5/17/22 on 5/18/22 I attempted to return to the doc online and received a 404 message, PAGE NOT FOUND. Happily, I had saved a PDF copy of the doc to my files. 7/9/22 — I searched the address and received access to the article. I've added a PDF here in case it has been updated: FN01.27.00.00.01.Universal use of face masks for success against COVID-19_ evidence and

implications for prevention policies _ European Respiratory Society: and I'm adding vetting notes when taken from the web article to this version, assuming it is a different version, and when using the PDF, I'm using the original PDF I copied to my folder. (Comparing all the article data these appear to be identical.)

PC: June, 2020 (A previous version: April 29, 2020.)

CCP: Esposito, Chi Chi Leung, Migliori (3 of 4) / **ORIGIN:** European Respiratory Society; Italy; Hong Kong, China / **REF:** Zou, Ruan, Huang; WHO (2); Dharmadhikari, Mphahlele; Leung, Chu, Shiu; Long, Hu, Liu; Seto, Tsang, Yung; US CDC. (8 of 15) / **FUNDING:** nd Assumed: "The article is part of the activities of WAidid (World Association for Infectious Diseases and Immunological Disorders), the Global Tuberculosis Network (GTN) and the WHO Collaborating Centre for Tuberculosis and Lung Diseases, Tradate (ITA-80, 2017-2020-GBM/RC/LDA)."

RCT: No. RL.

CONTENT:

CCav/IR: “It is well known that surgical masks can prevent the inhalation of large droplets and sprays **but have limited ability to filter submicron-sized airborne particles** [8, 9]. **As SARS-CoV-2 is also embedded in aerosols <5 µm in diameter**, it cannot be determined whether they are always effective. However, **mask wearing by patients with pulmonary tuberculosis (an airborne infectious disease) has been shown to reduce infectivity to guinea pigs by 56% [9, 10].**” (I’VE ALREADY SEEN THIS GUINEA PIG STUDY! Tuberculosis bacterium is 500 nm in diameter and at least that in length but usually 2-4 µm, or 2000-4000 nm long — and I vetted these two articles also:

Migliori GB, Nardell E, Yedilbayev A, et al. Reducing tuberculosis transmission: a consensus document from the World Health Organization Regional Office for Europe. *Eur Respir J* 2019; 53: 1900391. doi:10.1183/13993003.00391-2019Abstract/FREE Full TextGoogle Scholar & Dharmadhikari AS, Mphahlele M, Stoltz A, et al. Surgical face masks worn by patients with multidrug-resistant tuberculosis: impact on infectivity of air on a hospital ward. *Am J Respir Crit Care Med* 2012; 185: 1104–1109. doi:10.1164/rccm.201107-11900C CrossRef PubMed Web of Science Google Scholar See

FN01.22.00.00.00—guinea pigs; see FN01.27.05.00.00 for the Dharmadhikari study; See FN01.27.01.00.00 for the Migliori study.)

The CCav: limited ability to filter submicron-sized particles.

IR: Addresses particle sizes outside our criteria of concern.

CE: See Tweetable abstract: It opens with a statement that is already debunked by “everyone”: “Cloth masks are a simple, economic and sustainable alternative to surgical masks as a means of source control of SARS-CoV-2 in the general community.” Cloth masks have been discredited as having little or NO value in prevention either as source control or target control.

NOTE: It’s a “review of literature” study — Much like my own. However, they limited their study to a selection of studies that were NOT RCTs.

NC: It’s another FURTHER STUDIES ARE REQUIRED, because the studies we selected were INCONCLUSIVE and challenged by others.

CE: Then comes the admissions that are inconsistent with their ultimate conclusions,

something I find often in these studies. “As SARS-CoV-2 is also embedded in aerosols $<5 \mu\text{m}$ [500 nanometers] in diameter, IT CANNOT BE DETERMINED WHETHER THEY ARE ALWAYS EFFECTIVE. However, mask wearing by patients with pulmonary tuberculosis (an airborne infectious disease) has been shown to reduce infectivity to guinea pigs by 56%.” They offer two footnote references, 9, 10 which I vet below.

They also point to a RCT, footnote no. 12, that has “shown that surgical masks and N95 respirators were similarly effective in preventing influenza-like illness and laboratory-confirmed influenza among healthcare workers. [12].”

They what they referred to as a “case-control study comparing the protective effect of surgical masks and N95 respirators against SARS among healthcare workers in five Hong Kong hospitals. [13].”

So, we will take a look at the RCT — the others are OS.

Upon this they conclude: “Controlling a respiratory infection at source using a face mask is a well established strategy.” — the example for this, or supporting this statement is the fact that people are told to wear them.

Remember, with all their study of the RCT and the Controlled-Case study, et al, this paper admits: **“IT IS WELL KNOWN THAT SURGICAL MASKS CAN PREVENT THE INHALATION OF LARGE DROPLETS AND SPRAYS BUT HAVE LIMITED ABILITY TO FILTER SUBMICRON-SIZED AIRBORNE PARTICLES, [8,9]. AS SARS-COV-2 IS ALSO EMBEDDED IN AEROSOLS <5µm IN DIAMETER, IT CANNOT BE DETERMINED WHETHER THEY ARE ALWAYS EFFECTIVE.”**

Nonetheless, let’s look at their studies supporting their hypothesis that masks work.

First, the guinea pig study: FN01.27.01.00.00
<https://erj.ersjournals.com/content/53/6/1900391>
Reducing tuberculosis transmission: a consensus document from the World Health Organization Regional Office for Europe.

So, right away we have CCP.

This study depends on experience dealing with Tuberculosis which is a bacterium, which, according to https://erj.ersjournals.com/content/54/suppl_63/PA4605 range in size from the smallest at 0.5 to 1 µm in

length to the classical rods with a “mean length in 2-4 μm , and long filamentous forms over 6-7 μm in length, while Mtb width did not change significantly. It’s in a horseshoe pattern (see https://en.wikipedia.org/wiki/Mycobacterium_tuberculosis). Here is a study (<https://microbenotes.com/mycobacterium-tuberculosis/>) that indicates size is 0.5 x 3 μm — showing the diameter is 0.5 μm . So the length ranges from 0.5-1 μm to 6-7 μm with a mean length of 2-4 μm , and diameter maintains at 0.5 μm . To translate into nanometers: the diameter is 500 nanometers and the length ranges from 500 to 7000 with a mean length of 2000-4000 nm on the small side.

Okay, let’s look at the doc cited here that says masks are effective in protecting against influenza or influenza like disease: Footnote No. 12 from the doc cited above takes us to the following document:

FN01.27.02.00.00.00.00.201203-Guidance-MDR-TB-contacts

(<https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/201203-Guidance-MDR-TB-contacts.pdf> — 5/17/22)

The first thing to note is this is a study regarding MDR TB and XDR TB not COVID or Flu.

The second thing is that I downloaded this doc, saved it in PDF and searched the doc for the word *mask*. This word is not found anywhere in this doc. I did some random tests of the search facility by picking words I see in the doc and searching them. In every case, the search engine located these words throughout the doc. But the word *mask* does not appear in this document. So, either the editor for this article goofed and missed an inadvertent error where possibly the wrong doc was referenced, or ???

Generally, this happens during editing and typically the correct footnote is one up or down in the list; although, it is not unusual for a footnote to reference the wrong document. I tried the one up or down system: No. 11 5/17/22 got a page not found. I'll try the article title: I think I found it —

<https://livewellservices.cheshireeast.gov.uk/Services/5532>. See PDF FN01.27.03.00.00.Infection Prevention and Control Services - Live Well Cheshire East. No mention of masks at all in this doc. The Footnote No. 13 also returned a Page Not Found. Searched title: found it —

<https://pubmed.ncbi.nlm.nih.gov/26867464/> PDF — FN01.27.04.00.00.The transmission of Mycobacterium tuberculosis in high burden settings - PubMed. Searched: mask or surgical NOT FOUND.

Then I scanned through for any RCT referenced in this article that addresses the efficacy of masks: found reference to the use of surgical masks for prevention of TB contamination at Footnote 33. Let's take a look.

<https://www.atsjournals.org/doi/full/10.1164/rcm.201107-11900C>. Here is the **PDF FN01.27.05.00.00.Surgical Face Masks Worn by Patients with Multidrug-Resistant Tuberculosis _ Impact on Infectivity of Air on a Hospital Ward _ American Journal of Respiratory and Critical Care Medicine. SEARCHED: got some hits.**

First: "Surgical face masks used by patients with tuberculosis (TB) are believed to reduce transmission but have not been rigorously tested." Unreal! They don't even KNOW whether masks block TB, which are >300 nm in diameter and 500-7000 nm in length.

Second: this appears to be another guinea pig study. Over three months, 17 patients with pulmonary MDR-TB occupied an MDR-TB ward in South Africa and wore face masks on alternate days. Ward air was exhausted to two identical chambers, each housing 90 pathogen-free guinea pigs that breathed ward air either when patients wore surgical face masks

(intervention group) or when patients did not wear masks (control group). Efficacy was based on difference in guinea pig infections in each chamber.” 69 guineas in the control group became infected, while 36 were infected in the intervention group. This suggested a 56% decreased risk of TB transmission when using masks. (BUT THIS IS TB we are talking about, not INFLUENZA.)

THIRD: when talking about mask efficacy: “The barrier properties of surgical masks and respirators are different, reflecting their different functions (10,11). [CCav:] The tight face seal of a respirator, for example, although essential for protecting the wearer, is not required for surgical masks designed simply **TO IMPACT RELATIVELY LARGE RESPIRATORY DROPLETS.**” This study also points out the limitations of the respirators, explaining that “even a well-fitted respiratory is unlikely to contain the considerable force of cough, and that face-seal leak occurs.”

Fourth: it’s all about TB which we have already shown does not reflect any helpful insight regarding preventing the spread of something so small as a virion. And yet, this study repeatedly points out the limitations of masks to protect against spread or contagion of TB: “Like effective treatment or isolation,

surgical masks may provide effective source control, but also like treatment and isolation, some suspicion for TB is required.” In other words, [NC:] don’t get too confident you are protected from TB by a surgical face mask. Short term use in an emergency room or clinic MAY BE OPTIMAL — that’s weird, *may be optimal?*

Fifth: regarding influenza: “[Masks] may also be of use as a source-control measure for other airborne or partially airborne diseases, such as influenza, **IF SUPPORTED BY FURTHER RESEARCH.**” You’ve got to be kidding me. This is far removed from the enthusiastic conclusion rendered above: The referenced RCT has “shown that surgical masks and N95 respirators were similarly effective in preventing influenza-like illness and laboratory-confirmed influenza among healthcare workers.” The only other reference to influenza in this doc is a mention of the 1918 pandemic and the fact that masks were used then, but no mention was made about the efficacy except a very generalized one: from Barry JM’s “The great influenza: The story of the deadliest pandemic in history. *New York: Viking Adult; 2004.* The statement: “According to Barry, surgical-type masks for infectious source control were first used during the 1918-1919 influenza pandemic (12—see above: the Great Influenza). Like effective treatment or isolation,

surgical masks may provide effective source control,
BUT ALSO LIKE TREATMENT AND ISOLATION, SOME
SUSPICION FOR TB IS REQUIRED.”

Absolutely NOTHING like the bold assertion made
in the article here being examined is found in any of
the references.

—> Back to **FN01.27.01.00.00** —

“Masks stop LARGE PARTICLES from becoming
infectious droplets at the source. A tight fit is not
required. Surgical masks on patients serve a function
similar to cough hygiene using a tissue or hand.” Good
night! A tissue or hand serves as well? And this is
about Tuberculosis — not influenza.

This is followed with typical predictions based on
inconclusive data.

So, this is prior to COVID, and it’s not even on
point — we are talking about TB in this not COVID, or
SARS, or any virus. Or IR.

FN01.28.00.00.00-

<https://journals.sagepub.com/doi/full/10.1177/0956797620964422> PDF: FN01.28.00.00.00.The Emotional

Path to Action_ Empathy Promotes Physical Distancing and Wearing of Face Masks During the COVID-19 Pandemic -

PC: Sep. 2020

CCP: Stefan Pfattheicher, Laila Nockur, Robert Böhm, Claudia Sassenrath, Michael Bang Petersen / **ORIGIN:** Denmark-Aarhus U, Copenhagen U; Germany-Ulm U. / **REF:** CDC; Cheng, Lam, Leung; Cheng, Wong, Chuang, Chen; Dehning; Wang; Feng, Shen, Xia, Song, Fan, Cowling; Greenhalgh; Leung, Chu, Shiu, Chan, Hau, Cowling; #Masks4all; McAjuliffe; WHO; Zhang, Jiang, Yuan, Tao. — **CONTENT** indicates a dependency upon CCP China to support mask efficacy. (12 of 37) / **FUNDING:** nd Assumed institutions of TA affiliation.

RCT: No. Method: Study 1 — case studies

CONTENT:

IR: A study published by the Association for Psychological Science — what has that to do with masks protection from virions? This article is about psychological motivations.????

IR: About masks: “We tested the idea that physical

distancing and wearing of face masks can be the result of a prosocial emotional process [??]—empathy for people most vulnerable to the virus.” They found that motivating people via appeals to empathy gets people to comply whereas simply informing them, “merely providing information about the importance of the measures does not.” The study is NOT about mask efficacy.

AME: This is not an RCT, OR EVEN an OS study examining the efficacy of face masks. When the question of efficacy arises, these researchers run to China: SS/CCP: “Both physical distancing and wearing of face masks reduce the probability that an infected person spreads the virus SARS-CoV-2 to those not infected (Dehning et al., 2020; Feng et al, 2020; Leung et al., 2020; Zhang, Jiang, Yuan, & Tao, 2020).”

That’s their proof: CCP. Let’s take a look.

The first link is broken. Title Search: Found:
Dehning:

FN01.28.01.00.00-

<https://www.science.org/doi/10.1126/science.abb9789> (pdf:

<https://journals.sagepub.com/doi/full/10.1177/0956>

797620964422) PDF: FN01.28.01.00.00. Inferring change points in the spread of COVID-19 reveals the effectiveness of interventions

PC: May, 2020

CCP: Dehning, other authors ? / **ORIGIN:** GERMANY / **REF:** Li, Pei, Chen, Song Zheng, Yang, Shaman; Liu; Chang; Zhang, Liang, Wang, Wang W., Zhao, Wu; Liu; Peng, Yang, Zhang, Shuge, Hong; Chen, Lu, Chang, Liu; Dong, Du; Mu, Sun, Xiong, Yu; Johns Hopkins (10 of 48) / **FUNDING:** Statement: “**Funding:** All authors received support from the Max-Planck-Society. J.D. and P.S. acknowledge funding by SMARTSTART, the joint training program in computational neuroscience by the VolkswagenStiftung and the Bernstein Network. J.Z. received financial support from the Joachim Herz Stiftung. M. Wibral is employed at the Campus Institute for Dynamics of Biological Networks funded by the VolkswagenStiftung.”

RCT: No. Bayesian inference and the forecast scenarios, etc. It's MM.

CONTENT:

OS: “We apply Bayesian inference based on Markov chain Monte Carlo sampling to a class of compartmental models ...” “From the observed case numbers of COVID-19 ...” etc.

This depends on the assumption that the interventions account for the change in the data which might or might not be true.

IR: this study does not even touch on the question of masks at all. It focuses on social distancing. Search: *mask, efficacy* with NULL result.

The second link: Feng:

Broken link. Title Search: Found
[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext)

FN01.28.02.00.00-

[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext) PDF:
FN01.28.02.00.00.Rational use of face masks in the COVID-19 pandemic - The Lancet Respiratory Medicine

PC: March, 2020 (Before CDC and WHO reversed positions on mask mandates)

CCP: Shuo Feng, Chen Shen, Nan Xia, Wei Song, Mengzhen Fan and Benjamin Cowling. / ORIGIN:

“The use of face masks has become ubiquitous in China and other Asian countries such as South Korea and Japan.”

RCT: No. This is not a study, simply a report on status of mask use in various countries.

CONTENT:

CCav: “We compared face masks use recommendations by different health authorities (panel). Despite the consistency in the recommendation that symptomatic individuals and those in health-care settings should use face masks, [DISCREPANCIES WERE OBSERVED IN THE GENERAL PUBLIC AND COMMUNITY SETTINGS.” (notes: 1,2,3,4,5,6,7,8)

NC/CE: The paper reminds us that “the US Surgeon General advised against buying masks for use by healthy people.” They (the researchers preparing this study—TA) also acknowledge the argument that “face masks provide no effective protection against

coronavirus infection.”

CCav: “Evidence that face masks can provide effective protection against respiratory infections in the community is scarce, as acknowledged in recommendations from the UK and Germany. (7, 8).”

D: However, **FACE MASKS ARE WIDELY USED BY MEDICAL WORKERS AS PART OF DROPLET PRECAUTIONS WHEN CARING FOR PATIENTS WITH RESPIRATORY INFECTIONS.**”

NC/CS: From there, it’s considered “reasonable to suggest vulnerable individuals avoid crowded areas and use surgical face masks rationally when exposed to high-risk areas.”

Then we have the equivocating recommendations: “COULD BE” and “MIGHT BE” and “IF EVERYONE” and so on.

SS: So, this is no an RCT — it’s actually not any sort of scientific study to ascertain anything. It’s a sort of statement from scientists published in Lancet — and amounts to a call for public health agencies to make rational recommendations.

SS: Then it refers to the WHO recommendations: wear them IF YOU HAVE RESPIRATORY SYMPTOMS or if caring for someone with symptoms.

NC: “Perhaps” it would be rational to recommend people wear them in quarantine if they need to leave home for any reason.

SS: Older adults and those with underlying medical conditions should wear them if available.

SS: Universal use of face masks could be considered if supplies permit. No science is offered to justify this recommendation for egregious encroachment upon persona autonomy, *if supplies permit*. [How many billions of masks have been “sold” already — approaching a a quarter of a trillion, I think. It’s all about *the money*.]

So, this study contributed NOTHING to the support of the psychological study we are looking at that recommended we read this as supporting the efficacy of masks.

Here is the third reference from The Emotional Path article: FN01.28.00.00.00 —

3. Leung:

<https://www.nature.com/articles/s41591-020-0843-2> Let's vet it.

FN01.28.03.00.00-

<https://www.nature.com/articles/s41591-020-0843-2> (Alternate web page:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8238571/>) PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine.pdf

PC: April 2020

CCP: Leung, Chu, Shiu, Chan, Hau, Yen, Li, Wing-Hong Seto, — and McDevitt, Milton, and Cowling (10 of 14) / **ORIGIN:** CHINA-Hong Kong: U. of HK, Li Ka Shing Faculty of Medicine, School of Public Health, WHO Collaborating Centre for Infectious Disease Epidemiology and Control; Dept. of Microbiology; Dept. Mechanical Engineering. USA-MA Boston: Harvard School of Public Health; MD College Park: U. of MD, School of Public Health, MD Inst. for Applied Environmental Health. / **REF:** Shiu, Leung, Cowling; Tellier, Cowling, Tang; Xiao; Cowling, Leung; Han, Lin, Ni, You; MacIntyre, Chughtai; Cowling; Huynh; Yan;

Kim; Chan, Lim, Chiu; Yee (12 of 23) / **FUNDING:**
Statement: “This work was supported by the General Research Fund of the University Grants Committee (grant no. 765811), the Health and Medical Research Fund (grant no. 13120592) and a commissioned grant of the Food and Health Bureau and the Theme-based Research Scheme (project no. T11-705/14-N) of the Research Grants Council of the Hong Kong SAR Government.”

RCT: Not asserted.

CONTENT:

SS: “Surgical face masks significantly reduced detection of influenza virus RNA in respiratory droplets and coronavirus RNA in aerosols, with a trend toward reduced detection of coronavirus RNA in respiratory droplets.”

D: “Surgical face masks significantly reduced detection of influenza virus RNA in respiratory droplets and coronavirus RNA in aerosols, with a trend toward reduced detection of coronavirus RNA in respiratory droplets.”

NC: “Our results indicate that surgical face

masks COULD PREVENT transmission of human coronavirus and influenza viruses from symptomatic individuals.”

D: IR: Way off our size concerns: “These viruses spread between humans through direct or indirect contact, respiratory DROPLETS (including larger droplets that fall rapidly near the source as well as coarse aerosols with aerodynamic diameter $>5 \mu\text{m}$ [5000 nanometers] and fine-particle aerosols (droplets and droplet nuclei with aerodynamic diameter $\leq 5 \mu\text{m}$ [less than or equal to 5000 nanometers]).”

NOTE: Remember that when TA sets a bottom limit, like $\leq 5 \mu\text{m}$, it should not be assumed he mean every size below that threshold. For example, if he meant to point out a bottom range below $3 \mu\text{m}$, this would be represented as $\leq 3 \mu\text{m}$. The range indicated by $\leq 5 \mu\text{m}$, therefore, should be understood as referring to particles ranging from $\geq 4 \mu\text{m} - 5 \mu\text{m}$.

CCav: “Although hand hygiene and use of face masks, primarily targeting contact and respiratory droplet transmission, HAVE BEEN SUGGESTED AS IMPORTANT MITIGATION STRATEGIES AGAINST INFLUENZA VIRUS TRANSMISSION (4), LITTLE IS

KNOWN ABOUT THE RELATIVE IMPORTANCE OF THESE MODELS IN THE TRANSMISSION OF OTHER COMMON RESPIRATORY VIRUSES (2,3,5). UNCERTAINTIES SIMILARLY APPLY TO THE MODELS OF TRANSMISSION OF COVID-19 (refs. 5,7).

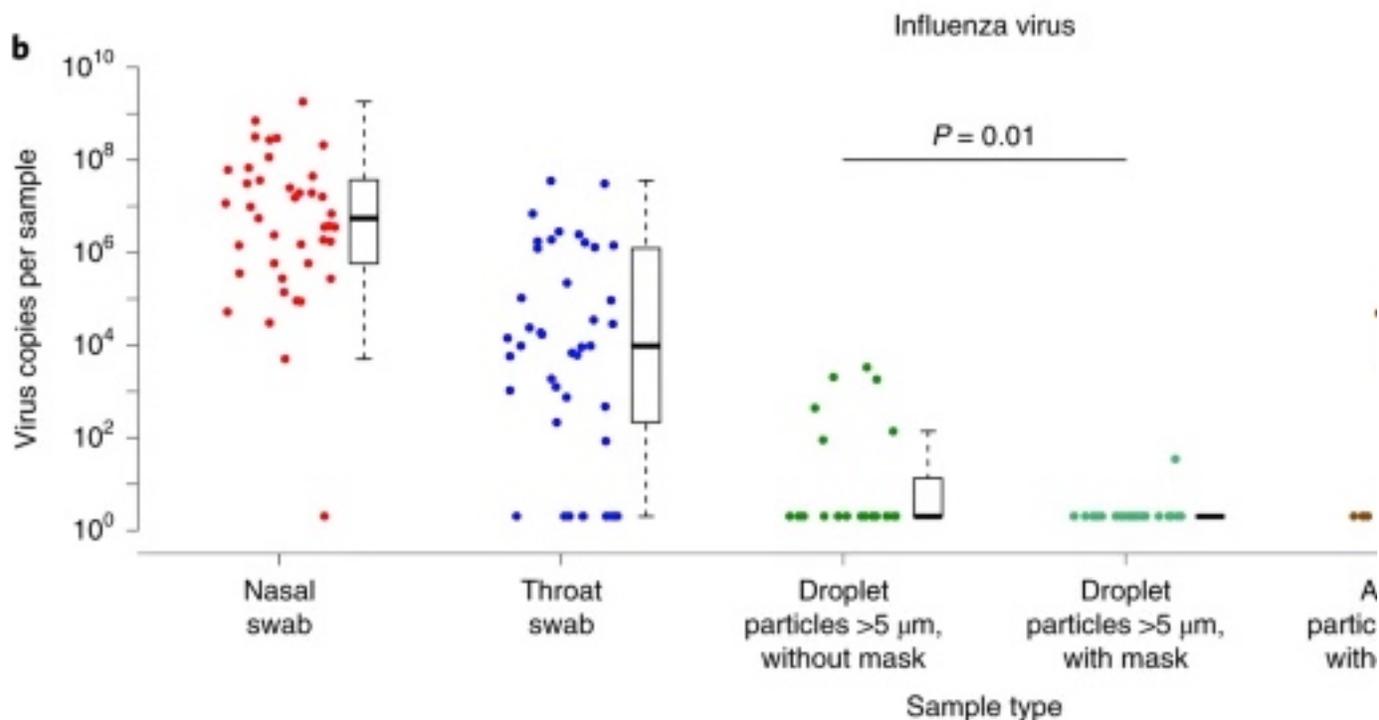
SS: “Some health authorities recommend that masks be worn by ill individuals to prevent ...” Of course, this is likely a true statement of fact. But it should not be taken as in and of itself establishing any scientific evidence supporting the recommendation.

CCav: “Most of the existing evidence on the filtering efficacy of face masks and respirators comes from in vitro experiments with nonbiological particles (9,10), which may not be generalizable to infectious respiratory virus droplets. **THERE IS LITTLE INFORMATION ON THE EFFICACY OF FACE MASKS IN FILTERING RESPIRATORY VIRUSES AND REDUCING VIRAL RELEASE FROM AN INDIVIDUAL WITH RESPIRATORY INFECTIONS (8), AND MOST RESEARCH HAS FOCUSED ON INFLUENZA.**”

In this study, the effort was to measure, or quantify the “amount of respiratory virus in exhaled breath of participants with medically attended ARIs and determining the potential efficacy of surgical face

masks to prevent respiratory virus transmission.”

*** This study shows droplets $>5 \mu\text{m}$ escaping the masks — that’s 5000 nanometers. You’ve got to be kidding me, and aerosols $\leq 5 \mu\text{m}$ (less than 5000 nanometers) escaping masks.



They detected coronavirus in respiratory droplets and aerosols in 3 of 10 and 4 of 10 of the samples collected without face masks. “BUT DID NOT DETECT ANY VIRUS IN RESPIRATORY DROPLETS OR AEROSOLS COLLECTED FROM PARTICIPANTS WEARING FACE MASKS” — BUT THE GRAPH, SEE

ABOVE CONTRADICTS THIS. So, what they mean is the droplets that escaped the masks did not have any virus in them that was detectable.

So, first, this would mean it got caught in the mask and so was drawn back into the lungs by inhalation. Second, it would mean they found none they could DETECT — so if they are examining for over and under 5000 nanometers, what is the threshold under which the virus is no longer “detectable” — . So they are looking at detectable virions in the droplets?

*** Well, it turns out you must continue reading. Apparently, that was not for influenza. When it comes to influenza: “For influenza virus, we detected virus in 6 of 23 and 8 of 23 of the respiratory droplet and aerosol samples collected without face masks, respectively. THERE WAS A SIGNIFICANT REDUCTION BY WEARING FACE MASKS TO 1 OF 27 (4%) IN DETECTION OF INFLUENZA VIRUS IN RESPIRATORY DROPLETS, BUT NO SIGNIFICANT REDUCTION IN DETECTION IN AEROSOLS.” (Table 1b). So, when it comes to aerosols — NO DIFFERENCE. That’s because when you get into the aerosols you are talking about the sizes that we are talking about in this issue — below 300 nanometers.

When it came to rhinovirus, no difference was found between masked and maskless.

CCav: *** **HERE IS THE FINAL:** “Our findings indicate that surgical masks can efficaciously reduce the emission of influenza virus particles into the environment in respiratory DROPLETS, BUT NOT IN AEROSOLS.”

*** Here are some more helpful insights: “Among the samples collected without a face mask, WE FOUND THAT THE MAJORITY OF PARTICIPANTS WITH INFLUENZA VIRUS AND CORONAVIRUS INFECTION **DID NOT SHED DETECTABLE VIRUS** in respiratory droplets or aerosols —“ This is important and goes to a question I had earlier. The fact that they did not find “detectable” virus in droplets in exhaled breath from those wearing masks is greatly reduced in significance when we learn that as a matter of fact, NO VIRUS WAS FOUND IN THE EXHALED AIR DROPLETS OF MOST OF THOSE WITHOUT MASKS. And this — “FOR THOSE WHO DID SHED VIRUS IN RESPIRATORY DROPLETS AND AEROSOLS, **VIRAL LOAD IN BOTH TENDED TO BE LOW.**” This begins to bring into question the NEED for intervention of this sort.

They conclude their study indicates that

PROLONGED CLOSE CONTACT WOULD BE REQUIRED FOR TRANSMISSION TO OCCUR, even if the transmission was primarily aerosols.

The tell us their results also indicate there could be “considerable heterogeneity in contagiousness of individuals with coronavirus and influenza virus infections.”

IR: As pointed out above, this study zeroed in on particles of a size far beyond our scope of enquiry: $>5 \mu\text{m}$ and $\leq 5 \mu\text{m}$, when our interest is in particles that are $.125 \mu\text{m}$, or 125 nanometers. Their study included droplets up to approx. $100 \mu\text{m}$ [that’s 100,000 nanometers.] In this study, anything under 5000 nanometers is an aerosol. *** Important: “In a validation study, the G-II was able to recover over 85% of fine particles $>0.05 \mu\text{m}$ in size and had comparable collection efficiency of influenza virus as the SKC BioSampler.” Larger than 50 nanometers is getting down there, but they did not test for particles at this size. This was a “validation study,” and we are not told if any virion particles of this size were detected in their study.

FN01.28.04.00.00-

[https://www.medrxiv.org/content/10.1101/2020.03.](https://www.medrxiv.org/content/10.1101/2020.03)

04.20031187v1 PDF: FN01.28.04.00.00.The impact of social distancing and epicenter lockdown on the COVID-19 epidemic in mainland China_ A data-driven SEIQR model study _ medRxiv

PC: March 2020

CCP: Yuzhen Zhang, Bin Jiang, Jiamin Yuan, Yanyun Tao (All Authors) / **ORIGIN:** CHINA-Suzhou: The First Affiliated Hospital of Soochow University, Department of Cardiology; Structure and Systems. / **REF:** Li, Guan, Wu, Wang X., Zhou, Tong, Ren, Leung, Lau, Wong J.; **Baric** (yep, that one); Kang, Nkengasong; Leung, Siri; Cao, Zhang, Lu, Wang L., Song, Pei, Jia, Zeng; Maharaj (2) (7 of 11) / **FUNDING:** Statement: “This research was supported by the National Natural Science Foundation of China (Grant number 81700298, 61502327 and 81700297), the China Postdoctoral Science Foundation (Grant number 2019M661935), the Postdoctoral Science Foundation of Jiangsu Province (Grant number 2019K056A), and the Suzhou Science and Technology Plan Project (Grant number SYS201736).”

RCT: No. OS: TA implemented a strategy of social distancing and noticed a reduction in infection rate from 2.2 to 1.58 in Wuhan and Hubei, and in other

provinces from 2.56 to 1.65. (And this is the problem with this sort of study — other factors might have contributed to the reduction.)

CONTENT:

NC: “We found that earlier intervention of social distancing COULD significantly limit the epidemic in mainland China.”

IR: But this is about social distancing — it does not even talk about MASKS.

NOTE: *** So, consider that here is a psychological approach to the question, which has no bearing on the efficacy of masks. The efficacy of masks is premised upon four studies cited in the document, analyzed above. Of the four, two have nothing to do with masks, don't even mention them. Neither of the others are RCTs, they are OS. The conclusion of the most promising, in terms of supporting mask use, tested for particles in a size range way outside our concern.

Nevertheless the researchers repeat the standard support for the CDC and WHO recommendations.

FN01.29.00.00.00-

<https://www.thelancet.com/journals/lancet/article/P>

IIS0140-6736(20)31183-1/fulltext#seccesstitle10 PDF:
FN01.29.00.00.00.Physical distancing, face masks, and
eye protection for prevention of COVID-19 - The
Lancet

PC: Published June 2020

CCP: C. Raina MacIntyre and Quanyi Wang. (2 of 2)
/ **ORIGIN:** Another Lancet publication; Australia,
CHINA-Beijing. / **REF:** MacIntyre, Chughtai (2); Chu,
Akl, Duda; Bahl; Guo, Wang, Zhang; Lu, Liu, Jia;
Greenhalgh; MacIntyer, Chughtai, Tham; He X, Lau, Wu;
Ngonghala; Wang, Tian, Zhang (11 of 15) **CONTENT:**
see CCP / **FUNDING:** nd Assumed copyright holder: TA

RCT: No. Like most Lancet articles I've come
across, this is not a scientific study; it appears to be a
discussion of the work of others.

CONTENT:

CCav: CDC and WHO have been consistent on
social distancing but conflicting on the issue of
respiratory protection with a face mask or respirator.
Acknowledging the conflicting positions on masks.

FURTHER ADMISSION: "This discrepancy
reflects **UNCERTAIN EVIDENCE AND NO CONSENSUS**

ABOUT THE TRANSMISSION MODE OF SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 (SARS-CoV-2).”

“For eye protection, data are EVEN LESS CERTAIN.”

CCP: For this reason, it’s important that we TURN TO THE CHINESE for help: “Therefore, the systematic review and meta-analysis by Derek Chu and colleagues in The Lancet is an important milestone in our understanding ...” Chu is based in Canada. I’ve seen this article before: Chu DK, Akhmetzhanov SI, Duda S et al. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. Lancet. 2020; (published online June 1.) [https://doi.org/10.1016/S0140-6736\(20\)31142-9](https://doi.org/10.1016/S0140-6736(20)31142-9) Summary Full Text Full Text PDF Scopus (1734) Google Scholar

Already vetted in these notes: see

FN01.06.00.00.00-

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31142-9/fulltext#%20](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext#%20). PDF:
FN01.06.00.00.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_a

systematic review and meta-analysis - The Lancet.pdf

NOTE: “systematic review” and “meta-analysis” are catch words for someone collecting studies as I’m doing here, and performing observational science. “No randomized controlled trials were available for the analysis, but Chu and colleagues systematically reviewed 172 observational studies and rigorously synthesized available evidence from 44 comparative studies on SARS, Middle East respiratory syndrome (MERS), COVID-19, and the betacoronavirus that cause these diseases.” — Unreal! This was written in June 2020 and there were many RCTs done to test the effectiveness of masks but because they are specifically talking about COVID they can say no RCTs were available. LIARS!

The above reminds me of an old preaching maxim — when you don’t know what you are talking about, talk louder.

The problem with systematic reviews is the researcher decides what studies to include in their set. In my case, I am following the sets supplied by others — one set gathered by someone attempting to prove masks work and another set collected by someone who concludes they do not.

—> Back to **FN01.29.00.00.00-**

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31183-1/fulltext#seccestitle10](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31183-1/fulltext#seccestitle10)

NOTE: TA conclude that separating droplet and airborne (aerosol) transmission is “probably somewhat artificial” since it more likely both are “part of a continuum for respiratory transmissible infections.”

INFO: *** Here is something: One study found evidence that viable virus can continue in the air 16 hours after aerosolization and showed greater airborne propensity for SARS-CoV-2 compare with SARS-CoV and MERS-CoV.

SS: TA reports Chu and colleagues say masks and respirators reduce risk of infection by 85%. With greater effectiveness in health care settings than in the community. See above, vetted and dismissed the Chu study:

The note in the article I’m using as basis for examining support for masks *Do Masks Work: 49 studies that say they do*

(<https://www.kxan.com/news/coronavirus/do-face->

masks-work-here-are-49-scientific-studies-that-explain-why-they-do/) no. 29 claims to quote this Lancet article saying, “This study supports universal face mask use, [sic] because masks were equally effective in both health-care and community settings when adjusted for type of mask use. [sic]?” Who writes these things?

Anyway, how did whoever wrote this miss: noticing that masks seem to perform better in health-care settings than in community settings, they “attribute this difference to the predominant use of N95 respirators in health-care settings; in a sub-analysis, respirators were 96% effective ... compared with other masks, which were 67% effective” Oh! That’s right! The statement mentioned the caveat — WHEN ADJUSTED FOR TYPE OF MASK USE[D].” So, IF EVERYONE WEARS THE N95 there would be no difference between health-care setting and community settings.

THIS SORT OF THING IS DISGUSTING~! And in a LANCET published study???

FN01.30.00.00.00-

<https://gh.bmj.com/content/5/5/e002794> PDF:
FN01.30.00.00.00.Reduction of secondary transmission of SARS-CoV-2 in households by face

mask use, disinfection and social distancing_ a cohort study in Beijing, China

PC: May, 2020

CCP: Yu Want, Tian, Zhang, Guo, Wu, Yu Wang¹, Huaiyu Tian², Li Zhang¹, Man Zhang³, Dandan Guo⁴, Wenting Wu¹, Xingxing Zhang³, Ge Lin Kan⁵, Lei Jia¹, Da Huo¹, Baiwei Liu¹, Xiaoli Wang¹, Ying Sun¹, Quanyi Wang¹, Peng Yang³, C. Raina MacIntyre^{6,7} (All Authors) / **ORIGIN:** Beijing, **China;** USA-AZ; **Australia.** Beijing Center for Disease Prevention; Beijing Normal University, Office of Beijing Center for Global Health, Beijing Center for Disease Prevention and Control, Institute for nutrition and food hygiene, Beijing — then Department of Environmental and Occupational Health, School of Public Health, University of Nevada, Arizona State University College of Health Solutions, Phoenix, and Kirby Institute, Faculty of Medicine, University of South Wales, Sydney, NSW Australia. / **REF:** Tian, Liu, Li; US CDC (2); Greenhalgh; WHO; Yang, Xu, Li; CCP Ntl. Health Com.; Zhang; CCP Ntl Bureau of Statistics; He, Lau, Wu; Tong, Tang, Li; Bai, Yao, Wei; MacIntyre, Dwyer; Cowling, Chan, Fang; Wong, Cowling, Aiello (13 of 17) / **FUNDING:** nd Assumed CHINA/AUSTRALIA

RCT:

CONTENT:

CCav: “However, the World Health Organization and Public Health England recommend against UFMU on the grounds that **there is little evidence from randomised controlled trials to support this**. Some experts suggest that in a pandemic, the **precautionary principle should be used** and UFMU encouraged as it is unlikely to cause harm and may result in public health gain.^{3 4}”

I’ve addressed the “precautionary principle” in these notes. Consider the two sides of this issue that compromise it. First, on the side it is unlikely masks cause harm, see Bad Effects of MASKS in SE notes for an extensive treatment on this error. And then, second, the relatively low risk of COVID, when all the hype is blown away, and the very high likelihood of recovery, together with the certain ineffectiveness of masking combine to argue forcefully against implementation of the so-called *precautionary principle*. And this brings up the absurdity that public policy should rest upon something like this. I mean, the “precautionary principle” might be applied in an abusive manner — as like saying if everyone stopped driving their cars we

would have fewer fatal accidents and the reduction of every fatal accident is a life saved. A big problem with this sort of thinking begins with risk assessment is the responsibility of the driver, and all the good that is accomplished by having access to automobiles makes the risk acceptable, and it just goes on from there.

OS: Observational study. A combination of interventions were used: face masks, and chlorine or ethanol based disinfectant. Apparently, Diarrhea is a spread factor?

Household crowding WAS NOT SIGNIFICANT, although daily close contact with primary case was. Especially if the primary case had diarrhea.

CLAIM: Study confirms that the highest risk of transmission [is] prior to symptom onset, and PROVIDES THE FIRST EVIDENCE OF THE EFFECTIVENESS OF MASK USE, disinfection and social distancing in preventing COVID-19.

SP: (Bias) *WHAT WE KNOW*: There are no interventions available until drugs or vaccines are available, and I cannot find a date except in a link, and it's 2020. FOUND DATE: publication history: received May, 2020 — and by then WE ALREADY KNEW

IVERMECTIN AND HYDROXYCHLOROQUINE WERE AVAILABLE AND EFFECTIVE.

CCav: “Community mask wearing, hand washing and social distancing are THOUGHT TO BE EFFECTIVE BUT THE EVIDENCE IS NOT CLEAR.”

NEW FINDINGS:

CCav: “The results demonstrate the importance of the pre-symptomatic infectiousness of COVID-19 patients and SHOWS THAT WEARING MASKS AFTER ILLNESS ONSET DOES NOT PROTECT.”

What sort of statement is that, see above? Does it mean that if you manifest symptoms of COVID putting on a mask will not protect you from getting COVID — is that not the stupidest thing you’ve ever read?

Does it mean masks on persons with COVID will not prevent spreading the disease to others? What does that do to “source control”?

What in the world does this statement mean?

If wearing a mask after illness onset does not provide protection to others in the household, how will wearing a mask by those not yet sick help them prevent getting sick? If the disease gets through the mask on source, why would a mask on target help????

IMPLICATIONS OF NEW FINDINGS:

Well, even though after illness onset, masks DON'T HELP, nevertheless, “the findings inform universal face mask use and social distancing, not just in public spaces, but INSIDE THE HOUSEHOLD with members at risk of getting infected.” This sentence is followed by: “This further supports universal face mask use, and also provides guidance on risk reduction for families living with someone in quarantine or isolation, and families of health workers, who may face ongoing risk.”

Clearly, this was not written originally in English and not translated by someone who is adept in both languages.

ACK: Acknowledgement of the paucity of scientific research on the efficacy of masks specifically addressing the COVID pandemic: “However, the effect of other NPIs (no-npharmaceutical preventative interventions), such as mask use and hygiene practices, have not been well studied IN THE COVID-19 pandemic.”

Now that's a clever way to dismiss the many studies that have been done to test the efficacy of masks in preventing transmission of disease by

particles that are the size of the SARS-CoV-2 virus.
Limit the scope of enquiry to December 2019 forward.

ACKNOWLEDGEMENT: “However, the World Health Organization and Public Health England recommend against UFMU (universal face mask use) on the ground that **THERE IS LITTLE EVIDENCE FROM RANDOMISED CONTROLLED TRIALS TO SUPPORT THIS.**”

CCav: “Some experts suggest that in a pandemic, the precautionary principle should be used and UFMU encouraged as it is unlikely to cause harm and may result in public health gain.”

OS: All conclusions are premised upon the observations detailed in the report and have all the limitations of any observational approach. These studies are valuable for ascertaining whether it is worthwhile to proceed to a serious scientific study, but that’s it!

FN01.31.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7510705/>. PDF: FN01.31.00.00.00.Effectiveness of Cloth Masks for Protection Against Severe Acute Respiratory Syndrome Coronavirus 2 - PMC

PC: Oct. 2020

CCP: MacIntyre, Chughtai, Seale (ALL AUSTRALIA)
— MacIntyre the most ardent supporter of mask mandates. / **ORIGIN:** Australia. / **REF:** US CDC (2); Chughtai, Seale, Islam, Owais, MacIntyre; Chughtai, Seale, MacIntyre; MacIntyre, Seale Dung, Hien, Nga, Chughtai; Yang, Seale, MacIntyre, Zhang H., Zhang Z., Zhang Y; Konda, Prakash; Davies, Giri; van der Sande, Teunis, Savel; Churghtai, Seale, MacIntyre; WHO (2); Institute of Med-DC; WHO, Guo, Wang, Zhang, Li X., Li L., Lil C; Liu, Ning, Chen, Guo, Liu, Gali; Ong, Tan, Chia, Lee, Ng, Wong; Bahl, Chughtai, Bourouiba, MacIntyre; Chughtai, MacIntyre, Ashraf, Zheng, Yang, Wang; ECDC' MacIntyre, Chughtai, Tham, Seale; Chughtai, Wang, Pan; He, Lau, Wu, Deng, Wang, Hao; MacIntyre, Chughtai; Chughtai, Chen, MacIntyre (22 of 34) / **FUNDING:** US CDC “This is a publication of the U.S. Governmtnet.”

RCT: No. References one: “To our knowledge, only 1 randomized controlled trial has been conducted to determine the efficacy of cloth masks (4).” It’s a MacIntyre study: MacIntyre CR, Seale H, Dung TC, Hien NT, Nga PT, Chughtai AA, et al. A cluster randomised trial of cloth masks compared with medical masks in

healthcare workers. BMJ Open. 2015;5:e006577.
10.1136/bmjopen-2014-006577 [PMC free
article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

Already vetted in these notes: See

FN01.38.00.03.23 * —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC. **Rated by ECDC as VERY LOW confidence:**

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

CONTENT:

ACK/CCav: “The use of cloth masks during the coronavirus disease (COVID-19) pandemic is under debate. [CCav:] The filtration effectiveness of cloth masks is generally lower than that of medical masks and respirators...”

NC/CCav: “however; cloth masks MAY PROVIDE SOME protection IF WELL DESIGNED and USED CORRECTLY.”

*** The criteria: multilayer cloth masks, fitted to

the face, made of water resistant fabric, with a high thread count, and fine weave — “MAY PROVIDE REASONABLE PROTECTION.” Okay, sure, make a mask you can barely breath through and that will do it. Unreal!

CCav: Until “a cloth mask design is proven to be equally effective as a medical or N95 mask, **wearing cloth masks should NOT BE MANDATED FOR HEALTHCARE WORKERS.**”

SS/NC: “In community settings, however, cloth masks MAY BE USED to prevent community spread of infections by sick or asymptotically infected persons, and the public should be educated about their correct use.”

Notice is given to an RCT conducted in 2015 among health care workers in Vietnam. Cloth masks performed much more poorly than medical masks. They think the poor performance of the double layered cotton mask was due to failure to wash the mask properly because they became moist and contaminated.

This study examined 19 studies — all OS. Using nylon stockings seemed to improve filtration. I’ve

vetted the article: see above “Already vetted in these notes...”

ACK: “SARS-CoV-2 is a novel pathogen, and growing evidence indicates the possibility of airborne transmission.”

CCav: “Furthermore, the degree of fit affects effectiveness because air flows in the direction of least resistance; if gaps are present on the sides of the mask, AIR WILL FLOW THROUGH THOSE GAPS INSTEAD OF THROUGH THE MASK.”

Note: Essentially, the benefit of cloth masks has little to do with filtration but with availability and ease of acquiring them.

Here is reference to “some randomized controlled trials have shown masks to be efficacious in closed community settings, with and without the practice of hand hygiene.” This statement is reference to footnote 33. Let’s take a look.

FN01.31.01.00.00-
<https://pubmed.ncbi.nlm.nih.gov/25858901/> PDF:
FN01.31.01.00.00.Facemasks for the prevention of infection in healthcare and community settings -

PubMed (DUP: See also FN01.31.02.00.00) (This article is not a study at all. Here is what I find: FN01.31.01.01.00.Facemasks_for_the_prevention_of_infection_in_health — I placed there here to show my work, so to speak. It turns out that I had found a full text presentation of this article after all, and notated it as FN01.31.02.00.00 — see below. I'll provide full vetting of this article at FN01.31.02.00.00

(-) FN01.31.02.00.00-

<https://www.bmj.com/content/350/bmj.h694.long>
PDF: FN01.31.02.00.00.Facemasks for the prevention of infection in healthcare and community settings _
The BMJ

NOTE: The link

<https://www.bmj.com/content/350/bmj.h694.long>
NO LONGER presents the full article. Happily, a few weeks ago, or a month ago, I was able to access it. Here is a PDF of the complete article I cannot access from the links given earlier. I must have caught this at the right time some time back—but, here it is.

See **FN01.31.01.00.00-**

<https://pubmed.ncbi.nlm.nih.gov/25858901/> (Takes me to an ABSTRACT ONLY:) PDF:
FN01.31.01.00.00.Facemasks for the prevention of

infection in healthcare and community settings - PubMed (DUP)

I'll copy in the article general vetting (PC, CCP, RCT) accomplished with the abstract above and then vet the CONTENT here. Very confusing, but easier to do this than to try to merge them at this point. NOTE: However, I just noticed that the internal links within the PDF are deactivated.

PC: April 2015

CCP: Raina MacIntyre and Abrar Ahmad Chughtai — the same two principal researchers who produced the root study: FN0131.00.00.00 see above. / **ORIGIN:** Australia / **ADDITIONAL:** **REF:** IOM, NAS; MacIntyre (repeatedly); Cowling, Chan, Fang, Cheng, Fung, Wai; Aiello; Wong, Wang; Suess; New South Wales Dept. of Public Health; Wu; Rashid; Zhou, Leung; Jefferson; Lee; WHO; Yin, Ln, Du, Zhang, Zou; Lau, Fung, WONG, Kim, Wong E Chung; Ishiyama; Nishiura, Quy, PHi, Ha; Lee, Hui, Lai; Chen YC, Chen PJ, Chang, Kao, Want SH, Wang CL, Wang LH; van der Sande; Balazy; Chen SK; Liu, Lu, Chen, Yang, Lin, Wu CC; Chen, Leo, Ang, Heng, Choo; US CDC; Leung, Ng, Cheng, Lyon, Hon, So; Chen W, Ling, Lu, Hao, Lin, Ling; etc. / **FUNDING:** See above for funding.

RCT: Not asserted. Refers to Randomised *clinical* trials, and Randomised controlled trials, and Non-randomised studies — far more: about 51. This would be categorized as a review of literature: “The aim of this review is to inform policy makers ...”

CONTENT: The TA referenced this as an RCT. Maybe I need to go back and examine that more carefully. If I decide to make a point of this, that’s what I’ll need to do. This is a summary of EVIDENCE and not itself a study. So, this was misnamed. It is NOT an RCT: “The aim of this review is to inform policy makers and stakeholders [?] by examining and summarising the available evidence related to the efficacy of facemasks and respirators, current practice, and guidelines, as well as highlighting the gaps in evidence.”

FROM THE ABSTRACT: Taken from FN01.31.01.00.00 and inserted here:

The link does not take you to an RCT, as promised in the reference, but to an abstract.

SS: “Several randomized clinical trials of facemasks have been conducted in community and healthcare settings, using widely varying

interventions,” including mixed interventions (such as mask and handwashing), and DIVERSE OUTCOMES.” In nine selected studies [not named] all but one tested for respiratory protection of well people. (This interjects confounders that compromise results rendering them at best inconclusive.)

NC/CCav: NC: “They found that facemasks and facemasks plus hand hygiene MAY PREVENT INFECTION in community settings, SUBJECT TO EARLY USE AND COMPLIANCE.” Two of the trials favored respirators. Regarding cloth masks, “The use of reusable cloth masks is widespread globally, particularly in Asia, which is an important region for emerging infections, CCav: **BUT THERE IS NO CLINICAL RESEARCH TO INFORM THEIR USE AND MOST POLICIES OFFER NO GUIDANCE ON THEM.**”

CCav: “The lack of research on facemasks and respirators is reflected in varied and sometimes conflicting policies and guidelines.”

CCav: THEN THERE is the obligatory truth moment (a TOTAL CCav): “Further research should focus on examining the efficacy of facemasks against specific infectious threats such as influenza and tuberculosis, assessing the efficacy of cloth masks,

investigating common practices such as reuse of masks, assessing compliance, filling in policy gaps, and obtaining cost effectiveness data using clinical efficacy estimates.”

In other words, this study provided nothing to our concern. Apparently, all the RCTs these guys examined did not satisfy the need for research - so they were all dismissed as inconclusive. When, in fact, they were conclusive — they concluded consistently that masks don’t work.

I found the full text of the article and provide my examination below. Continued from the full article:

CCav: “We identified only four RCTs of the clinical efficacy of facemasks or respirators in healthcare workers, which studied a diverse range of interventions and outcomes.” (Footnotes 7,8,9,10).

ACK: “Although the efficacy of hand washing against respiratory and gastrointestinal infection has long been established in randomised clinical trials (RCTs) [okay, so a randomised clinical trial is equivalent to a randomised controlled trial? — I don’t think so!], **evidence for facemasks has lagged behind.**”

CCav: “Because this article is not a systematic review, we did not further grade individual RCTs into high, moderate, low, and very low quality evidence but summarised each RCT’s specific limitations.”

This means they included RCTs that would be considered by real scientists to be of low and even very low quality but they don’t want you to know that. So, instead, they summarized their limitations in a simple statement, putting them pretty much on equal footing to the reader since only nuts like me will read them, and every study will have some limitation.

These articles were selected by collecting all that fit the search criteria outlined in the article, and then researchers examined the abstracts to determine which would be included. This shouts bias influence in the selection process.

Furthermore, the researchers are guided by CDC and the European equivalent, along with “other health organizations” for recommendations on how to use the masks.

So, they state that they looked at a whole lot of

RCTs and list them. They are as follows:

CE: This study CONTRADICTS flatly the thesis of the researchers: “Influenza transmission WAS NOT REDUCED BY INTERVENTIONS TO PROMOTE HAND WASHING AND FACE MASK USE.” The authors stipulate: “This may be attributable to transmission that occurred before the intervention, poor facemask compliance, little difference in hand-washing frequency between study groups, and shared sleeping arrangements. A prospective study design and a careful analysis of sociocultural factors could improve future NPI studies.”

There seems to be little point in examining this article any farther.

Then the article (FN01.31.02.00.00) speaks of systematic reviews of some RCTs, and several observational studies all cited below:

35. Cowling BJ, Zhou Y, Ip DK, Leung GM, Aiello AE. Face masks to prevent transmission of influenza virus: a systematic review. *Epidemiol Infect* 2010;138:449-56. [CrossRefPubMedGoogle Scholar](#)

36. ↵Bin-Reza F, Lopez Chavarrias V, Nicoll A,

Chamberland ME. The use of masks and respirators to prevent transmission of influenza: a systematic review of the scientific evidence. *Influenza Other Respir Viruses* 2012;6:257-67. CrossRefPubMedGoogle Scholar

37. ↵Gralton J, McLaws ML. Protecting healthcare workers from pandemic influenza: N95 or surgical masks? *Crit Care Med* 2010;38:657-67. CrossRefPubMedWeb of ScienceGoogle Scholar

38. ↵Gamage B, Moore D, Copes R, Yassi A, Bryce E. Protecting health care workers from SARS and other respiratory pathogens: a review of the infection control literature. *Am J Infect Control* 2005;33:114-21. CrossRefPubMedWeb of ScienceGoogle Scholar

39. ↵Jefferson T, Del Mar C, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses: systematic review. *BMJ* 2009;339:b3675. Abstract/FREE Full TextGoogle Scholar [See doc 3: **FN13.01.00.00. Physical interventions to interrupt or reduce the spread of respiratory viruses. Part 1 - Face masks, eye protection and person distancing_ systematic review and meta-analysis _ medRxiv** (<https://www.medrxiv.org/content/10.1101/2020.03.30.20047217v2>) — DUPLICATED: 40, 41, 43

40. ↵Jefferson T, Del Mar CB, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, et al. Physical

interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database Syst Rev 2011;7:CD006207. PubMed Google Scholar

41. ↵Jefferson T, Foxlee R, Del Mar C, Dooley L, Ferroni E, Hewak B, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses: systematic review. BMJ 2008;336:77-80. Abstract/FREE Full Text Google Scholar

42. ↵Aledort JE, Lurie N, Wasserman J, Bozzette SA. Non-pharmaceutical public health interventions for pandemic influenza: an evaluation of the evidence base. BMC Public Health 2007;7:208. CrossRef PubMed Google Scholar

43. ↵Lee KM, Shukla VK, Clark M, Mierzwinski-Urban M, Pessoa-Silva CL, Conly J. Physical interventions to interrupt or reduce the spread of respiratory viruses—resource use implications: a systematic review. CADTH, 2011 www.cadth.ca/en/products/health-technology-assessment/publication/3140.

The conclusions of the researchers satisfies us that nothing in the above references support mask use any more than any of the others I've examined, or else they would certainly have pointed this out. Also, I have already vetted most of these, if not all of them.

Non-randomised studies

OS: Lower levels of evidence are available from cohort,⁴⁸ case-control,^{49 50 51 52 53 54 55} cross sectional,^{56 57 58 59 60 61} laboratory experimental,^{62 63 64 65 66 67 68} and observational (including time series and case series) studies.^{69 70 71 72 73 74 75 76 77 78} Most were conducted during the severe acute respiratory syndrome (SARS) outbreak,^{50 51 52 53 54 55 59 60 61 69 72 73 74 75 79} but others examined tuberculosis,^{77 80 81} respiratory syncytial virus (RSV),⁴⁸ and pertussis.⁵⁸

SS: With a few exceptions,^{53 60 74} evidence from SARS favoured the use of facemasks or respirators (or both) in healthcare workers. Respirators are generally recommended for tuberculosis, although most of these studies examined a combination of simultaneous infection control practices (environmental and source control measures).^{77 80 81}

CCav: No study has measured the efficacy of facemasks or respirators in preventing tuberculosis (either asymptomatic infection or disease) in

healthcare workers.

Community use of facemasks during outbreaks and pandemics:

CCav: The routine use of facemasks is not recommended by WHO, the CDC, or the ECDC in the community setting.^{98 99 100} However, the use of facemasks is recommended in crowded settings (such as public transport) and for those at high risk (older people, pregnant women, and those with a medical condition) during an outbreak or pandemic.^{98 99}

CCav/NC: A modelling study suggests that the use of facemasks in the community may help delay and contain a pandemic, although efficacy estimates were not based on RCT data.¹⁰¹ Community masks were protective during the SARS outbreaks, and about 76% of the population used a facemask in Hong Kong.¹⁰² There is evidence that masks have efficacy in the community setting, subject to compliance¹³ and early use.^{12 18 19} It has been shown that compliance in the household setting decreases with each day of mask use, however, which makes long term use over weeks or months a challenge.¹³

CCav: The statistical power of each individual RCT may have been too low to determine efficacy by

intention to treat, and larger trials may be needed. A meta-analysis of the existing community trials would be difficult because of the diverse settings, interventions, outcomes, and measurements. The study designs of all but one of the RCTs used mixed interventions, where one intervention was present in both intervention arms (such as hand hygiene alone compared with masks plus hand hygiene; fig 3), which makes it more difficult to determine the efficacy of masks alone.

Research gaps

Limitations of existing evidence

CCav: Clinical trials of facemasks report a range of outcomes from self reported clinical syndromes to laboratory confirmed viruses,^{7 8 9 10 11 12 13 15 16 17 18 19} which might not be generalisable to other specific infectious diseases. Cross sectional and observational studies of masks largely draw from the SARS outbreak, and may not be applicable to other pathogens,³⁶ because SARS was less infectious than many other respiratory infections and was mostly nosocomial.¹⁵⁵

CCav: Laboratory based studies of masks are mostly simulated and so have limited clinical application because they cannot account for events

such as compliance, coughing, talking, and other subtle actions by the wearer.

IR/CCav: Although masks and respirators are commonly used to protect the wearer against tuberculosis, no clinical trial data are available to prove their efficacy, and a trial of respirators versus a “no mask” group is unlikely to be conducted.

CCav: Another limitation of the available facemask studies is the mixing of interventions. In four trials in the community setting facemasks were combined with hand hygiene as an intervention, which makes it difficult to ascertain the efficacy of masks alone.^{12 15 17 18}

OS/CCav: Many observational and cross sectional studies also examined facemasks together with other forms of PPE and hand hygiene, so the observed effect might be due to the combined effect of hand hygiene or use of other types of PPE (or both).^{48 58 70 73 75} Similarly, in some community based trials both index cases and household members used a mask,¹² whereas in others only household members used a mask.¹³ In the first case, it may be difficult to ascertain whether efficacy is due to mask use by the index case, by a household member, or by

both.

New research

CCav: For influenza, further study is needed on the role of facemasks and other types of PPE in the hierarchy of other interventions such as vaccines, antivirals, and social distancing in pandemic planning.

Conclusion

CCav/ACK: Facemasks and respirators are important but under-studied forms of PPE,

SS: Community RCTs suggest that facemasks provide protection against infection in various community settings, subject to compliance and early use. For healthcare workers, the evidence suggests that respirators offer superior protection to facemasks. During pandemics and outbreaks these form part of a suite of protection offered to frontline workers to ensure occupational health and safety. Respirators are also preferable when the disease is severe, with a high case fatality rate, and no drug treatment or vaccine is available.³

ACK: RCTs on cloth masks are lacking, and policy guidance on their use is sparse.

Compliance is a determinant of protection, and it decreases with increasing duration of continuous mask use.

CCav/ACK: Policies and guidelines on mask use worldwide are inconsistent, perhaps reflecting the relatively small number of RCTs available to inform them.

I'M running out of time here. I recognize many of these in the list below and I'm fairly certain I've looked at all of them one time or another. Essentially, as can be noted by a cursory examination of the citations under References, five deal with healthcare settings, which is not the immediate concern of my study. Numbers 6-13 are all CCP and some are a species of RCT ("cluster," "clinical," "intervention" etc.) which upon examination appears to me more like an observational study that includes some aspect of randomization (no. 8, 9, 10, 11, 13, 15, 17). Only no. 6, and 16 are identified as a randomized controlled trial, and no.s 7 and 10 are not expressly identified—just "randomized trial." Three did not have randomized etc. in the title (12, 14, 18). Of the two randomized controlled trials, only one addressed community use—No. 16. For this research, I'll look at nos. 12 and 16 as most applicable to my interests.

References

6. ↵Jacobs JL, Ohde S, Takahashi O, Tokuda Y, Omata F, Fukui T. Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan: a randomized controlled trial. *Am J Infect Control* 2009;37:417-9. [CrossRefPubMedWeb of ScienceGoogle Scholar](#)
7. ↵Loeb M, Dafoe N, Mahony J, John M, Sarabia A, Glavin V, et al. Surgical mask vs N95 respirator for preventing influenza among health care workers: a randomized trial. *JAMA* 2009;302:1865-71. [CrossRefPubMedGoogle Scholar](#)
8. ↵MacIntyre CR, Wang Q, Cauchemez S, Seale H, Dwyer DE, Yang P, et al. A cluster randomized clinical trial comparing fit-tested and non-fit-tested N95 respirators to medical masks to prevent respiratory virus infection in health care workers. *Influenza Other Respir Viruses* 2011;5:170-9. [CrossRefPubMedGoogle Scholar](#)
9. ↵MacIntyre CR, Wang Q, Seale H, Yang P, Shi W, Gao Z, et al. A randomized clinical trial of three options for N95 respirators and medical masks in health workers. *Am J Respir Crit Care Med* 2013;187:960-6. [CrossRefPubMedGoogle Scholar](#)
10. ↵Cowling BJ, Fung RO, Cheng CK, Fang VJ, Chan KH,

Seto WH, et al. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. *PloS*

*One*2008;3:e2101.CrossRefPubMedGoogle Scholar

11. ↵Cowling BJ, Chan KH, Fang VJ, Cheng CK, Fung RO,

Wai W, et al. Facemasks and hand hygiene to prevent influenza transmission in households: a cluster

randomized trial. *Ann Intern Med*2009;151:437-

46.CrossRefPubMedWeb of ScienceGoogle Scholar

12.↵MacIntyre CR, Cauchemez S, Dwyer DE, Seale H,

Cheung P, Browne G, et al. **Face mask use and control of respiratory virus transmission in**

households. *Emerg Infect Dis*2009;15:233-

41.CrossRefPubMedWeb of ScienceGoogle Scholar

13. ↵Aiello AE, Murray GF, Perez V, Coulborn RM,

Davis BM, Uddin M, et al. Mask use, hand hygiene, and seasonal influenza-like illness among young adults: a

randomized intervention trial. *J Infect*

*Dis*2010;201:491-8.Abstract/FREE Full TextGoogle

Scholar

14. ↵Larson EL, Ferng YH, Wong-McLoughlin J,

Wang S, Haber M, Morse SS. Impact of non-

pharmaceutical interventions on URIs and influenza in crowded, urban households. *Public Health*

*Rep*2010;125:178-91.PubMedWeb of ScienceGoogle

Scholar

15. ↵Canini L, Andreoletti L, Ferrari P, D'Angelo R,

Blanchon T, Lemaitre M, et al. Surgical mask to prevent influenza transmission in households: a cluster randomized trial. PloS

One2010;5:e13998.CrossRefPubMedGoogle Scholar

16. ↵Simmerman JM, Suntarattiwong P, Levy J, Jarman RG, Kaewchana S, Gibbons RV, et al. **Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand.** Influenza Other Respir Viruses2011;5:256-67.CrossRefPubMedGoogle Scholar

17. ↵Aiello AE, Perez V, Coulborn RM, Davis BM, Uddin M, Monto AS. Facemasks, hand hygiene, and influenza among young adults: a randomized intervention trial. PloS

One2012;7:e29744.CrossRefPubMedGoogle Scholar

18. ↵Suess T, Remschmidt C, Schink SB, Schweiger B, Nitsche A, Schroeder K, et al. The role of facemasks and hand hygiene in the prevention of influenza transmission in households: results from a cluster randomised trial; Berlin, Germany, 2009-2011. BMC Infect Dis2012;12:26.CrossRefPubMedGoogle Scholar

FN01.31.03.00.00 —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.31.03.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

FN01.31.04.00.00 —
<https://onlinelibrary.wiley.com/doi/10.1111/j.1750-2659.2011.00205.x>. PDF: FN01.31.04.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - Simmerman - 2011 - Influenza and Other Respiratory Viruses - Wiley Online Library.pdf

Rated by ECDC as LOW to MODERATE confidence: See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Already vetted in these notes: Different wed

address but same article: **FN01.01.01.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>. PDF: FN01.01.01.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC

FN01.32.00.00.00-
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0242764>. PDF:
FN01.32.00.00.00.Voluntary adoption of social welfare-enhancing behavior_ Mask-wearing in Spain during the COVID-19 outbreak _ PLOS ONE

Rated by ECDC as LOW to MODERATE confidence. See
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: December, 2020

CCP - Joan Barcelo; Chih-Hsin Sheen (1 of 2) / **ORIGIN:** Division of Social Science, NYU portal school located in Abu Dhabi, United Arab Emirates / **REF:** Cowling, Zhou, Leung, Aiello; Ferng, Wong; Leung, Chu, Shiu, Chan; MacIntyre, Chughtai; Kuo; Greenhalgh; Cheng; Lau, Choi; Qian (8 of 39) / **FUNDING:** NYU Abu

Dhabi — in the form of salaries to authors.

RCT: No. It's about getting people to wear masks.

CONTENT:

IR - this is not about proving masks work, this is a study aimed at understanding “the barriers to mask-wearing in Spain, a country with no mask-wearing culture.”

ACK: Public mask wearing to control a pandemic is a century old debate, dating back to the Spanish Flu in 1918.

SS: “Despite the growing evidence of the effectiveness of face mask use against the transmission of respiratory viruses [2-5], there have been dramatic ...”

Okay, so let's look at this growing evidence:

2. Barasheed O, Alfelali M, Mushta S, Bokhary H, Alshehri J, Attar AA, et al. Uptake and effectiveness of facemask against respiratory infections at mass gatherings: a systematic review. *International Journal of Infectious Diseases*. 2016; 47:105–111.
pmid:27044522

FN01.32.01.00.00-

[https://www.ijidonline.com/article/S1201-9712\(16\)31010-4/fulltext](https://www.ijidonline.com/article/S1201-9712(16)31010-4/fulltext) PDF: FN01.32.01.Uptake and effectiveness of facemask against respiratory infections at mass gatherings_ a systematic review - International Journal of Infectious Disease. (See also <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110449/>)

PC: March, 2016

CCP: Barasheed, Mohammad, Mushta, Hamid, Jassir, Ammar, Rahid (7 of 8). No oriental, Arab countries qualify as a mask friendly culture. All TA are Arabic / **ORIGIN**: SAUDI ARABIA-Makkah: King Abdullah Med. City, Research Center; Rabigh: King Abdulaziz U., Faculty of Med., Dept. of Family and Community Med.; Abha: Ministry of Health; Dept. of Lab. Med.; Faculty of Applied Science. AUSTRALIA-NSW Westmead: The Children's Hospital, Ntl. Ctr. for Immunisation Research and Surveillance of Vaccine Preventable Diseases. Pub by International Journal of Infectious Disease under auspices of International Society for Infectious Diseases. / **REF**: Foo; WHO; Alaphanti, Rashid; Alefali, Khandaker, Rahid; Barasheed, Rashid; Bin-Reza; Rashid, Nguyen-Van-

Tam, Barasheed; Sim, Tan; Jefferson; Barasheed, Almasri, Badahdah; Abdin, Choudhry, Al-Maji; Assiri; Ahmen, Al-Jasir, Althaqafi; Al-Asmary, Al-Shehri, Abou-Zeid, Abdel-Fattah, El-Said; Assiri, Alsherhri, Hussain, Alomar; Al-Jasser, Kabbash, Almazroa; Aljoudi, Nooh, Jamil; Choudhry, Al-Mudaimagh, Turkistaini, Al-Hamdan; Alqajtamo. BinDhim, TAshani, Willaby; Balaban, Hammad, Afgarshe, Abd-Alla, Ahmen; Hassani, Fateh; Sridhar; Vu hai, Sani; Al-Maghden, Al-Joudi, Choudhry, Al-Rabeah, Ibrahim, Turkistani; Al-Shihry, AL-Kahn, Mohammed; Al-Zahrani, Chaudhry, Alhamdan; Hasan, Sulaiman, Wahab, Naing, Othman; Maslmaini, Choudhry; Hashim, Ayub, Mohamed, Hasan, Harun, Ismail; Alqahtani, Sheikh; Takahashi, Tokuda, Omata, Fukui; MacIntyre, Seale, Dung, Hien, Nga, Chughtai; MatIntyre, Wang Q., Seale, Yang, Shi, Gao; Cowling Fung, Cheng, Fang, Chan, Seto; Ferng, Wong-McLoughlin, Wang S.; MacIntyre, Dwyer, Seale, Cheung; Suntarattiwong, Kaewchana; MatIntyre, Chughtai; Lau, Fung, Wong TW., Kim, Wong E., Chung; Al Rabeah; Sinha; Kuo, Huang, Liu; Lau, Choi, Lin; Lau, Choi, Tsui; Lau, Kim, Tsui; Tang, Wong CY.; Sahin; Tashani, Alfelali, Barasheed, Fatema, Alqahtani, Rashid; Kahn, Kohl EB., Kohl DS; Saha, Chadha, Al Mamun, Rahman, Kunzli, Kutlar; Aiello, Davis, Uddin; Sarabia; MacIntyre, Wang Q., Rahman, Seale, Ridda, Gao; Wang, Barasheed, RASHID, El Bashir (54 of 75) /

FUNDING: One author: Baxter, CSL, GSK, Merck, Novartis, Pfizer, Roche, Romark, and Sanofi Pasteur; another author: Pfizer, Novartis.

RCT: No. SR (Systematic Review of existing literature): it's a systematic review not an observational study or an RCT.)

CONTENT:

NC: "Facemask SEEMS to be effective against respiratory infections as Hajj.

CCav: "Effectiveness of facemask against specific respiratory infections NOT PROVEN."

It seems unnecessary to continue since the specific point of this enquiry is ceded: this study does not provide proof facemasks are effective against specific respiratory infections. All that would be left is to determine whether this study tested for protection against COVID, or against influenza sized virus.

SS: "Only 13 [of the 25] studies examined the effectiveness of facemask, and their pooled estimate revealed significant protectiveness against respiratory infections ... BUT THE STUDY END POINTS VARIED

WIDELY.”

This means the conclusions regarding how effective masks are varied, and did so widely.

Okay, here we go again — the article references studies supporting their allegation that studies show, etc. 14, 15, 16

Footnote 14: **Bin-Reza F. • Lopez Chavarrias V. • Nicoll A. • Chamberland M.E.** The use of masks and respirators to prevent transmission of influenza: a systematic review of the scientific evidence. *Influenza Other Respir Viruses*. 2012; 6: 257-267

Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan: See FN01.42.02.01.00-
<https://www.sciencedirect.com/science/article/abs/pii/S0196655308009097>. PDF: FN01.42.02.01.00.Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan_ A randomized controlled trial - ScienceDirect

Rated by ECDC as LOW to MODERATE confidence: see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> (Abstract

only)

[NOTE: Apparently, I don't have a copy of the original version of this article. I noted what I found in the original but that is not found in my PDF copy noted as "√ NOT FOUND:"]

PC: March, 2013, published May, 2014

CCP: Bin-Reza, Chavarrias, Nicoll, Chamberland (1 of 4) / **ORIGIN:** UK-London; Sweden (Has sown consistent independence from CCP influence / **REF:** Department of Health, UK; Centre for Reviews and Dissemination, NYU; National Health Service; Fukui, Tokuda, Omata; MacIntyre (multiples), Wang; Cowling (multiples), Fung, Cheng; Aiello; Ferng, Wong, Wang; Chen, Ling, Lu; Lau, Fung, Wong; Nishura, Kuratsuji, Quy; Nighiyama, Wakasugi; Seto, Tsang, Yung; Wu, Xu, Zhou; Wong, Li, Lee; Jefferson (3); Cowling, Zhou, Leung, Aiello; Aiello (~20 of 35) / **FUNDING:** Statement: "Supported by funding from the Health Protection Agency and the European Centre for Disease Prevention and Control."

RCT: No. SRL: This is a systematic review of literature study. Inclusion included 17 studies, 8 of which were RCTs: "eight randomised controlled trials."

CONTENT: (What I have in my folder is the NEW VERSION — apparently, a prior version, no longer available, included the quotes marked as ✓ NOT FOUND below.)

✓ NOT FOUND: CCav: “Despite a further review of all the available evidence up to 30 November 2012 there is still LIMITED EVIDENCE TO SUGGEST THAT USE OF FACE MASKS AND/OR RESPIRATORS IN HEALTH CARE SETTING CAN PROVIDE SIGNIFICANT PROTECTION AGAINST INFECTION WITH INFLUENZA WHEN IN CLOSE CONTACT WITH INFECTED PATIENTS.” — [FOUND at FN01.32.04.00.00-https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

NC: “Some evidence suggests that masks use is best undertaken as part of a package or ‘bundle’ of personal protection especially including hand hygiene, the new evidence provides SOME SUPPORT TO THIS ARGUMENT particularly within the community of household setting.”

NC: “EARLY initiation and regular wearing of

masks/respirators **MAY IMPROVE** their effectiveness in healthcare and household settings, **AGAIN AN ARGUMENT **MARGINALLY** STRENGTHENED BY THE UPDATED EVIDENCE.**”

√ NOT FOUND: CCav: “Given the potential loss of effectiveness with incorrect usage, general advice should be to **ONLY USE MASKS/RESPIRATORS UNDER VERY PARTICULAR, SPECIFIED CIRCUMSTANCES, AND IN COMBINATION WITH OTHER PERSONAL PROTECTIVE PRACTICES.**” [FOUND at FN01.32.04.00.00-
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

This team examined 25 papers 12 of which were RCTs, three of these were hospital based, two were community based, and seven were household based. The rest were retrospective observational studies. The conclusion:

√ NOT FOUND: “**NONE OF THE TRIALS FOUND, IN THE MAIN ANALYSES, A SIGNIFICANT DIFFERENCE BETWEEN NON-INTERVENTION AND MASK ONLY ARMS (SURGICAL MASKS OR N95/P2 RESPIRATORS) IN EITHER CLINICALLY DIAGNOSED**

(INFLUENZA-LIKE-ILLNESS/ILI) OR LABORATORY-CONFIRMED INFLUENZA.” [FOUND at

FN01.32.04.00.00-

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

√ NOT FOUND: “HOWEVER [sic] IN FOUR OF THE [7] HOUSEHOLD TRIALS, SUB-ANALYSES OF THE DATASETS REVEALED SOME EVIDENCE OF PROTECTION” — FOR THE P2 RESPIRATOR IF WORN ALL/MOST OF THE TIME. THE OTHER STUDY THAT SHOWED **SOME PROMISE** INDICATES THAT THE EFFECT SEEMS TO HAVE RESULTED WHEN HAND HYGIENE WAS ADDED TO THE PROTOCOL. [FOUND at FN01.32.04.00.00-

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

√ NOT FOUND: **BIG PROBLEM:** The trial had NO CONTROL GROUP. And, “a newer study in healthcare workers through sub-analyses found CONTRADICTIONARY EVIDENCE to suggest that there was a significant protective effect for N95 respirators (non-fit tested) when compared to surgical masks.” [FOUND at FN01.32.04.00.00-

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf

NC: “None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection.”

√ NOT FOUND: “There is some WEAK evidence to suggest that facemasks may be protective when they are used early (after recognition of an index case in a household setting); if better compliance (using the masks for longer periods of time) is achieved, and when combined with hand-washing practicing.” [FOUND at FN01.32.04.00.00-
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

√ NOT FOUND: ACK: the inclusion of the NEW STUDIES MARGINALLY strengthens this view. (see above.) [FOUND at FN01.32.04.00.00-
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

√ NOT FOUND: ACK: “The observational

evidence base arising from the 2009 pandemic is still sparse and where studies have emerged, they are limitations [sic] and bias issues.” I think he means there are limitations and bias issues. [FOUND at FN01.32.04.00.00-
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf]

NOW LET’S LOOK AT THE NEW VERSION OF THIS STUDY: FN01.32.02.00.00. The use of masks and respirators to prevent transmission of influenza_ a systematic review of the scientific evidence - bin-Reza - 2012 - Influenza and Other Respiratory Viruses - Wiley Online Library **(OH—what I have in folder is the NEW VERSION — apparently, a prior version, no longer available, included the quotes marked as ✓ NOT FOUND: above.)**

ACK: “There are limited data on the use of masks and respirators to reduce transmission of influenza.”

CCav: SUMMARY CONCLUSION: SIX OF EIGHT RANDOMIZED CONTROLLED TRIALS “FOUND NO SIGNIFICANT DIFFERENCE BETWEEN CONTROL AND INTERVENTION GROUPS (MASKS WITH OR WITHOUT HAND HYGIENE; N95/P2

RESPIRATORS.)” Woah! These guys found no significant benefit from the N95 or P2 when it comes to protection from influenza.

CCav: Whereas, the observational studies consistently show evidence of reduced infection by face masks and/or facemasks with hand hygiene. However, THESE FINDINGS “MAY NOT BE APPLICABLE TO INFLUENZA AND MANY STUDIES WERE SUBOPTIMAL.”

CE: “None of the studies established a conclusive relationship between mask/respirator use and protection against influenza infection.” SO, revised version does not provide any information that changes the essential results of their study.

FN01.32.03.00.00-

<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05>
PDF: FN01.32.03.00.00.Face masks to prevent transmission of influenza virus_ a systematic review _ Epidemiology & Infection _ Cambridge Core

PC: Jan. 2010

CCP: Cowling, Zhou, Leung, Aiello / **ORIGIN:** Hong Kong Special Admin Region, China; Aiello: USA-MI. / **REF:** WHO (4); Jefferson; Loeb; Ng, TC; Al-Asmary; Davies; Cowling; MacIntyre; Aiello; Lo; Awofeso; Han; Zhuang; Li; Lim; Seale; Lu, YT; Leung; CDC (22 of 42) / **FUNDING:** Hong Kong U. Grants Committee.

RCT: No. SRL: Systematic review of literature.

CONTENT: “We conducted a systematic review [6] to investigate the evidence supporting the effectiveness of face masks in reducing influenza virus infection under controlled and natural conditions.”

CLAIM: “There is SOME evidence to support the wearing of masks or respirators during illness to protect others, and public health emphasis on mask wearing during illness MAY help to reduce influenza virus transmission.”

NC/SS: “There is SOME evidence to support the wearing of masks or respirators during illness to protect others, and public health emphasis on mask wearing during illness MAY help to reduce influenza virus transmission.”

CCav: **“There are fewer data to support the use**

of masks or respirators to prevent becoming infected.” If masks reduce chance of transmission but are not likely to prevent contagion, it seems then that the masks are NOT WORKING. This is because there is NO OTHER vehicle by which the virus gets into the atmosphere other than exhaling.

CCav: “Few studies have been conducted in healthcare settings, and there is limited evidence to support the effectiveness of either surgical masks or N95 respirators to protect health care personnel [8–13].” And: “Our review highlights **the limited evidence base supporting the efficacy or effectiveness of facemasks to reduce influenza virus transmission.**”

CLAIM: “We identified one study that examined the efficacy of face masks in filtering influenza virus in volunteer subjects.”

They tested the performance of surgical and N95s in nine volunteers with confirmed influenza A or B virus infection. Participants coughed five times onto a Petri dish containing viral transport medium held 20 cm in front of their mouth. This was repeated with subjects wearing a surgical mask and then an N95. Virus was found, detected by RT-PCR, in all cases

where subject had NO MASK, and **NO VIRUS was found in all subjects wearing either the surgical or N95.** THE ONE LIMITATION was there was no test for leakage around the sides of the mask.

The Johnson et al. experiment presents an interesting case where it appears masks do block virion, but there are many confounders. Let's look at this study. Footnote No. 7.

Johnson, DF, et al. A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. *Clinical Infectious Diseases* 2009; 49: 275–277. CrossRef
GoogleScholar PubMed

FN01.32.03.01.00-

<https://academic.oup.com/cid/article/49/2/275/405108?login=false> (Alternate address:
<https://academic.oup.com/cid/article/49/2/275/405108?login=true>) PDF: FN01.32.03.01.00.Quantitative Assessment of the Efficacy of Surgical and N95 Masks to Filter Influenza Virus in Patients with Acute Influenza Infection _ *Clinical Infectious Diseases* _ Oxford Academic.

PC: July 2009

CCP: Authors all Aussies / **ORIGIN:** Australia: Department of Health, Heidelberg, Victoria; Victorian Infectious Diseases Reference Laboratory, North Melbourne / **REF:** WHO (2); CDC; OSHA; Lim, Seet, Lee, Chuah, Ong; Balazy; Seto, Tsang, Yung; Aiello; Ng, Lee, Hui, Lai, Ip (8 of 16) / **FUNDING:** nd (no data)

RCT: Not asserted. Description of method relevant to query: “Routine disposable surgical masks (TECNOL classical surgical mask; Kimberly Clark) were compared with standard N95 respirator masks(Proshield N95 Medium; BSN Medical). **Neither mask was formally fit tested, but all were carefully placed on the patients by the study clinician who was trained and accredited in fit testing N95 masks.** The presence of influenza was assessed using a technique whereby participants coughed 5 times onto a 90-mm diameter (14-mm deep) Petri dish (Sarsted) containing 1 mL of viral transport media (influenza sample plate [ISP]; Victorian Infectious Diseases Reference Laboratory). **The ISP was held 20 cm directly in front of the participant's mouth.** After coughing, **viral transport media from each of the ISPs were assessed by quantitative real-time RT-PCR for influenza A and B,** with the quantity of virus detected expressed as a cycle number and an estimate of viral copy number calculated as previously

described [13]. The lower limit of sensitivity of the RT-PCR was ~250 copies/mL.” (TA reference 13: Grayson ML, Melvani S, Druce J, et al. Efficacy of soap and water and alcohol-based hand-rub preparations against live H1N1 influenza virus on the hands of human volunteers, Clin Infect Dis, 2009, vol. 48 (pg. 285-91) Google Scholar Crossref PubMed. What has this to do with “quantity of virus detected expressed as a cycle number and an estimate of viral copy” calculated as “previously described”?

CONTENT:

SP: A suspicion arises from the fact that while this study would, on the surface, appear to be a major win for the maskers, the general conclusion of the research does not depend heavily upon this particular experiment, which better than any other supports their case, or hypothesis. The reasons become clear when we look more carefully.

First, what was the cycle threshold used for the PCR testing?

FN01.32.03.01.01-

<https://academic.oup.com/cid/article/48/3/285/304169?login=false>. PDF: FN01.32.03.01.01.Efficacy of

Soap and Water and Alcohol-Based Hand-Rub Preparations against Live H1N1 Influenza Virus on the Hands of Human Volunteers _ Clinical Infectious Diseases _ Oxford Academic (No need to provide full vet. Pertinent quote: After “brief cutaneous (skin) air drying,” “Marked antiviral efficacy was noted for all 4 HH protocols, on the basis of culture results (14 of 14 had no culturable H1N1; $P < .002$) and PCR results ($P < .001$; cycle threshold value range, 33.3–39.4), with SW statistically superior ($P < .001$) to all 3 alcohol-based hand rubs, although the actual difference was only 1–100 virus copies/ μL .” [Okay, I’ve spent way too much time trying to figure out what 4 HH means??? It is NOWHERE explained in the article and cannot find anything on web that explains is.] The lack of clarity on obscure references notwithstanding, the article informs us the TA for Quantitative Assessment ... (FN01.32.03.01.00) used a ct (cycle threshold) of between 33.3-39.4. SEE: FALSE POSITIVES ARE A REAL PROBLEM: FN 01.21.00.00.01 and the following entries addressing this issue in these notes.) A ct of 25-30 is considered to be the optimal range acceptable for identifying the presence of viral RNA. Yet, even at this level, it must be remembered that the presence of influenza virus does not prove infection, the RNA might be inert; which means the PCR cannot tell you if you are sick, that is infected, or infectious, apart from

corroborating clinical diagnosis.

Second, if the coughs were in close succession it's possible most detectable virus was ejected in the first cough.

Third, the description reveals the subject coughed “directly into” the mask material, and later TA admits a limitation for their study is the fact they did not test for leakage. What this means is they limited the experiment to the material surface of the mask. Of course, even in this case, the percentage of blockage is insufficient to offer protection, but it does explain the disparity in their results with what is generally the case.

It is for these, and other reasons, an experiment that seems to prove mask efficacy is not heralded as the coup-de-grace argument in favor of them.

—> Back to
FN01.32.03.00.00.<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05>

TA takes us to studies in healthcare settings: (Let's examine the referenced studies)

CCav: TA references a RCT conducted in Canada that found “NO SIGNIFICANT DIFFERENCES IN PROTECTION AGAINST LABORATORY-CONFIRMED INFLUENZA INFECTION ASSOCIATED WITH THE USE OF SURGICAL MASKS OR N95 MASKS AMONG NURSES ... WITH 24% OF NURSES IN THE SURGICAL MASK ARM HAVING LABORATORY-CONFIRMED INFECTION DURING AN INFLUENZA SEASON.” (I've gotten confused searching for this quotation about five times. DON'T SEARCH NO SIGNIFICANT DIFFERENCES OR ANY COMBINATION OF THAT EXPRESSION — **search for 24%** — and you'll find the entire quote. This is a problem with searching PDFs; sometimes the search cannot distinguish a phrase within the picture of the page for reasons I am not inclined to go figure out right now!!!! But check this out in this PDF. The Phrase: A randomized controlled trial in Canada found no significant differences in protection against laboratory-confirmed influenza ...” Search randomized FIND. Search controlled FIND. Search protection FIND. But, if Search no significant DOES NOT FIND. Search differences DOES NOT FIND. Search no significant differences DOES NOT FIND. I'm going to try a search

within the online doc. No search feature is available in this doc. Sure does seem suspicious to me.)

Canada Study: Loeb, M, et al. Surgical mask vs N95 respirator for preventing influenza among health care workers: a randomized trial. Journal of the American Medical Association 2009; 302: 1865–1871. CrossRef Google Scholar PubMed

Already vetted in these notes: see
FN01.38.00.09.00-
<https://jamanetwork.com/journals/jama/fullarticle/184819>. PDF: FN01.38.00.09.00.Loebb 2009
joc90119_1865_1871. TITLE: Surgical Mask vs N95 Respirator for Preventing Influenza Among Health Care Workers.

Japan Study: A similar result was found in an RCT conducted in Japan: Jacobs, JL, et al. Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan: a randomized controlled trial. American Journal of Infection Control 2009; 37: 417–419. CrossRef Google Scholar PubMed

Already vetted in these notes: see doc 2:
FN01.42.02.01.00-

<https://www.sciencedirect.com/science/article/abs/pii/S0196655308009097>. PDF: FN01.42.02.01.00. Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan_ A randomized controlled trial - ScienceDirect

Rated by ECDC as LOW to MODERATE confidence:

see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Hong Kong Study: A survey of 133 nurses in Hong Kong found that suboptimal adherence to wearing a face shield during high-risk procedures ... was associated with HIGHER RISK OF ILI, while suboptimal adherence to use of gloves and gowns were also associated with HIGHER ADJUSTED risk of ILI **ALTHOUGH NOT STATISTICALLY SIGNIFICANT.**"
Ng, TC, et al. Preventing healthcare workers from acquiring influenza. *Infection Control and Hospital Epidemiology* 2009; 30: 292–295. CrossRef Google Scholar PubMed

Not vetted in these notes. Cambridge Core wants \$35 to access this article. Abstract only is available. This study is IR since it is limited in scope to healthcare workers and healthcare settings.

Nevertheless, I'll take a look at the abstract:

FN01.32.03.05.00-

<https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/abs/preventing-healthcare-workers-from-acquiring-influenza/B1DDAB57603FDE6E5710DF61A9240624>.
PDF: FN01.32.03.05.00.Preventing Healthcare Workers From Acquiring Influenza _ Infection Control & Hospital Epidemiology _ Cambridge Core
PC: Jan. 2015

CCP: Ng, Lee, Shu, Hui, Lai, and Margaret Ip (All authors with possible CCP connections culturally or professionally) / **ORIGIN:** Hong Kong, China - Chinese University / **REF:** CDC (2); Hong Kong Special Administrative Region (HKSAR) Centers for Disease Control and Prevention (CDC-China); Lee, Chan, Choi (4 of 13) / **FUNDING:** nd

RCT: No. OS.

CONTENT: Stipulate to the assessment of TA. “Our survey of 133 on-duty medical ward nurses showed that, during peak influenza season, 30 (23%) developed an influenza-like illness, despite wearing a

mask at work. Suboptimal adherence to standard precautions, such as the use of a face shield (odds ratio, 3.56) during high-risk procedures, and failure to receive influenza vaccination (odds ratio, 4.82) were independent risk factors, adjusted for household contacts.”

Two other cross-sectional studies found NO EVIDENCE FOR A PROTECTIVE EFFECT OF FACE MASKS AGAINST INFECTION. Let’s look at these.

Al-Asmary, S, et al. Acute respiratory tract infections among Hajj medical mission personnel, Saudi Arabia. *International Journal of Infectious Diseases* 2007; 11: 268–272. CrossRef Google Scholar PubMed

This article comes up later, see **FN01.38.00.03.37v-**
<https://pubmed.ncbi.nlm.nih.gov/25336079/>. PDF: FN01.38.00.03.37v.PURCHASE BLOCKED ABSTRACT ONLY Pilot Randomised Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011 - PubMed — in the abstract, we learn that according to LAB RESULTS from testing members of the two groups there was NO DIFFERENCE. The

part of the study to which MacIntyre disingenuously referred is not a statement of fact about effect, it is a report that is based on observational information depending on the voluntary reports of individuals regarding symptoms — **BUT WHEN SCIENCE STEPPED IN, AND THE PILGRIMS WERE ACTUALLY TESTED, THE LAB RESULTS SHOWED NO DIFFERENCE.**

Let's see if I can find the Al-Asmary article:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110589/> I'll compare it to FN01.38.00.03.37v — it's not the same article. So, let's proceed:

FN01.32.03.06.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110589/>. PDF: FN01.32.03.06.00.Acute respiratory tract infections among Hajj medical mission personnel, Saudi Arabia

PC: May 2007

CCP: Saeed Al-Asmary, Abdul, Alaa, Fattah, Hifnawy, Said (All Arabic) / **ORIGIN:** Saudi Arabia. / **REF:** Shafi, Rashid, El-Bashir; Shafi, Memish, Sheikh; Khalid, Alia, Mona, Abdul, Adel; National Centers for Immunization Research and Surveillance; US CDC and

NIOSH; WHO (2) (6 of 12) / **FUNDING:** Copyright owned by International Society of Infectious Diseases (ISID) — BMGF (Bill & Melinda Gates Foundation) provides funds to ISID:
<https://exchange.isid.org/isid/2021/webinars/347220/>

RCT: No. “A nested case-control study” via questionnaire distributed to a study cohort. It examined efficacy of masks on Hajj pilgrims.

CONTENT: I’ll stipulate to the assessment of TA supported by the abstract only article on Hajj pilgrims in 2011 examined above (See **FN01.38.00.03.37v-**
<https://pubmed.ncbi.nlm.nih.gov/25336079/>. PDF: **FN01.38.00.03.37v.PURCHASE BLOCKED ABSTRACT ONLY** Pilot Randomised Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011). No difference in lab-confirmed cases between masked and non-masked attendees.

The second “cross sectional study” TA mentions is ...

Davies, K, et al. Seroepidemiological study of respiratory virus infections among dental

surgeons. *British Dental Journal* 1994; 176: 262–265.
CrossRef Google Scholar

Not vetted in these notes. It's IR because it does not address mask efficacy in a community setting, being limited to healthcare settings, and specifically, to Dentists. So the vetting will be cursory.

(-) FN01.32.03.07.00-
<https://www.nature.com/articles/4808430>. PDF:
FN01.32.03.07.00.Seroepidemiological study of
respiratory virus infections among dental surgeons _
British Dental Journal

CONTENT: IR and so not vetted.

CE: “Wearing of masks or eye protection did not markedly reduce infection with these viruses among the dentists. It is concluded that dentists are at occupational risk of infection with respiratory tract viruses, and that mask- or spectacle-wearing afford little protection.”

Hobday, Cason: Finally, this SRL references the Hobday & Carson SPECULATION that natural ventilation, hand hygiene and gauze face masks were associated with fewer observed deaths in open air

hospitals during the 1918-1919 Spanish flu pandemic. And offered this fitting concluding remark:
ALTHOUGH THERE WERE MANY POTENTIAL CONFOUNDERS.”

Hobday, RA, Cason, JW. The open-air treatment of pandemic influenza. American Journal of Public Health 2009; 2 (Suppl.): S236–242. CrossRef Google Scholar

FN01.32.03.08.00-

<https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2008.134627>. PDF: FN01.32.03.08.00.The Open-Air Treatment of PANDEMIC INFLUENZA _ AJPH _ Vol. 99 Issue S2.pdf (IR, but quick vetted for some pertinent info.)

PC: Study: July 2008; AJPH published: Sept. 2011

CCP: Hobday, Cason / **ORIGIN:** UK / **REF:** Cheng, Lueng; Li, Leung, Tang; Tang, Li, Chan; Chan, Wong; Low; Wu, Xu, Zhou; Lau JT., Tsui, Lau M., Yang; WHO (8 of 80) (One Anon) / **FUNDING:** nd

RCT: No.

CONTENT: CLAIM from the Hobday study: “A

combination of fresh air, sunlight, scrupulous standards of hygiene, and reusable face masks appears to have substantially reduced deaths among some patients and infections among medical staff.”

CCav: “However, no controlled studies have been undertaken to assess the effectiveness of surgical masks in preventing influenza from passing from one host to the next.” [Another search anomaly: search surgical masks; figured out that sometimes when created a PDF, words are not spaced. In this case, if you search *However, nocontrolled* you’ll get a FIND but is you search *However, no controlled* you will get null result.]

—> Back to **FN01.32.03.00.00-**

<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05>

It does not appear this study lives up to its promise from the experiment as they describe at the outset: “There is SOME evidence to support the wearing of masks or respirators during illness to protect others, and public health emphasis on mask wearing during illness MAY help to reduce influenza

virus transmission.”

The above was a study in healthcare settings, and as you can see, it did not offer much encouragement.

The next section examines COMMUNITY SETTINGS.

STUDIES IN COMMUNITY SETTINGS

The researchers identified four RCTs that examined the effectiveness of face masks to prevent respiratory virus transmission in community settings [14-16]. [NOTE: TA mentions four studies but only references three in footnotes.]

Hong Kong Households: Cowling, BJ, et al. Facemasks and hand hygiene to prevent influenza transmission in households: a randomized trial. *Annals of Internal Medicine* 2009; 151: 437–446. CrossRef Google Scholar

Already vetted in these notes: see
FN01.08.08.00.00-
<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF:
FN01.08.08.00.00.Facemasks and hand hygiene to

prevent influenza transmission in households_ a cluster randomized trial - PubMed.pdf

Rated by ECDC as LOW to MODERATE confidence.

See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Consider TA’s conclusion regarding this study:
CCav: **“IN THE PRIMARY INTENTION-TO-TREAT ANALYSIS THERE WAS NO STATISTICALLY SIGNIFICANT DIFFERENCE IN LABORATORY-CONFIRMED INFLUENZA IN HOUSEHOLD CONTACTS ACROSS INTERVENTION GROUPS.”**

Referring to the Hong Kong Households study, TA explains the groups were defined as, 1. no intervention (CONTROL), 2. hand hygiene only, and 3. third group, hand hygiene with masks use.

When the primary intention-to-treat analysis showed “no statistically significant difference in laboratory-confirmed influenza” across all the groups, they took a look at a “pre-specified analysis.” This appears to be a fancy way of admitting they carefully constructed a set, contrived to yield a specific result.

Attention was restricted to 154 households where intervention was applied **within 36 hours of symptom onset**. They found statistically significant reductions in laboratory-confirmed influenza virus infections where masks and hand hygiene was applied (third group). Then comes the **HOWEVER**:

CCav: “The pilot study with a similar design was UNDERPOWERED to identify SIGNIFICANT differences between study arms.” The “Pilot Study” refers to Cowlings: Cowling, BJ, et al. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. PLoS One 2008; 3: e2101.[CrossRef Google Scholar PubMed](#)

Already vetted in these notes: see **FN01.08.06.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/> PDF: FN01.08.06.00.00.Preliminary Findings of a Randomized Trial of Non-Pharmaceutical Interventions to Prevent Influenza Transmission in Households - PMC **Rated by ECDC as LOW to MODERATE confidence**: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

For my purpose here, I’ll stipulate to TA’s

assessment that the study was underpowered.

MacIntyre Study: MacIntyre, CR, et al. Face mask use and control of respiratory virus transmission in households. *Emerging Infectious Diseases* 2009; 15: 233–241. [CrossRefGoogle ScholarPubMed](#) had similar results. **“THERE WERE NO DIFFERENCES IN ILI IN HOUSEHOLD CONTACTS ACROSS INTERVENTION ARMS.”**

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

The N95 fared better, when adherence was high.

The summary conclusion: **“Our review highlights the LIMITED EVIDENCE BASE SUPPORTING THE EFFICACY OR EFFECTIVENESS OF FACE MASKS TO REDUCE INFLUENZA VIRUS TRANSMISSION.”**

TA recommend masks for short distance

protection where direct or indirect contact is likely, and for protection against LARGE DROPLET SPREAD. They recommend we do something else about longer distance spread and SMALL (NUCLEI) DROPLET PARTICLES:

CCav: “If airborne transmission were important, it would be less likely that surgical masks will lead to reductions in infectiousness or protection against infection, if worn by ill or uninfected people, respectively.”

CCav: CONFOUNDERS ADMITTED: As for their earlier experiment in which participants coughed into a Petri dish, where virus was found in the dish when the participant wore no mask, and none was found in the dish when the volunteer wore either a surgical or N95 — “In future similar studies it would be important to consider the potential for leakage around the sides of the mask in addition to direct penetration of infectious particles through the mask, if the results are to have practical implications for reduction of transmission in community and other settings. Further studies are needed to investigate how mask and respirator performance varies with temperature and humidity, or under working conditions when moisture in exhaled breath or sweat may build up in face masks

and hinder filtration or fit.”

CCav: “In conclusion there remains a substantial gap in the scientific literature on the effectiveness of face masks to reduce transmission of influenza virus infection. While there is some experimental evidence that masks should be able to reduce infectiousness under controlled conditions [7], there is less evidence on whether this translates to effectiveness in natural settings. **THERE IS LITTLE EVIDENCE TO SUPPORT THE EFFECTIVENESS OF FACE MASKS TO REDUCE THE RISK OF INFECTION.**”

(-)

FN01.32.04.00.00.https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf. PDF: FN01.32.04.00.00.The use of masks and respirators during an influenza pandemic_ a review of scientific evidence (There has been confusion regarding this article because it was republished by Elizabeth Paterson, UK, London. I have the republished version in my folder. The connection between the two titles is verified here: https://www.researchgate.net/publication/341250939_The_Use_of_Facemasks_and_Respirators_during_an_Influenza_Pandemic_Scientific_Evidence_Base_Review

Here is a PDF of the earlier version (2014)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf PDF:
FN01.32.04.00.00.The use of masks and respirators during an influenza pandemic_ a review of scientific evidence.

This seemed to be overkill, but my work paid off. THIS IS THE ARTICLE I HAD SO MUCH TROUBLE WITH AT FN01.32.02.00.00 where I ran into multiple quotes that I could not find in the PDF doc I copied to my folder. I'm very glad I decided to keep the quotes and mark them as √ NOT FOUND because now I understand what happened.

See **FN01.32.02.00.00**
<https://onlinelibrary.wiley.com/doi/10.1111/j.1750-2659.2011.00307.x> PDF: FN01.32.02.00.00.The use of masks and respirators to prevent transmission of influenza_ a systematic review of the scientific evidence - bin-Reza - 2012 - Influenza and Other Respiratory Viruses - Wiley Online Library. I noted there “[NOTE: Apparently, I don't have a copy of the original version of this article. I noted what I found in the original but that is not found in my PDF copy with “√ NOT FOUND:”]”

But the article presented at web address:
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1750-2659.2011.00307.x> asserted to have been first published in 2011. And the link here to “an earlier version”

(http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_125425.pdf) redirects to

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/316198/Masks_and_Respirators_Science_Review.pdf,
which is the version I have copied to my folder, see above: FN01.32.04.00.00.)

So, not only have I already vetted this article, I have also vetted the updated and earlier versions of it.

For my present purpose, I'll simply add one CCav: “Six of eight randomised controlled trials found no significant differences between control and intervention groups (masks with or without hand hygiene; N95/P2 respirators).” See FN01.32.02.00.00 for a full vetting of these articles. And notice how many quotations from the original were dropped from its successor.

Completed FN01.32.04.00.00.

—> Back to **FN01.32.00.00.00-**

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0242764> PDF:

FN01.32.00.00.00.Voluntary adoption of social welfare-enhancing behavior_ Mask-wearing in Spain during the COVID-19 outbreak _ PLOS ONE

Pick up on vetting the references that seem pertinent to my query:

Ferng Y, Wong-McLoughlin J, Barrett A, Currie L, Larson E. Barriers to mask wearing for influenza-like illnesses among urban Hispanic households. *Public Health Nursing*. 2011; 28(1):13–23. pmid:21198810
View Article PubMed/NCBI Google Scholar

Totally IR: unrelated in any way to my query.

Leung NHL, Chu DKW, Shiu EYC, Chan K, McDevitt JJ, Hau BJP, et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nature Medicine*. 2020; 26:676–680. pmid:32371934
View Article PubMed/NCBI Google Scholar

FN01.32.05.00.00-

<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.32.05.00.00. Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine

Already vetted in these notes: see

FN01.28.03.00.00-

<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00. Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine ****

CONCLUSION: See above taken from a statement made by TA in FN01.32.03.00.00: The summary conclusion: **“Our review highlights the LIMITED EVIDENCE BASE SUPPORTING THE EFFICACY OR EFFECTIVENESS OF FACE MASKS TO REDUCE INFLUENZA VIRUS TRANSMISSION.”** Masks are effective to block large droplet spread, but not for small (nuclei) droplet particles. This is admitted repeatedly throughout all these studies I’m reading. The problem is these studies consistently fail to consider evaporation (desiccation) and the simple fact that blocking larger droplets does not protect from the escape of multiple thousands of smaller droplets/particles. Even as “source control,” the droplets evaporate leaving the naked

virion to be drawn deeply into the lungs of the wearer, the source, or launched into aerosol upon an exhale of the source.

One wonders about these researches linking to studies that actually say nothing to support their hypothesis and even undermine it significantly, or actually say nothing related to their theory.

FN01.33.00.00.00-

<https://link.springer.com/article/10.1007/s10900-021-00981-6>. PDF: FN01.33.00.A Cross-Sectional Study of Knowledge, Attitude, and Practice Towards Face Mask Use Amid the COVID-19 Pandemic Amongst University Students in Vietnam _ SpringerLink

***Primary Article claims this Vietnamese study attributes low case count, or rate, to their strict mitigation policies during the pandemic, and adds that this strict mitigation policy is relevant in some way to Vietnam's proximity to China: "Especially given its proximity to China," and says this is what "helped keep case numbers low." The author of our primary source tells us mandatory masking, enforced by a fine, "led to the successful containment of the coronavirus, researchers write." He stipulates that surgical masking is the preferred method, but that researchers urge

mask use and community education. The attitude expressed here betrays a clear CCP bias in the author of this article purporting to have assembled 49 “scientific” studies that say masks work. Okay, let’s take a look.

PC: March 2021

CCP: Minh Cuong Duong, Nguyen, and Duong / **ORIGIN:** Vietnam-Hanoi, and Ho Chi Minh City; Australia-New South Wales. / **REF:** Ruan; Peng; Nguyen, Cao, Nghiem; Vietnam Ministry of Health; Tan; Nguyen; Duong; Feng; Greenhalgh; Azlan; WHO; Min. of Health VN; Manikandan; Chiu; Duong (2); Nhu; Huong; Zhong; MacIntyre (2); Al-Hanawi; Heung (23 of 28) / **FUNDING:** nd

RCT: No. (Searched: *randomised, randomized, clinical, cohort, trial*, with result NULL. — Except in footnotes one ref. to a randomised trial by MacIntyre: MacIntyre, C. R., et al. (2020). Contamination and washing of cloth masks and risk of infection among hospital health workers in Vietnam: A post hoc analysis of a randomised controlled trial. *British Medical Journal Open*, 10(9),e042045. Cannot find this vetted in these notes. I might vet it here if it’s relevant.) This study is characterized by TA as a

“cross-sectional study.” Cross-sectional studies are OBSERVATION based and expressly declared to be unsuited for establishing causality. See TECH21.How Does the Cross-Sectional Research Method Work? <https://www.verywellmind.com/what-is-a-cross-sectional-study-2794978>: “Cross-sectional studies are observational in nature and are known as descriptive research, NOT CAUSAL OR RELATIONAL, meaning YOU CAN’T USE THEM TO DETERMINE THE CAUSE OF SOMETHING, SUCH AS A DISEASE.”

CONTENT:

AME: assumption of Mask efficacy throughout: An examination of attitudes toward face masks — not an enquiry as to the efficacy of masks against a virus.

SS: “GIVEN THE INCREASING EVIDENCE OF EFFICACY OF COVID-19 PREVENTIVE MEASURES:” footnotes 9,10,16,17,18,19,20. Let’s take a look: So, we’ll examine the “evidence” TA uses to establish the primary premise supporting their article, because, if in fact masks do not protect from a virus, nothing in this study has relevance to the query.

First footnote referenced (9): Feng, S., et al. (2020). Rational use of face masks in the COVID-19

pandemic. *The Lancet Respiratory Medicine*, 8(5), 434–436.

FN01.33.01.00.00-

[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext) PDF:

FN01.33.01.00.00.Rational use of face masks in the COVID-19 pandemic - *The Lancet Respiratory Medicine*

Already vetted in these notes: see

FN01.28.02.00.00-

[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext) PDF:

FN01.28.02.00.00.Rational use of face masks in the COVID-19 pandemic - *The Lancet Respiratory Medicine*

Second footnote referenced (10): Greenhalgh, T., et al. (2020). Face masks for the public during the covid-19 crisis. *BMJ*, 369, m1435.

FN01.33.02.00.00-

<https://www.bmj.com/content/369/bmj.m1435>. PDF: FN01.33.02.00.00.Face masks for the public during the covid-19 crisis _ *The BMJ*

Apparently, I've not vetted this one yet.

PC: April 2020

CCP: Greenhalgh; other authors (1 of 5) / **ORIGIN:** UK-Nuffield Dept. of Primary Care Health Sciences, Oxford; Switzerland-Zurich; Austria-Vienna; UK-London, Edinburgh, Glasgow / **REF:** Feng, Shen, Xia, Song, Fan, Cowling; NHS in UK; European Commission on the precautionary principle; Marisinghe; Long, Hu, Liu; MacIntyre, Dwyer; Jefferson; Cowling, Zhou, Leung, Aiello; Aledort; Xiao, Shiu, Gao; WHO (3), **Fauci AS;** Leung, Chu, Shiu; Cowling, Ali, Ng; Leung, Chu, Shiu; Lau, Tsui, Lau M., Yang; Nyei; Leung, Chu, Shiu; Jefferson, Ansari (21 of 40) [Interesting article title: “For autocratic regimes, COVID-19 is a window to consolidate power.”] / **FUNDING:** nd

RCT: No. In fact, these CCP influenced TA categorically dismiss RCT approach to forming science support for policy decisions: “Evidence based medicine tends to focus predominantly on internal validity—whether primary research studies were “done right”—using tools to assess risk of bias and adequacy of statistical analysis. **External validity relates to a different question: whether findings of primary studies done in a different population**

with a different disease or risk state are relevant to the current policy question. We argue that there should be a greater focus on external validity in evaluation of masks.” This is pathetic! Essentially, these TA want to remove the important restrictions and rigors of the hard science route and create a very loose place to do their work.

CONTENT:

Consistent with their dismissal of rigorous scientific method, such as is required by a properly constructed RCT, “Trisha Greenhalgh and colleagues argue that it is time to apply the precautionary principle.” I’ve addressed the precautionary principle at least two times in these notes. Let’s take a quick look.

[Discussion of the precautionary principle might be needed in my book. Essentially, the idea is that even if there is not sufficient evidence to support mask mandates and social distancing mandates, nevertheless, in view of extreme precaution justified by the severity of the disease, these measure ought to be enforced. **This is a VERY dangerous path.** Any authority, like our CA Govenor, can decide independently that the pandemic requires emergency

measures and argue for PRECAUTIONARY measures to justify destroying our liberties, our livelihoods, and compromising not only the quality of our lives, but even endanger our lives. **Masks are NOT A BENIGN inconsequential imposition — there is reason to believe they are not only very psychologically destructive, but also harmful to our health.]**

NOTE: CCav: **Precautionary principle** is defined as “a strategy for approaching issues of potential harm when extensive scientific knowledge on the matter is lacking.” Making their resort to this a screaming CCav: admission **THEY HAVE NO SCIENTIFIC EVIDENCE TO SUPPORT THEIR OBSESSION WITH STRAPPING A MASK ON EVERYONE.**

CCav: So, out the door, this study admits: “Scientific knowledge on the matter [of masks and their efficacy] is lacking.”

CCav: **“The efficacy and acceptability of the different types of face mask in preventing respiratory infections during epidemics is sparse and contested.”**

NOTE: BUT — IT’S THE SERIOUSNESS OF THE ILLNESS AND SO WE MUST DESTROY OUR ECONOMY,

AND PERSONAL LIBERTIES, AND EVEN THREATEN LIVES IF NEED BE — (Reminds me of the device Devil Dems used to destroy due process, and innocent until proven guilty: *The SERIOUSNESS of the CHARGE warrants investigation even if there is no EVIDENCE to support the allegation.* Remember?

Here is the evidence presented in this study that was already admitted to be inconclusive: Referenced by Footnote Number:

05. Long Y, Hu T, Liu L, et al. Effectiveness of N95 respirators versus surgical masks against influenza: A systematic review and meta-analysis. *J Evid Based Med*2020. doi:10.1111/jebm.12381 pmid:32167245 CrossRefPubMedGoogle Scholar

Already vetted in these notes: **FN01.10.01.00.00**

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06. MacIntyre CR, Cauchemez S, Dwyer DE, et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis*2009;15:233-41. doi:10.3201/eid1502.081166 pmid:19193267CrossRefPubMedWeb of ScienceGoogle Scholar.

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

07. Jefferson T, Del Mar CB, Dooley L, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane Database Syst Rev*2011;7:CD006207.. doi:10.1002/14651858.CD006207.pub4 pmid:21735402CrossRefPubMedGoogle Scholar

Already vetted in these notes: See **FN01.10.03.00.00**

08. Cowling BJ, Shou Y, Ip DK, Leung GM, Aiello AE, Face masks to prevent transmission of influenza virus: a systematic review. *Epidemiol Infect*2010;138:449-56. doi:10.1017/S0950268809991658 pmid:20092668 CrossRefPubMedGoogle Scholar <https://www.cambridge.org/core/journals/epidemiol>

ogy-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05

CCav: “Found some efficacy of masks if worn by those with respiratory symptoms BUT NOT IF WORN BY ASYMPTOMATIC INDIVIDUALS.”

Already vetted in these notes: see
FN01.32.01.00.00

09. Aledort JE, Lurie N, Wasserman J, Bozzette SA. Non-pharmaceutical public health interventions for pandemic influenza: an evaluation of the evidence base. BMC Public Health 2007;7:208. doi:10.1186/1471-2458-7-208 pmid:17697389 CrossRef PubMed Google Scholar
<https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-7-208>.

FN01.33.03.00.00-
<https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-7-208>. (See also <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2040158/>) FN01.33.03.00.00.Non-pharmaceutical public health interventions for pandemic influenza_an

evaluation of the evidence base _ BMC Public Health _ Full Text

PC: August 2007

CCP: None implied (All authors affiliated with RAND Center.) / **ORIGIN:** RAND Center for Domestic and International Health Security / **REF:** WHO/US CDC; Ntl. strategy for pandemic implementation plan 2006; WHO (3); US CDC (5); Ng, Cheng, Ng AY, Hoang, Lim; Yuen, Chan, Tsang, Que, Cheung, To, Ho, Sung, Cheng; Abdullah; Pang, Zhu, Xu, Guo, Gong, Liu D., Liu Z., Chin; Seto, Tsang, Yung, Ching, Ng, Ho M., Ho LM; IOM-Institute of Med. (16 of 55) / **FUNDING:** nd

RCT: Not asserted: “An evaluation of the evidence” (“Building on reviews of past pandemics...” “We reviewed the recent scientific literature regarding ...”
RL

CONTENT:

CCav: “In an effort to inform decision-making in the ABSENCE of strong scientific evidence, the experts ultimately endorsed hand hygiene and respiratory etiquette, surveillance and case reporting, and rapid viral diagnosis in all settings and during all pandemic

phases. They also encouraged patient and provider use of masks and other personal protective equipment as well as voluntary self-isolation of patients during all pandemic phases. Other non-pharmaceutical interventions including mask-use and other personal protective equipment for the general public, school and workplace closures early in an epidemic, and mandatory travel restrictions were rejected as likely to be ineffective, infeasible, or unacceptable to the public.”

CCav: (Information) “A recent Institute of Medicine (IOM) study found that empirical evidence about the efficacy or effectiveness of inexpensive, disposable masks and respirators against influenza is limited [43-46]. Our experts recognized this as an area of significant controversy and complexity, but they generally recommended reserving surgical masks, N95 respirators and other personal protective equipment for hospital and ambulatory patients and providers when a community outbreak begins or when the pandemic was widespread. Moreover, surgical masks and N95 respirators were recognized as a non-invasive technology that would induce no antiviral drug resistance. The experts qualified their recommendation, noting that poor training, improper use and, for N95 respirators, the need for fit-testing

may compromise the overall effectiveness of these measures.”

Check out references 43-46

*CLAIM: A recent Institute of Medicine (IOM) study found that empirical evidence about the efficacy or effectiveness of inexpensive, disposable masks and respirators against influenza is limited [43-46]

43. Abdullah AS, Tomlinson B, Cockram CS, Thomas GN: Lessons from the severe acute respiratory syndrome outbreak in Hong Kong. *Emerg Infect Dis.* 2003, 9 (9): 1042-1045. Article PubMed PubMed Central Google Scholar

FN01.33.03.01.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3016765/>. PDF: FN01.33.03.01.00.Lessons from the Severe Acute Respiratory Syndrome Outbreak in Hong Kong

PC: Sep. 2003

CCP: Abdullah (Hong Kong), Tomlinson (Hong Kong), Cicjran (Hong Kong), Thomas (Hong Kong) / **ORIGIN:** Hong Kong, Chinese University of Hong Kong / **REF:** WHO (9), Leung; Chan-Yeung, Yu; US CDC; Lee,

Hui, Wu, Chan; Low; HK Dept. of Health; Lin; Ghani, Leung; Kong (18 of 24) / **FUNDING:** “This is a publication of the US Government — US CDC.

RCT: No. Appears to be a report on observations made from an examination of the SARS outbreak in Hong Kong

CONTENT:

IR: Does not address particle transmission within the size range of our interest.

INFO: “Steroid use may further increase the viral load and prolong shedding of viable viral particles past the 1–2 weeks after symptoms disappear, potentially increasing the transmission of the disease and the duration of infectivity of the patient.”

NC/IR: Health Care Setting: “Simple measures such as hand washing after touching a patient, the use of an appropriate and well-fitted facemask, and the introduction of infection control measures at an early stage, as well as quarantine of patients, may have reduced transmission (12).” 12. Tomlinson B, Cockram CS. SARS: experience at Prince of Wales Hospital, Hong Kong. *Lancet*. 2003;361:1486–7. 10.1016/S0140-

6736(03)13218-7 [PMC free article] [PubMed]
[CrossRef] [Google Scholar]

The only reference to masks (facemask) was in HC setting, and it was NC. Also, no information was provided regarding particle size, etc. Also, this was CCP dominated by professional affiliation. CONTRARY TO CLAIM: NO EMPIRICAL EVIDENCE PROVIDED.

*CLAIM: A recent Institute of Medicine (IOM) study found that empirical evidence about the efficacy or effectiveness of inexpensive, disposable masks and respirators against influenza is limited [43-46]

44. Pang X, Zhu Z, Xu F, Guo J, Gong X, Liu D, Liu Z, Chin DP, Feikin DR: Evaluation of control measures implemented in the severe acute respiratory syndrome outbreak in Beijing, 2003. *Jama*. 2003, 290 (24): 3215-3221. 10.1001/jama.290.24.3215.
CAS Article PubMed Google Scholar

FN01.33.03.02.00-

<https://jamanetwork.com/journals/jama/fullarticle/197893>. PDF: FN01.33.03.02.00.Evaluation of control measures implemented in the SARS outbreak in Beijing joc31682

PC: December 2003

CCP: Xinghuo Pang, Zonghan Zhu, Fujie Xu, Jiyong Guo, Xiaohong, Donglei Liu, Zejun, Chin, Feikin / **ORIGIN:** Beijing, China, Beijing CDC, Beijing Municipal Health Bureau, WHO, PRC, US CDC / **REF:** WHO (4); Ashraf; Liang, Zhu, Guo; Xie, Zeng, Lei, Li Q., Li HB., Jia; China Health Year Book; Lee, Hui, Wu; US CDC (3); Twu, Chen TJ., Chen CJ.; Hsu, Lee; Chu, Cheng (15 of 17) / **FUNDING:** nd Assumed Beijing

RCT: No. “Evaluation of control measures ...”

CONTENT:

IR/AME: No discussion of droplet/particle size or mask penetration consideration.

OS: Multiple strategies implemented simultaneously with no differentiation possible to sort out what measure, if any, a particular NPI contributed to results.

AME: Interventions were limited to HCW: “Medical Sector Interventions,” however, I found reference to use of masks as source control in the community by infected (or quarantined) persons: “Quarantined persons were unable to leave the site of

quarantine, except for rare circumstances like funeral, during which they were required to wear masks.”

The only two places in article where masks (facemask) were mentioned are noted above: one in HCW setting and the second as source control for community exposure. None of the instances provided any scientific support for their use — totally AME. **CONTRARY TO CLAIM: NO EMPIRICAL EVIDENCE OFFERED**

45. Seto WH, Tsang D, Yung RW, Ching TY, Ng TK, Ho M, Ho LM, Peiris JS: Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome (SARS). Lancet. 2003, 361 (9368): 1519-1520. 10.1016/S0140-6736(03)13168-6. CAS Article PubMed Google Scholar

Already vetted in these notes: **FN01.42.02.07.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7112437/?report=reader>. PDF:

FN01.42.02.07.00.Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome (SARS) Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/docu>

ments/covid-19-face-masks-community-first-update.pdf

This study at least does address mask efficacy, but provides empirical evidence only if one accepts conclusions premised on OS. Even in this, however, the study clearly limits its affirmations to droplets in the large size range ($\geq 5 \mu\text{m}$), specifically does not recommend them for aerosolized particles, and shows results that are confounded by multiple, and simultaneous interventions, and conclusion that actually contradict their assumptions.

At least, however, this study can be said to address the CLIAM.

*CLAIM: A recent Institute of Medicine (IOM) study found that empirical evidence about the efficacy or effectiveness of inexpensive, disposable masks and respirators against influenza is limited [43-46]

46. Institute of Medicine (IOM): Reusability of facemasks during an influenza pandemic. 2006, Committee on the development of reusable facemasks for use during an influenza pandemic Google Scholar
Not vetted in these notes.

Link wants to sell a book. Found by title search:

FN01.33.03.03.00-

<https://www.cdc.gov/niosh/nioshtic-2/20035463.html>. PDF: FN01.33.03.03.00.NIOSHTIC-2 Publications Search - 20035463 - Reusability of facemasks during an influenza pandemic_ facing the flu_ (Not a full article: a statement from NIOSH on need to work on encouraging fabrication of reusable masks.

PC: Jul. 2006

CCP: Authors not named, CDC of 2006, / **ORIGIN:** National Academy of Sciences (NAS); WA-DC, PA / **REF:** no citations / **FUNDING:** nd Assumed NAS.

RCT: No. A call to action from NIOSH published by CDC.

CONTENT:

Why Footnotes 43-45 were referenced to this claim is unclear; footnote 46 is the doc referenced: Institute of Medicine (IOM) on the reusability of masks — I am limited in my vetting since public access to the article/in this case, BOOK, is limited. Purchase price \$39.00. I'll investigate the abstract to ascertain if it is

necessary to purchase the book.

INFO: There was, in 2006, a sense that the world was “overdue for such an event” — i.e., an influenza pandemic.

Masks considered a secondary means of preventing or slowing transmission, and “SUCH MEASURES ARE WIDELY CONSIDERED AN INTERVENTION OF LAST RESORT.”

CCav: “Properly fitted respirators provide better protection against airborne transmission of infection than do medical masks.”

CCav: Practically a prediction of current status: “Thus, reality may require that disposable N95 filtering facepiece respirators and medical masks be pushed beyond their approved uses in the hope that they will provide some level of protection beyond their intended limits of use.”

It’s possible, of course, that this study will address the issues raised in the claim, but it is doubtful, given the CCavs identified in the abstract, that any information in this book would provide anything definitive. I’ll keep this study in mind and return to it if

necessary.

Back to —> **FN01.33.03.00.00-**
<https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-7-208> (pdf:
<https://bmcpublihealth.biomedcentral.com/track/pdf/10.1186/1471-2458-7-208.pdf>)

Wow, we've come a long way baby!

So this study amounts to a statement of the paucity of evidence, the need for guidance, and a deference to the “experts.”

**** **FN01.33.03.04.00-**
<https://apps.who.int/iris/bitstream/handle/10665/329438/9789241516839-eng.pdf?ua=1> PDF:
FN01.33.03.04.00.Non-Pharmaceutical public health measures for mitigating the risk ... 9789241516839-eng. (NOTE: GLOBAL INFLUENZA PROGRAMME — Every major government *programme* in history has been a plan to *depopulate* some sector of humanity.)

PC: 2019

CCP: Cowling, Wong, Ryu, Gao, Shiu, Xiao, Whui (All CCP influenced); others include Aiello, Aljifri, etc.

all connected with WHO and suspected of some CCP bias / **ORIGIN:** WHO, consider the following statement: “This document is the product of collaboration between the World Health Organization (WHO) Global Influenza Programme and the WHO Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, The University of Hong Kong.

“The University of Hong Kong team was led by Benjamin Cowling, and included Jessica Wong, Sukhyun Ryu, Huizhi Gao, Eunice Shiu, Jingyi Xiao and Min Whui Fong. The team’s contributions to carrying out the systematic reviews and developing this document are gratefully acknowledged.” / **REF: WHO (18);** Nguyen-Van-Tam; London Dept. Health; Yan, Liu; Cowling, Fang, Suntarattiwong; **US CDC (3);** Skountzou, Koutsonanos, Satyabhama, Maseoud; Rabadan; Lai, Qin, Cowling, Ren; Wang X., Jiang, Wu, Uyeki, Feng, Lai; Wang, Wu, Pei, Tsang, Gu, Wang; Akl; Aiello, Davis, Uddin (2); Cowling, Chan, Gang, Cheng, Fung, Wai; Ferng, Wong-McLoughlin, Wang S.; Suntarattiwong; Cowling, Fung, Cheng, Fang, Chan, Seto; Ram, Khatun-e-Jannat, Islam; Azman; Suntarattiwong; Wong, Cowling, Aiello; Ahmed, Allegranzi; Zayas, Chiang, Wong E.; Barasheed, Almasri, Badahdah; MacIntyre, Dwyer, Seale, Cheung; MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu; Wada,

Oka-Ezoe; Shih; Dwyer; Suntarattiwong, Shaman; Jeong, Bae, Kim; **ECDC (3)**; Communicable Diseases Network Australia; American Cancer Society; Chen, Liao; Gao, Li, Leung; Gao, Wei, Cowling, Li; Qian, Zheng; Institute of Med.; Wu, Leung; Chu, Guo, Wang, Wen, Lee; Wong JF, Wang; Wang L., Zhang, Huang, Li; Zhang. Wang D. (2); Yasuda; Rashid, Ridda; Leung, Xu, Cowling; Fujita, Sato, Kaku, Tokuno, Kanatani, Suzuki; Miyaki, Sakurazawa, Mikurube, Nishizaka, Song; Li, Geng, Tian, Lai; Xu; Nishiura; Sato, Nakada, Yamaguchi, Imoto, Miyano, Kami; Yang; Seale, Razeed, MacIntyre; Teh, Cheng; Chu, Li, Zhang, Wang, Huo, Wen; Cowling, Lau, Ho, Chuang, Tsang, Liu; Wu, Cowling, Lau, Ip, Ho, Tsang; Liu; Wu, Cowling, Lau, Ip, Ho Tsang; Wang; Kawano, Kakehashi; Sato, Akita, Tanaka; Gao, Shi; Sugisaki, Seki, Tanabe, Saito, Sasaki; Chen, Huang, Liu, Xie, Chen; Chowell; Jehn; Ali, Kadi; Chowell; Chu, Wu, Ji, Sun J., Sun X., Qin; Ye, Zhou, Feng, Xiang; Shi, Njal; Cowling; Chen, Huang, Chuang, Chiu, Kuo; Zhang, Fu, Ma, Xiao, Wong, Kwok; Ahmed, Zviedrite, Uzicanin; Luong, Lao; Xia, Nagaraj, Chen; Mao; Kok; Institute of Med. Forum on Microbial Threats; Govt. Canada; Cowling, Lau, Wu, Wong, Fang; Chen, Yang, Zhang, Shen, Chen, Wang; Nishiura, Kamiya; Sakaguchi, Tsunoda, Wada, Ohta, Kawashima, Yoshino; Lam, Cowling, Wong, Lau, Nishiura; Chong, Ying; Yu (113 of 241) / **FUNDING: WHO**

RCT: No. But reference is made to various studies.

CONTENT:

ACK: Does address particle that are $< 5 \mu\text{m}$ and identifies these as aerosols, but, as I've pointed out before, this means they have in view particles that are from $4 \mu\text{m}$ to $4.99 \mu\text{m}$. Confirms: "Influenza virus can be detected in fine particle aerosols with an aerodynamic diameter of less than $5 \mu\text{m}$," and that these are "emitted by infected individuals in exhalations, coughs and sneezes." Footnote 4, stipulated. These tiny particles can infect.

ACK/NC: Further confirmation of facts already established: "Although most aerosol transmission is likely to occur at close range because of dilution and inactivation over distance and time, these particles can remain suspended in the air for extended periods and may be responsible for higher rates of transmission, particularly in crowded areas (5)." Stipulated.

*** CLAIM for large droplet transmission: Called Respiratory droplet transmission: "Droplet transmission is typically defined as transmission via droplets that follow a ballistic trajectory after

emission and [1] **do not remain airborne; these particles have an aerodynamic diameter of 5–10 μm (6).** Virus-laden droplets are expelled into the environment by breathing, coughing and sneezing. [stipulated] [2] **These droplets generally travel short distances (1–2 m from the source) (5).** [3] **Respiratory droplets are often thought to be the most common route of influenza transmission, although there is limited evidence to support this view.”**

Evaluation of CLAIM:

[1] The sizes here referenced are in the range of those likely to be captured by a surgical or a cloth mask: 5-10 μm is 5000 to 10000 nm. Surgical masks (SM, which for our purpose will include procedural masks) can capture a percentage of particles ≥ 300 nm. They do not, however, capture particles in the nanosizes in which SARS-CoV-2 are found: 40-140 nm. Clearly, WHO is constructing an argument to support masking.

[2] The larger droplets described here are known to travel short distances, somewhere between 3 to 6 feet from source; that is, they do not aerosolize. This can create fomite infection potential, except that they

generally, in most environments, do not maintain infectivity for long periods of time, for example, in sunlight. However, in doors, they can remain infectious for some hours. Footnote stipulated.

[3] CCav: *Often* accurately characterizes the current consensus on transmission: that respiratory droplets are thought to be the most common route of transmission, and I'm glad WHO honestly reported: "there is limited evidence to support this view." Indeed, the evidence is limited. Increasingly, aerosol transmission is gaining attention and provides the only reasonable explanation for some transmission episodes. FURTHERMORE: while a mask will likely capture *some* droplets in the ranges discussed here, those droplets dry, or desiccate, quickly, releasing the virion to be sucked in through inhalation (inspiration) or launched into the atmosphere as aerosolized infectious particles upon expiration. THIS WAS NOT BROUGHT UP IN THE PRESENT ARTICLE. See section above: Aerosol transmission: "Although most aerosol transmission is likely to occur at close range because of dilution and inactivation over distance and time, these particles can remain suspended in the air for extended periods and may be responsible for higher rates of transmission, particularly in crowded areas (5)."

IR: Per the [3] CCav above — the article does not address desiccation (evaporation). Searched *desiccation, desiccate, evaporate* and *evaporation*, NULL result.

*** NOTE: Dangerous implications: **“The various modes of transmission have implications for the effectiveness of personal protective measures against influenza transmission. Also, uncertainty over the specific role of contact and aerosol transmission has hindered the optimization of control strategies. In settings where multiple exposures occur, removing one mode of transmission (e.g. by intense hand hygiene) may not be sufficient to reduce overall transmission (7). Isolating infected individuals – that is, keeping them away from others – is likely to reduce transmission by all modes.”** ISOLATION of persons in the general community can be a severe impediment to freedom, and a great boon to tyrants — invoke Emergency Powers and then impose ISOLATION protocols that can be “LEGALLY” policed — keeping the population in lockdown — and leading to isolation camps constructed for this purpose — putting us in cages kept by the zoo keepers.

*** NOTE: I find it odd that the same people who concern themselves with overpopulation and complain mankind is the cause of all evils upon the planet would feign to be so concerned about public health —???

INFO: Re impact of past pandemics. “There were three major pandemics in the 20th century, commonly referred to as the “Spanish flu” in 1918–1919, the “Asian flu” in 1957–1958 and the “Hong Kong flu” in 1968–1969 (Table 3). The most serious of these was the pandemic caused by the A(H1N1) virus in 1918–1919, which resulted in 20–50 million deaths, and had a particularly notable impact on mortality in young adults (17). The A(H2N2) pandemic in 1957–1958 and the A(H3N2) pandemic in 1968–1969 each caused around 1 million deaths worldwide, with the greatest impact on mortality being in older adults (18).

“The first influenza pandemic in the 21st century, which occurred in 2009–2010, was caused by a new strain of influenza A(H1N1) virus that was antigenically shifted from the seasonal influenza A(H1N1) strains circulating at the time, but antigenically similar to A(H1N1) strains vthat had circulated before 1950 (19). The virus is thought to have emerged in central America vshortly before it was first detected in North America in April 2009, and

subsequently spread rapidly to other parts of the world (20). Because of the similarity with older A(H1N1) viruses, older adults had some immunity, reducing the impact of A(H1N1)pdm09 in this age group (21). Globally, the pandemic was estimated to have caused 123 000–203 000 respiratory deaths in 2009 (22).”

*** NOTE: INFO: Apparently, something called IHR (International Health Regulations), founded in 2005 (see footnote 36) ENTERED INTO FORCE IN 2007 with two objectives:

“To set out obligations and mechanisms for “a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade”; and to strengthen the preparedness and capacities of countries so they can proactively detect, assess, report and address acute public health threats early.”

*** WOW — RED ALERT: “The IHR (2005) seek to [1] **balance the sovereignty of individual States Parties with the common good of the international community**, and take account of economic and social

interests as well as the protection of health. [2] **Under the IHR (2005), governments are entitled to implement public health measures** to protect the health of their populations during public health events respecting [3] **three golden rules, which are that such measures must be based on scientific principles, respect human rights, and not be more onerous or intrusive than reasonably available alternatives.** [4] **When measures exceed these parameters, countries are obliged to provide the public health rationale to WHO within 48 hours of implementation, and to rescind the measures if they are deemed unjustified.”**

You’ve got to be kidding me!

*** [1] We turn over the question of “balance” between the sovereignty of the US over against the “good of the international community”? WHO (pun intended) holds the “scales”? WHO determines what is the weight of international interest over against the a nations independence and sovereignty?

*** [2] Under IHR (2005) governments are ENTITLED? Excuse me! A sovereign state needs no entitlement except what it is GIVEN by the PEOPLE of that state. I don’t recall EVER being asked to VOTE on

anything like this.

*** [3] The THREE golden rules IMPOSED ON US WITHOUT AUTHORIZATION by THE PEOPLE — are 1. scientific principles — (well, I’m spending an inordinate amount of time struggling with the abuse of scientific principles right now in the effort to distort science into service to unreasonable and wicked men attempting to use it to oppress the people and take away their natural rights.) 2. respect human rights — (respect for human rights is immediately belied by the very existence of this IHR-2005, first, the PEOPLE did not officially consent to this, second OUR REPRESENTATIVE ARE NOT ALLOWED BY OUR CONSTITUTION TO ENACT ANY LAW THAT PROVIDES FOR THE ENCROACHMENT OF OUR LIBERTIES STIPULATED IN OUR CONSTITUTION, BILL OF RIGHTS, AND THE OTHER AMENDMENTS.

*** [4] When measures “exceed these parameters,” WHO decides when that has occurred? A country is “obliged to provide the public health rationale to WHO within 48 hours,” so WHO enforces that, and if recent experience is any guide to interpreting this provision, Australia, China, as two examples — did either of those countries submit to their “obligations” and petition WHO for permission to impose the draconian

excessive measures implemented there? And if so, may we see the docs, please, and the response of WHO authorizing these measures???? If so, it is apparent, WHO agrees with these measures, or as I rather expect, has NO AUTHORITY to enforce its will on any sovereign state — WITH THE POSSIBLE EXCEPTION OF AMERICA, where we have a pack of bobble-headed ninny CCP sycophants exercising usurped power and bringing this country into subservience to international institutions, run by CCP, like WHO, etc.

HELPFUL INFO in how to EVALUATE EVIDENCE:

“Evaluation of the evidence

“For each included study the risk of bias was assessed as part of the quality of evidence evaluation. In general, randomized controlled trials (RCTs) provided the strongest evidence, followed by observational studies and then computer simulations. The strength of individual studies could also be modified based on the risk of bias. The main types of bias in the systematic review of interventions are discussed below (39).

“Potential limitations in RCTs include:

- lack of allocation concealment;
- lack of blinding;

- loss to follow-up and failure to adhere to the intention-to-treat principle;
- reporting bias; and
- lack of generalizability due to strict inclusion criteria.

“Potential limitations in observational studies include:

- failure to describe the eligibility criteria;
 - flaws in the measurement of exposure or outcome (or both);
 - potential for bias due to confounding; and
- incomplete or inadequate follow-up.”

NOTE: They used GRADE (Grading of Recommendations Assessment, Development and Evaluation) — Footnote 40 See Guyatt G, Oxman AD, Akl EA, Kunz R, Vist G, Brozek J et al. GRADE guidelines: 1. Introduction—GRADE evidence profiles and summary of findings tables. *J Clin Epidemiol.* 2011;64(4):383–94 (<https://www.sciencedirect.com/science/article/pii/S0895435610003306>, accessed 26 June 2019).

*** The fact of our liberties rests upon. the evaluation of WHO personnel assigned the task: if they assess the data shows the desirable effects outweigh the undesirable results, the pass the protocol as

RECOMMENDED. If they assess the balance between cost and benefit is uncertain, and believe some restraint should be shown, or some conditions should apply, they will grade the NPI, or the mitigation intervention as **CONDITIONALLY RECOMMENDED**, and stipulate those conditions; if they find the data does not support an expectation of advantages over disadvantages, these LORDS will declare it **NOT RECOMMENDED**.

*** This is followed by IHR RECOMMENDATIONS: Watch for the exercise of their “authority” as quasi as it is, at present, and you should become very concerned”

Hand Hygiene — **RECOMMENDED, ALL TIMES**, CCav: “Although **RCTs have not found that hand hygiene is effective in reducing transmission of laboratory-confirmed influenza** specifically, mechanistic studies have shown that hand hygiene can remove influenza virus from the hands, and hand hygiene has been shown to reduce the risk of respiratory infections in general.” [So, the *science* offers **NO SUPPORT**, but the intuitive sense of the “LORDS” observes, upon OS, that “mechanistic studies” show it can remove influenza virus from hands, and in a general sense, evidence holds it effective in some

measure — upon that THAT, AND NOT SCIENCE, the IHR RECOMMENDS. Begin to see the picture? WHAT HAPPENED TO “SCIENTIFIC PRINCIPLES” — unless, like all else touched by these people, human intuition based superstition is trumping science today?

On the matter of Hand Hygiene, WHO stipulates the QUALITY OF EVIDENCE is MODERATE and in parentheses notes this is because of CCav: “(lack of effectiveness in reducing influenza transmission) — so, what is the POINT of a RECOMMENDATION, which, as interpreted above, means ORDERED by the INTERNATIONAL HEALTH REGULATORY board, or committee, or, whatever it is. And this is to be applied AT ALL TIMES?

Respiratory etiquette — RECOMMENDED, ALL TIMES, Ccav: “Although there is no evidence that this is effective in reducing influenza transmission, there is mechanistic plausibility for the potential effectiveness of this measure.”

Quality of evidence: NONE —

Face Masks: A split recommendation status: CONDITIONALLY RECOMMENDED, During severe epidemics or pandemics & RECOMMENDED, ALL

TIMES for symptomatic individuals. The same CCav is repeated for both these: “Although there is no evidence that this is effective in reducing influenza transmission, there is mechanistic plausibility for the potential effectiveness of this measure.”

Quality of evidence: Moderate, because CCav: “(lack of effectiveness in reducing influenza transmission)” I can only suppose the plethora of efforts by CCP influenced “science” has nudged this from LOW to MODERATE, because, by their own admission, the mitigation recommendation lacks any real proof of effectiveness to reduce influenza transmission.

Surface and object cleaning: RECOMMENDED, ALL TIMES, CCav: “Although there is no evidence that this is effective in reducing influenza transmission, there is mechanistic plausibility for the potential effectiveness of this measure.” Can you believe these people? No evidence! Their recommendation rests on their intuitive sense that of plausibility there will be some good effect.

Quality of evidence: LOW, why? The exact same reason all the ones named above as MODERATE, CCav: “(lack of effectiveness in reducing influenza

transmission).”

Following through and including contact tracing, we have NOT RECOMMENDED, and the quality of evidence is either NONE (See Respiratory etiquette, above—RECOMMENDED, ALL TIMES—???), or VERY LOW, including School measures involving distancing, staggering recesses and lunchbreaks, school closures, class dismissals, with an eye on the impact on families and the community —

Isolation of sick, recommended all times, but quality of evidence is VERY LOW, though regarded as effective.

That’s enough for my purpose. See doc for the rest of the measures and assessment of WHO regarding recommendation status.

Back to search for any penetration studies, or something in the nature of real science:

They have ALREADY stipulated their assessment of face mask efficacy as follows: CCav: “Although there is no evidence that this is effective in reducing influenza transmission, there is mechanistic plausibility for the potential effectiveness of this

measure.”

But let’s look at 4.3 Face masks to make sure there are no studies proving efficacy even at a moderate level of confidence.

RIGHT OFF THE BAT:

SP: “Quality of evidence There is a moderate overall quality of evidence that face masks do not have a substantial effect on transmission of influenza.” See: “Although there is no evidence that this is effective in reducing influenza transmission, there is mechanistic plausibility for the potential effectiveness of this measure.

“Quality of evidence: Moderate, because CCav: “(lack of effectiveness in reducing influenza transmission)”

SP/CE: Balancing these two statements, it appears specious argument is at work here. Earlier, if they meant to say the moderation was on the side against implicating masks were not effective, and the bias here is obvious, it seems the statement would have been presented as follows: “evidence against efficacy is moderate,” rather than clearly implying evidence

supporting efficacy was moderate. The whole tenor of the earlier statement is opposite what we find here. Here the suggestion is that the evidence supporting the conclusion that face masks do not work is of moderate quality — when, having examined well over 200 such studies arguing both for and against masks, the reverse is true. The studies purporting to support masking are generally of moderate quality, at best. In fact, an ECDC examination of the literature found *most* studies to be of LOW and VERY LOW confidence.

CE: There is contradictory evidence against the assertion that there are no “major adverse effects of face mask use.” If they actually had evidence of a real scientific sort to prove they did protect from influenza (or the virus causing COVID-19), that would be one thing. But the admitted LACK of evidence supporting that does not balance the known problems masks cause, including students fainting on playgrounds, or rashes, or reduced powers of concentration over long periods of use, etc. etc. We have even received reports of people passing out while driving —.

CCav: This contradicts current recommendations: “Reusable cloth face masks are NOT RECOMMENDED.” Also, note the admission that “Medical face masks are GENERALLY NOT REUSABLE.” Another appropriate

admission: “If worn by a symptomatic case, that person might require multiple masks per day for multiple days of illness.”

CCav: “Given the costs and **the uncertain effectiveness**, face masks are conditionally recommended only in severe influenza epidemics or pandemics for the protection of the general population, but are recommended for symptomatic individuals at all times.”

—> Back to **FN01.33.02.00.00-**

<https://www.bmj.com/content/369/bmj.m1435>

Picking up a Footnote No. 10

10. Xiao J, Shiu EYC, Gao H, et al. Nonpharmaceutical measures for pandemic influenza in nonhealthcare settings-personal protective and environmental measures. *Emerg Infect Dis* 2020;26. doi:10.3201/eid2605.190994 pmid:32027586 CrossRef PubMed Google Scholar
https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article

FN01.33.04.00.00-

https://wwwnc.cdc.gov/eid/article/26/5/19-0994_article PDF:

FN01.33.04.00.00.Nonpharmaceutical Measures for
Pandemic Influenza in Non-healthcare Settings—
Personal Protective and Environmental Measures -
Volume 26, Number 5—May 2020 - Emerging
Infectious Diseases journal - CDC

PC: May, 2020

CCP: Xiao, Shiu, Gao, Wong, Fong, Sukhyun,
Cowling / **ORIGIN:** CHINA-Hong Kong, U. of Hong Kong
/ **REF:** Uyeki; **WHO (2)**; Akl; Wong, Cowling, Aiello;
Aiello Davis, Uddin (2); Cowling, Chan, Fang, Cheng,
Fung, Wai; Cowling, Fung, Cheng, Fang, Chan, Seto;
Feng, Wong-McLoughlin, Wang; Ram, Khatun-e-
Jannat, Islam; Suntarattiwong; Suntarattiwong;
Mukherjee; Suntarattiwong, Shaman; Aiello; Ahmed;
US CDC (2); Zayas, Chiang, Wong; Balaban, Hammad,
Fagarshe, Adb-Alla, Ahmed; Barasheed, Almasri,
Badahdah; MacIntyre, Dwyer, Seale, Cheung;
MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu; US
FDA; Chughtai, Seale, MacIntyre; Shih; Dwyer; Zhang,
Li; Shiu, Leung, Cowling; Tang; Gao, Wei, Cowling, Li
(32 of 50) / **FUNDING:** Statement: “This study was
supported by the World Health Organization. J.X. and
M.W.F. were supported by the Collaborative Research
Fund from the University Grants Committee of Hong
Kong (project no. C7025-16G).”

RCT: No. SRL — systematic review of literature.
This is not a scientific research paper.

CONTENT:

NOTE: I skipped to the section headed: Face Masks.

TA identified 10 RCTs that reported estimates of the effectiveness of face masks in reducing laboratory-confirmed influenza virus infections in the community from literature published during 1946-July 27, 2018.

Yes, I've seen this study. Remember: "IN POOLED ANALYSIS, WE FOUND NO SIGNIFICANT REDUCTION IN INFLUENZA TRANSMISSION WITH THE USE OF FACE MASKS."

*** OH, I KNOW, I QUOTE THIS IN MY BOOK.
Footnote no. 26 on page 13 of the version jws10.

*** Let's add: "In this review, **we did not find evidence to support a protective effect of personal protective measures or environmental measures in reducing influenza transmission.** Although these measures have mechanistic support based on our knowledge of how influenza is transmitted from

person to person, **randomized trials of hand hygiene and face masks HAVE NOT DEMONSTRATED PROTECTION AGAINST LABORATORY-CONFIRMED INFLUENZA**, with 1 exception (18).”

NOTE: SO, let’s look at the exception:
Talaat M, Afifi S, Dueger E, El-Ashry N, Marfin A, Kandeel A, et al. Effects of hand hygiene campaigns on incidence of laboratory-confirmed influenza and absenteeism in schoolchildren, Cairo, Egypt. *Emerg Infect Dis.* 2011;17:619–25. DOI External Link PubMed External Link Google Scholar External Link
<https://pubmed.ncbi.nlm.nih.gov/21470450/>

IR: This article does not address the question of masks at all, but it does address hand hygiene. Since that is not the question of my interest in this study, I’ll pass on vetting this article.

—> Back to **FN01.33.02.00.00-**
<https://www.bmj.com/content/369/bmj.m1435> Pick it up at Footnote No. 10 and continue that vet.

Xiao J, Shiu EYC, Gao H, et al. Nonpharmaceutical measures for pandemic influenza in nonhealthcare

settings-personal protective and environmental
measures. Emerg Infect
Dis2020;26. doi:10.3201/eid2605.190994 pmid:320
27586CrossRefPubMedGoogle Scholar

See **FN01.33.02.00.00** - see number 10. in the
outline.

*** AME: There is a significant bit of AME — the
author/s seem to follow the precautionary line of
reasoning — it MIGHT HELP, so it should be
encouraged. I've read some studies that talk about the
dangers of prolonged mask use and it appears that will
need to be considered for either a followup to this
book, or inclusion.

SP: “Substantial indirect evidence exists to
support the argument for the public wearing masks in
the covid-19 pandemic.”

ACK: “The virus has been shown to remain viable
in the air for several hours when released in an
aerosol under experimental conditions, and such
aerosols SEEM TO BE blocked by surgical masks in
laboratory experiments.” Oh really? None that I've
seen, and I've looked at hundreds!

So, let's look at this study: It's reference number 19 is the FN01.33.02.00.00 article:

Leung NH, Chu DK, Shiu EY, et al. Respiratory virus shedding in exhaled breath and efficacy of face masks (brief communication). Nat Med2020; [Epub ahead of print.] doi:10.1038/s41591-020-0843-2 .CrossRef Google Scholar

Already vetted this article: see **FN01.28.03.00.00**

—> Back to **FN01.33.02.00.00-**
<https://www.bmj.com/content/369/bmj.m1435>

This article concludes with emphasis on the PRECAUTIONARY PRINCIPLE — which actually works as well to discourage masks as it can be used to encourage them.

FN01.34.00.00.00-
<https://www.sciencedirect.com/science/article/pii/S0304407620303468>. PDF: FN01.34.00.00.00.Causal impact of masks, policies, behavior on early covid-19 pandemic in the U.S. - ScienceDirect.pdf

Mr. Falcon next refers us to a Jan. 2021 study that used “robust models,” along with “experiments and

data sets,” oooh, now, this sounds impressive, and these serious sounding methods were employed to convince us, well, him, that if only we had used masks at the outset of the pandemic, we could have prevented infections and saved lives. In fact, they even came up with a number: 19-47k could have been saved. Okay, let’s take a look.

PC: Received July 2020, revised same day received, accepted Sep. 15, 2020 available online Oct. 17, 2020, and the Version of Record was set at December 9, 2020. It’s a small point, but it does go to depth and care of research. Falcon’s assertion that this is a Jan. 2021 study is incorrect. It’s a July 2020 study that was published in this journal Jan. 2021.

CCP: Chernozhukov, Kasahara, and Schrimpf / **ORIGIN:** US-MA, MIT; Canada-Vancouver BC. / **REF:** Anfinrud; Chen (2); Cho, Sang-Wook; Chu, Akl, Solo, Chen, Gian, Chen Guang, Zhao Hong, Chan, Hnieny, Zhang, Saad—the Lancet; Davies, Liu, Kiesha, Jit; Wang; Greenhalgh; Gupta, Nguyen, Thuy, Lee, Wing; He, Lau, Wu, Deng, Wang, Hao, Lau, Wong, Guan, Tan, Xiaoneng, Chen, Liao, Chen Weilie, Hu, Zhang, Zhong, Wu, Zhao, Zhang, Cowling, Fang, Leung; Hou, Yixuan, Okuda, Chen, Ghio, Tse, Dang, Satoko, Sun, Ling, Vishwaraj, **Baric Ralph**; Howard, ... Li, Tang, Tang V.,

Shaikh, Chu; Hsiang, Annan-Phan, Chong, Huang, Lee, Tseng, Wu; IHME (B&MGF); Lee, Lee E., Lee C., Kim, Rhee, Park, Son, Yu, Park J., Choo, Park S., Kim; Lee, Kim, Lee E., Lee C., Kim, Rhewe, Park, Son, Yu, Park J., Choo, Park Suyeon, Kim; Li, Guan Xuhua, Wu, Wnag, Zhou, Tong, Leung, Lau, Wong, Xing, Xiang, Wu, Li, Chen, Li, Liu, Zhao, Liu, Tu, Chen, Jin, Yang, Wang, Zhou, Wang, Liu, Luo, Liu, Shao, Li, Tao, Yang, Deng, Liu, Ma, Zhang, Shi, Lam, Wu, Gao, Cowling, Yang, Leung, Feng; Kobayashi, Yang, Hayashi ...; Miyazawa; Pei, Kandula, Shaman; Lin, Xu; WH; Tian, Li, Qi, Tang Q., Tang V., Liu ...; Zhang, Li, Zhang, Wang; Zhang, Wang, Wang Yan, Deng, Chen, Li, Zheng ... (25 of 86) / **FUNDING**: This is odd. A study this size and no declarations, no disclosures, nd on funding???? Assumed MIT and Canada.

RCT: No. This appears to be MM, with an obvious bias toward masking. It “evaluates the dynamic impact of various policies adopted by US states on the growth rates of confirmed Covid-19 cases and deaths as well as social distancing behavior ...”

CONTENT:

AME/SS: This article is premised entirely upon an AME and filled with SS.

OS: in that what contribution it makes to support for masks as part of public policy is predicated on rates of infection, etc. in regions where these interventions were more or less deployed. The problem is that there are a great many other factors that can contribute both to the lack and the prevalence of evidence supporting the thesis.

In other words, I can form an argument that “proves” these policies do not work by pointing to regions where these policies were not used and show the death rate, infectious rate, etc. are either within the range of regions where the mandates were strict and enthusiastically enforced while another could assemble and arrange data in such a way as shows the opposite.

Also, it’s speculative — they assume efficacy for the policies, and proceed from there to calculate estimates of results when this or that policy is or is not followed. For example, Fig. 2 “illustrates how never closing any businesses (no movie theater closure, no non-essential business closure, and no closure of restaurants except take-out) COULD HAVE AFFECTED CASES AND DEATHS.” This is constructed upon the hubris they know the differentials are exclusively

attributable to the intervention.

This kind of study is not one I think deserves any further attention. I'm looking for studies that ask and seek to answer the questions directly related to the efficacy of masks.

As far as providing any science supporting the underpinning assumption of this incredible effort, it's stuff I have already vetted. But here are a few samples:

CCav: "Reviewing evidence, Greenhalgh et al. (2020) recognize that there is no randomized controlled trial evidence for the effectiveness of face masks, but they state 'indirect evidence exists to support the argument for the public wearing masks in the Covid-19 pandemic'." Indirect evidence is no more adequate basis for encroaching upon the entire population with an onerous imposition of their natural rights, than the masks are efficacious to block virions from 40-140 nanometers in diameter, or otherwise protect anyone from contagion.

Greenhalgh Trisha, Schmid Manuel B, Czypionka Thomas, Bassler Dirk, Gruer Laurence Face masks for the public during the covid-19 crisis BMJ, 369 (2020)
URL <https://www.bmj.com/content/369/bmj.m1435>

Google Scholar

Already vetted in these notes: see

FN01.38.00.03.25f-

<https://www.bmj.com/content/369/bmj.m1435.long>

PDF: FN01.38.00.03.25f.Face masks for the public during the covid-19 crisis

What about:

Howard Jeremy, Huang Austin, Li Zhiyuan, Tufekci Zeynep, Zdimal Vladimir, van der Westhuizen Helene-Mari, von

Delft Arne, Price Amy, Fridman Lex, Tang Lei-

Han, Tang Viola, Watson Gregory, Bax Christina, Shaikh Reshama, Questier Frederik, Hernandez Danny, Chu Larry, Ramirez Christina, Rimoin Anne Face masks

against COVID-19: An evidence review (2020)

URL <https://doi.org/10.20944/preprints202004.0203.v1>

Google Scholar

Already vetted in these notes: see

FN01.38.00.03.00-

<https://pubmed.ncbi.nlm.nih.gov/33431650/>. PDF:

FN01.38.00.03.00.An evidence review of face masks against COVID-19 - PMC (I noticed a note to See

FN01.02.00.00).

What about:

Hou Yixuan J., Okuda Kenichi, Edwards Caitlin E., Martinez David R., Asakura Takanori, Dinnon III Kenneth H., Kato Takafumi, Lee Rhianna E., Yount Boyd L., Mascenik Teresa M., Chen Gang, Olivier Kenneth N., Ghio Andrew, Tse Longping V., Leist Sarah R., Gralinski Lisa E., Schäfer Alexandra, Dang Hong, Gilmore Rodney, Nakano Satoko, Sun Ling, Fulcher M. Leslie, Livraghi-Butrico Alessandra, Nicely Nathan I., Cameron Mark, Cameron Cheryl, Kelvin David J., de Silva Aravinda, Margolis David M., Markmann Alena, Bartelt Luther, Zumwalt Ross, Martinez Fernando J., Salvatore Steven P., Borczuk Alain, Tata Purushothama R., Sontake Vishwaraj, Kimple Adam, Jaspers Ilona, O'Neal Wanda K., Randell Scott H., Boucher Richard C., Baric Ralph S. SARS-CoV-2 reverse genetics reveals a variable infection gradient in the respiratory tract *Cell* (2020)

URL <https://doi.org/10.1016/j.cell.2020.05.042>

Google Scholar

Already vetted in these notes: see

FN01.38.00.03.28g—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7250779/>. PDF: FN01.38.00.03.28g.SARS-CoV-2 Reverse Genetics Reveals a Variable Infection Gradient in the

Respiratory Tract - PMC

What about:

He Xi, Lau Eric H.Y., Wu Peng, Deng Xilong, Wang Jian, Hao Xinxin, Lau Yiu Chung, Wong Jessica Y., Guan Yujuan, Tan Xinghua, Mo Xiaoneng, Chen Yanqing, Liao Baolin, Chen Weilie, Hu Fengyu, Zhang Qing, Zhong Mingqiu, Wu Yanrong, Zhao Lingzhai, Zhang Fuchun, Cowling Benjamin J., Li Fang, Leung Gabriel M. Temporal dynamics in viral shedding and transmissibility of COVID-19 Nat. Med., 26 (5) (2020), pp. 672-675
URL <https://doi.org/10.1038/s41591-020-0869-5> Finding PDF... CrossRef Google Scholar

Not vetted in these notes.

FN01.34.01.00.00-

<https://www.nature.com/articles/s41591-020-0869-5> PDF: FN01.34.01.00.00.Temporal dynamics in viral shedding and transmissibility of COVID-19 _ Nature Medicine

PC: August 2020

CCP: He

Xi, Lau Eric H.Y., Wu Peng, Deng Xilong, Wang Jian, Hao Xinxin, Lau Yiu Chung, Wong Jessica Y., Guan Yujuan

, Tan Xinghua, Mo Xiaoneng, Chen Yanqing, Liao Baolin, Chen Weilie, Hu Fengyu, Zhang Qing, Zhong Mingqiu, Wu Yanrong, Zhao Lingzhai, Zhang Fuchun, Cowling Benjamin J., Li Fang, Leung Gabriel M. / **ORIGIN:** China-Guangzhou, Hong Kong, SAR (Special Administrative Region), WHO / **REF:** Li-Wuhan; Wu-Wuhan, Leung K, Leung G.; Leung G.; Leung-Hong Kong; Ip; Zou; To; Zhou; Tsang; Bai; Tong; Nishiura; Chen (13 of 17) / **FUNDING:** Department of Science and Technology of Guangdong Province and a commissioned grant from the Health and Medical Research Fund from the Govt. of Hong Kong Special Administrative Region. Gungzhou Center for Disease Control and Prevention — China’s CDC.

RCT: No. Methods: Data collection from hospitals in China, samples tested by RT-PCR assay as “previously described.” Footnote 17. But this was not previously described within this article, was it? Otherwise, why the footnote? Anyway, I’ve seen this sort of thing before. Let’s see if the fn takes me to the same article: Footnote 17. Chen, W. et al. Detectable 2019-nCoV viral RNA in blood is a strong indicator for the further clinical severity. *Emerg. Microbes Infect.* 9, 469–473 (2020). Return to ref 17 in article CAS Article Google Scholar

(-) **FN01.34.01.01.00-**

<https://www.tandfonline.com/doi/full/10.1080/22221751.2020.1732837>. PDF: FN01.34.01.01.00.Full article_ Detectable 2019-nCoV viral RNA in blood is a strong indicator for the further clinical severity (No need to vet this article. It is unrelated to my primary query but provided here as providing support for the cycle threshold stipulated in the above article.

—> Back to **FN01.34.01.00.00-**

<https://www.nature.com/articles/s41591-020-0869-5#Bib1>

CONTENT:

INFO: “The samples were tested by N-gene-specific quantitative RT-PCR assay as previously described¹⁷ [see above FN01.34.01.01.00]. To understand the temporal dynamics of viral shedding and exclude non-confirmed COVID-19 cases, we selected 94 patients who had at least one positive result (cycle threshold (Ct) value < 40) in their throat samples. Serial samples were collected from some but not all patients for clinical monitoring purposes.” A ct “less than 40, means ≥ 39 . That’s way to high a threshold to get reliable results.

OS: The entire research is premised upon

observational studies.

AME/SS: “Significant presymptomatic transmission would probably reduce the effectiveness of control measures that are initiated by symptom onset, such as isolation, contact tracing and enhanced hygiene or use of face masks for symptomatic persons.” [This is AME because there is not, in this article, at least not that I’ve seen thus far, any evidence for mask efficacy provided. Indeed, I searched *mask* and this is the only place the word appears in the document (providing it is not attached to another word with space deleted). If TA offers some, we’ll look at it. It is SS because the authority depended on to support the assertion is the claim of the scientist. To query against possible PDF search compromise, I searched related words: *surgical, medical, procedural, facemask, efficacy, covering, and mandate* with results NULL.

INFO: “... the infectiousness profile may more closely resemble that of influenza than of SARS.”

Skip to DISCUSSION, or RESULTS. This is weird. There is no section headed discussion, or results, or findings.

FN01.35.00.00.00-

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0253510>. PDF: FN01.35.00.00.00. The introduction of a mandatory mask policy was associated with significantly reduced COVID-19 cases in a major metropolitan city _ PLOS ONE

Mr. Falcon next references an article that examined the “substantial” [quotes inserted by TA] decline in new COVID-19 cases “when masks mandates began” in Australia. He tells us the researchers used models and logarithm data analysis, which sounds so sophisticated and it’s just the sort of word montage as will surely impress someone who is unaccustomed to such language. Those who are know *substantial* and *models* and *logarithm data analysis* are meaningless until explained and when explained, typically, the mystique is replaced with a sarcastic “big deal.”

PC: July, 2021

CCP: Authors all Australian: bias is a suspected factor due to the influence of CCP over Australia: / **ORIGIN:** All authors are connected to one or more of the following: University of Melbourne, Australia; The Burnet Institute, Melbourne, Australia; The University of New South Wales, Sydney, Australia. / **REF:**

Victorian Dept. Health and Human Services (2); US-CDC; Chu, Akl, Duda, Solo; Wang, Zhou; ECDC (2); UK Cabinet Office and Dept. of Health & Social Care (2); WHO (3); Huang, Li, Tucekci, van der Westhuizen; Centres for Disease Control (2); Cheng, Wong, Chuang, So, Chen JH; Lyu, Wehby; New York State Office of Children and Family Services; Wang, Tian, Zhang, Zhang M, Guo, Wu; Zhang, Li, Zhang AL, Wang; Du, Wu, Wang, Cowling; Ma, Zhang, Zeng, Yun, Guo, Zheng; Australian Broadcasting; MacIntyre; Greenhalgh (25 of 35) / **FUNDING:** nd

RCT: No. OS. MM

CONTENT:

AME: The assumption is that what the authors describe as “significantly reduced COVID-19 cases in a major metropolitan city” in Australia may be definitively attributed to the introduction of mandatory mask policy. However, we would first have to ascertain what is meant by a “significant” reduction, and we would challenge the authors to show the relationship between these things beyond a mere observational, almost anecdotal reference.

SS: “The mandatory mask use policy substantially

increased public use of masks and was associated with a significant decline in new COVID-19 cases after introduction of the policy. This study strongly supports the use of masks for controlling epidemics in the broader community.” [There is no way these guys can be taken seriously, not as scientists. The correlation does not prove causation principle never came up during their extensive training? Absurd that scientists would make such overreaching statements with so much glaring confidence with so little of anything like evidence. It’s offensive! And deeply distressing! Science “falsely so called” indeed.

Actually, I must admit that this one lost me from Falcon’s description. I’ve read through it and cannot find anything supporting his description, beyond confirming that the TAs did indeed make the assertions he attributed to them.

FN01.36.00.00.00-

<https://www.acpjournals.org/doi/full/10.7326/M20-7499>. PDF: FN01.36.00.00.00.Of Masks and Methods _ Annals of Internal Medicine (For DISCLOSURES see FN01.36.00.00.01.DISCLOSURES _authors_conflictFormServlet_M20-7499_ICMJE_M20-7499-Conflicts)

This study explores observational studies and other experiments and concludes that community mask use correlates to reduced risk for COVID-19. It's getting worse, folks. There is no more pretense at science in these studies. We are becoming a nation of superstitious fools. God help us! No kidding, premising *scientific* conclusions on these sorts of studies is the stuff of superstition. Oh well!

PC: March, 2021

CCP: Authors: All US-NY / **ORIGIN:** Produced by RTSV, or RSV — Resolved to Save Lives, founded by former CDC director Tom Frieden. This connection does raise suspicions about CCP connections and therefore bias. / **REF:** US CDC; Chu, Akl, Duda; Doung-Ngern; Ueki, Furusawa, Iwatsuki-Horimoto; Bundgaard H., Bundgaard JS; Deeks, Dinnes, Takwoingi (6 of 10) / **FUNDING:** nd Assumed copyright holder: American College of Physicians.

RCT: No. RL.

CONTENT:

ACK: Viral loads being highest just before and early in the course of illness provides “the theoretical

basis” for widespread mask use as source control.

ACK: Refers to the DANMASK-19 study, vetted in these notes, and dismisses its negative take on masks by explaining the study was done when “use of masks in the community was not recommended by the Danish Health Authority” but other mitigation strategies were in effect. It does not change the facts of the study, the group definitions, etc. Nevertheless, it will be stipulated that such studies cannot control the variables and are necessarily fraught with confounders.

AME: “The evidence that wearing of masks prevents spread to others is compelling (1).” Okay, let’s take a look.

TA refers to CDC — A scientific brief: “community use of cloth masks to control the spread of SARS-CoV-2. November, 2020. (Updated: Dec. 6, 2021 — see FN01.39.01.00.00-
https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html

FN01.36.01.00.00-

https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html
PDF: FN01.36.01.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC.
PDF: FN01.36.01.00.00.Of Masks and Methods _ Annals of Internal Medicine

PC: Dec. 2021

CCP: Authors are not named / **ORIGIN:** CDC /
REF: Sah; Bahl, Chughtai, MacIntyre; Davies, Giri; Leung, Chu, Shiu; Alsved, Matamis, Bohlin; Asadi; Morawska; Abkarian, Xue, Yang; Ueki, Furusawa, Iwatsuki-Horimoto; Lai; Long, Chen; Kinda, Prakash, Guha; Cheng, Hong, Saif; Bahl, Chughtai, MacIntyre; Hao; van der Sande, Teunis, Sabel; Chu, Akl, Duda; Fu, Ashur; Abaluck-B&MGF connection, Kwong; Wang, Tian, Zhang; Doung-Ngern, Suphanchaimat, Pangangampatthana; Wang, Zhou, Hashimoto, Bhatt; Lyu, Wehby; Shigeoka, Chen; Joo; Kasahra; Lee; Bundgaard H., Bundgaard JS; MacIntyre, Seale, Dung; MacIntyre, Bung, Chughtai, Seale, Rahman; Chan, Li; Uhe; Park SJ, Han, Shin; Chaiyabutr, Sukakul,

Pruksaeadanan; Ammann, Ulyte, Puhan; Singh, Tan, Quinn (36 of 90) / **FUNDING:** nd Assumed CDC

RCT: No. This is a “summary of scientific evidence used to inform specific CDC guidance and recommendations.”

CONTENT:

SP/SS: Here is an example of outrageous abuse of science: “Multi-layer cloth masks block release of exhaled respiratory particles into the environment,³⁻⁶ along with any microorganisms associated with these particles.^{7, 8} Cloth masks not only effectively block most large droplets (i.e., 20-30 microns and larger),⁹ but they can also block the exhalation of fine droplets and particles (also often referred to as aerosols) smaller than 10 microns ^{3, 5} which increase in number with the volume of speech¹⁰⁻¹² and specific types of phonation.¹³ Multi-layer cloth masks can both block 50-70% of these fine droplets and particles^{3, 14} and limit the forward spread of those that are not captured.^{5, 6, 15, 16} Upwards of 80% blockage has been achieved in human experiments,⁴ with cloth masks in some studies performing on par with surgical masks as barriers for source control.^{3, 9, 14, 17} In one study,

conducted prior to widespread circulation of the Delta variant, masks worked equally well for blocking aerosolized particles containing both “wild-type” virus and the Alpha variant (a more infectious variant).¹⁷”

CDC offers supporting documents in footnotes
3-17

3. Lindsley W, Blachere F, Law B, Beezhold D, Noti J. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *Aerosol Science and Technology*. 2020;55:449–457.

**** **FN01.36.01.02.00-**

https://www.researchgate.net/publication/345985829_Efficacy_of_face_masks_neck_gaiters_and_face_shields_for_reducing_the_expulsion_of_simulated_cough-generated_aerosols_Preprint_version_3 (Alternate:

<https://www.medrxiv.org/content/10.1101/2020.10.05.20207241v3>; and

<https://www.tandfonline.com/doi/full/10.1080/02786826.2020.1862409> — this last one was used for vetting because online formate was most accommodating and because the prior was a pre-print.) PDF:

FN01.36.01.02.00.Lindsley2020Facemasksandshields

2020-11-14preprintv3 See PRINT version:
FN01.39.02.00.00.Full article_ Efficacy of face masks,
neck gaiters and face shields for reducing the
expulsion of simulated cough-generated aerosols
[NOTE: 8/16/22 attempted to access and received
notice that I did not have permission to access the full
article. Had used Duck so Switched to search
ourfreedomsearch.com, but could not access the full
article. Happily, I created a PDF of the full article.]

PC: Nov. 2020.

CCP: Lindley, Blachere, Law, Beezhold, Noti /
ORIGIN: NIOSH; US-CDC; Health Effects Lab. / **REF:**
Bahl, Chughtai, MacIntyre; Zhuang; CDC (3); Davies;
Lai, Cheung; Leung, Chu, Shiu, Chan, Hau, Yen, Li; Liu,
Ning, Chen, Guo, Liu, Sun, Duan; Ma, Qi, Chen, Zhang,
Wang, Sun Zhang, Guo; Cowling; Chao, LI; Sung, Sung
S.; WHO (14 of 50) / **FUNDING:** “This research was
funded by the CDC. NIOSH is a part of the CDC.”

RCT: Not asserted. Search: *random, trial,*
intervention, cohort, clinical with results NULL.
Description of METHOD: “In our experiments, a cough
aerosol simulator propelled a test aerosol through a
headform into a collection chamber (Figure 1), and the
amount of aerosol in the collection chamber was

measured in each of six size fractions. The collection efficiency of each face mask, neck gaiter, or face shield was determined by comparing the amount of aerosol that was collected from the chamber with and without the device. Our test method was similar to the modified Greene and Vesley method used to test medical masks (Quesnel 1975), with the human test subject replaced by the cough aerosol simulator.”

CONTENT: CLAIM: Their findings: an N95 blocked 99% of the cough aerosol, a medical grade procedure mask blocked 59%, a 3-ply cotton cloth face mask blocked 51% and a polyester neck gaiter blocked 47% as a single layer and 60% when folded into a double layer.”

IR: Particle size outside range: The particle size range they tested: 0-7 μm . Does 0 μm begin at the first reduction below 1, the first fractional amount? If it does, then .999 would be 999 nanometers, since 1 μm is 1000 nanometers.

First, the size issue needs to be addressed. If their study is premised on sizes in nanometers from 999 to 7000, this study is not within the range that interests us and is, for my purposes, worthless.

Second, the extent of protection provided by the particular mask in question, the surgical mask, allows 49% of the particles we are concerned about to escape, and that's if 0 in their reckoning represents nothing, or something smaller than 125 nanometers. The language and use of their measurement suggests they did not study for particles that are below 1 μm in size.

IR: In the body of the study, “SARS-CoV-2, the virus that causes coronavirus disease 2019 (COVID-19), CAN BE TRANSMITTED FROM PERSON-TO-PERSON BY **LARGE RESPIRATORY AEROSOLS (airborne liquid droplets and dried particles greater than about 10 μm in diameter) produced by people who are infectious while they are talking, singing, coughing, breathing or sneezing (CDC 2020a; Hammer et al. 2020).**” 10 μm is 10000 nanometers.

INFO: This is followed by, “Smaller aerosols also are emitted by people during these activities, suggesting that short-range airborne transmission of SARS-CoV-2 MIGHT BE POSSIBLE under some circumstances (Anderson et. al. 2020; CDC 2020a; Ma et al. 2020; Morawska and Milton 2020).”

SS: These researchers simply SS that CDC and

WHO recommend masks to interrupt this transmission route.

So far, all we have had are SS — with unlinked references that are partial, and very difficult to trace down. So unless I see something in this article that is compelling, I'm going to pass on it.

NC: Can reduce — and OS dependent references also: they found that requiring visitors and healthcare workers interacting with patients in bone marrow transplant centers was associated with a reduction in respiratory viral infections among patients — but, of course, many other factors might contribute to this result.

CCav: beyond the typical people will fuss with their mask which reduces its efficiency, they also note the fact that fit, and material have a substantial impact on efficacy — and this almost totally relegates them to the useless column.

The masks were carefully “FIT TESTED” for this experiment. It assumes way too much to think the general public is going to “FIT TEST” their masks.

NOTE: Going back to the particle size question,

under Aerosol collection and analysis, the diameters indicated are $< 0.6 \mu\text{m}$ to $>7 \mu\text{m}$. Now, if $<0.6 \mu\text{m}$ means every particle size less than $0.6 \mu\text{m}$ then this study is of particular interest to me. However, it stands to reason that these guys know the SARS virion is $.125 \mu\text{m}$, or 125 nanometers (later studies vetted indicate a range beginning as low as 40 nm to as high as 140 nm), and so if they were testing these masks for blocking efficacy of a SARS virion they would stipulate the lowest range. $0.6 \mu\text{m}$ is 600 nanometers, and the typical mesh pours of the mask they are testing is about 300 nanometers, so you see the problem.

IR/CCav: HERE IS THE KILLER for this study: “The cough aerosol collected from the control experiments without a face covering had a mass median aerodynamic diameter of $1.3 \mu\text{m}$, a geometric standard deviation of 2.3 and a total aerosol mass of $505 \mu\text{g}$ (standard deviation 69).”

So, without a mask, the cough put out aerosols that were $1.3 \mu\text{m}$, or 1300 nanometers.

NOTE:* “ALL THE DEVICES SHOWED INCREASED COLLECTION EFFICIENCIES AS THE AEROSOL SIZE INCREASED.”**

The results stipulated above are repeated here.

CCav: A buried statement suggests they did not test for particle sizes in sizes below the mask pore threshold of 300 nanometers: “THE PRESENCE of small aerosol particles containing infectious SARS-CoV-2 detected in these studies suggests that IN ADDITION TO LARGE AEROSOLS, these small aerosols might play a role in SARS-CoV-2 transmission.”

The above statement only makes sense if it qualifies their study.

INFO: Interesting: a 100 μm droplet is ballistic and falls quickly to the floor, or some other nearby surface, however, it can take 4 seconds to fall 1 meter in still air. A 10 μm aerosol particle takes 5.4 MINUTES and a 1 μm aerosol particle takes 8 HOURS.

CCav: “Source control devices like face coverings and face shields collect respiratory particles LARGER THAN 0.3 μm primarily by impaction and interception of the aerosol particles against the fibers of solid surfaces of the device.”

0.3 μm is 300 nanometers. This ACTUALLY CONFIRMS MY OWN HYPOTHESIS AND STUDY: The

mask only catches particles that are LARGER THAN 300 nanometers.

INFO: This study also provides another important insight: the small aerosols require a great deal more velocity to deposit by impaction and so more easily work their way through the MASK.

CS: But then, as is often found, the researchers simply dismiss what they just said was scientifically established and contradict it — “Our results show that face masks and neck gaiters CAN significantly reduce the expulsion of small respiratory aerosol particles during coughing.”

“The amount and sizes of aerosol particles containing SARS-CoV-2 that are expelled by people who are infected are not yet known. Two studies of aerosol samples collected in patient rooms found infectious (replication-competent) SARS-CoV-2 in aerosol particles $<4 \mu\text{m}$ in diameter (Santarpia et al. 2020a) and $<10 \mu\text{m}$ in diameter (Lednicky et al. 2020). Other studies have reported SARS-CoV-2 RNA in exhaled breath from infected patients (Ma et al. 2020), aerosol samples from biocontainment and quarantine units housing SARS-CoV-2 infected persons (Santarpia et al. 2020b), and in aerosol samples at multiple

locations throughout two hospitals in Wuhan, China during a COVID-19 outbreak (Liu et al. 2020). The presence of small aerosol particles containing infectious SARS-CoV-2 detected in these studies suggests that in addition to large aerosols, these small aerosols might play a role in SARS-CoV-2 transmission (Anderson et al. 2020; Ma et al. 2020; Morawska and Milton 2020).”

CCav: The meaning of “small respiratory aerosol particles” must be understood in connection with the statement the authors made about the question of “sizes of aerosols.” Taken with the statement regarding what particle sizes masks effectively block, those larger than 300 nanometers, it becomes clear that with regard to my concern, masks do not work.

NOTE: This article was very carefully crafted, but a close look reveals their study actually establishes important FACTS proving masks DO NOT WORK!

CCav: This statement alone: “Source control devices like face coverings and face shields collect respiratory particles LARGER THAN 0.3 μm ...” actually ends the need for further examination of this study. We have never disputed the efficacy of masks to block particles that are 300+ nanometers in size.

Okay — of course “The collection efficiencies of all the devices tested increased as the aerosol particles than [sic—that] were tested increased.” (This was from the preprint version. I checked, and apparently this typo was not caught in the print version.)

CLAIM/CCav: Interestingly, the authors provided a direct statement of efficacy for the cloth face mask, and the double-layer gaiter barriers: 28% of particles that were $<0.6 \mu\text{m}$ (600 nanometers), and increased to 76% for the 4.7 to 7 μm particles (4700 to 7000 nanometers).”

SP: CURIOUS: Why no statement to the efficacy of surgical or procedure masks?????? They mention them repeatedly, but here, of all places, they omit reference to that one mask — why?

The double layer gaiter blocked 24% of particles $<0.6 \mu\text{m}$ (600 nanometers), and 76% of the 4.7 to 7 μm particles (4700 to 7000 nanometers).

I’m going to assume this was not an oversight. I have read this article carefully and noted how carefully it is worded and I think to AVOID tipping their hand to what they actually discovered: the

procedure mask did not perform as hoped, and it likely only slightly outperformed the cloth mask. That surprises me, actually, I would have expected the surgical mask to significantly outperform the cloth mask. The fact that these researches did not mention the most ubiquitous mask circulating around the world is truly a surprise.

4. Fischer EP, Fischer MC, Grass D, Henrion I, Warren WS, Westman E. Low-cost measurement of face mask efficacy for filtering expelled droplets during speech. *Sci Adv.* 2020;6(36):eabd3083.

FN01.36.01.03.00-

<https://www.science.org/doi/pdf/10.1126/sciadv.abd3083>. PDF: FN01.36.01.03.00.Low-cost measurement of face mask efficacy for filtering expelled droplets during speech - PMC

Already vetted in these notes: **FN01.09.00.00.00-**
<https://www.science.org/doi/10.1126/sciadv.abd3083>. PDF: FN01.09.00.00.00.Low-cost measurement of face mask efficacy for filtering expelled droplets during speech.pdf (Or see <https://www.science.org/doi/pdf/10.1126/sciadv.abd3083>)

5. Verma S, Dhanak M, Frankenfield J. Visualizing the effectiveness of face masks in obstructing respiratory jets. *Phys Fluids* (1994). 2020;32(6):061708.

FN01.36.01.04.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7327717/>. PDF: FN01.36.01.4.Visualizing the effectiveness of face masks in obstructing respiratory jets - PMC

PC: June 2020

CCP: Siddhartha, Dhanak, Frankenfiled / **ORIGIN:** USA-FL Boca Raton: Florida Atlantic U., Dept. of Ocean and Mechanical Engineering / **REF:** UN; Zhang; Bi, Zheng; He, Lau, Wu, Deng, Wang, Hao, Lau, Wong, Guan, Tan, Mo, Chen, Liao, Chen, Hu, Zhang, Zhong, Wu, Zhao, Zhang F. Cowling, Li, Leung; CDC (4); MacIntyre, Seale, Cheung, Gao; MacIntyre, Chughtai; Chen, Lin, Jiang, Chen; Bax C., Bax A., Ainfirrud; Bahl, Chughtai, MacIntyre; Cowling, TAng; Tang, LI; Tang, Li, Chan; Zhu, Kato, Yang; Xie, LI, Chwang, Ho, Seto; Liu; Nishimura, Sakata, Kaga; Han, Weng, Huang; Chao, WAn, Johnson, Li, Xie; Tang; Liu, Ning, Chen, Guo, Liu, Gali, Sun, Duan, Cai, Liu, Xu, Ho, Fu, Lan; Ong, Tan, Chia, Lee, Ng, Wong; Cai, Sun, Huang, Wu, He G.; Johnson;

Cao; Chiang, Wong; Leung, Shiu, Chan, Hau, Yen, Li, Seto, Leung, Cowling; Zhou; Davies; Bae, Kim, Kim J., Cha, Lim, Jung, Kim M. Oh, Lee Choi, Sung, Hong, Chung, Kim; Prakash, Guha; Feng, Shen, Xia, Song, Fan, Cowling; Xiao, Shbiu, Gao, Wong, Fong, Ryu, Cowling; Gupta, Lin, Chen; Hsu, Chung; Qian, Li, Wong, Chwang; Li, Leung, Tang, Yang, Chao, Lin, Lu, Niu, Qian, Wong, Yuen (39 of 60) / **FUNDING:** nd

RCT: Not asserted. Methodology not described [?]
Search: *random, trial, cohort, intervention* with results NULL. Characterized in Abstract as “simple visualization experiment using easily available materials ...”

CONTENT:

IR: It’s about droplets in a size range outside our criteria. “The masks help mitigate the risk of cross-infection via respiratory droplets ...”. Droplet sizes are indicated as within the following range: “The reported droplet diameters vary widely among studies available in the literature and usually lie within the range 1µm–500 µm,²⁹ (1000-500000 nm) with a mean diameter of ~10 µm.³⁰ (10000 nm)” A µm is 1000 nm and our concern is with particles/droplets in the size range of 40-140 nm for the virion and 70-200 nm for the

droplets carrying them. Pore size of the surgical mask is 300 nm. “The smallest droplets and particles (diameter $<5\ \mu\text{m}$ – $10\ \mu\text{m}$) may remain suspended in the air indefinitely, until they are carried away by a light breeze or ventilation airflow.^{20,32}” Remember, when a researcher stipulate a lowest range as <5 it’s because the range does not get lower than 4. So, $<5\ \mu\text{m}$ is less than 5000 nm and larger than 4000 nm.

IR: It’s another study that focuses on the relative efficacy of various masks and materials and does not directly address the question of virion penetration of masks.

CCav: And here is why! First, because the virion we are concerned with is 125 nanometers, and because as this article stipulates: **“After being expelled into the ambient environment, the respiratory droplets experience varying degrees of EVAPORATION depending on their size, ambient humidity, and temperature. The smallest droplets may undergo complete evaporation, leaving behind a dried-out spherical mass consisting of the particulate contents (e.g., pathogens), which are referred to as ‘droplet nuclei.’”** See: Nicas M., Nazaroff W. W., and Hubbard A., “Toward understanding the risk of secondary airborne infection: Emission of

respirable pathogens,” *J. Occup. Environ. Hyg.* 2, 143–154 (2005).10.1080/15459620590918466 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

*** CCav: Further, TA stipulates: “These desiccated [fully evaporated] nuclei, in combination with the smallest droplets, are POTENT TRANSMISSION SOURCES on account of two factors: (1) they can remain suspended in the air for hours after the infected individual has left the area, potentially infecting unsuspecting individuals who come into contact with them and (2) they can penetrate deep into the airways of individuals who breathe them in, which increases the likelihood of infection even for low pathogen loads.” (WOW, this is super important to my own research and totally CONFIRMS everything I’m saying in my book.)

INFO: *** “Regardless of their size, all droplets and nuclei expelled by infected individuals are potential carriers of pathogens.”

CCav: THEN COMES THE MAJOR CCav: “Various studies have investigated the effectiveness of medical-grade face masks and other personal protective equipment (PPE) in reducing the possibility of cross-infection via these droplets.

[13, 33, 41-47]. Notably, such respiratory barriers do not prove to be completely effective against extremely fine aerosolized particles, droplet, and nuclei.

The main issue is air leakage — but, as we have shown, a 125 nanometer sized particle is going to have little difficulty penetrating a mask with pores that are 300 nanometers in size.

CCav: “There is no broad consensus regarding their [masks] effectiveness in minimizing disease transmission.”

CS: Following the CCav immediately above, nonetheless, the author/s assure us that “masks and other face coverings are effective in stopping larger droplets, which, although fewer in number compared to the smaller droplets and nuclei, constitute a large fraction of the total volume of the ejected respiratory fluid.”

CCav: The study was premised upon an estimation that the fog droplets were less than 10 μm (or 10000 nanometers).

INFO: The “smallest droplets expelled in a cough”

according to this study, are from $\sim 1 \mu\text{m}$ to $10 \mu\text{m}$ (or 1000 to 10000 nanometers.)

NOTE: This study only examined readily available masks which do not interfere with supply of medical and N95s needed by health care professionals.

6. Bahl P, Bhattacharjee S, de Silva C, Chughtai AA, Doolan C, MacIntyre CR. Face coverings and mask to minimise droplet dispersion and aerosolisation: a video case study. *Thorax*. 2020;75(11):1024–1025.

FN01.36.01.05.00-

<https://thorax.bmj.com/content/75/11/1024.long>
PDF: FN01.36.01.05.00.Face coverings and mask to minimise droplet dispersion and aerosolisation_a video case study _ Thorax.pdf (Paid access—limited vetting available without purchase.) I found a link with a bit more content for this article:

<https://thorax.bmj.com/content/75/11/1024.full> See powerpoint presentation of this video:

FN01.36.01.05.01.thoraxjnl-2020-November-75-11-1024 (NOTE: Checked this link 7/13/22 and it is no longer free access. Costs \$40 bucks to see it now.)

PC: July, 2020, issued online October 2020.

CCP: Bahl, Bhattacharjee, Silva, Chughtai, Doolan, MacIntyre (All Authors Australia) / **ORIGIN:** AUSTRALIA-NSW Sydney: UNSW, School of Mechanical and Manufacturing Engineering; Kirby Institute, Biosecurity Program; School of Public Health and Community Med.. / **REF:** Not available in the restricted access. / **FUNDING:** Statement: “This research was supported by NHMRC Centre for Research Excellence (Grant Number 1107393), Integrated Systems for Epidemic Response. CRM is supported by a NHMRC Principal Research Fellowship, grant number 1 137 582.”

RCT: No.

CONTENT: The CDC Sells the article — \$40.
Working from the Abstract:

The CDC has so thoroughly compromised itself I am certainly not going to pay \$40 access what they present as “support” for their claims. **NO GOVT. AGENCY SHOULD EVER USE PAID ACCESS ARTICLES TO SUPPORT INFORMATION THEY ARE PROVIDING TO THE PUBLIC THEY SERVE.**

IR: This study does not examine penetration of masks by droplets/virions in the nanometer size range

of interest to us — 40-140, or ~ 125 nm. While nothing in this limited availability of the article (study) provides data regarding the particle size limitations of the equipment, I've seen these studies before and the laser lights used cannot capture particles in the size range of our interest. Most likely, the visual illustrates mask efficacy for capturing droplets in the range of $>0.5 \mu\text{m}$. If the number of particles that size escape capture by the masks tested, no one should depend on them for protection against a virus.

NOTE: The title tells us it's premised on the assumption that blocking droplets is equivalent to blocking virus spread. This assumption is contradicted by the following facts: 1. droplets desiccate releasing the naked vrions into aerosols; and 2. as i show in these notes, there is an overabundance of scientific proof that the only mask we can trust to block a particle within the size range of our concern is the N95. These dastards have used smoke and mirrors tricks to claim efficacy against aerosols by defining them as $< 5 \mu\text{m}$, which means smaller than 5000 nm, and that is irrelevant to a concern about particles in the size range of 40-140 nm. Remember, when yahoos like this talk about $< 5 \mu\text{m}$ they mean larger than $4 \mu\text{m}$, or else to buttress their argument, they would certainly set the lower range at $\leq 4 \mu\text{m}$.

As I examined the authors' affiliations, etc. I came across another article written by these authors: Prateek Bahl. I found one of particular interest in this article is

<https://link.springer.com/article/10.1007/s00348-020-03008-3> — An experimental framework to capture the flow dynamics of droplets expelled by a sneeze. Prateek Bahl, — same authors.

It provides more detailed information about the experiment.

FN01.36.01.05.02-

<https://link.springer.com/article/10.1007/s00348-020-03008-3> PDF: FN01.36.01.05.02. An experimental framework to capture the flow dynamics of droplets expelled by a sneeze _ SpringerLink

PC: July 2020

CCP: Bahl, Bhattacharjee, Silva, Chughtai, Doolan, MacIntyre (All Authors Australia) / **ORIGIN:** AUSTRALIA-NSW Sydney: UNSW, School of Mechanical and Manufacturing Engineering; Kirby Institute, Biosecurity Program; School of Public Health and Community Med.. / **REF:** Bahl, Doolan, Silva,

Chughtai, Bourouiba, MacIntyre; Bouroubia (2);
Baidya, Khashehchi; Duguid; Gupta, lin, Chen; Lee, Yoo,
Ryu, Ham, Lee, Yeo, Min, Yoon; MatIntyre, Chughtai,
Seale; Nishimura, Sakata, Kaga; Morawska; Tang,
Wang L., Suhaimi, Tan, Ong, Su, Sekhar, Cheong, Tham;
WHO (2); Xie, Li, Chwang, Ho, Seto; Zhu, Kato, Yang
(14 of 27) / **FUNDING**: Statement: “This research was
supported by NHMRC Centre for Research Excellence
[Grant number: 1107393] (Integrated Systems for
Epidemic Response [ISER]).”

INFO: Particle size: “For the PTV step, a particle
size range between 6 pixels to 40 pixels was employed.
This larger range was chosen to cover the range of
droplet sizes present in the image sequence of the
sneeze flow.” Converting pixels to nm: See
FN01.36.01.05.03 -
[https://www.justintools.com/unit-
conversion/length.php?k1=pixels&k2=nanometers](https://www.justintools.com/unit-conversion/length.php?k1=pixels&k2=nanometers)
PDF: FN01.36.01.05.03.Convert Pixels to Nanometers
(PX to nm) — JustinTOOLS.com.pdf (Put this in the
TECH file: TECH29.Convert Pixels to Nanometers (PX
to nm) — JustinTOOLS.com copy.pdf)

IR: They calibrated for capturing particles in a size
range of 6-40 pixels, which is so far outside the range
of our interest as to render the study meaningless to

my purpose. Nevertheless, this range might not be the limit of what size particles or droplets were observed since the doc. speaks repeatedly of “small droplets.”

SP: With regard to “small droplets” they point out that level of illumination “dictates the smallest droplet that can be detected.” But they did not stipulate what was their limitation, at least not in this place.

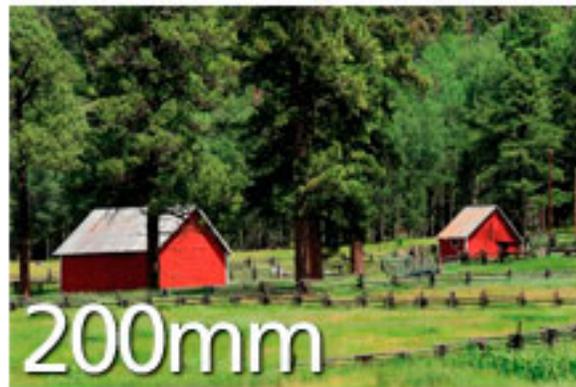
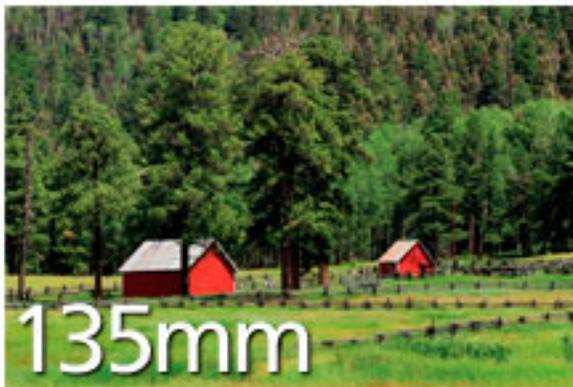
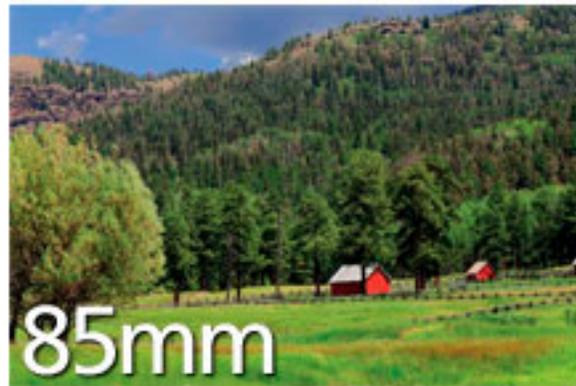
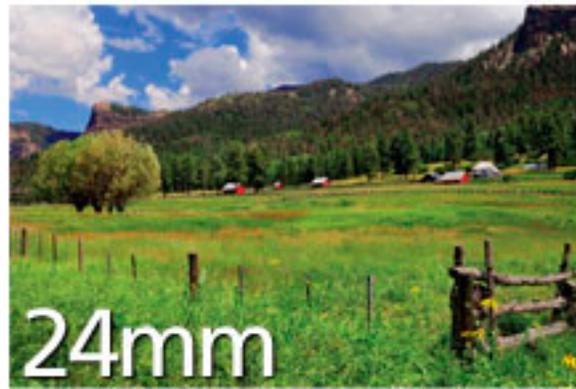
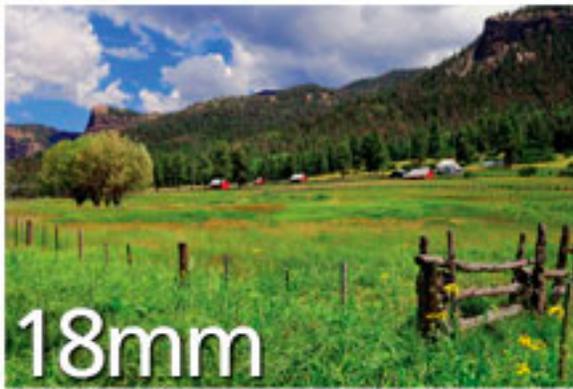
I’ll have to depend on another source to estimate what these researchers mean by “small droplets” because it appears they assiduously avoided stipulating the droplet size LIMITATION of their equipment — which raises questions about the legitimacy of this study.

See TECH10.Understanding Droplet Size – Pesticide Environmental Stewardship — in this study, particles that are <60 microns (60000 nm) are considered “EXTREMELY FINE.”

See TECH11.Characterizations of particle size distribution of the droplets exhaled by sneeze, where a lens is described as having a focal length of 0.3 m, that could measure down to 0.1-1000 μm (which is in range of our interest: as small as 100 nm, although there are studies that tell us the SARS-CoV-2 particle

ranges from 40-140 nm. The lens used in the study under evaluation was 80 mm with a focal length of 59 mm. Focal length relates to the strength of the lens to converge light, or how much a lens can magnify distant subjects. (See TECH12.What is Focal Length in Photography_ <https://www.howtogeek.com/353144/what-is-focal-length/>). Also from this article we confirm that the focal length used by the researchers practically identical to the focal length of the naked eye: “The human eye has a focal length of somewhere between 40mm and 58 mm, with 50mm being the usual compromise. This is referred to as ‘normal’ focal length.”

The long and short of it, pun intended, is that the lens used by our researchers will represent what it sees at pretty much the size that the naked eye would see. Here is an illustration of the difference between a 55mm focal length camera and one that is 300mm:



That is why the lens with a 0.3 m (or 300mm) focal length provides a hugely greater visual of particles — it presents objects scattering light that are invisible to the naked eye, far beyond what a shorter focal length lens would provide, such as one that is 59 mm. A 0.3 m focal length converts to 300 mm focal length and powers that camera something like >5 x. So,

I think I understand why TA did not stipulate with clarity what was the particle size capture limit of their 80 mm, 59 mm focus length camera.

CCav: It's obvious that a lens with a 59 mm focus length is not going to provide sufficient detail to define particles in the size range of our interest, however, I cannot invest any more time to fine tune this research — in other words, i cannot find what is the particle size limit of the equipment used by TA. Personally, that is so critical an issue, the fact that they did not provide that obviously important information, informs me such information would have compromised their propaganda objective.

PROPAGANDA OBJECTIVE: It can be argued that I have an objective, but I think the span of my research and diligence to examine every possible argument on the other side, or opposite to my thesis, bears ample testimony to my integrity in this research. Truly, I attempted to find some proof of mask efficacy to prevent viral transmission, but cannot find it.

7. Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A. Testing the efficacy of homemade masks: would they protect in an influenza pandemic? Disaster Med Public Health Prep.

2013;7(4):413–418.

Already vetted in these notes:

FN01.38.00.03.31—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

8. Leung NHL, Chu DKW, Shiu EYC, et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. Nat Med. 2020;26(5):676–680.

Already vetted in these notes: see

FN01.28.03.00.00-

<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine ****

9. Bandiera L, Pavar G, Pisetta G, et al. Face coverings and respiratory tract droplet dispersion. R Soc Open Sci. 2020;7(12):201663.

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first->

update.pdf

NOTE: In view of the fact that the first 6 articles offered by CDC to support their claims for mask efficacy, demonstrate the absurd hubris of their outrageous claims, I see no reason to vet the rest of these 9-17. However, in the interest of being thorough. ECDC rated the above Bandiera et al. study as **VERY LOW confidence**. I'll accept their rating. Let's see what we get from the rest of these.

10. Alsved M, Matamis A, Bohlin R, et al. Exhaled respiratory particles during singing and talking. *Aerosol Science and Technology*. 2020;54(11):1245–1248.

Already vetted in these notes: see
FN01.49.01.02.00-
<https://www.tandfonline.com/doi/epub/10.1080/02786826.2020.1812502?needAccess=true>. PDF:
FN01.49.01.02.00.Exhaled respiratory particles during singing and talking

11. Asadi S, Wexler AS, Cappa CD, Barreda S, Bouvier NM, Ristenpart WD. Aerosol emission and superemission during human speech increase with voice loudness. *Sci Rep*. 2019;9(1):2348.

Already vetted in these notes: see

FN01.38.00.03.26 —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382806/>. PDF: FN01.38.00.03.26.Aerosol emission and superemission during human speech increase with voice loudness - PMC For SUP see FN01.38.00.03.26.SUP.

12. Morawska L, Johnson GR, Ristovski ZD, et al. Size distribution and sites of origin of droplets expelled from the human respiratory tract during expiratory activities. *Aerosol Sci.* 2009;40(3):256–269.

Already vetted in these notes: see

FN01.49.01.03.00-

<https://www.sciencedirect.com/science/article/abs/pii/S0021850208002036>. PDF: FN01.49.01.03.00.Size distribution and sites of origin of droplets expelled from the human respiratory tract during expiratory activities - ScienceDirect (Paid access! — Abstract only)

13. Abkarian M, Mendez S, Xue N, Yang F, Stone HA. Speech can produce jet-like transport relevant to asymptomatic spreading of virus. *Proc Natl Acad Sci U S A.* 2020;117(41):25237–25245.

Already vetted in these notes: see

FN01.49.01.04.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7568291/>. PDF: FN01.49.01.04.00.Speech can produce jet-like transport relevant to asymptomatic spreading of virus (See online version for 6 supplementary files.)

14. Ueki H, Furusawa Y, Iwatsuki-Horimoto K, et al. Effectiveness of face masks in preventing airborne transmission of SARS-CoV-2. *mSphere*. 2020;5(5):e00637-20. doi:10.1128/mSphere.00637-20 PubMed Google Scholar

This was found but not vetted. (Okay, I did find this vetted in doc2. I'll mesh the vetting from there to this place.)

**** **FN01.36.01.06.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7580955/>. PDF: FN01.36.01.06.00.Effectiveness of Face Masks in Preventing Airborne Transmission of SARS-CoV-2 (For SUPP see FN01.36.01.06.00.SUPP mSphere.00637-20-s0001.docx)

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/docu>

ments/covid-19-face-masks-community-first-update.pdf

PC: Oct. 2020

CCP: Hiroshi, Furusawa, Kiyoko, Imai, Hiroki, Nishimura, Yoshihiro. / **ORIGIN:** Japan; USA-MI, WI / **REF:** Liu, Ning, Chen, Guo, Liu Y, Gali, Sun, Duan, Cai, Westerdahl, Liu X, Xu, Ho, Kan, Fu, Lan; Nishimura, Sakata, Kaga; Zou, Ruan, Huang, Liang, Huang, Hong, Yu, Kang, Song, Xia, Guo, Song, He, Yen, Wu; Lin, Tiwari (3 of 6) / **FUNDING:** Japan Program for Infectious Disease Research and Infrastructure from the Japan Agency for Medical Research and Development; Japan Initiative for Global Research Network on Infectious Diseases; and **NIAID-funded Center for Research on Influenza Pathogenesis (Fauci).**

RCT: No. Searched: *randomised, randomized, controlled, clinical, trial* with results NULL. Methods: a scientific experiment described in SUPP under Methods: It's a fairly standard approach: a test chamber, mechanism for controlling atmosphere, etc., mannequin heads scaled to "real human heads," facing each other, one connected to a compressor nebulizer, calibrated to express a mist of virus, and etc. Nothing untoward appears in their methodology, but here is

the kicker:

CONTENT: CLAIM: masks are effective — [NOTE: Some quotations are taken from the SUPP and this is noted as used: “[QUOTE taken ...]”. Otherwise, all other quotations are from the main article.

CCav: From Mannequin 1- the spreader: “The nebulizer initially sprayed **fine droplets/aerosols** of virus suspension (**mass median diameter, $5.5 \pm 0.2 \mu\text{m}$; particle sizes, $<3 \mu\text{m}$: 20%, $3-5 \mu\text{m}$: 40%, $>5-8 \mu\text{m}$: 40%**). The particles became smaller as they wafted through the test chamber during experiments.” (QUOTE taken from the SUPP: FN01.36.01.06.00.SUPP mSphere.00637-20-s0001.docx; see FN01.39.03.00.00.SUP mSphere.00637-20-s0001)

The sizes are outside the limits of our interests. We are looking for studies that show surgical facemasks can block upwards of 95% of particles in the size range of 40-140 nm. This study measures efficacy for particles sizes from 5500 to under 3000 nm, which means anywhere from 2000-2999 nm.

CCav: To Mannequin 2- the subject: “The other mannequin head, simulating a person exposed to the virus, was connected to an artificial ventilator (SN-

480-4, Shinano) through a virus particle-collection unit. Tidal breathing, conducted by the artificial ventilator, was set to a lung ventilation rate representative of a steady state in adults⁷ (i.e., 0.5 L of tidal volume, respiratory rate of 18 breaths/min, and a 50% gas exchange rate). **The collection unit employed a gelatin membrane filter (#12602-080-ALK; diameter, 8.0 cm; pore size, 3.0 μm ; Sartorius AG) to trap virus particles contained in the inhalation flow.** (QUOTE taken from the SUPP: FN01.36.01.06.00.SUPP mSphere.00637-20-s0001.docx; see FN01.39.03.00.00.SUP mSphere.00637-20-s0001)

They used a filtration simulation that approximates the masks recommended by the fellow that runs NIAID, an organization that contributed to the funding of this study.

CCav: Within the article we find confirmation of matter culled from the SUP: “Although the initial particle size exhaled was [1] **5.5 \pm 0.2 μm in mass median diameter (particle size percentages were as follows: <3 μm , 20%; 3 to 5 μm , 40%; >5 to 8 μm , 40% [3]), [2] some of the droplets likely gradually evaporated and changed to aerosols. Therefore, both droplets and aerosols were likely present in the**

chamber. The other mannequin head was connected to an artificial ventilator through a virus particle collection unit. Tidal breathing, conducted by the artificial ventilator, was set to a lung ventilation rate representative of a steady state in adults. Face masks were attached to the mannequin heads, [3] **and the viral loads and infective virus that passed through the masks were measured by use of a plaque assay and quantitative real-time reverse transcription PCR (qRT-PCR), respectively.**"

[1] The size ranges are outside out query criteria.

[2] The researchers did take desiccation into account.

[3] The PCR cannot be trusted to diagnose sickness, but it does identify presence of rna. Also, since this is the test used, it is reasonable to employ it here, only it would have been good to see an acknowledgement of its limitations.

CLAIM: [1] When a mannequin exposed to the virus was equipped with various masks (cotton mask, surgical mask, or N95 mask), the uptake of the virus droplets/aerosols was reduced. [2] A cotton mask led to an approximately 20% to 40%

reduction in virus uptake compared to no mask (Fig. 2B). The N95 mask had the highest protective efficacy (approximately 80% to 90% reduction) of the various masks examined; however, [3] infectious virus penetration was measurable even when the N95 mask was completely fitted to the face with adhesive tape (Fig. 2B). [4] In contrast, when a mask was attached to the mannequin that released virus, cotton and surgical masks blocked more than 50% of the virus transmission, whereas the N95 mask showed considerable protective efficacy (Fig. 2C). [5] There was a synergistic effect when both the virus receiver and virus spreader wore masks (cotton masks or surgical masks) to prevent the transmission of infective droplets/aerosols (Fig. 2D and and E).”

In summary, the argument is that while masks provide little protection to the subject as PPD, they provide significantly more when used as source control. The science, within the parameters of their experiment, support this conclusion. HOWEVER:

First, the researchers look at PPE efficacy:

[1] CCav: First, as I pointed out, they did not test for aerosols in the particle size range 40-140 nm, or

microdroplets that are smaller than $0.3\ \mu\text{m}$ — that is, smaller than 300 nm. When that is the pore size of their mask.

[2] CCav: Second, if these masks as PPE provide so little protection against virions in excess of 300 nm, they are worthless against the SARS-CoV-2 virus. From 60-80% of the particles escape capture by the Fauci recommended masks (He does NOT recommend the N95 for community use). That means multiple thousands of virions pass through the masks—making them inadequate as PPE against virus.

[3] ACK/CCav: Third, this is a most serious acknowledgement: “Infectious virus penetration was measurable even when the N95 mask was completely fitted to the face with adhesive tape.” Good night! Even when fit tested, the N95 allows measurable penetration of particles $\geq 300\ \text{nm}$. That is particularly concerning.

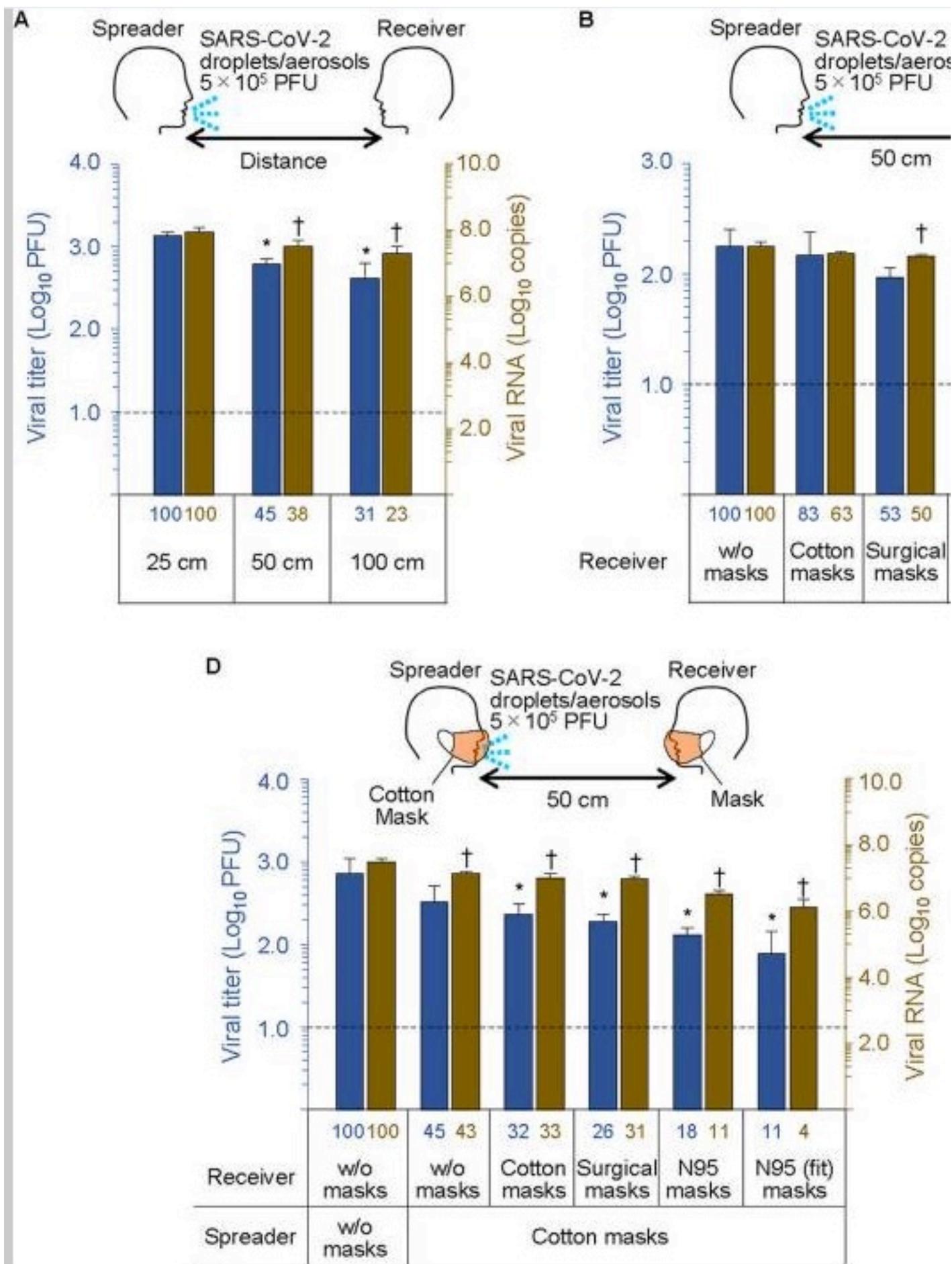
Next, the researchers provide the contrast to source control efficacy.

[4] CCav: When the mask was tested for source control, it blocked “more than 50% of the virus transmission.” The state the N95 showed,

“considerable protective efficacy,” but did not stipulate a percentage, as they did with the cotton or surgical masks. Why? Were the numbers too close; surely not! It seems reasonable to assume a significantly greater efficacy as source control from the N95, and I don’t understand why these researchers, who seemed so fastidious otherwise, would omit this information. **NEVERTHELESS, 50% is totally inadequate. It means multiple thousands, even millions of particles are emitted through the masks that are larger than 300 nm, meaning an even greater number are emitted that are smaller.**

I should include this article in the SE set.

[5] The “synergistic” effect would be expected, but in this statement they do not explain what that synergy produced in the way of added protection. Perhaps it’s in the figures cited. I studied the charts provided in Fig 2 D and E. See FN01.36.01.06.01.Image 7-13-22 at 4.55 PM.jpg Here:



It's as I suspected, the variation is not dramatic at all. If you study the figures carefully, you will notice that in case 1 (Cotton masks), the difference between cotton and surgical mask on subject is virtually 0. In the second case, where subject is wearing the Surgical masks, the difference, again, is virtually 0. The same thing occurs if you compare case 1 with 2 — the levels are virtually identical. What is weird, and, frankly, unexpected, is that the N95 unfitted, performed the same as the surgical or cotton mask.

THE FOLLOWING represents the remaining notes from vetting this article under
FN01.39.03.00.00.Effectiveness of Face Masks in Preventing Airborne Transmission of SARS-CoV-2 - PMC

SP: “The protective efficiency of such masks against airborne transmission of infectious severe acute respiratory syndrome CoV-2 (SARS-CoV-2) droplets/aerosols is unknown.”

An honest statement would be that while the specific virus SARS-CoV-2 has not been tested, the general consensus is that surgical or homemade cloth masks are not a viable protection against a virions the

size of SARS-2. This study seeks to show that masks can be effective.

CCav: “Cotton masks, surgical masks, and N95 masks provide SOME protection from the transmission of infective SARS-CoV-2 droplets/aerosols; HOWEVER, MEDICAL MASKS (SURGICAL MASKS AND EVEN N95 MASKS) COULD NOT COMPLETELY BLOCK THE TRANSMISSION OF VIRUS DROPLETS/AEROSOLS EVEN WHEN SEALED.”

CE: Get a load of this. The researchers admit that some infectious droplets/particles penetrate even the revered N95 when it is COMPLETELY SEALED. “Importantly, medical masks (surgical masks and even N95 masks) were not able to completely block the transmission of virus droplets/aerosols even when completely sealed.”

CCav: They tested for PPE, the ability of the mask to protect the wearer. “When a mannequin exposed to the virus was equipped with various masks (cotton mask, surgical mask, or N95 mask), the uptake of the virus droplets/aerosols was reduced. A cotton mask led to an approximately 20% to 40% reduction in virus uptake compared to no mask (Fig. 2B). The N95 mask had the highest protective efficacy

(approximately 80% to 90% reduction) of the various masks examined; **however, infectious virus penetration was measurable even when the N95 mask was completely fitted to the face with adhesive tape (Fig. 2B).**”

This is consistent with about every other study I’ve examined.

SP: When you read the above paragraph do you notice that the test was supposedly for (1) cotton, (2) surgical, or (3) N95? Right? Keep reading. The results are given for the cotton mask and the N95, but not the surgical mask. Why? Why did they not present the results of the surgical mask as compares with no mask? Of course, I don’t know. But given the obvious bias at work in this study, I expect the reason is that the surgical mask did not perform in any way significantly better than the cotton mask; because, as a matter of fact, depending on what sort of cotton mask they used, it might have performed even better. [Check Fig. 2, and see B. Notice that my suspicion is confirmed: the surgical mask actually underperformed relative to the cotton mask.

Now look at the CONTRAST when the masks were tested for source control. [Because THAT is actually

the emphasis, or focus of this study.] Notice, the researchers now want to talk about the effectiveness of the surgical mask:

“In contrast, when a mask was attached to the mannequin that released virus, cotton and surgical masks blocked more than 50% of the virus transmission, whereas the N95 mask showed considerable protective efficacy (Fig. 2C). There was a synergistic effect when both the virus receiver and virus spreader wore masks (cotton masks or surgical masks) to prevent the transmission of infective droplets/aerosols (Fig. 2D and E).”

Notice that the the results are given for both the cotton AND THE SURGICAL mask, and notice that the BEST they can offer is 50% filtration efficacy. And also notice that when tested for both mannequins wearing a mask, they did not specify a percentage of filtration protection, but used the equivocating, and likely obscurantist language: “There was a synergistic effect when both the virus receiver and virus spreader wore masks (cotton masks or surgical masks) ...”

This sort of thing qualified in my mind as SP. Obviously, the researchers did not want to show, at least not in this paragraph, the results of their test on

the surgical mask for PPE, but did want to show it for SC (source control), why? Obviously, the best they got is 50% filtration efficacy, and that from BOTH the cloth and surgical masks — and 50% filtration is NOT ADEQUATE for protection in anybody's book. [But, I expect that will change in future as the western medical community labors to conform to CCP expectations.]

Finally, there is no way a “scientist” talks about synergistic effect instead of providing the numbers, unless that scientist is pulling some SS on us, and practicing scientism rather than science.

I found the place in this study where they talk about the particle sizes they tested for: “Although the initial particle size exhaled was $5.5 \pm 0.2 \mu\text{m}$ in mass median diameter (particle size percentages were as follows: $<3 \mu\text{m}$, 20%; 3 to $5 \mu\text{m}$, 40%; >5 to $8 \mu\text{m}$, 40% [3]), some of the droplets likely gradually evaporated and changed to aerosols.”

So, we know we are talking about SC (source control), or particles caught by mask upon exhalation because: “although the initial particle size EXHALED ...” Upon EXHALATION: the particle size breakdown was as follows: $<3 \mu\text{m}$, only 20%, and 40% were from $3 \mu\text{m}$

to 5 μm , and another 40% were from >5 to 8 μm .

They also acknowledge that “some of the droplets likely gradually evaporated and changed to aerosols.” Only I would say, depending on the environment of their chamber, it can be fully expected such did occur and to more than *some*. In normal circumstances, every droplet would have begun evaporating immediately upon release.

I examined the Figures presented and they are very well done. However, I can see why the TA speak in general terms. If the data is looked at closely the following is a legitimate representation of it — *there is little difference between the cloth and surgical masks in terms of efficacy, and the amount of efficacy provided is woefully bellow what would be needed for anything like genuine confidence in protection*. Furthermore, we don't know what sort of cloth mask was used. Let's see if I can find out.

For this study, there is no data to inform us what sort of cotton masked was used, what was the thread count, were these multilayered, and how fitted—taped on, sealed, hung, etc. Wait, I find a statement that suggests they did test the masks sealed: “Importantly, medical masks (surgical masks and even N95 masks)

were not able to completely block the trans-mission of virus droplets/aerosols even when completely sealed.

—> Back to **FN01.36.01.00.00-**

https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html

CCav: “Studies demonstrate that cloth mask materials can also reduce wearers’ exposure to infectious droplets through filtration, including filtration of fine droplets and particles less than 10 microns.” [Note: I searched this at least five times in FN01.36.01.00.00 and got NULL. So I examined every other FN01.36... article and could not find it. It just kept coming back to mind that I remembered seeing this in the Science Brief article so tried again. Reduced the search to one word in the phrase, *materials*, and found it. I think PDF search does not handle phrases very well, and although it is tedious, I think the best approach is to try to zero in on the most significant key word in the phrase and then just work through the hits, if any.]

NOTE: *** Okay, so if this study deems particles

under 10 μm (10000 nanometers) to be within the category of *fine droplets and particles*, you can immediately see that the study does not apply to our question. It's unreal! These guys, I think, they expect people to not understand what they are reading, and for those that do, to be tied to the "system" and reflexively agree with the premise. Almost every article I've read marks *fine particles* as in the $<5 \mu\text{m}$ range, which is 5000 nm. This joker puts them at 10 μm , or 10000 nm. It makes it much easier to say masks protect against *fine particles* if the size range is manipulated in this way.

I've addressed the effect of electret charge elsewhere and at the bottom line, while it might increase capture, it does not change the ultimate outcome: fine particles, which I'll define here as $<300 \text{ nm}$, escape capture in a volume sufficient to infect the host. Also, the electret effect is not permanent. "Some materials (e.g., polypropylene) may enhance filtering effectiveness by generating triboelectric charge (a form of static electricity) that enhances capture of charged particles 20 while others (e.g., silk) may help repel moist droplets and reduce fabric wetting and thus maintain breathability and comfort."

TA refers to Footnote 20 Konda A, Prakash A,

Moss GA, Schmoldt M, Grant GD, Guha S. Aerosol filtration efficiency of common fabrics used in respiratory cloth masks. ACS Nano. 2020;14(5):6339–6347.

Already vetted in these notes: see

FN01.38.00.03.39-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/>. PDF: FN01.38.00.03.39.Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks - PMC. For SUPP: see FN01.38.00.03.39.SUPP nn0c03252_si_001. **Rated by ECDC as VERY LOW confidence:** see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Our question is not whether masks can stop large droplets, but whether they effectively protect against something so small as a virion.

TA boasts of studies that have shown some multi-layered cloth masks with low thread counts filtering 50% of fine particles less than 1 micron.” Or, in other words, 1000 nanometers, you get the idea. It it only captures 50% of those!!!

Then we have the array of OS, which I'm going to skip. A cursory look through tells me I've vetted most of them, and OS studies are not going to establish any scientific proof for mask efficacy — oh, but this study does address the potential adverse health effects of mask wearing:

Potential Adverse Health Effects of Mask Wearing:

ADULTS: Wearing them for long periods or during exertions approaching an aerobic threshold can present problems. Persons with asthma, or other respiratory issues might have adverse reactions when wearing masks for long periods — over one hour. Skin rashes, exacerbating other skin problems, like acne, especially if worn during long periods with moisture building up in the mask.

NOTE: One little spoken of fact is that masks can exacerbate illness. In as much as they might trap stuff your lungs are trying to get out of your body into the mask and be drawn back into the lungs.

[The authors were patty-caking this issue, I elaborated from other material I've read — this is something that needs to be explored more.]

CHILDREN:

Yeah, read this and TA is punting on all the particular concerns about masks. Lost all respect for him right here.

FN01.37.00.00.00-<https://www.mdpi.com/1996-1944/13/15/3363/htm>. PDF:

FN01.37.00.00.00.Facemasks & Respirators - Filtration Materials Test-13-03363-v2.pdf

CLAIM: Mr. Falcon: “Using mathematical models, statistical data and historical data,” these Irish researchers “found masks to be an overall effective and necessary tool for the foreseeable future.”

Full title of article: Face Masks and Respirators in the Fight Against the COVID-19 Pandemic: A Review of Current Material, Advances and Future Perspectives. Published in the magazine issue titled: Personal Protective Materials (PPMs) re COVID-19.

PC: received June 2020, published July 2020.

CCP: Dowd, Nair, Farouzandeh, Snehamol, Grant, Moran, Bartlett, Bird, Sureesh (All authors Ireland) /
ORIGIN: IRELAND: Nanotechnology and Bio-

Engineering Research Group, Department of Environmental Science, Institute of Technology Sligo, F91 YW50 Sligo, Ireland; and Faculty of Science, Institute of Technology Sligo, Ireland. / **REF:** Zheng, Ma, Zhang, Xie; Al-Jabir; Alsafi, Khan, Al-Jabir; WHO; Guo, Cao, Q, Hong, Tan, Chen, Jin, Tan K, Wang, Yan Y; WHO; Huang, Fan, Li, Nie, Wang, Wang H, Wang R, Xia, Zheng, Zuo; Wang; Cowling; Leung, Chu, Shiu, Chan, Hau; USAToday; BBCWorld (2); US-CDC (3); Lin; Zhuang; British Standards Org.; Konda, Prakash, Guha; WHO; UK Gov. HSE (3); Coie, Aduseah; US FDA; Health Protection Sueveillance Centre; Ireland Health Service; Lee, Liu; Fo; Zhu, Lin, Cheung; Li, Yu; Liu, Yu, Ge, Wang, Zhang, Li, Liu F., Zhai; Zhou; Bhatt, Sinka; Chang; Liu, Ding, Davis; Wong; Iboi, Phan, Kuang; MacIntyre, Dwyer, Seale, Cheung, Gao; Kai; Li, Leung, Yao, Song; Zhou; Wu; Lee, Wu; Singh; Liu; Zhu, Han, Wang, Shao, Xiong, Zhang, Pan, Yang, Zhang; Guo, Ho, Au-Yeung, Lam; Tong, Kwok SDC., Kwok HC.; Wang, Yang, Al-Deyab, Yu, Ding; Wang, Li, Zong, Zhang, Li, Wei; Li, Wang, Fan, Yu, Gao, Sun, Ding; Choi; Majhi; Quan, Lee, Choi; Park, Hwang; Singh; Choi, Yang, Bae, Jung; Chuysinuan, Suksamram, Sukhumsirichart, Hongmanee, Supaphol; Chughtai, MacIntyre; Chen, Hsueh, Hsieh, Tzou, Chang; Yang, Cai, Zhang, Wang, Hsu, Wang H, Zhou, Xu, Cui; Liu, Zhang, Wang, Yu; Nwoko; Sykora, Sayood, Liang; Lin, Chen, Huang, Kuo,

Lai, Lin W.; Li; Bae, Kim, Kim JY., Cha, Lim JS., Jung, Oh, Lee, Choi, Sung; Kim; Lam, Lee, Yau; Morawska, Cao; Ip, Tsui; Wang R., Li, Si, Wang, Liu, Ma, Yu, Yin, Ding; Bahl; Nguyen (76 of 139) / **FUNDING:** “This research received no external funding.”

RCT: No. MM “The use of MATHEMATICAL MODELLING [sic] has been significant in broadening the knowledge of transmission mechanisms of infectious diseases while providing THEORETICAL information for the development of public health policy [60,61].”

CONTENT:

TA refers to two articles that are IR re my query:

60. Tuite, A.R.; Fisman, D.N.; Greer, A.L. Mathematical modelling of COVID-19 transmission and mitigation strategies in the population of Ontario, Canada. *Can. Med Assoc. J.* 2020, 192, E497–E505. [Google Scholar] [CrossRef] [PubMed]

61. Griffin, J.T.; Bhatt, S.; E Sinka, M.; Gething, P.W.; Lynch, M.; Patouillard, E.; Shutes, E.; Newman, R.D.; Alonso, P.; E Cibulskis, R.; et al. Potential for reduction of burden and local elimination of malaria by reducing

Plasmodium falciparum malaria transmission: A mathematical modelling study. Lancet Infect. Dis. 2016, 16, 465–472. [Google Scholar] [CrossRef]

CCav: “Results show that respiratory droplet influenza-transmission may be greatly reduced if a face mask is used. However, this is not the case for aerosol transmission.” TA refers to Footnote 13, and 71.

13. Leung, N.H.L.; Chu, D.K.W.; Shiu, E.Y.C.; Chan, K.-H.; McDevitt, J.J.; Hau, B.J.P.; Yen, H.-L.; Li, Y.; Ip, D.K.M.; Peiris, J.S.M.; et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. Nat. Med. 2020, 26, 676–680. [Google Scholar] [CrossRef]

Already vetted in these notes: **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine ****

Does not support the claim relative to my criteria.

71. Schimit, P.; Monteiro, L. Who should wear mask against airborne infections? Altering the contact network for controlling the spread of contagious

diseases. *Ecol. Model.* 2010, 221, 1329–1332. [Google Scholar] [CrossRef]

Not vetted in these notes. According to TA, this study correlates to the Leung et al. study cited in footnote 13.

FN01.37.00.00.01-

<https://www.sciencedirect.com/science/article/abs/pii/S0304380010000797?via%3Dihub>. PDF:

FN01.37.01.00.00. Who should wear mask against airborne infections_ Altering the contact network for controlling the spread of contagious diseases - ScienceDirect (Abstract only)

PC: May 2010

CCP: Schimit, Monteiro / **ORIGIN:** Sao Paulo, Brazil / **REF:** Su; Hajjar (2 of 11* (*NOTE: The accessible version only provided 11 of the 22 references cited in the full text of the article.) / **FUNDING:** Statement: “LHAM [L.H.A. Monteiro] is partially supported by CNPq...” The statement is incomplete.

RCT: Not asserted. Searched: *randomised, randomized, clinical, cohort, trial, intervention* with

results NULL. Not discussion of method but in the Introduction, TA describes what amounts to a MM approach, and under Discussion, I find: “This numerical study showed that ...”

CONTENT:

NOTE: There is insufficient data revealed in this limited access article to provide any definitive quotes that support or contradict the claims by TA of FN01.37.00.00.00 that this article correlates to the Leung study. I’ll stipulate to this correlation, and so argue that this article does not offer any evidence contradicting that article.

—> Back to **FN01.37.00.00.00-**
<https://www.mdpi.com/1996-1944/13/15/3363/htm#B13-materials-13-03363>

IR: it’s about droplets: “The main routes of infection are believed to be from ‘respiratory fluid droplets’ [8] containing the virus that are between 10 and 5 μm and through aerosols that are less than 5 μm [9].” — healthcare workers are encouraged to use N95 respirators. This is irrelevant to my query since the particle sizes in view are larger than my criteria for this query: 5000-10000 nm is way outside my range

(40-140 nm) and “less than 5 μm means from 4000-4999 nm; again, outside the range of my concern.

SS: The assertion, see above, that the “main routes of infection” are from droplets that are between 10 and 5 μm AND THROUGH AEROSOLS that are less than 5 μm is something “believed” — assumed by those who have not properly examined transmission via smaller droplets and finer particles in aerosol. Besides, as per TA’s own admission, the surgical mask does not provide adequate protection against aerosol transmission: “Results who that respiratory droplet influenza-transmission [NC] MAY be greatly reduced if a face mask is used. HOWEVER, THIS IS NOT THE CASE FOR AEROSOL TRANSMISSION.”

INFO: The pandemic declared global by WHO on Jan. 30, 2020 and received its official designation COVID-19 on February 11 by the WHO director general.

INFO: TA explains they used a “deterministic system of nonlinear differential equations” [69]. See TECH21.Nonlinear Differential Equations S0002-9904-1955-09934-8 <https://www.ams.org/journals/bull/1955-61-05/S0002-9904-1955-09934-8/S0002-9904-1955-09934-8.pdf>.

A “deterministic system” [See TECH22] is “a system in which a given initial state or condition will always produce the same results.” It eliminates randomness and removes variables in outcome from input. In a simple way of looking at this, $2+2=4$ every time 2 items are added to 2 other items, the result, in terms of quantity, is 4. The problems arise when we examine the relationship between the items in the array. For example, if I add two apples, and two oranges, the result is not 4 apples or 4 oranges. I still have only two apples. On the other hand, nonlinear refers to something that attempts to show the connection between things that are not connected by a known sequence, like 1,2,3 etc. but nonlinear, as in 3, 1, 2. Although 3, 1, 2 are not linear, they are nevertheless connected as each is a number in a set. The above is an oversimplification, but serves to show that this is a mathematical modeling approach, and the concern with using such an approach to ascertain something like the efficacy of a mask is that it must depend on assumptions represented here and there throughout the formula. If any one assumption is incorrect, the entire model collapses. I prefers studies that seek in a more straightforward manner to establish or confirm the assumptions as PRIMARY to using those assumptions in any model. TA refers to Eikenberry et al. Eikenberry, S.E.; Mancuso, M.; Iboi, E.; Phan, T.;

Eikenberry, K.; Kuang, Y.; Kostelich, E.; Gumel, A.B. To mask

or not to mask: Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic. *Infect. Dis. Model.* 2020, 5, 293–308.

[CrossRef]

Already vetted in these notes: see

FN01.41.07.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7186508/>. PDF: FN01.41.07.00.00.To mask or not to mask_ Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic

INFO: *** “For those who did shed the virus through respiratory droplets and aerosols, viral load in each tended to be insignificant (after 30 min of exposure). This signifies that extended close contact with an infected individual would be required for transmission to occur [13].” It might be helpful to remember person to person spread is not so pervasive as it is made out to be. From hearing the hype on MSM from Fauci et al. one would think walking down the street and passing someone infected is exposure that is significant sufficient to infect. This study “correlates” (to use a word employed by our TA) to many others I’ve seen that suggest contagion certainly does occur

from person to person, but the chances of contagion from casual contact is virtually nill, and even after 30 minutes of exposure the “viral load tended to be insignificant” [13 — The Leung study vetted in these notes and referenced by TA above]. Leung concluded that “Extended close contact with an infected individual would be required for transmission to occur.”

CCav: After describing a “novel” mask fabrication that is unavailable to the general public, and without discussing breathability and comfort, or in other words, wearability, and showing such a unique and unavailable mask shows near 100% efficacy at blocking virions (large droplets in the neighborhood of 5-10 μm and aerosols $< 5 \mu\text{m}$, or between 4000-4999 nm) TA offers the **HOWEVER: “However, the improper disposal and reuse of the masks and respirators might INCREASE THE RISK OF SECONDARY TRANSMISSIONS, ESPECIALLY IN THE CURRENT PANDEMIC SITUATIONS SUCH AS COVID-19.”**

ACK: “Hence, the development of a universal virus decontamination system incorporated in a reusable face mask or respirator to potentially reduce the risk of infection and transmission is a key challenge which is yet to be addressed.”

INFO: I was made aware of the positive effects of silver ions and other silver-based compounds having an antimicrobial effect. Putting such a coating on masks can contribute to controlling microbial transmitted infection. The masks are very expensive (I paid over \$25 for one of these when compelled by mask mandates to use these on planes—and yet the airlines were so stupid they were ignorant that the mask I wore afforded better protection than theirs and required me to wear their surgical masks. [The following taken from memory: However, even at that, the mask demonstrated moderate to high efficiency against particles in the size range of ≥ 300 nm (70-90%), with at least *some* efficacy against ≤ 300 nm particles (meaning a range of from 200-299 nm), but the virions we are concerned with are 40-140 nm when naked, and as small as 70-200 nm in microdroplets.”

CCav: Under 7. Effectiveness and Fitting: “A study on the effectiveness of cotton and surgical masks [118] found that when patients with Covid-19 were instructed to cough five times on a petri dish while wearing a mask, **masks saw very little reduction of viral load than without a mask being worn.** The viral load in one patient only decreased from 3.53 to

3.26 log copies/ mL and 2.27 log copies/ mL when a surgical mask and cotton mask were used, respectively.”

Footnote 118: Bae, S.; Kim, M.-C.; Kim, J.Y.; Cha, H.-H.; Lim, J.S.; Jung, J.; Oh, D.K.; Lee, M.-K.; Choi, S.-H.; Sung, M.; et al. Effectiveness of Surgical and Cotton Masks in Blocking SARS-CoV-2: A Controlled Comparison in 4 Patients. *Ann. Intern. Med.* 2020, 173, 22. [Google Scholar] [CrossRef] [PubMed]

Already vetted in these notes: see **FN01.38.00.03.39b-**
<https://www.medrxiv.org/content/10.1101/2020.04.02.20051177v1.full.pdf> PDF:
FN01.38.00.03.39b.Could SARS-CoV-2 be transmitted via speech droplets_ Go to CCav - “Next these guys refer ...” where the same assessment is given re this article.

—> Back to **FN01.37.00.00.00-**
<https://www.mdpi.com/1996-1944/13/15/3363/htm#B118-materials-13-03363>

CLAIM: Following up on the article vetted above, TA, after revealing that study was retracted for too low a number of patients (which is weird, since I’ve read

many such studies where the LIMITATION stipulated is the number of patients, or cases, examined being too low, yet they are not retracted????) — TA goes on to examine another study that supposedly contradicts the disputed study: “[1] A separate study modelling [sic] a patient coughing while wearing a face mask found that **the mask had a 91% “initial efficiency”, [2] droplets were capable of penetrating the mask and travelling [sic] over 1.2 m [119].** They also concluded that if a mask was not worn, droplets would travel at least 70 cm, with the mask the droplets would travel half this distance. [3] **This would indicate that the droplets were still capable of penetrating the masks, but their travel distance was limited.**”

[1] CLAIM: masks has an “initial efficiency” to block 91% of droplets. Okay, TA references Footnote 119: Dbouk, T.; Drikakis, D. On respiratory droplets and face masks. Phys. Fluids 2020, 32, 063303. [Google Scholar] [CrossRef].

Let’s take a look:

Already vetted in these notes: see **FN01.38.00.03.34b—**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7301882/>. PDF: FN01.38.00.03.34b.On respiratory

droplets and face masks - PMC. SUP:

<https://aip.scitation.org/doi/10.1063/5.0015044#suppl> PDF: FN01.38.00.03.34b.SUPP On respiratory droplets and face masks_ Physics of Fluids_ Vol 32, No 6. This is further supplemented by a very cool video:

<https://aip-prod-cdn.literatumonline.com/journals/content/phf/2020/phf.2020.32.issue-6/5.0015044/20200613/suppl/video.mp4?b92b4ad1b4f274c7087751811dabb28b320a70be1a0e2455776b6a732940c70910d24d152057b68c72ff50256414d077f6c2dec11da9a43a93c4e6bceef11d0b9956e71e7095d4de4016bc4466c7760e13823d8408929ddaa1c5914a148f1a7710cd0c2ce82da5ea6627bbe8550a1d54d2d0772cf49569c788472703d354dd6b5b>. It shows a guy without a mask emitting a huge volume of stuff, and a guy with a mask emitting way more than enough to kill anyone — it's a sickening bastardization of science. Either these people are just not mentally equipped to handle the data or they are liars.

[Needless to say, this study examined particles from 0-300 μm , which means >999 nm to 300000 nm, and is entirely outside the limits of my concern in this research.

NOTE: In other words, the “initial efficacy” was for blockage of particles far exceeding the particle size

scope of our interests: 40-140 nm as compares to 999-300000.

[2] CCav: Even at this size range, some of these particle escape the mask, and their benefit is limited to reducing the distance these will travel. Without masks, they travel 70 cm, and with them, ~ half that distance. This admission proves another important limitation to the study cited. Other studies have verified that very fine particles, in the range of $< 3 \mu\text{m}$ (or 200-300 nm), travel great distances and remain suspended in aerosol for hours at a time, and the particle in this study, being significantly larger and heavier, taking the low end of this study to be 999 nm, or say $1 \mu\text{m}$, travel only a short distance, without a mask, a little over a foot, with one, about 6 inches. What does this do to the social distancing regimen imposed on people? It is becoming increasingly clear the intention here is to separate people from one another, to break the natural social bonds that connect us and create an artificial social connection that is based on government, and government intrusion into our lives.

[3] CCav: TA states the obvious conclusion that is actually avoided in the study being evaluated by TA [Footnote 119] **“This would indicate that the droplets were still capable of penetrating the**

masks, but their travel distance was limited.” TA rightly observes this study [Footnote 119] examined penetration relevant to coughing, and did not examine dispersal via speaking, tidal breathing, sneezing, etc.

CCav: “ When a surgical mask was examined as an alternative to N95 masks during the SARS pandemic, it was found that surgical masks did not sufficiently filter “submicron-sized” particles [120].” Submicron sizes begin at 999 nm.

Footnote no. 120: Derrick, J.; Gomersall, C.D. Protecting healthcare staff from severe acute respiratory syndrome: Filtration capacity of multiple surgical masks. *J. Hosp. Infect.* 2005, 59, 365–368. [Google Scholar] [CrossRef]

Not vetted in these notes, but included in the list of ECDC articles rated **VERY LOW confidence**: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> Hmmm! Let’s take a look at this article.

**** **FN01.37.00.00.04-**

[https://www.journalofhospitalinfection.com/article/S0195-6701\(04\)00479-7/fulltext](https://www.journalofhospitalinfection.com/article/S0195-6701(04)00479-7/fulltext). PDF:
FN01.37.00.00.04.Protecting healthcare staff from

severe acute respiratory syndrome_ filtration capacity of multiple surgical masks - Journal of Hospital Infection

PC: Oct. 2004

CCP: Derrick, Gomersall (Hong Kong affiliation) /
ORIGIN: CHINA-Hong Kong: The Chinese U of Hong
Kong, Prince of Wales Hospital, Hong Kong / **REF:** Lee,
Hui, Wu; Willeke; Office of the Federal Register, US;
NIOSH; Seto, Tsang, Yung. (5 of 8) / **FUNDING:** nd
Assumed copyright holder: The Hospital Infection
Society. Published by Elsevier Inc.

RCT: No. See Methods: OS.

CONTENT: The context is SARS-1, where concern
for aerosol transmission moved CDC and WHO to
recommend N95 “or higher” filtration masks while
working with suspected SARS patients. Because these
are expensive, some countries were experimenting
with wearing multiple surgical masks to compensate.

CCav/IR: Sizes of particles in the 3 μm range
outside our criteria: “The Surgikos mask is a pleated
rectangular three-ply mask with a bacterial filtration
efficiency of 95% at 3 μm .” *Surgikos = suigical*. 3 μm is

3000 nm.

CCav: “The filtration capacity of a single surgical mask is known to be poor.²” Footnote 2: Weber A.Willeke K.Marchioni R.et al.

Aerosol penetration and leakage characteristics of masks used in the health care industry. Am J Infect Control. 1993; 21: 167-173 Abstract Full Text PDF PubMed Scopus (121) Google Scholar

Already vetted in these notes: see **FN01.38.00.03.38b**-I can only access the abstract, which follows: PDF: FN01.38.00.03.38b.Surgical Masks Inadequate to Protect Against Virus.

CONFIRMED TA’s assessment: this study “found that surgical masks did not sufficiently filter ‘submicron-sized’ particles.” While only the abstract is accessible to me, and this particular note is not found in the abstract, I think it is safe to stipulate the finding of TA.

—> Back to **FN01.37.00.00.04**-
[https://www.journalofhospitalinfection.com/article/S0195-6701\(04\)00479-7/fulltext#secd8220052e94](https://www.journalofhospitalinfection.com/article/S0195-6701(04)00479-7/fulltext#secd8220052e94)

Go to RESULTS:

Particle count reductions measured for one, two, three, four, and five masks. NOTE: At five masks, the wearer will experience significant interference with normal breathing.

CCav: A disappointing result: “The median reduction in particle count for a single surgical mask was 2.7. This increased to 5.5 with five surgical masks. The difference in particle count reduction in a given subject between one and five surgical masks ranged from 1.6 to 4.2. **The best particle count reduction with five surgical masks was 13.7 times, which is less than the required value of 100 for a half face respirator.**” In other words, this study found that even five surgical masks do NOT PROVIDE ADEQUATE PROTECTION.

CCav: Conclusion: This is a MAJOR CCav: “Our data confirm previous findings that the filtration of submicron-sized airborne particles by a single surgical mask is minimal. The ratio of the concentration of particles inside the mask to the concentration in ambient air was only 2.7. Although greater filtration was afforded by multiple masks, with an approximate doubling in the filtration factor when five masks were worn compared with a single mask, the absolute filtration factor remained low and well below the

minimum fit factor of 100 required for a respirator. For this reason, even multiple masks are not a suitable alternative to N95 masks when the latter are available.”

Next article referenced is Footnote No. 8. Footnote No. 8 of FN01.37.00.00.00 (Huang, H.; Fan, C.; Li, M.; Nie, H.-L.; Wang, F.-B.; Wang, H.; Wang, R.; Xia, J.; Zheng, X.; Zuo, X.; et al. COVID-19: A Call for Physical Scientists and Engineers. ACS Nano 2020, 14, 3747–3754. [Google Scholar] [CrossRef])

FN01.37.01.00.00-

<https://pubs.acs.org/doi/10.1021/acsnano.0c02618#.pdf>:

<https://pubs.acs.org/doi/pdf/10.1021/acsnano.0c02618> PDF: FN01.37.01.00.00.-COVID-19_ A Call for Physical Scientists and Engineers _ ACS Nano

PC: April 2020 (Interesting claim that the genome of the virus had been sequenced. Offers three references: 2-4. Let’s look at these:

CCP: Huang, Fan, Li, Wang, Wang H, Wang R, Jianbo Xia, Xin Zheng, Xiaolei Zou, Huang / **ORIGIN:** CHINA-Shanghai, Shanghai Jiao Tong University, School of Chemistry and Chemical Engineering, Frontiers Science Center for Transformative

Molecules; Institute of Molecular Medicine, Shanghai Key Laboratory for Nucleic Acid Chemistry and Nanomedicine, Renji Hospital, School of Medicine; Renji Hospital, School of Medicine, Shanghai Key Laboratory for Nucleic Acid Chemistry and Nanomedicine, Institute of Molecular Medicine; Donghua University, College of Chemistry, Chemical Engineering and Biotechnology; Shanghai Jiao Tong University School of Medicine, Center for Single-Cell Omics, School of Public Health; WUHAN: Wuhan University, Zhongnan Hospital of Wuhan, Department of Laboratory Medicine; Huazhong University of Science and Technology, Department of Laboratory Medicine, Maternal and Child Health Hospital of Hubei Province, Tongji Medical College; Union Hospital, Tongji Medical College, Department of Infectious Diseases. USA-IL. Northwestern University, Evanston. Department of Materials Science and Engineering, / **REF:** WHO; Lu, Zhao, Li, Niu, Yang, Wu H, Wang W, Song, Huang, Zhu, Bi, Ma, Zhan, Wang L, Hu, Zhou H, Hu Z, Zhou W, Zhao L, Chen; Zhu, Zhang, Wang, Li, Yang, Song, Zhao, Huang, Shi, Lu, Niu, Zhan, Ma, Wang D, Xu, Wu, Gao, Tan; Wang N; Bai, Yao, Wei, Tian, Jin, Chen, Wang M; Hu, Song, Xu, Jin, Chen, Xu X, Ma, Chen W, Lin, Zheng, Wang J, Hu Z, Yi, Shen; Li, Niu, Gao; Zhou, Yang, Wang, Hu, Zhang, Zhang W., Si, Zhu, Lik Huang, Chen H., Chen J., Luo, Guo, Jiang, Liu, Chen, Shen, Wang,

Zheng; Lu, Wei, Li, Ooi; Li, Bao, Liu, Zhuang, Liu, Zhang W., Jiang; Luo, Jang, Sun, Xiao, He; Choi, Leung, Lam, Cheng; Imai, Ogawa, Bui, Inoue, Fakuda, Ohba, Yamamoto, Nakamura; Rai, Gupta; Kang; Honda, Iwata; Han, Feng, Guo, Niu, Ren; Si, Zhang, Wu, Fu, Huang, Ding, Sun (~28 of 35 citations). / FUNDING: nd
Assumed copyright holder: “American Chemical Society”

RCT: No. This is a call for further study. Searched: *randomised, randomized, trial, cohort, clinical, intervention* with results NULL for any relevant to type of study undertaken. Searched *Method* and found no section dedicated to explaining TA’s methods. I would have to characterize this study as RL.

CONTENT: CLAIM: The main routes of infection are believed to be from ‘respiratory droplets’ [8] containing the virus that are between 10 and 5 μm and through aerosols that are less than 5 μm [9].” We are looking at Footnote 8 supporting first part of this claim.

AME: assumed mask efficiency.

SS/IR/CCav: [1] “The general infectious pathways for respiratory diseases such as influenza, SARS, MERS,

and COVID-19 are illustrated in Figure 1 , all of which start from virion-laden **respiratory fluid droplets (from <1 to 2000 μ m in diameter)** released by an infected person through coughing, sneezing, and potentially even talking.⁵ [2] **These droplets immediately start to evaporate and to shrink.** Most of the droplets and dried nuclei deposit on various objects (e.g. , door knobs, tabletops, buttons, handrails, and touchscreens), turning them into potentially infectious “ fomites”, [sic] [3] **but some may even become airborne for a period of time. Direct infection could thus occur through inhalation by other people within close proximity (e.g. , 1– 2 m),** especially for a crowd in a relatively closed space. Infection could also occur when virions released by an infected person are spread on their hands and clothing and then transferred to others through close contact, such as handshaking.”

[1] SS because it's not scientifically proven that the primary pathway of infection spread is via respiratory droplets in the size range stipulated: <1 to 2000 μ m in diameter. No doubt infection is spread by respiratory droplets of this size, however, it is becoming increasingly accepted as consensus that infection occurs from much smaller particles, in the range of 100-300 nm, and even smaller. IR because

this stipulated size range is outside the criteria of my query.

[2] CCav: These droplets begin IMMEDIATELY to evaporate, and SHRINK. This compromises the assertion that masks capturing these larger droplets secures the wearer from infection. This is because upon complete, or near complete desiccation, the virion is released at a size that will become aerosol, or be drawn in through the mask deep into the lungs of the wearer.

[3] ACK: The TA acknowledges that these desiccated droplets release the virions into aerosols that can be inhaled by others within proximity of the released virions, and stipulates a distance of between ~3-6 feet.

CCav: “viruses are essentially metastable, core-shell nanoparticles that are biologically produced in cells with a quite remarkable self-assembly process.¹⁰”
Footnote 10: Flint, S. J.; Racaniello, V. R.; Rall, G. F.; Skalka, A. M. Principles of Virology; American Society for Microbiology, 2015.[Crossref], Google Scholar Stipulated. A *nanoparticle* is 1-100 nm in diameter. [Here is on resource that suggests nanoparticles range in size from 10nm to 1000 nm:

<https://www.malvernpanalytical.com/en/products/product-range/nanosight-range>; the Britannica defines a nanoparticle as follows:

See TECH23.nanoparticle _ Definition, Size Range, & Applications _ Britannica <https://www.britannica.com/science/nanoparticle>:

[Excerpted from TECH23: “In 2008 the International Organization for Standardization (ISO) defined a nanoparticle as a discrete nano-object where **all three Cartesian dimensions are less than 100 nm**. The ISO standard similarly defined two-dimensional nano-objects (i.e., nanodiscs and nanoplates) and one-dimensional nano-objects (i.e., nanofibres and nanotubes).

“But in 2011 the Commission of the European Union endorsed **a more-technical but wider-ranging definition**:

examples of the powers of 10

“Examples from biological and mechanical realms illustrate various “orders of magnitude” (powers of 10), from 10^{-2} metre down to 10^{-7} metre.

Illustration: Encyclopædia Britannica, Inc.;

photographs: (microelectromechanical devices)

Courtesy Sandia National Laboratories, SUMMiT™ Technologies; (quantum corral) courtesy IBM Research Center, unauthorized used not permitted; (red blood cells) Susumu Nishinaga/Science Source; (human hair) Manfred Kage/Peter Arnold, Inc.; (dust mite) Andrew Syred/Science Source “a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50% or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm–100 nm.”

“Under that definition a nano-object **needs only one of its characteristic dimensions to be in the range 1–100 nm to be classed as a nanoparticle**, even if its other dimensions are outside that range. (The lower limit of 1 nm is used because atomic bond lengths are reached at 0.1 nm.)”]

So, a *nanoparticle* is one that measures between 1 to 100 nm in at least one of its dimensions.

CCav: The above discussion puts this study in the category of CCav because, the stipulation of the virus size we are concerned with is from 40-140 nm, with a standard size of 125 nm, putting it in a range of *nanoparticle* (40-100) and on the lower end of what

we might, in this context, call sub-micron, 101-999 nm. Perhaps the reason I see some authorities refer to the nanoparticle range as anything below 1 μm , is that from that point it is measured in nanometers, or as μm in expressions with a decimal. NEVERTHELESS, it is helpful to get the standardized definition of a *nanometer*.

INFO: “Generally speaking, viruses are essentially metastable, core–shell nanoparticles that are biologically produced in cells with a quite remarkable self-assembly process. (10) **The core is made of a coiled genomic polymer and tightly packaged in a protective protein shell called a capsid, which is tiled up by presynthesized subunits. For coronaviruses (Figure 2), such as those that cause SARS, MERS, and COVID-19, the RNA is directly complexed with and protected by a helical protein shell to form a coiled nucleocapsid. It is then enveloped by a lipid bilayer membrane decorated with various other proteins, such as the protruding “corona” spikes, which interact with the host cell.** The biological function of viruses to preserve and, eventually, to deliver their nucleic acids to host cells depends on the virus’ structural integrity. **For example, for enveloped viruses, their lipid bilayer must stay intact throughout the pathways to keep them infectious.**

The protein capsid must be sufficiently strong to confine the elastically strained genomic coil and sufficiently tough to sustain osmotic pressure fluctuation in changing surroundings, **yet they must be able to disassemble readily inside the host cells to release the genomic core.** These constraints demand rather intricate protein building blocks that also must maintain desirable configurations to avoid malfunction. **The envelope and capsid, however, can be compromised by an array of physical treatments, such as UV irradiation, heating, and desiccation, as well as by chemical sanitization using acids, oxidants, alcohols, or some specialized surfactants.** (10–12) Approaches like these may seem relatively primitive; however, they can be extremely effective in slowing down or even preventing virus spread and transmission.”

Of course, the above does not change anything we have learned about mask efficacy, but I found it interesting to deepen my understanding of what the SARS virion looks like.

INFO: “Virions are usually a minority component in respiratory droplets.”

CLAIM: Understand, the TA has established that

virions run in the range of what are called nanoparticles, and while he did not in that place stipulate a particle size for nanoparticle, he does in this paragraph [“Virions Are Usually a Minority ...”] at about line 12 in the PDF in folder: “Nanoparticles, which are typically around 100 nm in diameter.¹⁵” Upon this, TA claims it effective to attack infection at the source (source control) by use of a medical mask, and says these can “block and absorb large coughed droplets and reroute the smaller ones to reduce their forward traveling distance.^{13,14}”

So, he refers us to Footnotes 13-15. Let’s take a look.

First, on the claim that masks can block large coughed droplets and reroute small ones reducing their forward traveling distance, I concur. I’ve read studies that satisfy me this is true. So this takes me to AME:

AME: TA assumes mask efficacy without directly addressing the issue of mask penetration. I searched *penetration, filter, filtration* with results NULL. I found one hit with *leakage* where it is discussed as problematic when fitting N95s.

*** Under Personal Protection Equipment (PPE), it is clear TA understands that mask efficacy in a health care setting presents a variety of challenges: it take 30 minutes, typically, to suit up; goggle fogging is a problem, wearing the suit-up for long periods of time presents significant comfort challenges, and when used under high stress situations, this is exacerbated; he describes the necessary fit of the N95 requires what would be extreme measures when thought of in community use settings: tightly fitted, with rubber bands strapping them to the face, which “can cause a great deal of discomfort or allergic reactions.³² “In practice, the one-size-fits-all aspirators sometimes do not match the diverse facial profiles of different users, leading to potential safety issues due to leakage or skin damage. Therefore, more adaptive, skin-friendly materials and interface design are needed to ensure good seal over extended periods of time and changing skin conditions due to perspiration.”

SS: TA does not address medical (surgical) masks except in a statement I would rate as SS and I mentioned this above: “to reduce the number and viability of virions released by an infected person ...infected patients are required to wear medical masks, which can block and absorb large coughed droplets and reroute the smaller ones to reduce their

forward traveling distance.^{13,14} Masks are an important component in PPE (Figure 1, dashed line f) for frontline healthcare workers.” And that’s it! I mean, other than speculating on mask modifications that might help: like treating the mask with antiviral chemicals: “Here, one might employ ways to ‘pollute’ virion-laden droplets with antiviral or sanitizing molecules²⁵ when they pass through a mask. For example, a useful strategy may involve on-mask chemical modulation in which such molecules are loaded on the mask to pre-sanitize the exhaled droplets.” But such masks are not available, and it is uncertain whether the sanitization effect would endure, or that the chemicals might cause some adverse reaction when fumes from them are inhaled. And even then we would have to examine whether in fact the consistently trapped and neutralized sufficient numbers of particles in the size range of our criteria over an extended period, like some hours, before such masks would be useful for community use — I mean, beyond the wearability issue. FACT: The reason Fauci et al. settle for the typical surgical mask and cloth masks is NOT EFFICACY but WEARABILITY, period!!! (And yet many of us find even these intolerable.) And that tells you this is not about curbing the spread, or controlling it; it’s about controlling the population. I’m growing increasingly convinced this is about *if we can*

get them to wear the masks, we've got them under our control for other things — like jabs! We MUST not let them take away our autonomy and turn us into chemically controlled, or nanoparticle machine controlled robots.

CCav: TA does address evaporation, but in doing so admits it is a problem for which there is no established answer or remedy: “Both on-mask and in situ chemical modulation approaches would benefit from the third power scaling law of droplet volume and diameter, which can greatly concentrate the antiviral molecules during droplet evaporation.”

First, the terms:

In situ is latin for on location, or in place. TA is talking about actions taken topically, on the inner and/or outer surface of the masks.

The *third power scaling law* is more complicated. TECH24.Third Power Scaling Law 4906016 <https://downloads.hindawi.com/journals/amp/2018/4906016.pdf>

Newtonian explanations of how droplets interact and form on surfaces is very interesting, but goes way

past our interests here, or need. Nevertheless, TA brings it up and we must intelligently address the claim, or in this case assertion. Scaling laws essentially are premised on the fact that at extremely small dimensions the usual laws of mechanics postulated by Newton do not apply. This does not betray a flaw in the Newtonian system, it merely means that at super small dimensions, other factors are at play which are not in play in our usual interactions with physics.

A simple explanation is found here: See TECH25. Scaling Laws - Amitabha Ghosh <https://courses.cs.vt.edu/cs2104/Spring18Onufriev/LectureNotes/ScalingLaws.pdf>. Take a long and a small piece of wire and you will notice that on the smaller scale, the same wire is far stronger and stiffer than the long piece. This illustrates the principle of scale. This is also called *dimensional analysis*. In TECH25, see section 3.3 Micromechanisms. and 3.5 Sealing in Fluid Mechanics. In short, the scaling effect relates to the desiccation of a droplet to the point it is aerosolized. The particles are released by desiccation become free floating with the moving air instead of falling to the ground. As far as masks are concerned, here is what we know.

See TECH26. What is laminar flow__ Alicat

Scientific <https://www.alicat.com/knowledge-base/what-is-laminar-flow/>

Laminar flow is unrestricted and even: “In fluid dynamics, laminar flow is characterized by fluid particles following smooth paths in layers, with each layer moving smoothly past the adjacent layers with little or no mixing. At low velocities, the fluid tends to flow without lateral mixing, and adjacent layers slide past one another like playing cards.” Wikipedia

See also TECH25.Reynolds’ Number
<https://www.sciencedirect.com/topics/engineering/reynolds-number>

“Surface tension and droplets: Surface tension is responsible for the shape of liquid droplets. Although easily deformed, droplets of water tend to be pulled into a spherical shape by the cohesive forces of the surface layer.” In a spherical shape, the droplet has greater surface tension which resists deformation. But as the droplet desiccates, it loses this surface tension and more easily is released through the mask by expiration into aerosol or drawn into the lungs through inspiration.

SP: So, let’s assess the claim: “Both on-mask and

in situ chemical modulation approaches would benefit from the third power scaling law of droplet volume and diameter, which can greatly concentrate the antiviral molecules during droplet evaporation.” It’s a somewhat clever dodge to argue the very process that actually serves to free the virions from the larger droplets that have sufficient surface tension to resist deformation, will facilitate the molecules of some antiviral liquid applied to the mask because as the droplets lose ability to protect the virion within the droplet, the antiviral molecules will more easily interact with them and destroy them. It’s almost like TA might have more honestly stipulated to the fact that desiccation begins immediately, that depending on the force of impact, the larger droplets are broken into smaller ones upon impact, that very quickly in mild temperatures, but especially quickly in dry and warm to hot climates, the droplet shrinks to a microdroplet, loses its surface tension, and releases the virion, and THEN offer as a possible solution to this problem the scheme introduced. So I rate this statement as SP.

NOTE: TA is saying by applying chemicals to the inner and/or outer surface/s of the mask, we can hope to take advantage of shrinkage of the droplets by allowing for greater concentration of the antiviral

molecules to interact with the virions during droplet evaporation.

*** NOTE: However, first, this is a suggestion for future development and is not something we have at present. Second, it is not certain that the scheme will be effective, or that it will be tolerable for the mask wearer. And third, at the end of the day, the question remains whether even this system will effectively reduce the penetration of virions in the sizes that fit our criteria, 40-140 nm. And fourth, beyond mask efficacy is another question: does the risk to benefit equation support universal community masking? When the relative infectivity of the present virus is taken into consideration, the answer is no. The fact is, community immunity (I prefer this to what is commonly called *herd immunity*) is facilitated by exposure and as a virus moves through a population it loses potency even while it increases infectivity, and finally joins the other many influenza like illnesses caused by viruses that live on this planet with us. For persons at high risk for complications from such illnesses, it would be very helpful to come up with a mask that did actually do some good. But for well people, it's not only ineffective as PPE and as source control, it is interfering with natural immunity which is desirable, and helpful not only to the general

population, but to those at risk also, because they benefit from the natural process of reducing the potency (which I'm using to speak of the level of sickness or severity of sickness) of the virus as it runs its course in the community.

*** CCav: TA admits the surgical masks do not block nanoparticles. That's the only reason he must labor to contrive many clever if not impractical means to "modify" the masks. Here is a statement clearly betraying TA's lack of confidence in mask efficacy: "One might employ ways to "pollute" virion-laden droplets with antiviral or sanitizing molecules WHEN THEY PASS THROUGH A MASK." Clearly, TA knows sufficient numbers of virions pass through the masks and so attempts to contrive a scheme whereby these might be neutralized after they escape mask capture. And included in his scheme is diet, and various "saliva modifiers" such as pills, lozenges, cough drops, or even chewing gum. I'd say he has something here. Encourage people to use proper mouth hygiene, and take supplements that enhance the immune system, use antiviral lozenges, and so on — knock yourself out! Sounds great! Just don't pretend these masks are doing anything to "protect" anyone from a virus.

TA refers us to Footnote No. 2: Lu, R.; Zhao, X.; Li,

J.; Niu, P.; Yang, B.; Wu, H.; Wang, W.; Song, H.; Huang, B.; Zhu, N.; Bi, Y.; Ma, X.; Zhan, F.; Wang, L.; Hu, T.; Zhou, H.; Hu, Z.; Zhou, W.; Zhao, L.; Chen, J. Genomic Characterisation and Epidemiology of 2019 Novel Coronavirus: Implications for Virus Origins and Receptor Binding. *Lancet* 2020, 395, 565– 574, DOI: 10.1016/S0140-6736(20)30251-8 [Crossref], [PubMed], [CAS], Google Scholar

FN01.37.01.01.00-

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30251-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30251-8/fulltext).

(<https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2930251-8>) PDF:

FN01.37.01.01.00. Genomic characterisation and epidemiology of 2019 novel coronavirus_ implications for virus origins and receptor binding - *The Lancet*

PC: Feb. 2020 (First published Jan. 2020)

CCP: Lu, Zhao, Li, Niu, Yang, Wu, Wang W, Song, Huang, Zhu, Bi, Ma, Zhan, Wang L, Hu T, Zhou, Hu Z, Zhou W, Zhao L, Chen / **ORIGIN:** Chinese CDC, Beijing China; Shandong Academy of Medical Sciences, Tai'an China; Hubei Provincial CDC, Wuhan, China; Shenzhen, China; (34) University of Sydney, Australia (1) / **REF:** Su, Wong, Shi; Ismail, Tang, Saif; Zhou, Fan, Lan; Guan,

Yuen; Chan, Xu; Zaki; Lee, Jung; Lee, Kim, Chung; Tan, Zhao, Ma; Zhu, Zhang, Wang W; Chan, Yuan, Kok; Huang, Wang, Li; Niu, Shen, Zhu, Lu, Tan; Li; Zhao, Tang, Ye; Pan, Gao, Lc [sic-Lu?]; Bo, Han; Paranjape; Nakamura, Yamada, Katoh; u, Zhu, Ai; Li; Lu, Wang Q., Gao; Wang Q., Wong G., Lu, Yan, Gao; He, Zhou, Liu; Li; Li, Li W.; Lu, Hu, Wang; Wang N., Shi, Jiang; Wang Q., Qi, Yuan; Prabakaran, Gan, Feng; Guan, Zheng, He; Alagaili; Zhou, Yang, Wang (32 of 37) / **FUNDING:** National Key Research and Development Program of CHINA — and all else, CHINA.

RCT: No. Methods: describes describes something that looks like a group, or cohort study. Search: *randomise, randomized, trial, clinical, cohort, intervention* with results NULL.

CONTENT:

IR: This study has nothing to do with masks. Searched *mask* with result NULL.

SS: while all the following statements might be true, re the “next-generation sequencing,” the confusion arises because in the US it was claimed there was no sample of the virus available and it had to be replicated by computer model [need a reference

for this]. The statements, however, are these:

SP: “We did next-generation sequencing of samples from bronchoalveolar lavage fluid and cultured isolates from nine inpatients, eight of whom had visited the Huanan seafood market in Wuhan. **Complete and partial 2019-nCoV genome sequences were obtained from these individuals.** Viral contigs were connected using Sanger sequencing to obtain the full-length genomes, with the terminal regions determined by rapid amplification of cDNA ends. Phylogenetic analysis of these 2019-nCoV genomes and those of other coronaviruses was used to determine the evolutionary history of the virus and **help infer its likely origin.** Homology modelling was done to explore the likely receptor-binding properties of the virus.”

SP: So, coming at this article at 7/14/22, it is clearly propaganda science. The virus did not originate from any bats that found there way to the Wuhan market: “Notably, 2019-nCoV was closely related (with 88% identity) **to two bat-derived severe acute respiratory syndrome (SARS)-like coronaviruses, bat-SL-CoVZC45 and bat-SL-CoVZXC21,** collected in 2018 in Zhoushan, eastern China, but were more distant from SARS-CoV (about 79%) and MERS-CoV

(about 50%). Phylogenetic analysis revealed that 2019-nCoV fell within the subgenus Sarbecovirus of the genus Betacoronavirus, **with a relatively long branch length to its closest relatives bat-SL-CoVZC45 and bat-SL-CoVZXC21**, and was genetically distinct from SARS-CoV.”

SP: And: **“Although our phylogenetic analysis suggests that bats might be the original host of this virus, an animal sold at the seafood market in Wuhan might represent an intermediate host facilitating the emergence of the virus in humans.** Importantly, structural analysis suggests that 2019-nCoV might be able to bind to the angiotensin-converting enzyme 2 receptor in humans. The future evolution, adaptation, and spread of this virus warrant urgent investigation.”

SP: And **“Currently available data suggest that 2019-nCoV infected the human population from a bat reservoir, although it remains unclear if a currently unknown animal species acted as an intermediate host between bats and humans.”**

DEFINITIONS:

bronchoalveolar lavage fluid — “a medical

procedure in which a bronchoscope is passed through the mouth or nose into the lungs. Fluid is then squirted into a small part of the lung and then recollected for analysis. Sputum is a combination of saliva and phlegm or mucus that is expelled from the upper respiratory tract.”

(<https://www.sciencedirect.com/topics/medicine-and-dentistry/bronchoalveolar-lavage-fluid>)

cultured isolates — See
<https://www.coursehero.com/study-guides/microbiology/isolation-culture-and-identification-of-viruses/>. Viruses require a living host cell for replication, which is unlike bacteria, which can be grown in an artificial nutrient medium. However, the host cell can be cultured and grown, and then the growth medium can be harvested as a source of virus.

Virions in the liquid medium can be separated from the host cell by centrifugation or filtration. Then the viruses can be collected when passed through a filter that removes anything larger than the virion. The article illustrates filtering out anything larger than 5 μm and filtering out anything larger than 200 nm — nanometers. This process is called ISOLATION.

Then comes the culturing: Cultivation of viruses.

Viruses can be grown *in vivo* (within a whole living organism, plant, or animal) or *in vitro* (outside a living organism in cells in an artificial environment, like a test tube, a flask made especially for cell culture, or agar plates). Bacteriophages can be grown in the presence of a dense layer of bacteria.

Another study:

<https://microbialinfo.com/isolation-techniques/>
Checked this link 7/14/22 and it's no longer accessible.

Here is an alternative:

<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/isolation-techniques>. I'll place this in the TECH section: TECH27.8.2_ Isolating Genomic DNA - Biology LibreTexts.pdf [https://bio.libretexts.org/Bookshelves/Genetics/Book%3A_Online_Open_Genetics_\(Nickle_and_Barrette-Ng\)/08%3A_Techniques_of_Molecular_Genetics/8.02%3A_Isolating_Genomic_DNA](https://bio.libretexts.org/Bookshelves/Genetics/Book%3A_Online_Open_Genetics_(Nickle_and_Barrette-Ng)/08%3A_Techniques_of_Molecular_Genetics/8.02%3A_Isolating_Genomic_DNA)

They must obtain a small sample of the virus, and introduce it into a new environment that allows the microbe to grow.

Almost any organic material can be used (feces, saliva, blood, etc.) to obtain the sample needed. It is introduced into the new environment (usually a

nutrient agar plate [?] or broth tube) and allowed to grow — what grows on the plate or in the broth is known as the CULTURE.

Cultures that only has one type of microbe from a known origin is called a pure culture, if there are two or more microbes present and identifiable, it is a mixed culture. If the culture contains unknown or unwanted microbes it is considered contaminated.

That's about as far as I can take this. **Essentially, a cultured isolate is a lab created culture taken from a sample of the virus — the thing that is important to me here is that a specimen of the virus seems to be required and we were told repeatedly that no such specimen could be found???** Which totally does not make any sense at all otherwise someone must explain why people sick with this disease cannot be a source for obtaining such a sample, say, from their blood, or other fluids or materials?

It's possible the recent exposure of evidence that this virus was lab created will answer these questions.

—> Back to **FN01.37.01.01.00** — the question of examining an actual sample of the virus:

They found: ten genome sequences of the virus obtained from nine patients. They noted these were “extremely similar, exhibiting more than 99.98% sequence identity.” This is important because the virus begins mutating almost immediately when entering a host, but this proximity of sequence pretty much tells you these are identical virus samples.

These sequences were found to be closely related (88% identity) to two bat-derived severe acute respiratory syndrome (SARS)-like coronaviruses, bat-SL-CoVZC454 and bat-SL-CoVZX21, which were collected in 2018 in Zhoushan, eastern China. However, these samples were MORE DISTANT FROM SARS-CoV (about 79%) and MERS-CoV (about 50%). They concluded the virus is genetically DISTINCT from SARS-CoV. Although it had a similar receptor-binding domain structure in spite of the variation of amino acids at some key residues.

This study pushes the BAT origination story, ingested by a human at some “market” and thereby becoming infected.

So this was Feb. 2020 when the Wuhan market theory was being pushed and it’s prepared by CCP influenced scientists.

—> Back to **FN01.37.01.00.00-**
<https://pubs.acs.org/doi/10.1021/acsnano.0c02618>

TA refers us to Footnote 3: “A novel, human-infecting coronavirus, 10,11 provisionally named 2019 novel coronavirus (2019-nCoV), was identified with use of next-generation sequencing.”

3. Zhu, N.; Zhang, D.; Wang, W.; Li, X.; Yang, B.; Song, J.; Zhao, X.; Huang, B.; Shi, W.; Lu, R.; Niu, P.; Zhan, F.; Ma, X.; Wang, D.; Xu, W.; Wu, G.; Gao, G. F.; Tan, W. A Novel Coronavirus from Patients with Pneumonia in China, 2019. *N. Engl. J. Med.* 2020, 382, 727– 733, DOI: 10.1056/NEJMoa2001017 [Crossref], [PubMed], [CAS], Google Scholar

FN01.37.01.02.00-
<https://www.nejm.org/doi/10.1056/NEJMoa2001017> PDF: FN01.37.02.00.00.A Novel Coronavirus from Patients with Pneumonia in China, 2019 _ NEJM

PC: Feb. 2020

CCP: Zhu, N.; Zhang, D.; Wang, W.; Li, X.; Yang, B.; Song, J.; Zhao, X.; Huang, B.; Shi, W.; Lu, R.; Niu, P.; Zhan, F.; Ma, X.; Wang, D.; Xu, W.; Wu, G.; Gao, G.

F.; Tan, W / **ORIGIN:** see **FUNDING:** CHINA; CCDC (Chinese CDC); Beijing Ditan Hospital; Wuhan Jinyintan Hospital; Hubei Province CDC; Chinese Academy of Sciences - ALL IN WUHAN; and Shandong First Medical U, and Academy of Medical Sciences, Jinan China. / **REF:** Gao; Su, Wong, Shi; Cui, Shi; Zhong, Zheng, Li; Wong, Liu, Liu, Y, Zhou, Bi, Gao; Liu, Li H, Zhao, Lu, Niu, Tan; Du; Tan, Zhao, Ma (6 of 17) / **FUNDING:** National Key Research and Development Program and the National Major Project for Control and Prevention of Infectious Disease: CHINA — Pushes the Wuhan meat market propaganda: “Four lower respiratory tract samples, including bronchoalveolar-lavage fluid, were collected from patients with pneumonia of unknown cause who were identified in Wuhan on December 21, 2019, or later and who had been present at the Huanan Seafood Market close to the time of their clinical presentation.”

RCT: No. But some scientific experimentation is involved to determine the cause of the disease described as pneumonia from an unknown source. See VIRAL DIAGNOSTIC METHODS under METHODS. A statement on their methodology includes an admission their research did not fulfill Koch’s postulates: “Although our study does not fulfill Koch’s postulates, our analyses provide evidence implicating

2019-nCoV in the Wuhan outbreak.” (Koch’s postulates: see TECH28.)

CONTENT:

IR: This article has nothing to do with masks or any intervention strategy. (Search: *mask, intervention, surgical, medical* in relation to masks, or PPE, or source control, etc. with results NULL.)

SP: (Propaganda science): They used four lower respiratory tract samples, including bronchoalveolar-lavage fluid (see above definition), collected from patients with pneumonia of unknown cause, identified in Wuhan on December 21, 2019 or later, AND WHO HAD BEEN PRESENT AT THE HUANAN SEAFOOD MARKET CLOSE TO THE TIME OF THEIR CLINICAL PRESENTATION.”

We now know that is a lie. The first to present were at the LAB in Wuhan.

INFO: The specimens were collected from patients in the Beijing hospitals —

Extracted nucleic acids from clinical samples, which included uninfected cultures that served as

negative controls, and performed with a “High Pure Viral Nucleic Acid Kit. These extracted nucleic acid samples were tested for viruses and bacteria by polymerase chain reaction (PCR). The samples were then analyzed for 22 pathogens (18 viruses and 4 bacteria). They employed unbiased, high-throughput sequencing ... to discover microbial sequences not identifiable by the means described above.”

INFO: Finally, a real time (RT) transcription PCR (RT-PCR) assay was used to detect viral RNA by targeting a consensus RdRp region of pan B-CoV — [I understand the PCR cannot differentiate between live or dead virus.]

They followed pretty much the same process as described in the earlier article, so let’s go to findings:

*** INFO/CCav: PARTICLE DESCRIPTION INCLUDING SIZE: They discovered the nCoV particles were generally spherical with some pleomorphism [?-means irregular shapes of the same organism—] (Figure-3).

“Diameter varied from about 60 to 140 nm.”
[Wow, this is troubling indeed. The consensus for particle size of SARS-2 is 125 nm, but this lab

found specimens as small as 60 nanometers.]

“Virus particles had quite DISTINCTIVE SPIKES, about 9-12 nanometers, and gave virions the appearance of a solar corona.” Take a 60 nm particle and add the spike (60+9=69 round to 70) to 140+12=152) and you have a range of 70-152, something very near the range I often see, 70-140; yet this is very close to the beginning of the pandemic and I have seen consensus develop around a size range of 40-140.

Other features confirmed the close proximity of this virus to those known in the Coronaviridae family.

“Two nearly full-length coronavirus sequences were obtained from bronchoalveolar-lavage fluid (BetaCoV/Wuhan/IVDC-HB-04/2020, BetaCoV/Wuhan/IVDC-HB-05/2020 ...).” According to this article, “complete genome sequences of the three novel coronaviruses were submitted to GISAID (BetaCoV/Wuhan/IVDC-HB-01/2019, accession ID: EPI_ISL_402119; BetaCoV/Wuhan/IVDC-HB-04/2020, accession ID: EPI_ISL_402120; BetaCoV/Wuhan/IVDC-HB-05/2019, accession ID: EPI_ISL_402121) and have a 86.9% nucleotide sequence identity to a previously published bat SARS-like CoV (bat-SL-CoVZC45,

MG772933.1) genome.”

They establish the distinction of CoV-2 from CoV.

Okay, let’s go to the last footnote referencing articles addressing the sequencing of the SARS-CoV-2 virus.

—> Back to **FN01.37.01.00.00-**

<https://pubs.acs.org/doi/10.1021/acsnano.0c02618#.pdf>:

<https://pubs.acs.org/doi/pdf/10.1021/acsnano.0c02618> Footnote 4. Wrapp, D.; Wang, N.; Goldsmith, J. A.; Hsieh, C.-L.; McLellan, J. S.; Corbett, K. S.; Abiona, O.; Graham, B. S. Cryo-Em Structure of the 2019-Ncov Spike in the Prefusion

Conformation. *Science* 2020, 367, 1260– 1263, DOI: 10.1126/science.abb2507 [Crossref], [PubMed], [CAS], Google Scholar

FN01.37.01.03.00-

<https://www.science.org/doi/10.1126/science.abb2507>. FN01.37.01.03.00.Cryo-EM structure of the 2019-nCoV spike in the prefusion conformation. *Science* SEQUENCING CoV-2.abb2507.pdf

PC: received Feb. 2020, published March 2020.

CCP: Wrapp; Wang; Ching (3 of 8) / **ORIGIN:** USA-TX Austin: U. of Texas, Dept. of Molecular Bioscience; MD Bethesda: Ntl. Institutes of Health, **NIAID**, Vaccine Research Center (3 authors affiliated with Fauci) / **REF:** Chan, Yuan, Kik, To, Chu, Yang, Xing, Liu, Yip, Poon, Tsoi, Lo, Chan, Poon M, Chan J, Cheng, Chen, Hui, Yuen Y; Huang, Wang, Zhao, Hu, Zhang, Fan, Xu, Gu, Cheng, Yu, Xia, Wei, Wu, Xie, Yin, Li, Liu, Xiao, Gao, Guo, Xie, Wang R, Jiang, Gao Q, Jin J, Wang B, Cao; Gui, Song, Zhou, Xu, Chen, Xiang, Wang; Wang; Wang W.; Shi, Kong; Xiong, Park, Dai; Yuan, Cao, Zhang, Ma, Qi, Wang, Lu, Wu, Yan, Shi, Zhang, Gao; Wang; Li, Sui, Wong; Chu; Chen, Lee; Wan, Shang, **BARIC R.**, Li; Zhou, Yang, Wang, Hu, Zhang, Zhang H., Si, Zhu, Li, Huang, Chen J., Chen Y., Luo. Guo, Jiang, Liu, Chen, Shen, Wang, Zheng, Zhao, Chen, Deng, Liu, Yan, Zhan, Wang, Xiao, Shi; Song, Gui, Wang, Xiang; Hwang, Liln, Sui; Preabakaran, Gan, Feng, Zhu, Choudhry, Xiao, Ji; Tian, Huang, Xia, Lu, Shi, Lu, Jiang, Yang, Wu, Ying; Huang; Hung (20 of 41) / **FUNDING:** NIAID — Fauci.

RCT: No. Search: *randomize, randomise, trial, clinical, cohort, intervention, study* with results NULL.

CONTENT:

IR: Not about masks or mask efficacy. Searched:

mask, surgical, medical, PPE, personal, protective, equipment, also particle, size, droplet with results NULL re reference to matters of our interest (namely, particle/droplet size in the range of 40-140 (or 70-152) nm and mask porosity of 300 nm). Also, no information is here provided re particle size, or droplets.

INFO: The 2019-nCoV makes “use of a densely glycosylated spike (S) protein to GAIN ENTRY INTO HOST CELLS.”

SP/CE: Okay, so it’s pretty interesting that the CCP doctors/scientists did all this work identifying the virus and sequencing the genome early on in the pandemic — but we were led to believe the genome was unavailable, something that never made any sense since there were at that time plenty of hosts available.

,> Back to FN01.37.01.00.00 —
<https://pubs.acs.org/doi/10.1021/acsnano.0c02618>
A Call for Physical Scientists and Engineers.

IR: Under GENERAL INFECTION PATHWAYS:

And right away we encounter the size issue: “The general infectious pathways ... all ... start from virion-

laden respiratory fluid DROPLETS (from <1 to 2000 μm in diameter) ...” Remember, 1 μm is 1000 nanometers, and when researchers place the lower limit they always chose the lowest number within the range, and so if the lower end of the range was, say, 0.5 μm , that would have been stipulated, meaning $\leq 1 \mu\text{m}$ ranges from 900-999 nm. The range here is way outside the concern zone of 60-140 nm (see <https://www.nejm.org/doi/10.1056/NEJMoa2001017> PDF: **FN01.37.02.00.00**. A Novel Coronavirus from Patients with Pneumonia in China, 2019 _ NEJM where they found SARS-CoV-2 virions as small as 60 nanometers).

IR: The sizes stipulated here are outside the range of our concern.

CE: contrary evidence, statements and findings that actually support the thesis of my book against the contrary thesis of those supporting mask use.

INFO: *** “These droplets immediately start to evaporate and to shrink.” Add *shrinkage* to language describing the problem with droplets.

An article supporting the statement that these droplets immediately start to evaporate and shrink:

Weber, T. P.; Stilianakis, N. I. Inactivation of Influenza A Viruses in the Environment and Modes of Transmission: A Critical Review. *J. Infect.* 2008, 57, 361– 373, DOI: 10.1016/j.jinf.2008.08.013 [Crossref], [PubMed], [CAS], Google Scholar article

FN01.37.04.00.00-

[https://www.journalofinfection.com/article/S0163-4453\(08\)00292-2/fulltext](https://www.journalofinfection.com/article/S0163-4453(08)00292-2/fulltext). PDF:

FN01.37.04.00.00.Inactivation of influenza A viruses in the environment and modes of transmission_ A critical review - Journal of Infection

PC: October 2008

CCP: Weber, Silianakis (Authors ?) / **ORIGIN:** Joint Research Centre, European Comission; Dept. of Biometry and Epidemiology, U Numberg / **REF:** Morawska; Tang, Li; WHO (2); Chan; Yu, Li, Wong, Tam, Chan, Lee; Zhang; Chan M, Chan W, Wong, Cheung, Kwong; Zhao, Husang, Zhang, Han; Cheng, Lai, Lim; Dai, Juang, Wu Y, Hsu; Yr, Diu; Chew, Ling; Nguyen, Saito, Ngiem, Nishikawa; Liu, Guan, He, Webby; Zhang; Wei; Aiello; Lau, Tsui, Lau M, Yang; Nishiura; Seto, Tsang, Yung, Ching, Ng, Ho; Lo, Tsang, Leung, Yeung, Wu, Lim; Hui; Tian (23 of 146) / **FUNDING:** nd (Within text:

dependency upon Hong Kong reported experience: The private and public control measures implemented during the 2003 SARS outbreak in Hong Kong ALSO REDUCED THE INCIDENCE OF OTHER RESPIRATORY ILLNESSES, SUCH AS RSV, PARAINFLUENZA AND INFLUENZA.” Footnote 142 — Nayak D.P.Hui K.H.W.Barman S. Assembly and budding of influenza virus. *Virus Res.* 2004; 106: 147-165 View in Article Scopus (168) PubMed Crossref Google Scholar

FN01.37.04.00.01-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7172797/>. PDF: FN01.37.04.00.01.Assembly and budding of influenza virus

PC: Dec. 2004

CCP: Wai Hui (1 of 3) / ORIGIN: USA-LA / REF: Chen; Cheng, Chen; Fuji, Goto, Yoshida, Kawaoka; Fugiyoshi, Sato; Wang; Nagata; Husain, Gupta; Jin; Zhang, Jin; Chen; Krug, Yuan; Lin; Liu; Liu, Ye; Sudo; Nakajima; Ono; Yuan, Krug; Sha, Luo; Wang; Wu; Yap; Yasuda, Nakada, Kato, Toyoda; Ye, Liu; Ye; Ye; Yuan; Zhang; Zhang; Zhao (28 of 183) / FUNDING: USPHS grants and NIH/NIAID — Fauci.

RCT: Not asserted. Search: *method, randomise,*

randomize, clinical, trial, cohort, intervention with results NULL. Statement of purpose and scope of this study: “This review deals with the processes involved in assembly and morphogenesis of influenza viruses including vRNP exit from the nucleus, sorting, and transport of sub viral components to the assembly site, interaction among the viral components as well as the process of bud formation, bud completion, and virus release.”

CONTENT:

IR: Unrelated to masks or mask efficacy. Particle size: “**Virus particles are usually spherical and approximately 100 nm in diameter** (Fujiyoshi et al., 1994).” Stipulated. (The only place in this study where particle size is mentioned, except “Factors affecting the fusion of the lipid bilayers and fission of the bud will affect the size and shape of the virus particles,” and other such statements which address what affects particle size and shape; e.g., “M1–M1 interaction facilitates the formation of an M1 protein patch and the exclusion of host proteins from the assembly and budding site. M1 was shown to be a determinant for morphological shape and size (filamentous versus spherical) of influenza particles (Bourmakina and Garcia-Sastre, 2003, Hughey et al., 1995, Liu et al.,

2002, Roberts et al., 1998),” etc.)

IR: Unrelated to query of this research: “This review deals with the processes involved in assembly and morphogenesis of influenza viruses including vRNP exit from the nucleus, sorting, and transport of sub viral components to the assembly site, interaction among the viral components as well as the process of bud formation, bud completion, and virus release.”

IR: And, apparently, IR: relative to the point to which this footnote was attached. It has nothing to do with the outbreak of SARS in Hong Kong and provides no information supporting the claim. Searched: *Hong Kong, SARS, outbreak* with results NULL.

—> Back to **FN01.37.04.00.00-**
[https://www.journalofinfection.com/article/S0163-4453\(08\)00292-2/fulltext](https://www.journalofinfection.com/article/S0163-4453(08)00292-2/fulltext)

RCT: No. OS: SRL / MM — “We systematically review available information on the environmental inactivation of influenza A viruses.”

CONTENT: Question: “Should, for example, the use of face masks be recommended during a pandemic, when a vaccine is not yet available, on the basis of

what we know or do not know about airborne or droplet transmission? Is airborne transmission perhaps only important indoors, but not outdoors, where virus removal by dilution, air circulation and also virus inactivation might be higher? How can airborne infections efficiently be controlled in health care settings?" 17, 18, 19, 20, 21

Footnotes referenced to address the questions laid out above are presented here and if needed they will be vetted:

Cole E.C. Cook C.E. Characterization of infectious aerosols in health care facilities: an aid to effective engineering controls and preventive strategies. *Am J Infect Control.* 1998; 26: 453-464 View in Article PubMed Abstract Full Text Full Text PDF Google Scholar

Salgado C. Farr B.M. Hall K.K. Hayden F.G. Influenza in the acute hospital setting. *Lancet Infect Dis.* 2002; 2: 145-155 View in Article Scopus (201) PubMed Abstract Full Text Full Text PDF Google Scholar Nicas M. Sun G. An integrated model of infection risk in a health-care environment. *Risk Anal.* 2006; 26: 1085-1095 View in Article Scopus (33) PubMed Crossref Google Scholar

Tang J.W. Li Y. Eames I. Chan P.K.S. Ridgway

G.L. Factors involved in the aerosol transmission of infection and control of ventilation in healthcare premises. *J Hosp Infect.* 2006; 64: 100-114 View in Article Scopus (101) PubMed Abstract Full Text Full Text PDF Google Scholar

Hall C.B. The spread of influenza and other respiratory viruses: complexities and conjectures. *Clin Infect Dis.* 2007; 45: 353-359 View in Article Scopus (26) PubMed Crossref Google Scholar INFO: *** Interest is in deactivation of the virus: "... on inanimate surfaces and in aerosols daily inactivation rates are in the order of $1-10^2$, on hands in the order of 10^3 ." **"Influenza can survive in aerosols for several hours, on hands for a few minutes."** The infectious dose from nasal expression of influenza A is several orders of magnitude LARGER than airborne infectious dose.

INFO: "Droplet transmission requires the infectious case to DIRECTLY SPRAY LARGE DROPLETS BY COUGHING OR SNEEZING ONTO CONJUNCTIVA OR MUCOUS MEMBRANES OF A SUSCEPTIBLE HOST."

"Droplet nuclei settle from the air slowly, are respirable and can thus transmit the virus directly into the alveolar region."

IR: Size of droplets outside criteria: At this time there was no “unique and generally agreed-upon classification of airborne droplets, for example, concerning the aerodynamic diameter d_a which defines the cut-off size between droplet nuclei and large droplets. ... When evaluating airborne transmission, a cut-off point of 5 μm is commonly chosen.”

CLAIM/SS: “Face masks obstruct all transmission pathways because they block both the source and the main entry pathways of respiratory viruses. Wearing simple face masks significantly reduced the risk of infection from SARS-CoV. [Source: 139 and 140]. [NOTE: The footnote numbers do not match the footnotes in the References section of this doc. 138 appears as “Bloomfield S.F., Aiello A.E., Cookson B., O’Boyle C., and Larson E. L. The effectiveness of hand hygiene ... “ which fits the context of the placement of this footnote. However, in the References section, Footnote No. 138 is Lau J.T., Tsui H, Lau M. Yang X, SARS Transmission, risk factors, and prevention in Hong Kong. Which does not coordinate with the placed of this reference in the text. In fact, this seems more akin to the statement made where footnote 140 is notated. No. 139, in text, is Lau JT, Tsui, etc. see above SARS Transmission, risk, ...etc. But in References, No.

139 is the Rapid awareness and transmission of severe acute respiratory syndrome in Hanoi French Hospital, Vietnam. See below: Footnote 139 and FN01.42.02.06.00. Then footnote No. 140 in text, is the Rapid Awareness, etc. article, but in the References it is the Seto, et al. Effectiveness of precautions against droplets and contact ... etc. article. VERY CONFUSING.

Footnote 139: Nishiura H.Kurasutji T.Quy T.Phi N.C.Van Ban V.Ha L.E.et al.Rapid awareness and transmission of severe acute respiratory syndrome in Hanoi French Hospital, Vietnam. Am J Trop Med Hyg. 2005; 73: 17-25 View in Article PubMed Google Scholar

Already vetted in these notes: see
FN01.42.02.06.00-
<https://pubmed.ncbi.nlm.nih.gov/16014825/>. PDF:
FN01.42.02.06.01.Rapid awareness and transmission of severe acute respiratory syndrome in Hanoi French Hospital, Vietnam - PubMed
Rated by ECDC as LOW to MODERATE confidence:
see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>. (IR: Search: *particle size, particle, aerosol, micro (only Microsoft), nano* with results NULL.)

Footnote 140: Seto W.H.Tsang D.Yung R.W.Ching T.Y.Ng T.K.Ho M.et al.Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome. Lancet. 2003; 361: 1519-1520View in Article Scopus (369) PubMed Abstract Full Text Full Text PDF Google Scholar

Already vetted in these notes: see

FN01.42.02.07.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7112437/?report=reader>. PDF:

FN01.42.02.07.00.Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome (SARS) **Rated by ECDC as LOW to MODERATE**

confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Footnote 138: Lau J.T.Tsui H.Lau M.Yang X. SARS transmission, risk factors, and prevention in Hong Kong. Emerg Infect Dis. 2004; 10: 587-592

FN01.37.04.01.00-

https://wwwnc.cdc.gov/eid/article/10/4/03-0628_article. PDF: FN01.37.04.01.00.SARS
Transmission, Risk Factors, and Prevention in Hong Kong - Volume 10, Number 4—April 2004 - Emerging Infectious Diseases journal - CDC

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: April 2004

CCP: Lau, Tsui, Yang: Author affiliations: “Chinese University of Hong Kong, Hong Kong, China. / ORIGIN: Chinese University of Hong Kong, China. / REF: WHO, Lee, Hui, Wu, Chan; Govt. health institutions; Lau, Yang, Tsui, Kim; Hong Kong Dept. Health; etc.; Lau, Lau M, Kim, Wong E, Tsui, Tsang (9 of 9) / FUNDING: nd

RCT: No. OS: Observational study dependent. Findings dependent upon the observation that Hong Kong had a high participation in prevention behaviors, like masks, social distancing, hand hygiene, disinfection of living quarters, and so on. (>90% adherence). [Of course, they have no way to establish

this percentage, it's an estimate, and this is not a serious scientific study.]

CONTENT:

AME: assumed mask efficiency based on OS, no scientific study presented to determine mask efficiency — here is one reference supporting assertion: Footnote 6. Hong Kong Department of Health. Wearing mask. [cited 2003 July 14]; Available from: <http://www.info.gov.hk/dh/diseases/ap/eng/facemask.htm> External Link THE LINK IS BROKEN; I'll try the title: Found it:

FN01.37.04.02.00-

<https://www.info.gov.hk/info/sars/en/facemask.htm>.
PDF: FN01.37.04.02.00.Department of Health - Wearing Mask

PC: No Date.

CCP No authors named / **ORIGIN:** Department of Health, China / **REF:** No citations / **FUNDING:** Dept. of Health, CHINA

RCT: No. This is a statement re masks from Chinese Dept. of health.

CONTENT:

SS: “Severe Acute Respiratory Syndrome (SARS) can be transmitted by respiratory droplets over a short distance of through direct contact with a patient’s secretions.” Stipulated. But it has no bearing upon the issue of masks when all the science is taken into consideration. No support for the statement is offered, ergo, the SS rating of this comment.

SS: “Wearing a mask offers protection against SARS.” No evidence is offered for this outrageous claim.

IR/AME: Since the doc does not address the science for mask efficacy. It offers protocols for getting the most out of mask wearing but no where addresses any of the questions raised about masks. —> Back to

FN01.37.04.01.00-

https://wwwnc.cdc.gov/eid/article/10/4/03-0628_article

SP: in this case, great swelling words obviously meant to impress with a sense that this study is very intelligent and *scientific*: “When all the variables that were significant in the univariate analysis were used as input for the multivariate stepwise conditional

logistic regression analysis...” Really?

CCav: Now, this is weird: “Evidence does not indicate that frequent visits to crowded places were associated with a higher likelihood of community-acquired infection.” Really? It’s a bit lost in translation, but I think TA is saying the contagion was relevant to mask wearing, not to proximity to others in community. It concluded that public life did NOT NEED TO HAVE BEEN IMPACTED AS IT WAS. This is the SARS-CoV outbreak in 2003.

SP: “We now have some empirical evidence to suggest that wearing a face-mask frequently in public places, frequent hand washing, and disinfecting one’s living quarter were effective public health measures to reduce the risk for transmission ...” The *empirical* evidence is observational based and not *scientific*.

CCav: “The effectiveness of mask use was controversial” with a reference to (6) — the same document referenced above. However, that document does not address the controversy of mask use. ???

IR: Nothing in this article addresses any of the questions raised about the efficacy of mask wearing.

—> Back to **FN01.37.00.00.00** —
<https://www.mdpi.com/1996-1944/13/15/3363/htm#B8-materials-13-03363>.

IR/CCav: Curiously, this study does not recommend the standard surgical mask for blocking airborne virion particles whether droplets or aerosols — see Figure 4. For this level of protection, the study here recommends use of FFP3 respirator AND eye protection.

With regard to MATERIALS:

CCav: “The membranes used for filtering the submicron particles should also allow the person to breathe ...” [Yeah, I think that would be a good idea] “... and should not clog when the particles adhere to the surface of the masks.” Reference to 48 — Sutherland, K.; Chase, G. Section 2 - Filter Media. In *Filters and Filtration Handbook*, 5th ed.; Elsevier: Oxford, UK, 2008; pp. 41–95. [Google Scholar]

No link provided. Search title: This source is inaccessible except purchase and the cost is prohibitive. The whole book is priced lowest at 314.38 on eBay.

Continuing **FN01.37.00.00.00-**
<https://www.mdpi.com/1996-1944/13/15/3363/htm#>

Here is a section that talks about advances made in filtration face coverings that describe the mask I bought for \$25 and wore when allowed, which was not frequently — it talks of nanofibres and nanofibre webs, and a disinfection quality that uses ions of silver nanoparticles. This is the sort of mask I was using when the idiots were telling me I could not wear it because light could get through the mask, oh, and also AIR.

“Recently, several studies have been performed to improve the efficiency of the respirators and masks against ultra-fine particles such as viruses and other pathogens. These include employing modified filter materials such as nanofibres and nanofibre webs. Also, the virus disinfection capability can be improved by treating the filter surfaces with materials that possess antimicrobial properties. Use of silver nanoparticles (AgNPs) [75], copper oxide [76], iodine [77,78], titanium oxide (TiO₂) [79], etc, has already been reported in the past decades. With the rapid growth of nanotechnology, fabrication and development of nanomaterials have been improved significantly.

“The use of nanofibres in masks and respirators has increased widely since the last decade. Nano-sized fibres offer a very high surface area per unit mass that can improve the capture efficiency as well as other surface areas dependent phenomena such as ion exchange and catalysis [80]. They have small void size, low weight, improved permeability and good interconnectivity of voids [81]. Functionalising the nanofibres with chemicals and nucleating agents also helps in decomposing or deactivating the contaminants, which will reduce the risk of inhaling pathogens and viruses [82]. Electrospinning techniques are most commonly used for the fabrication of nano fibres [83]. Skaria et al. demonstrated that nanofibre filter incorporated surgical masks showed a decrease in air flow resistance and an improved filtration efficiency when compared to commercially available masks [84]. A recent study investigated the mask fit and usability of traditional N95 FFPR with the nanofibre N95 FFPR by analysing before and after nursing procedures [85]. It was concluded that the nanofibre FFR possessed a higher pass rate for the fit testing compared to 3M FFRs. It was also observed to possess a higher bacterial filtration efficiency than the commercially available version in the market. The nanofibre FFPR

consisted of partially gelled submicron and nanofibres of PP, and a hydrophilic biocide layer that could effectively inactivate pathogens [86]. It was found that nanofibre FFPR demonstrated significantly better air permeability and higher antibacterial activities than normal N95 respirators and surgical masks.” ...

“Numerous studies have shown the use of silver ions and several silver-based compounds in developing antimicrobial coatings that are known to be highly effective against microorganisms. Although the precise mechanism of deactivation is unknown, most theories state that the positively charged silver ions disrupt the bacterial cell wall and membrane, resulting in an impaired metabolic pathway leading to the death of the cells [97,98].”

ALL CITATIONS STIPULATED.

NOTE: *** The problem here is that Fauci and friends will not recommend these because they are way too expensive. That’s how much they actually care about your health.

NOTE: *** However, even these masks will not offer full protection at droplet/particles sizes that get into 60-100 nanometers, and the range for the COVID

virus particle is 60-140, with a mean size of 125. Not sure how that mean size comes out of that range but I do not have time to work that out. Also, these masks need to be regularly sterilized, and easily transmit secondary infection when handled — plus, when the inactivating agency of the mask is weak or depleted, virions are launched into the atmosphere when exhaling, and the very small ones are drawn into the hosts lungs.

Particle size: CLAIM: “Cotton quilt with highly tangled fibrous nature provides the best filtration efficiency in the small particle size range.” But what is small particle size to this TA?

“A study on the reuse of three different types of masks, N95, Gauze and Spunlace, that had a most penetrating particle size (MPS) of 118, 461 and 279 nm had penetration rates of 2.6%, 23.2% and 70.0%, respectively [116].” Citation stipulated.

CCav: Notice TA names three masks, the N95, the Gauze, and the Spunlace. The MOST PENETRATING particle size range is given as 118, 461, 279 nm (nanometers). We must assume the order of sizes follows the order of masks named, so the N95’s most penetrating particle size was 118, for the Gauze mask,

a not surprisingly high 461 and the Spunlace [?] 279. (NOTE: The SpunLace is a nonwoven fabric mask developed and manufactured in China: <https://www.hs-spunlace.com/showlist/spunlace-nonwoven-fabric-mask.html>)

This means that particles in the 118 range pass through the N95 easily, that is, it's the MOST PENETRATING SIZE. That's not real good news for the maskers since the particle size of the SARS-CoV-2 virus is from 40-140 nm. The usual size is in the 125 nm range and so while some virus will escape capture, most of the particles can be expected to be captured by the mask.

This means the Gauze mask is totally worthless allowing particles that are 461 nm in diameter to pass through uncaptured, meaning the SARS-CoV-2 virus blows through these masks easily.

The highly touted SpunLace masks boasts efficacy at twice that of the Gauze mask — but the most penetrating size for this mask is 279 nm — almost double the outside size of the SARS-2 virions — 40-140 nm, and more that twice the size of the usual size of that virion: 125 nm.

“[1] When a surgical mask was examined as an alternative to N95 masks during the SARS pandemic, it was found that surgical masks did not sufficiently filter “submicron-sized” particles [120]. Indicating they would not sufficiently filter the virus due to its size, [2] however, they noted that surgical masks are not designed to protect the wearer from the virus but to protect the individuals around them if they have the virus. [3] As surgical mask void spaces are designed to prevent particles of above 100 μ m [sic-surely TA meant mm] in diameter, their use for filtering of COVID-19 that can be up to 140 nm in diameter can be seen as negligible [121]. [4] They have been found to be beneficial in reducing coronavirus transmission from “large respiratory droplets and in aerosols” [13].” I will stipulate to all the citations, except Footnote 13.

[1] CCav: Admission the surgical mask, the one Fauci et al. recommend, do “not sufficiently filter ‘submicron-sized’ particles.” Stipulated in this study to be particles in the size range that includes the SARS-2 virions.

[2] CE: Even in the *However* effort to reclaim some efficacy for surgical masks for community use, we find a CCav. If the surgical mask cannot protect the wearer,

how can it protect those in proximity to the wearer? The answer is, the surgical masks blocks “large respiratory droplets.” The problem with that theory is that it does not take into consideration desiccation, something discussed repeatedly in these notes. Evaporation begins immediately, and in a very short time, the “large droplet” become aerosolized. Usually, this will occur very quickly after the larger droplet lands on the inside surface of the wearer’s mask. But the theory does not take into consideration the large numbers of smaller droplets that escape capture even at the source. Finally, the principles of aerodynamics are such that when the large droplet hits the fabric, it immediately reacts to the force of attack by diminishing its size and surface tension begins quickly to disappear. Exhaling passes air over the droplet, quickening desiccation, and depending on humidity, and etc, within seconds, sometimes less, the virion is launched into the atmosphere or drawn back deeply into the lungs of the wearer. The mask thing just does not work.

[3] CCav: The surgical masks are designed to capture particles of above 100 m in diameter — this was certainly a typo and TA meant mm, or micrometer, or μm , I mean, imagine a droplet 100 m, or three hundred + feet in diameter — but 100 μm is 100,000

nm, so, well, you see the problem, acknowledged by TA: “their use for filtering of COVID-19 that can be up to 140 nm in diameter can be seen as negligible.”

[4] SP: “They have been found to be beneficial in reducing coronavirus transmission from “large respiratory droplets and in aerosols.” The statement is specious since while it’s true surgical masks block large respiratory droplets, it has NOT BEEN PROVED THEY REDUCE TRANSMISSION. I’ve spoken to this rhetorical trick often, reprise: the studies claiming to show transmission reduction are not RCTs that examine the efficacy of mask material or use that blocks virions adequately to provide protection against infection, or transmission. They are typically a variety of species of RCT that depend finally on OS compromised by a myriad of confounders, or just straight-up observational studies that are renown for

Footnote 13 is given in support of this claim: Leung, N.H.L.; Chu, D.K.W.; Shiu, E.Y.C.; Chan, K.-H.; McDevitt, J.J.; Hau, B.J.P.; Yen, H.-L.; Li, Y.; Ip, D.K.M.; Peiris, J.S.M.; et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat. Med.* 2020, 26, 676–680.
[CrossRef]

Already vetted in these notes: see

******FN01.28.03.00.00-**

<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00. Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine ****indicates an article that I found addresses the question of mask efficacy in a straightforward manner, but fails to provide evidence meeting the criteria of this research.

Continuing **FN01.37.00.00.00-**

<https://www.mdpi.com/1996-1944/13/15/3363/htm#>

NOTE: Ways to improve mask efficacy:

Graphene oxide has been suggested: but not as a coating for masks, rather as a surfactant.

Electrostatic filtration is promising, but comes with much of the same baggage as explained above.

And FIT is always a major issue of concern.

**** This is by far the most comprehensive study offered on the efficacy of masks. **It clearly shows the typical surgical mask is inadequate, and the masks that can provide real filtration are 1. too expensive**

for anything like general distribution, and 2. nevertheless inadequate at the lower range of small particles (60-100 nm), and 3, then there is the big question of whether it isn't better, after all, to let nature take its course and depend on natural immunity and filtration to do its job.

*** This is not even talked of without exciting great ire — but the fact is, sunshine, open air and wind, especially with a breeze, are the best dilution agents, and natural immunity the best vaccine protection available. But that doesn't make Big Pharma rich, or enable them to make all the health professionals rich.

FN01.38.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7882453/>. PDF: FN01.38.00.00.00.RMHP_A_298687511..517.pdf And for PDF copy of text, see FN01.38.00.00.01.Universal Use of Face Masks and Related Challenges During COVID-19 in Developing Countries (Should be identical content, but just in case it comes up later there is some difference, I copy them both here.

TITLE: Universal Use of Face Masks and Related Challenges During COVID-19 in Developing Countries

PC: Feb. 10. 2021

CCP: Gudina Terefe Tucho, Diribe Makonene Kumsa / **ORIGIN:** Ethiopia and the Jimma University. / **REF:** Sinhai; WHO (4); Bill Gates; Chin, Chu; Zou; Huang, Ruan; Bai, Yao, Wei; Liang, Gao, Cheng; Wang, Gwee, Chua, Pang; Huang, Li; Chu, Akl, Duda; Li, Leung; Feng, Shen, Xia Song, Fan, Cowling; Chughtai, Seal, MacIntyre; Ou, Pei, Chan, Pui; Meng; Leung, Lam, Cheng (19 of 38) / **FUNDING:** nd

RCT: No. Search: randomise, randomize, cohort, clinical, intervention, study with results NULL.
METHODS: RL — “The study was synthesized using a narrative literature review approach involving COVID-19 databases, published literature on COVID-19, and relevant news.”

CONTENT: Statement of purpose: This study aims to review and present the advantage and challenges of imposing universal use of face masks in the community and to forward possible recommendations.” Because social distancing was considered too disruptive of life in Ethiopia, the leaders recommended masks wearing to compensate.

SS/NC: “Universal use of face masks CAN

contribute to the containment of the virus in the community IF ADEQUATELY AVAILABLE AND PROPERLY USED AND MANAGED AFTER USE.”

AME: Throughout the article no effort is made to establish mask efficacy beyond passing us off to some references, which I’ll look at in a moment. But the point is, this is not an original study that attempts to establish mask efficacy, it makes all of its assertions from the assumption that masks work. (No mention of *particle, droplet,*

SS: “Studies show that use of face masks by healthcare workers and by the general population CAN reduce the risk of respiratory virus infection by 80% ALTHOUGH ITS PROTECTIVE EFFECTIVENESS VARIES BETWEEN DIFFERENT AREAS. [18].” How can that be? There is something researchers should desire to enquire into — we are talking about healthcare settings in different parts of the city, county, state, nation, world??? And they have a different efficacy depending on where they are used???

Okay, let’s look at footnote 18: Liang M, Gao L, Cheng C, et al. Efficacy of face mask in preventing respiratory virus transmission: a systematic review and meta-analysis. *Travel Med Infect Dis.*

2020;36:101751. doi:
10.1016/j.tmaid.2020.101751 [PMC free
article] [PubMed] [CrossRef] [Google Scholar]

FN01.38.00.01.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7253999/pdf/main.pdf> PDF: FN01.38.00.01.00.Efficacy of face mask in preventing respiratory virus transmission

PC: 2020

CCP: Liang, Gao, Cheng, Zhou, Uy, Heinger, Sun (6 pf 7) / **ORIGIN:** USA-CA, IL, MN, NC; China-Anhui; Germany, Hamburg / **REF:** WHO; Lee; Xiao, Shiu, Gao, Wong, Fong, Ryu; Jefferson; Wu, Xu, ZXhou, Lin, He; Loeb; Ma, Wang, Fang, Jiang, Wei, Liu; Yin, Gao, Lin, Du, Zhang, Zou; Nishiura, Kuratsuji, Quy, PHi, Dang; Cowling, Fung, Cheng, Fang, Chan, Seto; Cowling, Chan, Fang, Cheng, Fung Wai; Cheng, Tai, Wong, Han, Li'; MacIntyre, Wang, Seale, Dwyer, Yang; Aiello, Davis, Uddin; Zhang, Seale, Yang, MacIntyre, Tang; Chokephaibulkit, Assanasen, Apisarntharak, Rongrungruang, Kachintorn, Tuntiwattanapibul; Zhang, Peng, Ou, Zeng, Liu; Sung AD., Sung JA., Zhang; Wang, Pan, Cheng; Guo, Wang, Zhang, Li X., Li L., Li C.; Leung, Chu, Shiu, Chan; Liu, Ning, Cjhen, Guo, Liu;

Cheng, Wong, Chuang, So, Chen; Yen; Wang, Hu B., Hu C., Zhu, Liu, Zhang; US CDC; Iboi, Phan, Kuang; Ntl. Health Commission of the PRC (2); Chan, Yuan, Kok, To, Chu, Yang; Huang, Xia, Chen, Shan, Wu; Offeddu, Yung, Low, Tam; Suntarattiwong; Hui, Cheong, Wong, Wang; Chan, Poon, Cheng, Guan, Hung, Kong (35 of 57) / **FUNDING:** “This work was not supported by any funding.”

RCT: No. SRL: systematic review of literature. This is not a study or a trial.

CONTENT:

SS: “Facemasks are recommended for disease transmitted through DROPLETS and respirators for respiratory aerosols, yet recommendations and terminology vary between guidelines.”

CCav: “Therefore, the use of masks as appropriate personal protective equipment (PPE) is often considered when preventing the spread of respiratory infections. Experimental data shows that the micropores of mask block dust particles or pathogens that are larger than the size of micropores [3].” **This statement admits masks with pore sizes larger than the particles/droplets they are used to block**

are useless.

CCav: this study admits that masks are not effective to block aerosols, which means they are ineffective to protect against COVID: “Facemasks are recommended for diseases transmitted through droplets and respirators for respiratory aerosols, yet recommendations and terminology vary between guidelines.”

INFO: Virus can remain viable and infectious in aerosol for fours: “And new evidence suggests severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can remain viable and infectious in aerosols for hours [2].”

CS: “Surgical masks are able to reduce influenza virus RNA in respiratory droplets and coronavirus RNA in aerosols [38].” Earlier, TA admitted masks (I assume they meant surgical/medical, etc.) were effective for droplets while respirators are recommended for aerosols. Specifically, TA declared “micropores of mask[s] block ... pathogens THAT ARE LARGER THAN THE SIZE OF [THE] MICROPORES.” See “CCav: this study admits...” but now TA says The SARSCoV- 2 aerosol, mainly appearing in submicron region (dp between 0.25 and 1.0 μm) and supermicron

region ($dp > 2.5 \mu\text{m}$) [39], can be effectively filtered out from the inhaled air by either surgical masks or N95 masks [3,40].” Notice TA stipulates the size range of submicron to be dp (particle diameter) between 0.25 and 1.0 μm . That’s 250-1000 nm. The SARS-CoV-2 virion is between 40-140 nm. TA offers footnote 39 to support the claim: surgical masks can filter submicron droplets between 0.25 and 1.0 μm . See Liu Y, Ning Z, Chen Y, Guo M, Liu YL, Gail NK, et al. Aerodynamic analysis of SARSCoV-2 in two Wuhan hospitals. Nature 2020. <https://doi.org/10.1038/s41586-020-2271-3>. <https://www.nature.com/articles/s41586-020-2271-3>. There is no need to vet this article since the size range stipulated by TA is outside the region of our interest.

That’s enough to disqualify this study for our immediate purpose.

—> BACK to **FN01.38.00.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7882453/>

CS: Odd, is it not! The statement of fact asserted was as follows: “Studies show that use of face masks by healthcare workers and by the general population CAN reduce the risk of respiratory virus infection by

80% ALTHOUGH ITS PROTECTIVE EFFECTIVENESS VARIES BETWEEN DIFFERENT AREAS. [18].”

All duly referenced with a neat little footnote. Not three minutes into reading the article we have a contradictory statement, informing us that while masks are recommended for DROPLETS, respirators are recommended for aerosols. Then later, another CE/CCav: TA asserts surgical masks block aerosols in the submicron sizes, and stipulates these as being 250-1000 nm, and stated unequivocally that pore size determines blocking efficacy — but the micropore size of the standard surgical mask is 300 nm, which means even from TA’s calculation, all submicron particles from 250-299ish will escape capture, and yet, with all that, the submicron region of interest to us is 40-140 nm, on the high end close to half the size of the smallest particle/droplet TA says surgical masks will block. [I am aware the idea is that if the masks block any droplets or particles that is at least a measure of protection — but the truth is, 1. the number of particles escaping capture are far greater than the number captured; 2. the droplets that are capture soon desiccate and release the virions into aerosol; and 3. those escaping capture are virulent and can cause infection. It’s an analogy I’ve used often: a hundred thousand bullets are targeting your head, and

you neutralize 80% — that. means you have 20,000 bullets landing on target. How many bullets does it take to take you out?]

CLAIM: Another statement informs us another literature review results in “varying effectiveness surgical masks against acute respiratory infection but larger reduction was observed among consistent users.” [Wang MX, Gwee SXW, Chua PEY, Pang J. Effectiveness of surgical face masks in reducing acute respiratory infections in non-healthcare settings: a systematic review and meta-analysis. *Front Med.* 2020;7:582. doi: 10.3389/fmed.2020.564280 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]]

FN01.38.00.02.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7546829/>. PDF: FN01.38.00.02.00.Effectiveness of Surgical Face Masks in Reducing Acute Respiratory Infections in Non-Healthcare Settings_ A Systematic Review and Meta-Analysis - PMC

PC: Sep. 2020

CCP: Xian, Wang,Xiao, Yong Chua, Junxiong /

ORIGIN: Singapore, Australia, Sweden (Sweden ECDC) /
REF: Chani; Khan, Liu, Bai; WHO (3); ECDC; Huang,
Zhang, Wei, Zhang L, Xu; Yu, Yang; Cowling; Leung,
Chu, Shiu, Chan K; Johnson; Birch (multiples); Cowling,
Zhou, Leung, Aiello (multiples); Jefferson; Hidaka,
Takeuchi; Zhang L, Peng, Ou, Zeng, Liu; Xiao, Shiu, Gao,
Wong, Fong, Ryu; van der Sande; Ibrahim; Mohamad,
Abdullah; Hui, Chan, Wu, Ng; Lee; Bae, Kim, Cha, Lim,
Jung; Cheng, Lam, Leung; Cowling, Chan, Fang, Cheng,
Fung, Wai; Chu, Akl, Duda, Solo; US FDA (27 of 63) /
FUNDING: Ministry of Defense [? — Would that be the
Ministry of Defense for Singapore, Australia or
Sweden?] I suspect it would be Singapore.

RCT: No. SRL: not a study, a review of literature.

CONTENT: CLAIM: Another statement informs us
another literature review results in “varying
effectiveness surgical masks against acute respiratory
infection but larger reduction was observed among
consistent users.”

SS/CCav: “Surgical mask (SM) wearing has been
shown to be effective in reducing ARI among
healthcare workers. HOWEVER, THE EFFECTIVENESS
OF SM IN REDUCING ARI IN THE NON-HEALTHCARE
SETTINGS REMAINS UNCLEAR.”

OS: “This review aims to summarize and assess the association between SM wearing and ARI incidence, from existing **interventional and observational** studies conducted in non-healthcare settings.”

CCav: “A modest but **non-significant protective effect** of SM on ARI incidence was observed Subgroup analysis according to age group, outcome ascertainment and different non-healthcare settings also revealed **NO SIGNIFICANT ASSOCIATIONS BETWEEN SM USE AND ARI INCIDENCE.**”

CCav: “**CONCLUSION:** Surgical mask wearing among individuals in non-healthcare settings is not significantly associated with reduction in ARI incidence in this meta-review.”

There is no need to look further at this article.

It actually goes into evidence **AGAINST WEARING MASKS.**

—> Back to **FN01.38.00.00.01-**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7882453/#_ffn_sectitle “Universal Use of Face Masks ...”

This study has two major strikes against it. It is the second time I find a STATEMENT or an ASSERTION from the researchers that is literally CONTRADICTED by the study they reference. That is if you assume the statement was intended to be received as suggesting support for the thesis of the article: “Another literature review study involving a total of 23,892 participants across 15 studies from 11 countries shows a varying effectiveness surgical masks against acute respiratory infection but larger reduction was observed among consistent users.”

Yes, I think the general reader was expected to take the **FN01.38.00.02.00** study as supportive of their claim; yet you don't have to even read deep into the article referenced to see that the article they referenced actually contradicts their thesis. In other words, it's a matter of dishonest omission — an honest researcher would consider it pertinent that the article they cited comes to a conclusion opposite their own, perhaps at least note that, and then extract from the article the specific information of interest.

Wait a minute: what is the author saying here — “The effectiveness of face masks against COVID-19 was PROVEN without significant protective effect of N95

respirator and surgical masks.”

???? — That sentence does not even make sense.

Was the face mask proven effective in spite of the fact there was “not significant protective effect of N95 respirator and surgical masks.” Is there a typo here and the sentence should read: “There was no significant protective ...” and does that leave us with a declaration that the N95 provided no significant protective effect...” etc. ???

Okay, let’s look at the studies cited for this absurd statement and if it does not offer real support for the thesis of this paper, I’m done.

The first, footnote no. 21 is Howard J, Huang A, Li Z, et al. Face masks against COVID-19: an evidence review. 2020. [[Ref list](#)]

FN01.38.00.03.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/> (Landing Page:

<https://pubmed.ncbi.nlm.nih.gov/33431650/>. PDF: FN01.38.00.03.00.An evidence review of face masks against COVID-19 - PMC

Already vetted in these notes: see

FN01.02.00.00.00-

<https://www.pnas.org/doi/10.1073/pnas.2014564118>
PDF: FN01.02.00.00.00.An evidence review of face masks against COVID-19 _ PNAS

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/> (Full Text)

Next, TA takes us to “a systematic review sponsored by the World Health Organization, Chu et al. (11).”

Chu D. K., et al., Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: A systematic review and meta-analysis. *Lancet* **395**, P1973–P1987 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Let’s look at this study testing the statement:
CLAIM: “They found that ‘face mask use could result in a large reduction in risk of infection.’”

[NOTE: I’ve discovered an anomaly in the notation that would require far too much time and effort to correct.

These articles notated as FN01.38.00.04.00-FN01.38.00.22.00 are all running down footnotes found in FN01.38.00.03.00 and should have been included in those that are notated as FN01.38.00.03.##a-z. Apparently, I moved to the notation system that connects articles to their root source, or the article where the article was originally referenced, or cited. This will not create a problem re vetting, and the information collected will be attached to the correct PEF in my archives, but this note is provided to hopefully avert any confusion for someone using these notes. If this becomes a resource of any significant reference, I'll come back and address this later.]

FN01.38.00.04.00 —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/>. PDF: FN01.38.00.04.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - PMC

Already vetted in these notes: See

FN01.06.00.00.00-

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31142-9/fulltext#%20](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext#%20). PDF: FN01.06.00.00.00.Physical distancing, face masks, and

eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - The Lancet.pdf

—> Back to **FN01.38.00.03.00-**
<https://pubmed.ncbi.nlm.nih.gov/33431650/>

CCav: This article actually compromises the proof study referenced to support the test statement: “Face mask use COULD result in large reduction in risk of infection”: “However, the review included only three studies of mask use outside health care settings, all of which were SARS, not of SARS-CoV-2, one of which was INCORRECTLY CATEGORIZED (it occurred in a hospital, but during family and friend visits), and one of which FOUND THAT **NONE OF THE HOUSEHOLDS WEARING MASKS HAD ANY INFECTIONS, but was UNDERPOWERED TO DRAW ANY CONCLUSIONS.**”

Next TA direct us to another study: Tuan P., et al., SARS transmission in Vietnam outside of the health-care setting. *Epidemiol. Infect.* **135**, 392–401 (2007). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] Let’s take a look.

FN01.38.00.05.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC287>

0589/ FN01.38.00.05.00.SARS transmission in Vietnam outside of the health-care setting - PMC

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: April 2007

CCP: Tuan, Dinh, Mai, Huy, also Shah (5 of 11) / **ORIGIN:** WHO SARS investigation team in Vietnam; Hanoi Vietnam, Australia, also UK and US-GA (CDC). French Hospital, Hanoi, VN, Curtin U. of Tech, Australia/ **REF:** Vu; Lee; Xie; Leung; Lau; Goh; Chan; Woo; Wang; Woo; Gao; Yu; Chan; Chu; Yu; Li; Lee; Chang; Ho; Li; Ip; Yu; Chan; Chen; Nie; Chen (26 of 41) Anon (4) / **FUNDING:** Statement: “Financial support was provided by WHO and the authors’ institutions.”

RCT: No. Styled a “retrospective study” comprised of multiple groups and test was evaluated with lab-confirmed SARS cases.

CONTENT:

INFO: Sars(1) — “No evidence of transmission of infection before symptom onset.”

OS: Vietnam experienced a relatively small SARS outbreak. Perhaps that is owing to their widespread use of Ivermectin for a common problem with malaria.

FN01.38.00.05.01.Ivermectin susceptibility and sporontocidal effect in Greater Mekong Subregion Anopheles - PMC

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5501099/>. THIS presents the problem with dependence on OS (observational studies), you never really know for sure what intervention contributed to the results.

CCav: This shows in what way the study was considered underpowered: “these estimates are averages across large and heterogenous populations where actual history of exposure to SARS-CoV is unknown and data from specific settings are aggregated. THESE BROAD ESTIMATES NEED TO BE SUPPLEMENTED WITH DATA FROM SPECIFIC SETTINGS where exposure to SARS-CoV and behaviours associated with transmission are documented.

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC784>

8583/

CLAIM: “THE remaining study found the use of masks was strongly protective, with a risk reduction of 70% for those that always wore a mask when going out. [13].”

Okay, that’s the test claim. Let’s see.

Wu J., et al., Risk factors for SARS among persons without known contact with SARS patients, Beijing, China. *Emerg. Infect. Dis.* **10**, 210–216 (2004). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.06.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3322931/>. PDF: FN01.38.00.06.00.Risk Factors for SARS among Persons without Known Contact with SARS Patients, Beijing, China - PMC

Rated by ECDC as LOW to MODERATE confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Feb. 2004

CCP: Wu, Xu, Zhou, Chang, Xiong, Zhu, Liang, Chin (8 of 10) / **ORIGIN:** Beijing, China; US-GA CDC — “This is a publication of the US government.” / **REF:** WHO (2); Guan, Yam, Lim; Hsu, Lee, Lee L; Lingappa; Liang, Zhu, Guo, Liu, He, Zhou; Leung; Lin; Guan, Zheng, He, Liu, Zhuang, Cheung; Ng; CDC (11 of 16) / **FUNDING:** US govt. publication likely funded by NIH/NIAID or CDC,.

RCT: No. “We conducted a case-control study in Beijing that compared exposures of 94 unlinked, probable SARS patients with those of 281 community-based controls matched for age group and sex. Case-patients were more likely than controls to have chronic medical conditions or to have visited fever clinics ...” **THE USE OF MASKS WAS STRONGLY PROTECTIVE.**”

CONTENT:

SS: no “evidence” beyond the coincidence that one group presented fewer cases requiring medical attention is offered. As with the Vietnam study referenced above, **OTHER FACTORS** possibly contributing to this difference are not ruled out, or even considered.

SS: “Our finding that mask use lowered the risk for disease supports the community’s use of this strategy.” But the *finding* is not premised upon anything more than OS.

SP: This study did not even bother to verify cases, but depended on “Probable and suspected SARS cases.” So we are not even really certain the “results” indicated for SARS — some of the symptoms could indicate for other concerns related to bacterial infection, something we know masks show and efficacy to block.

OS: The data depended on telephone interviews with case-patients and the control group. There seems to have been no separation for hand-hygiene + masks and masks only. Apparently, only case-patients provided blood for testing???

CCav: over diagnosis occurred because they lowered the threshold for diagnosis, also there was suspicion transmission was occurring by means other than close contact with infected persons.

NOTE: This reads like so many CCP biased studies: if some observation tends to contradict consensus

adjustments are made to account for this and bring the study back into line with expectations. I see this all over the place in this article. Done!

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

CLAIM: One controlled trial of mask use for influenza control in the general community has been attempted. (Note, this is presented as a randomized controlled trial.) IT CLAIMS TO HAVE FOUND SUPPORT FOR MASKS HAVING PROTECTIVE EFFICACY IN EXCESS OF 80% AGAINST CLINICAL INFLUENZA-LIKE-ILLNESS — or ILI. The authors noted that they ‘found compliance to be low, but compliance is affected by perception of risk. In a pandemic, we would expect compliance to improve.’” “In compliant users, masks were highly effective at reducing transmission.”

Well, here is the test claim: “In compliant users, masks were highly effective in reducing transmission.” Footnote 14 is offered to support the claim.

Let’s take a look: [14] MacIntyre C. R., et al., The first randomized, controlled clinical trial of mask use

in households to prevent respiratory virus transmission. *Int. J. Infect. Dis.* **12**, e328 (2008). [[Google Scholar](#)] [[Ref list](#)]

NO LINK??? Search by title: Found:

FN01.38.00.07.00-

https://www.researchgate.net/publication/246311169_The_First_Randomized_Controlled_Clinical_Trial_of_Mask_Use_in_Households_to_Prevent_Respiratory_Virus_Transmission PDF:
FN01.38.00.07.00.The_First_Randomized_Controlled_Clinical_Trial_of_

PC: December 2008

CCP: MacIntyre, Dwyer, Seale, Fasher, Booy, Cheung, Ovdin, Browne (8 of 8) / **ORIGIN:** Sydney Australia. Not that MacIntyre appears with many CCP influenced studies. In fact, I have noted that there is not another more dedicated advocate for masks than MacIntyre. / **REF:** The excerpt available lists no references / **FUNDING:** nd Assumed author's institutions

RCT: Asserted. In title: "The First Randomized, Controlled Clinical Trial" — is revealing. It's not an

RCT, but a randomized controlled clinical trial. The researchers propose a “cluster randomized trial” by which they will compare “surgical masks, non-fit-tested P2 (respirator) masks with no masks.”

CONTENT:

OS/ACK: “Observational epidemiologic data suggest that transmission of viral respiratory infection was significantly reduced during the SARS epidemic with the use of face masks as well as other infection control measures. HOWEVER, THERE ARE NO PROSPECTIVE RANDOMISED CONTROL TRIALS ON FACE MASKS IN PREVENTION OF VIRAL RESPIRATORY INFECTIONS[.] AIMS: To determine the efficacy of surgical masks and P2 masks in households on the interruption of transmission of respiratory viruses.”

OKAY — at least we are looking at exactly what interests me in this research.

IR: Well, no, actually. Nothing in this study addresses the question of particle penetration, particle or droplet size, etc. etc. The claim for mask efficacy is premised upon observational science and with very loose criteria. It comes across as an effort on the part

of the US to patronize the countries that superstitiously believe masks are efficacious.

*** A good subtitle: Masks: From Science to Superstition.

SP: Further examination of this study shows that it is miscategorized as an RCT: “Families of children presenting to emergency department with influenza like illness (ILI) were randomised to one of the three groups and followed up for development of respiratory illness in other family members.” — This explains the odd phrasing in the title, “The First Randomized, Controlled Clinical Trial,” not a Randomized Controlled Trial. As pointed out elsewhere, I’ve noticed a movement away from straightforward RCTs to these hybrid constructions using elements of RCT, such as randomization, or control, but when examined it is clear the results evaluated are premised upon what amounts to an observational approach where it is impossible to factor in all the confounders. But, let’s give it a chance.

NOTE: They tested for a wide range of virus infection: influenza A and B, parainfluenza, RSV, picoronavirus, enterovirus, rhinovirus, adenovirus, coronaviruses human metapneumovirus. (Is a comma

or a coordinating conjunction, *and*, missing after coronavirus?)

OS: They recruited 286 adults who were exposed to respiratory infections in the Australian winters of 2006-2007. [By what means did they determine exposure?]

OS: 94 of these adults were randomized to surgical masks, 90 to P2 masks and 102 to the control group [no masks—without a means to insure no mask was worn].

NOTE: Compliance with mask use was LESS THAN 59%. Therefore they set aside those whose compliance was suboptimal, and considered the cases where mask use ranged in COMPLIANT. That means ~108 of the mask group was compared with 102 in the control group. It appears that no query was made whether any in the control group wore masks.

OS: Without stipulating, apparently, the mask group presented 80% fewer cases of influenza than the control group.

The control group included 102 people, and the masked group started at 184. The masked group was

cut to a little over half, or ~108 people, so, that's relatively close.

OS: Are these numbers the total number of family units, or total population; were some families larger than others, were there other factors active in some families not in others that might account for the difference in results.

OS: We do not know how many got sick in either group, only that the mask group had 80% fewer cases. Now, 80% fewer cases can mean of ten cases, 8 wore no mask and 2 wore masks. So you can see that knowing the total number of infected cases would be helpful.

OS: Also, there is no “proof” the difference was only or even predominantly owing to masks. Other factors were not considered. As pointed out above, if we are talking about family units and not individuals, an outbreak occurring in larger families could skew the results; this is also true if, on the other hand, we are talking about individuals, and assuming some families are larger than others, once again, an outbreak in a larger family would skew the results.

OS: Here is an example of the danger inherent in

superficial examination of facts: the fact that lemon juice IS used in the manufacture of invisible ink does not mean lemon juice spread over your face will make your face invisible — ask MacArthur Wheeler, the fellow who read about lemon juice being used in invisible ink and put it on his face trusting it would make him invisible and tried that instead of a mask when conducting a bank robbery, two robberies in fact — but in 1995, at least, lemon juice will not disappear your face.

SP: One thing that makes this study suspicious is that it is not touted as proof for mask efficacy. This is probably owing to the fact that it's a very weak study, as pointed out above. It's OS, to be sure, but results were very favorable for masks

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

Remember, TA of “An evidence review of face masks ...” dismiss RCTs as infeasible: “We should not be surprised to find that there is no RCT for the impact of masks on community transmission of any respiratory infection in a pandemic”

SP: This alone compromises their reference to an RCT (alleged, see above), and accounts for their CCav that it was not done during a pandemic, and without any enforcement of compliance, which apparently disqualifies the study as a proper RCT or as contributing anything important to our study. It's as if the researches are reaching — and so threw in this flawed study, which is really a sort of hybrid RCT/OS, or at the very least a very low quality RCT, to offer something that supports their general thesis from something resembling science.

CCav: “Overall, evidence from RCTs [which in the opening paragraph they dismissed???] and observational studies is informative, BUT NOT COMPELLING ON ITS OWN.”

Then TA point to studies they reference as providing evidence masks are efficacious, but say, **HOWEVER**

HOWEVER, WE DO NOT KNOW WHETHER THE RESULTS FROM INFLUENZA SARS WILL CORRESPOND FOR SARS-CoV-2, AND THE SINGLE OBSERVATIONAL STUDY OF SARS-CoV-2 MIGHT NOT BE REPLICATED IN OTHER COMMUNITIES.

Another bold claim: “Overall, masks were the best performing intervention across populations, settings and threats.” It offers a Cochrane review of lit study [15]. Let’s take a look.

Jefferson T., et al., Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database Syst. Rev. 7, CD006207 (2011). [PMC free article] [PubMed] [Google Scholar] [Ref list]

FN01.38.00.08.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>. PDF: FN01.38.00.08.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC

PC: July 2011

CCP: Jefferson (editor), Del Mar, Dooley, Ferroni, Al-Ansary, Bawazeer, Driel, Nair, Jones, Thorning, Conly, with the Cochrane Acute Respiratory Infections Group / **ORIGIN**: UK, Australia, Italy, Switzerland, Arabia, India, — mostly Australia, WHO in Geneva, Canada / **REF**: Aiello; Chen; Cowling (multiples-3); Foo; Lau; Leung; Llu; Loeb; MacIntyre; Mishiura; Ou; Pang; Seto; Wang; Wu; Yen; Yin; Yu (Unusual format,

this article includes reference to those articles “excluded from this review.”) (20 of 60) / **FUNDING:** UK Natinoal Institute for Health Research (NIHR) and National Health and Research Council of Australia; WHO supported the 2010 update.

RCT: No. SRL from Cochrane’s database. They included RCTs, cohorts, case-controls, before-after and time series studies.

CONTENT: CLAIM: “Surgical masks or N95 respirators were the most consistent and comprehensive supportive measures. N95 respirators were non-inferior to simple surgical masks but more expensive, uncomfortable and irritating to skin.”

NOTE: They identified 67 RCTs and OS with a **MIXED RISK OF BIAS:** “We included 67 studies including randomised controlled trials and observational studies with a mixed risk of bias.”

CCav: THE RISK OF BIAS FOR FIVE RCTs AND MOST CLUSTER-RCTs WAS HIGH: “The risk of bias for five RCTs and most cluster-RCTs was high. Observational studies were of mixed quality. Only case-control data were sufficiently homogeneous to allow meta-analysis.”

OS were of mixed quality. Only case-control data were sufficiently homogeneous to allow meta-analysis.

FINDING:

TEST CLAIM: “Surgical masks or N95 respirators were the most consistent and comprehensive supportive measures. N95 respirators were non-inferior to simple surgical masks but more expensive, uncomfortable and irritating to skin.”

SP: *** What a weird way to express: “N95 respirators were *non-inferior* to simple surgical masks ...” Friend, that is simply NOT the way any English speaking person would put this UNLESS they were attempting to obfuscate, or these are very poor writers. Apparently, these researchers did not want to say the obviously anti-consensus and easily identified faux-pau statement: surgical masks were equivalent in protection to the N95, and did not want to assert what is commonly known, which is that they are superior, nor acknowledge plainly that the surgical mask was *inferior* — and so elected to use this convoluted phrasing. IN MY VIEW, THAT BETRAYS INFLUENCE OF BIAS.

CCav: Consider TEST CLAIM (see above) in light of this: “A tiny study comparing the N95 respirator with paper surgical masks in volunteers found that **surgical masks, even when worn in multiple layers (up to five), filtered ambient particles poorly(Derrick 2005)**; this principle was confirmed in another small study of air filtration to prevent droplet spread (Somogyi 2004).” TA rated this study as having high probability of bias, but careful examination of their statement actually supports my own assessment of their findings. It IS important to remember this is not a study, but a review of studies already conducted. In other words, while it is certainly true this referenced study does not support the test claim, it is not necessarily the case that TA is claiming it did.

CCav: “Physical means might prevent the spread of virus by aerosols or large droplets from infected to susceptible people (such as by using masks and distancing measures) and by contact (such as by using handwashing, gloves and protective gowns). Such public health measures were widely adopted during the 'Spanish Flu' pandemic of 1918 to 1919 (Bootsma 2007).” In this case, the study is cited as supportive of TA’s claims.

AME: (To an extent considered by me extreme)
This study suggests that depending on single measures, such as vaccines or antivirals “may be insufficient to interrupt the spread of influenza.” It actually touted handwashing as being “effective in diminishing mortality due to respiratory disease” and references a linked study: 1 Luby SP, Agboatwalla M, Feikin DR, Painter J, Billhimer W, Altaf A, et al. Effect of handwashing on child health: a randomised controlled trial. *Lancet* 2005;366(9481):225-33.
[PubMed] [Google Scholar]

SP/IR: TA seems to be elevating handwashing above use of vaccines and antivirals. “There is increasing evidence (Jefferson 2005a; Jefferson 2005b; Jefferson 2005c; Jefferson 2006a; Thomas 2010) that single measures (such as the use of vaccines or antivirals) may be insufficient to interrupt the spread of influenza. However, a recent trial showed that handwashing may be effective in diminishing mortality due to respiratory disease (Luby 2005).” Of course, this also is IR since it doesn’t address masks.

IR: This doc does not address the question of particle or droplet size beyond the general description

of large or aerosol: “Physical means might prevent the spread of virus by aerosols or large droplets from infected to susceptible people (such as by using masks and distancing measures) and by contact (such as by using handwashing, gloves and protective gowns). Such public health measures were widely adopted during the 'Spanish Flu' pandemic of 1918 to 1919 (Bootsma 2007).”

NC: “Physical means MIGHT prevent the spread of virus by aerosols or large droplets from infected to susceptible people (such as by using masks and distancing measures) and by contact (such as by using handwashing, gloves and protective gowns).”

That’s odd following the test claim: “Surgical masks or N95 respirators were the most consistent and comprehensive supportive measures. N95 respirators were non-inferior to simple surgical masks but more expensive, uncomfortable and irritating to skin.” This sounds much more positive and definitive. Apparently, TA found that in comparison to other interventions, masks seemed most comprehensive and consistent — ????

CCav: “A common problem in these studies was a lack of reporting of viral circulation in the reference

population, making interpretation and *generalisability* of their conclusions questionable.”

In other words, the virus might in some populations be circulating more aggressively than in others and without that knowledge, it’s hard to know if we are actually comparing apples to apples.

CCav: “Three RCTs were poorly reported with no description of randomisation sequence, concealment or allocation in three studies ([Gwaltney 1980](#); [Turner 2004a](#); [Turner 2004b](#)). [Satomura 2005](#) reported the generation of randomisation but the very nature of the intervention (gargling with water with or without povidone iodine versus standard gargling with no attempt at masking the taste of iodine) made blinding impossible. The design of two trials was so artificial that their results cannot be generalised to everyday situations ([Turner 2004a](#); [Turner 2004b](#)). One trial ([Satomura 2005](#)) is linked to a subsequent brief report which provides contradictory information which is difficult to reconcile ([Kitamura 2007](#)).

CCav: “A tiny study comparing the N95 respirator with paper surgical masks in volunteers found that **surgical masks, even when worn in multiple layers (up to five), filtered ambient particles**

poorly(Derrick 2005); this principle was confirmed in another small study of air filtration to prevent droplet spread (Somogyi 2004).” TA rated this study as having high probability of bias, but careful examination of their statement actually supports my own assessment of their findings.

CCav: “Physical means might prevent the spread of virus by aerosols or large droplets from infected to susceptible people (such as by using masks and distancing measures) and by contact (such as by using handwashing, gloves and protective gowns). Such public health measures were widely adopted during the 'Spanish Flu' pandemic of 1918 to 1919 (Bootsma 2007).”

Anyway, after qualifying and dismissing virtually all the studies they selected, let’s look at the ones they though were worthy.

Here is one they present as a cluster-randomized trial that is at low risk of bias — but this is about hand sanitiser wipes and disinfection of surfaces: so, that’s out. IR

Of the four RCTs in the 2010 update of this study, ONE WAS CLASSIFIED AT LOW RISK OF BIAS, ONE AT

MEDIUM RISK OF BIAS, AND TWO AT HIGH RISK OF BIAS.

Let's look at the one that is LOW RISK OF BIAS:
Root article:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>, and here is where I'm at in this article: "Of the four RCTs in the 2010 update, one was classified at low risk of bias ([Loeb 2009](#)), one at medium risk of bias ([Aiello 2010a](#)) and two ([Jacobs 2009](#); [Larson 2010](#)) at high risk of bias."

Reference of interest: Loeb 2009 Here is the full text link:
<https://jamanetwork.com/journals/jama/fullarticle/184819>

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<https://jamanetwork.com/journals/jama/fullarticle/184819>. PDF: FN01.38.00.08.01.Surgical Mask vs N95 Respirator Loebb 2009 joc90119_1865_1871. TITLE: Surgical Mask vs N95 Respirator for Preventing Influenza Among Health Care Workers. (There is a study cited in FN01.38.00.03.00 very near this one in title: Radonovich L. J., et al., N95 respirators vs medical masks for preventing influenza among health care personnel: A randomized clinical trial. J. Am. Med.

Assoc.322, 824–833 (2019). [PMC free article]
[PubMed] [Google Scholar] — I’ve added this to my
archives but have not directly vetted it:

FN01.38.00.09.00-

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724169/#_ffn_sectitle. PDF: FN01.38.00.09.00.N95

Respirators vs Medical Masks for Preventing Influenza
Among Health Care Personnel)

PC: Reprinted in JAMA: November, 2009

CCP: Loeb, Dafoe, Mahony, John, Srabia, Glavin,
Webby, Smieja, Earn, Ghong, Webb, Walter (3 of 12
that I recognize) / **ORIGIN**: Canada; WHO; US-St. Jude’s
Children’s, TN. / **REF**: MacIntyre, Dwyer; Cowling,
Chan, Fang; OSHA (2); Chong; Yee; Willeke, Qian (7 of
29) / **FUNDING**: The Public Health Agency of Canada.

RCT: Yes. But upon examination, it’s an
observational study with elements of randomization
and control, leaving many confounders unaddressed,
and not providing a “control” group. That is, there was
no group that wore no mask. What they are calling the
control group would be those wearing the N95, since
that is assumed to provide superior protection.

CONTENT:

OS: It's a hybrid RCT/OS: The study premised results on the incidence of sickness occurring in two randomly assigned groups of HCW in surgical masks and HCW in N95 respirators. In other words, the masks were not tested for efficacy in blocking virions, the HCW were tested for how many got sick wearing each of the masks. Too many other factors could factor into why x number of HCW got sick in A group as opposed to B group. Here is the description of the study: "Between September 23, 2008, and December 8, 2008, 478 nurses were assessed for eligibility and 446 nurses were enrolled and randomly assigned the intervention; 225 were allocated to receive surgical masks and 221 to N95 respirators. Influenza infection occurred in 50 nurses (23.6%) in the surgical mask group and in 48 (22.9%) in the N95 respirator group (absolute risk difference, -0.73%; 95% CI, -8.8% to P=.86), the lower confidence limit being inside the noninferiority limit of -9%."

SP: It is presented as an RCT: "A Randomized Trial." METHOD: Under Design, Setting, and Participants: "Noninferiority randomized controlled trial of 446 nurses in emergency departments, medical units, and pediatric units in 8 tertiary care Ontario hospitals." A "noninferiority randomized controlled

trial is explained in TECH28. Non-inferiority trials _
Deranged Physiology <https://derangedphysiology.com/main/required-reading/statistics-and-interpretation-evidence/Chapter%202031/non-inferiority-trials>. To summarize, such a trial sets up an experiment to ascertain whether a newly introduced treatment is or is not inferior to an existing treatment as measured by some stipulated criteria. It should be noted that non-inferiority and equivalence trials default to a favor for the standard treatment. In non-inferiority trials, the result intends to show that the new treatment will not produce any significantly greater harm, and will not provide any significantly greater good than the standard, whereas an equivalency trials seeks to establish a parity between the two treatments. The superiority trial seeks to establish the new treatment as substantially better either in protection against adverse reactions and/or provision of substantial superior benefit. In this case, the study intends to show whether the surgical mask is non-inferior in providing protection or producing unwanted effects from use of a N95. They tested for lab-confirmed influenza measured by PCR identifying for a 4-fold rise in hemagglutinin titers. They looked for a difference between surgical masks and N95s of not more than 9%.

IR — our concern is with community spread. Furthermore, this compares the surgical mask with the N95, so it's a comparison issue. Also, it compares FIT-Tested respirators — totally unviable in a community setting.

Essentially, this study finds that the surgical mask is not inferior to the N95, which flies in face of a whole lot of other research concluding to the contrary. Any time this question is addressed with an authentic RCT, the N95 far exceeds the surgical mask in efficacy both as PPE and source control.

Now we come to the critical information:

INFO: “Transmission of influenza can occur by coughing or sneezing where infectious particles of variable size, RANGING FROM APPROXIMATELY 0.1 TO 100 μm , MAY BE INHALED.(6— Nicas M, Nazaroff WW, Hubbard A. Toward understanding the risk of secondary airborne infection: emission of respirable pathogens. *J Occup Environ Hyg.* 2005;2(3):143-15415764538 [PubMedGoogle ScholarCrossref](#))

I'll stipulate to the reference. 0.1 μm is 100

nanometers, and 100 μm is 100,000 nanometers. Sizes in the 100 nm range are of interest to us.

CE: contradictory evidence, because it stipulates transmission can occur with virions as small as 100 nm. Surgical masks are repeatedly shown to be ineffective to block particles of this size.

IR/SP: *** “...Data from animal models and human experimental studies suggest that short-range inhalational transmission with small droplet nuclei (<10 μm) can occur, (7-11) the exact nature of transmission of influenza that occurs in nonexperimental settings is not well understood.” (12).” <10 μm refers to particles that are smaller than 10000 nm. It is very unusual to find researchers including this size in “small droplet nuclei,” and I noticed that when researchers are arguing for mask efficacy against “small droplet nuclei” the range for droplets in this size category grows larger with every passing study — well, that’s an impression from my observations having examined well over 400 studies. It’s true, however, that consistently those studies that attempt to assert something wildly contradictory to established consensus (pre-COVID) regarding surgical masks and N95s and desire to show surgical masks efficacious against “small droplet nuclei” trend toward

moving the markers from $<5\ \mu\text{m}$ to $<10\ \mu\text{m}$. In this way, they can show the surgical masks strongly efficacious to block droplets that are 5000-10000 nm in diameter. But this is SP and down right dishonest. The sizes we are concerned about a far smaller: 40-140 nm carried in droplets 125-250 nm in sufficient quantities to infect, and even in larger droplets, 500 nm to 10000 nm, the droplets desiccate quickly releasing the virions into aerosols.

CCav: “AS A CONSEQUENCE [SEE ABOVE], CONSIDERABLE UNCERTAINTY EXISTS ABOUT THE EFFECTIVENESS OF PERSONAL RESPIRATORY DEVICES AGAINST INFLUENZA FOR HEALTH CARE WORKERS.”

AME: Assumed mask efficacy characterizes the study and it's a hybrid OS RCT — where a carefully organized study is conducted that is based on observations and the conclusions do not seem to consider any possible confounders — but, we'll see.

CE: Contradictory evidence — sort of! Laboratory confirmed influenza was found in 23.6% of the nurses in the surgical mask group, and 22.9% in the N95 mask group.

This means a little more than 1 in five nurses got sick from influenza in either case — THE QUESTION IS, HOW MANY WOULD HAVE GOTTEN SICK ANYWAY, WITHOUT ANY INTERVENTION. Second question: what are the other factors that might have contributed to the number of nurses sick—home situation, exposure variables; I mean, a exhaustive list would be exhausting which is why it's not done, and why these sorts of studies are always at best INCONCLUSIVE.

SP: A MAJOR WEAKNESS OF THIS STUDY IS THERE WAS NO CONTROL FOR NO MASK OR NO INTERVENTION and that would be because they were not studying for mask efficacy, they were finding for relative efficacy between the masks. THE FACT THAT THERE WAS NO DIFFERENCE, OR VIRTUALLY NO DIFFERENCE BETWEEN THE SURGICAL AND RESPIRATOR ACTUALLY SUGGESTS THE MASKS ARE NOT WHAT IS DRIVING THE DIFFERENCE HERE, since EVERY RCT ever done where the penetration value of these masks is what is being examined shows the fitted N95 is far and away superior to the surgical mask.

But this is not considered, since, again, we have AME.

CE: NOTWITHSTANDING all the CONFOUNDERS that can skew the results TA achieved in their trail, there seems to be a far wider spread between the intervention groups than what is suggested by TA: When it comes to INFLUENZA, or ILI it turns out that **nine** nurses in the surgical mask group, and **two** in the N95 group met criteria for ili — that is, these are the HCW that had laboratory confirmed influenza. A difference of less than 9%?

First, that seems arbitrary to me! I can't find anywhere that the differential was established before or after the study. 9% seemed high when I first noticed this, but when you consider the total differences in numbers: 9 in surgical mask group and 2 in the N95 group — WE HAVE TO go back to group size to understand how that difference equates to anything like noninferior difference. I must question how they calculated this to be a difference of less than 9%.

Under Results: we find that 225 were in the surgical mask group and 221 in the N95 group. These groups, so far as size is concerned, were very close. Nevertheless, percentage wise, we have 2 showing Lab-confirmed ILI which is 0.009 (0.9%) of 221 HCW, and 9 in the surgical mask group that were Lab-confirmed ILI, or 0.040 (4%) of 225 HCW. The

difference between the number percent of ILI in the surgical mask versus the N95 groups is something over 400%. In other words, more than 4x the number of HCW in the surgical mask group got sick as compares to the number sick in the N95 group. I cannot take the time to go figure out how TA came up with the less than 9% result from their trial, but if in fact, 2 of 221 and 9 of 225 is correct, a little more than 4x more got sick in the surgical mask group than in the N95 mask group. That does not sound to me like a minimal, or insignificant difference.

Yet, once again, we don't know if there would have been a significant change in these outcomes if the nurses did not wear masks at all.

NOTE: At least one potential confounder was addressed: "Fifty-five participants (25.9%) in the surgical mask group vs 47 (22.4%) in the N95 respirator group REPORTED A SPOUSE OR ROOMMATE WITH INFLUENZA-LIKE-ILLNESS." Likewise 22.5% and 20.5% respectively reported a child with influenza-like illness. The numbers are on a parity with one another, so at least with regard to the household exposure issue, *so far as we know*, since these things are self-reported, and other factors like how the households are maintained, how generally

healthy are the members of the family, and etc. etc. — I will stipulate to this as addressing at least partially, a major confounder. But there are so many more that would need to be addressed to make this study close enough to conclusive to cite it as positive evidence that the surgical and N95 masks are roughly equivalent, or, in terms of this trial, non-inferior.

CE: Actually, the lack of significant difference between the surgical and M95 masks suggests evidence that the mask is not the factor contributing most significantly to contracting or transmitting influenza: “One frequently cited concern about the surgical mask is its inability to obtain an appropriate seal compared with the N95 respirator.²⁹ Based on the results of this trial, this concern does not seem to be associated with an increased rate of infection of influenza or other respiratory viruses.”

CCav: Then come the LIMITATIONS: Compliance could not be perfectly monitored, **and the protocol did not account for the effect of indirect contact.** While these researchers would apply this narrowly to the two groups, our interests are more broad. The question here is whether those who did get sick would have gotten sick anyway, and contracted the virus through other means of contact that was in fact the

differential between them and those that did not get sick, and then following that, was there any substantial difference in the experience of one group over the other?

They admit as much when they say, **“It is impossible to determine whether participants acquired influenza due to hospital or community exposure.”** This is not as critical a concern to the question of relative efficacy between mask types, but it is a great concern to the question of whether it was the masks that actually contributed to protection.

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

So, it’s my opinion that the RCT we examined above is the BEST these researchers have for supporting their claim, and it’s inadequate.

We already know masks control for droplets, but that’s not our question.

NOTE: Essentially, if we all just stopped breathing, everyone would be well!!!!

CCav: TA now examines the RCTs. But TA began this study by offering a firm disclaimer regarding RCTs: CCav: **“We should not be surprised to find that there is no RCT for the impact of masks on community transmission of any respiratory infection in a pandemic”** — for a paper having difficulty finding RCT support for their thesis they certainly do a lot of RCT touting.

CLAIM: “Randomized control trial evidence that investigated the impact of masks on household transmission during influenza epidemics indicates potential benefit.” He references Suess et al.

I’ve seen this study before: Suess T., et al., The role of facemasks and hand hygiene in the prevention of influenza transmission in households: Results from a cluster randomised trial; Berlin, Germany, 2009–2011. BMC Infect. Dis. **12**, 26 (2012). [PMC free article] [PubMed] [Google Scholar] [Ref list]

FN01.38.00.10.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>. PDF: FN01.38.00.10.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC

Already vetted in these notes: **FN01.08.07.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>. PDF: FN01.08.07.00.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

CLAIM: see above: CLAIM: “Randomized ...” and here TA offers footnote 22. Cowling B. J., et al., Facemasks and hand hygiene to prevent influenza transmission in households: A cluster randomized trial. *Ann. Intern. Med.* 151, 437–446 (2009).
[PubMed] [Google Scholar]

FN01.38.00.11.00-
https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org (FULL TEXT)
PDF: FN01.38.00.11.00.Facemasks and Hand Hygiene to Prevent Influenza Transmission in Households_ A Cluster Randomized Trial_ Annals of Internal

Medicine_ Vol 151, No 7

Already vetted in these notes: see

FN01.08.08.00.00-

<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF:

FN01.08.08.00.00.Facemasks and hand hygiene to prevent influenza transmission in households_ a cluster randomized trial - PubMed.pdf. **Rated by ECDC as LOW to MODERATE confidence.** See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

TA offers another RCT for support that looks familiar:

23. Aiello A. E., et al., Mask use, hand hygiene, and seasonal influenza-like illness among young adults: A randomized intervention trial. *J. Infect. Dis.* **201**, 491–498 (2010). [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.12.00-

<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic

Already vetted in these notes: see

FN01.08.04.00.00-

<https://academic.oup.com/jid/article/201/4/491/861190?login=false> PDF: FN01.08.04.00.00.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ a randomized intervention trial - PubMed.pdf

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

Now TA goes into discussion of the PRECAUTIONARY PRINCIPLE.

NOTE: *** These studies appear to be PREPPING for the big PANDEMIC, aka, *plandemic* —

The segment of the study of particular interest to me is SOURCE CONTROL:

CCav: HERE YOU GO: “There are currently no studies that measure the impact of any kind of mask on the amount of infectious SARS-CoV-2 particles from human actions. Other infections, however, have been studied. One of the most relevant papers (67) is one that compares the efficacy of surgical masks for source control for seasonal coronaviruses (NL63, OC43, 229E, and HKU1), influenza, and rhinovirus. With 10 participants, the masks were effective at blocking coronavirus particles of all sizes for every subject. **However, masks were far less effective at blocking rhinovirus particles of any size, or of blocking small influenza particles.** The results suggest that masks may have a significant role in source control for the current coronavirus outbreak. **The study did not use COVID-19 patients, and it is not yet known whether SARS-CoV-2 behaves the same as these seasonal coronaviruses,** which are of the same family.”

This is weird: they state that a study has been conducted that shows masks effective in blocking seasonal coronaviruses and identifies them as NL63, OC43, 229E and HKU1. I will assume this study did not include SARS since the authors here conclude **“However, masks were far less effective at blocking ... small influenza particles,”** which happen

to be the particle size relevant to our interests.

CCav: “The study did not use COVID-19 patients, and it is not yet known whether SARS-CoV-2 behaves the same as these seasonal coronaviruses, which are of the same family.”

Apparently, they don't! Since a multitude of studies tell us the SARS-2 virus acts like an influenza virus in terms of size, aerosolization, airborne characteristics, and etc.

IR: So, this one goes into the IR bin.

Nevertheless, let's look at the study cited: Leung N. H., et al., Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat. Med.* **26**, 676–680 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see ****

FN01.28.03.00.00-

<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine ****

**** This is one of the MORE RELEVANT papers and I vetted it as inconclusive and IR.

CCav: I concluded with their own conclusion: **HERE IS THE FINAL:** “Our findings indicate that surgical masks can efficaciously reduce the emission of influenza virus particles into the environment in respiratory DROPLETS, BUT NOT IN AEROSOLS.”

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r22> (Alternate web address to same article:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r22>)

IR: The authors refer to studies from 1962 to 1975 that tested for particles less than $4\ \mu\text{m}$ — but $4\ \mu\text{m}$ is 4000 nanometers. Our size criteria is 40-140 nm, with the usual size being $\sim 125\ \text{nm}$.

*** There is a long distance from 125 nanometers to 4000 nanometers. And, again, when researchers use such language they typically desire to set the lowest end of the range. So “less than $4\ \mu\text{m}$ ” means the particles in view are in the range of 3000-4000 nanometers, right? Otherwise they would say under $3\ \mu\text{m}$. So this language says they found particles that

were between 3000 and 3999.99 nanometers in size. Of course, in some contexts, when the point is to include all particles below a certain threshold, and not to establish the lower end of a range, all particles below that number can be meant. In studies such as what we have here, however, we know that is not the case. Or else, if it was, in order for the statement to have any meaning relative to my query, TA would be obliged to stipulate what is the bottom of the range they have in view if in fact they are constructing an argument to say masks are efficacious to block virions down to 1 nm, below which we enter into atomic sizes, or wave-lengths, getting into angstroms, which are 0.1 nm. (See Britannica: <https://www.britannica.com/science/angstrom>). Point being, it is disingenuous in the extreme to pretend a generalized statement like *less than 4 μm* includes all sizes smaller, and it is most reasonable to assume a researcher using such language in the context of particle size relevant to mask penetration would set the size point at the lower end and so 4μm most reasonably refers to particles in the size range of 3000 nm to 3999.99 nm.

It's important to remember the thesis, or perspective of the author when reading this stuff. If they found particles under 3000 nanometers, they

would write $<3 \mu\text{m}$. Clearly, $<4\mu\text{m}$ means $>3\mu\text{m}$ from our perspective.

With this in mind, you see that it is an absurd statement to say: “So overall, over 99% of contaminants were filtered.” Obviously, 99% of particles in the size range of 3000-4000 nm is what TA has in view.

The next study referenced is the Johnson et al. which I mention earlier and vet here: Johnson D. F., Druce J. D., Birch C., Grayson M. L., A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. *Clin. Infect. Dis.* **49**, 275–277 (2009).
[PubMed] [Google Scholar] [Ref list]

FN01.38.00.13.00-

<https://academic.oup.com/cid/article/49/2/275/405108?login=false>. PDF: FN01.38.00.13.00.Quantitative Assessment of the Efficacy of Surgical and N95 Masks to Filter Influenza Virus in Patients with Acute Influenza Infection _ Clinical Infectious Diseases _ Oxford Academic

PC: July, 2009

CCP: Johnson, Druce, Birch (not Birx), Grayson. /
ORIGIN: Australia. **REF:** WHO (multiples); US-CDC;
OSHA; Lim, Seet, Lee, Chuah, Ong; Balazy; Tran; Seto,
Tsang, Yung; Aiello; Ng, Lee, Hui, Lai, Ip (~10 of 16) /
FUNDING: Journal: *Clinical Infectious Disease* and
company: Medical Innovations.

RCT: Not asserted. Randomization mentioned:
“The order of coughing with a surgical and N95 mask
... was randomized between patients.” “Control” is
mentioned: “Coughing without a mask (after control).”
So some element of *control* was involved. Does not
present as RCT but it includes elements of an RCT.
Infected persons coughed onto a plate with and
without masks — **HOWEVER:** the study did not detect
for virions within the size range of our query.

CONTENT:

CLAIM: spot on to our interest: “We assessed the
in vivo efficacy of surgical and N95 (respirator) masks
to filter reverse transcription-polymerase chain
reaction (RT-PCR)-detectable virus when worn
correctly by patients with laboratory-confirmed acute
influenza. Of 26 patients with a clinical diagnosis of
influenza, 19 had the diagnosis confirmed by RT-PCR,
and 9 went on to complete the study. Surgical and N95

masks were equally effective in preventing the spread of PCR-detectable influenza.”

NOTE: By the way, nosocomial means acquired in a hospital.

INFO: “Spread from person to person through transmission via LARGE DROPLETS (droplet transmission), SMALL PARTICLE AEROSOLS (airborne transmission), or DIRECT AND INDIRECT CONTACT (contact transmission).”

INFO: At time of this study, “The primary mode of influenza transmission is uncertain, although droplet transmission appears to be the dominant form.”

INFO: AT THIS TIMCE: CDC, OSHA, and WHO recommended either a routine surgical or procedure mask be worn by the infected patient. Medical professionals were recommended to wear N95s.

NOTE: “Surgical masks are designed to trap respiratory secretions (including bacteria and viruses) expelled by the wearer and prevent disease transmission to others.” Take a look at the HOWEVER next —

CCav: “SURGICAL MASKS ARE NOT DESIGNED TO PREVENT INHALATION OF AIRBORNE PARTICLES, AND THEIR ABILITY TO PROTECT HCWS FROM DISEASE ACQUISITION VARIES.”

Actually, we are done here.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r22>

TA offers another study to consider, and it’s arguably one of the better studies for supporting masks!

Milton D. K., Fabian M. P., Cowling B. J., Grantham M. L., McDevitt J. J., Influenza virus aerosols in human exhaled breath: Particle size, culturability, and effect of surgical masks. *PLoS Pathog.* **9**, e1003205 (2013). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

**** **FN01.38.00.14.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3591312/>. PDF: FN01.38.00.14.Influenza Virus Aerosols in Human Exhaled Breath_ Particle Size, Culturability, and Effect of Surgical Masks - PMC

PC: Mar. 2013

CCP: Milton, Fabian, Cowling, Grantham, McDevitt (only 1 of 5 noted CCP connection) / **ORIGIN:** US-MD School of Public Health; MA Harvard School of Public Health; MA Boston U School of Public Health; Li KaShing Faculty of Medicine, U of Hong Kong, **CHINA.** / **REF:** Fung, Cowling (3); Johnson (2); W-DC; Wein; US-CDC (multiples-4); Chan, Fang, Cheng; Cheng (~14 of 33) / **FUNDING:** “This study was funded by the Centers for Disease Control and Prevention cooperative agreements ... the US Federal Aviation Administration (FAA) [????] Office of Aerospace Medicine through the Air Transportation Center of Excellence for Airliner Cabin Environment Research ...”

RCT: No. Methods describe a careful scientific approach. The range of particles examined fit my criteria of 40-140 nm: “In-take air (130 L/min) flowed through a conventional slit impactor that collected particles larger than 5 μm on a Teflon surface (“coarse” particle fraction). **To collect a “fine” particle fraction,** water vapor was condensed on the remaining particles, **which created droplets large enough to be captured by a 1.0- μm slit impactor.** The 1.0- μm impactor was composed of a slit and a steel impaction

surface sealed inside a large reservoir. Impacted droplets drained from the impaction surface into a buffer-containing liquid in the bottom of the reservoir. Concentrated buffer was pumped into the reservoir during collection to match the accumulation of water from collected droplets and maintain phosphate buffered saline with 0.1% bovine serum albumin throughout collection. **The sampler was shown to be 85% efficient for particles greater than 50 nm in diameter and was comparable to the SKC BioSampler for detection and recovery of influenza A/PR/8/34 H1N1 by PCR and culture.**”

CONTENT: TA examined for particles and RNA copy number in EXHALED breath through a mask and no mask This study would definitely go to questions regarding source control. Presence of particles in exhaled breath through a mask should apply by correlation to drawing particles into the subject during inhalation. This could be a very promising study.

ACK: “A recent report suggested that surgical masks can capture influenza virus in LARGE DROPLET SPRAY.” **“HOWEVER, THERE IS MINIMAL DATA ON INFLUENZA VIRUS AEROSOL SHEDDING, THE INFECTIOUSNESS OF EXHALED AEROSOLS, AND**

NONE ON THE IMPACT OF FACEMASKS ON VIRAL AEROSOL SHEDDING FROM PATIENTS WITH SEASONAL INFLUENZA.”

The size range tested for in this study: “We collected samples of exhaled particles (one with and one without a facemask) in two size fractions (“coarse” $>5\mu\text{m}$, “fine” $\leq 5\mu\text{m}$) from 37 volunteers within within five days of seasonal influenza onset, measured viral copy number using quantitative RT-PCR, and tested the find-particle fraction for culturable virus.”

CCav: So, although the range of particles discoverable were in the bottom range of 50 nm (see above, after RCT: bottom of paragraph), the range of particles collected were outside my criteria: $> 5 \mu\text{m}$ is larger than 5000 nm, and $\leq 5 \mu\text{m}$, as I’ve explained, would put the bottom limit at 4 μm , else the researcher would certainly have informed us they found particles $\leq 4 \mu\text{m}$. 4 μm is 4000 nm, outside the limit of my criteria.

INFO: This is important: “Fine particles contained 8.8 (95% CI 4.1 to 19) fold MORE VIRAL COPIES than did coarse particles.”

This would make the fine particles more infectious, I think.

“Surgical masks reduced viral copy numbers in the fine fraction by 2.8 fold ... and in the coarse fraction by 25 fold”

So, you have a whole lot more copies in the fine with a great deal less filtering occurring than in the coarse.

Combining these effects, masks produced a 3.4 fold ...reduction in viral aerosol shedding.

CLAIM: Conclusion: “Surgical masks worn by patients reduce aerosols shedding of virus.”

CCav: I DON'T DOUBT THE ABOVE CLAIM AT ALL. Here is the problem — these guys are testing for particles that are $<5\mu\text{m}$ — which means they are measuring for capture of particles that are $>4\mu\text{m}$ — that's 4000 nanometers which is HUGE in terms of the numbers we are concerned with.

CE: This study suggests something else that is disturbing: since the smaller particles at below $5\mu\text{m}$ have the greatest number of viral copies when

compared with those that are $>5\mu\text{m}$, what happens when we get to sizes like $1\mu\text{m}$, and even smaller, like 500 nanometers, or 300 nanometers, or 125 nanometers — see what I mean?

INFO: Defines size categories of coarse and fine particles: “We collected samples of exhaled particles (one with and one without a facemask) in two size fractions (“coarse” $>5\mu\text{m}$, “fine” $\leq 5\mu\text{m}$) from 37 volunteers within 5 days of seasonal influenza onset, measured viral copy number using quantitative RT-PCR, and tested the fine-particle fraction for culturable virus.”

INFO: *** Rapid evaporation and inhalation of “fine” particles are INFECTIOUS: “aerosols generated by release of smaller, virus-containing droplets, as may occur during tidal breathing and coughing, that rapidly EVAPORATE into residual particles (droplet nuclei), which are INHALED and deposited in the respiratory tract.”

CCav: *** “[1] **We detected viral RNA in 78% (29 of 37) of fine particle samples collected from volunteers when they were wearing a mask** and in 92% (34 of 37) of samples collected when they were not wearing a mask. [2] **Thus, the relative risk for**

any virus detection with mask versus without a mask was 0.85 and borderline statistically significant (CI 0.72 to 1.01; McNemar's test $p = 0.06$).

[3] **However, the reduction in copy number was statistically significant: The median number of viral copies in the fine particle fraction was 250 with masks and 560 without masks.** The geometric mean copy number in the fine particle fraction without a facemask was 110 (95% CI 45 to 260) and **the facemasks produced a 2.8 fold reduction in copy number (95% CI 1.5 to 5.2, $p = 0.001$).**”

[1] CE: This shows that *with masks* viral RNA was found in 29 of 37 samples. That's 78% of those wearing masks were producing samples with viral RNA.

[2] CCav: **“Thus, the relative risk for any virus detection with mask versus without a mask was 0.85 and borderline statistically significant.”**

[3] VERY INTERESTING: If TA examined for copies of RNA in the captured particles, you still have the issue of undetected particles (“Counts below the LIMIT OF DETECTION are represented as 0.5 on the log scale” (see Figure 1). So, focusing on the fine particle capture, this study showed a significant reduction in viral RNA

number. **BY THAT MEASUREMENT THOSE WITH MASKS SHOWED A GREATER THAN 200% REDUCTION IN RNA COPIES: 250 with masks and 560 without.**

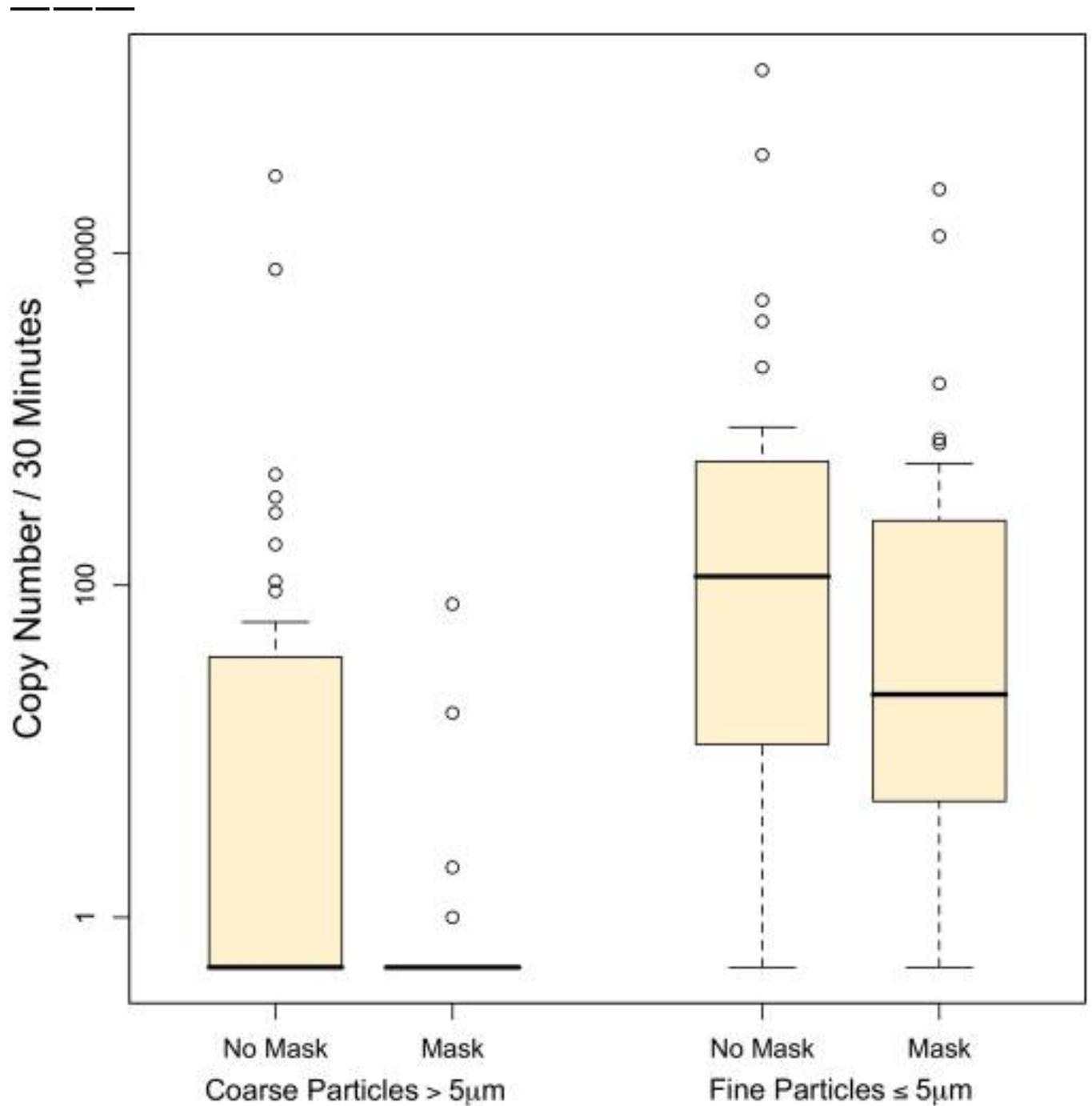


Figure 1. — Influenza virus copy number in aerosol particles exhaled by patients with and without wearing of an ear-loop surgical mask. **Counts below the limit of detection are represented as 0.5 on the log scale.**

DOES THIS MEAN MASKS OFFER 200% GREATER PROTECTION FROM INFECTION? This is exciting because it is the only study I've come across so far that is really challenging my thesis.

IR: *** Alas, however, the answer to the above question is no! What it means is that in this particular trial TA found this significant difference in the viral RNA copy numbers, which can relate to infectiousness. But the problem is, 250 copy numbers of viral RNA are sufficient to infect. Once infection occurs, replication of RNA copies goes exponential. Also, as pointed out above, the size fractions measured were outside the range of my criterion. See Discussion: contrasting this study from another, Johnson et al. and explaining why TA got such different results, TA explains something that goes to my concern about this study: "We used a specially designed aerosol sampler to collect particles from 0.05 to 50 μm in diameter. [That's 500-50000

bm] Johnson et al, by contrast, used simple deposition on petri dishes, and based on particle settling rates and collection times, that method would have been unlikely to collect particles with diameters of less than approximately 50 μm [50000 nm] because smaller particles would have remained suspended in air and flowed around the petri dishes.” (If I remember correctly, this is very like the observation I made when vetting the Johnson study.) But the point here is that even this very excellent study establishes a criteria of measurement that is outside the criteria of my interest — 500 nm to 50,000 nm exceeds my limits of, lower at 40 nm and upper at 140 nm by 12.5 x, and 357 times respectively. Of course, this means the volume of RNA copies would be significantly increased when particles below the LOD (Limit of Detection) are considered, enhancing the infectivity of the amount of particles that escape capture by a mask. (Importantly, this has specifically to do with capturing particles AT THE SOURCE.

TA recognizes the above mentioned limitation of their findings:

NC/CCav/NC: “We view results from Johnson et al and the present study as complementary. Together the studies show that surgical masks [NC] **CAN limit the**

emission of large droplet spray and aerosol droplets larger than 5 μm [5000 nm] [16]. [CCav:} However, surgical masks are not as efficient at preventing *release* of very small particles. It is well known that surgical masks are not effective for preventing exposure to fine particles when worn as personal protection [18]. [CCav:] We had hypothesized that when used as source control, exhaled droplets might be large enough prior to evaporation to be effectively captured, primarily through impaction. This appears to be true for virus carried in coarse particles. But the majority of virus in the exhaled aerosol appear to be in the fine fraction that is not well contained. [NC] Nevertheless, the overall 3.4 fold reduction in aerosol copy numbers we observed combined with a nearly complete elimination of large droplet spray demonstrated by Johnson et al. suggests that surgical masks worn by infected persons **COULD have a clinically significant impact on transmission.” By *clinically significant* is means in terms of whole number of persons infected or infecting others.**

Nevertheless, I want to look at this more closely.

While this does not find conclusive evidence that

masks “protect” from infection, it does indicate that something happened with regard to the number of RNA copies that are produced in samples of subjects with masks as opposed to those without. With regard to number of particles, no significant difference, but with regard to RNA copy number, 250 is less than half of 560, it’s 2.8 times less, in fact. So.

Why would masks not significantly reduce fine particles in exhaled breath but reduce the RNA copy number in those particles by more than half?

OS: Conjecture based estimates are not *science*. One can argue whether the conjectures here presented are supported by the science, but they are not themselves science: “For example if one hypothesized that all transmission were due to aerosol particles <50 μm , and estimated a re-productive number of 1.5 for influenza (i.e. each infection generates 1.5 new infections on average at the start of the epidemic) [19], then the use of surgical masks by every infected case could reduce the reproductive number below 1 [20]. Compliance, however, would be a major limitation resulting in lower efficacy in real-world practice [21], [22].” It is upon such *conjectures* that policy makers resort to intrusive and human dignity and rights abusive mask mandates. The full body of literature on

the subject, honestly assessed, from a bias against intrusive dignity insulting and human rights abusive mandates, equally supports an alternative hypothesis. And this is the rub! Those in favor of masks wish to err of the side of “caution,” in fact, I think TA in this article finally resort to the “precautionary principle” appeals, which once resorted to, totally gives up the argument from science and reaches for an argument premised on superstition.

*** Men have had a superstitious attraction to masks in pagan cultures since Adam and Eve, in a sense, reached for a “mask” to cover their shame in the Garden. There is in man on some instinctive level a kind of comfort in hiding their face from one another and from God. In pagan cultures, like Mohammedanism, for example, the women are required to hide their faces in shame from the lusts of men. And in Communist cultures, like pagan spiritualists, or any culture that has little or no authentic Christian heritage, masks are sought out to protect from *invisible enemies*, that scare the children like the unseen boogey men under their beds. First, there is no grave danger to the world of men posed by this or any pandemic—not unlike the many that have come before, and those that will certainly come along in future. Jesus did say “pestilence” would be a part of

our experience in this world somewhat consistently until His return (Matthew 24:6-7). I do not advocate for abandoning all caution, but I do say all caution ought to be premised upon real science and not mere superstition. The distinction will be made clear as I proceed. — and etc.

But, looking at this study, the most promising thus far, let's consider the question I posed: what is it about this experiment that resulted in a significant reduction of RNA number count in the exhaled breath of masked patients?

CCav: "Subsequent studies in our laboratory indicated that about 50% of the infectious virus is lost during the concentration step of our procedure (data not shown), suggesting that this is one contributing factor in the low rate of recovery of infectious virus in this study." Of course, this would be assumed to be true across both samples of masked patients and unmasked ones. But it raises an important question as to whether other factors might have contributed to skew the numbers.

CCav?: A careful study of the method reveals one weakness that might have impacted results. The subject places his or her face into a cone shaped device

designed to capture exhaled breath, but, and necessarily so, the circumference of the large end of the cone is not sealed to the face of the subject. The subject's face is set well within the cone, and I can't think of a better way to achieve the results TA sought, but the fact remains some virion particles WILL be redirected by the masks toward these openings and allow some particles to escape. However, while this would yet more greatly reduce the already marginal difference in particle count, it does not seem to be something that would substantially change the RNA number count in the particles captured. See image depicting this at FN01.38.00.14.01.Face In Breath Capture Cone Image 7-19-22 at 5.41 PM.jpg

CCav?: *** Another possible compromise is that fact that TA had subjects begin with the intervention (wearing the mask) in the cone experiment before the control (breathing without mask) in the cone. These sessions were 30 minutes. That's a significant amount of time: "Each volunteer sat as shown with face inside the inlet cone of the human exhaled breath air sampler inside a booth supplied with HEPA filtered, humidified air for 30 min while wearing an ear-loop surgical mask. Three times during the 30 min each subject was asked to cough 10 times. After investigators changed the collection media, the volunteer sat in the cone again,

without wearing a surgical mask, for another 30 min with coughing as before.” It is assumed that if TA alternated the order, it would have been stipulated in this explanatory note, and so it is further assumed they did not. Whether that would make a difference is unknown, but it is possible that subjects expressing through the mask first, might have cleared some meaningful levels of infectious RNA from their lungs before expressing into the cone without a mask. So, consider:

1. We cough in order to eject matter unwanted in the lungs, or respiratory tract.

2. It is reasonable to expect that when the body ejects unwanted matter, if it’s an infectious disease, the point of the cough is to eject that unwanted matter — of course we know that’s true, which is the reason we find this matter in ejecta. But, follow along here.

3. We know that viral respiratory infectious RNA replicates in the respiratory system, lower lungs for deep infection, upper respiratory tract for more surface infection. We know that the coughing reflex is intended to eject this infectious material.

4. It is reasonable to assume the system is effective, that is, it does eject infectious material — which is the premise of our concern with regard to masks, etc.

5. It is further expected that as this occurs, the number of RNA copies reduces by some amount, call it x . And that this gets a factor ahead of replication, call it y . So after coughing, or sneezing (no one sneezed during TA's experiment) the viral load in ejecta would be reduced by x , and get ahead of replication by a factor of y .

6. THEREFORE, it is reasonable to expect that if the subjects spend thirty minutes at the beginning of their session expressing through a mask into the cone, that afterwards there would be a reduction in the RNA copy number by an amount x ahead of the replication by a factor of y .

Did the subjects wait long enough between sessions for y to catch up to x ? That is something that would have to be examined by another RCT experiment. It could answer the mystery, and indeed, there is some mystery here. By what "magic" do masks separate RNA from particles, or somehow reduce RNA copy numbers in particles? No scientific answer is attempted, and the only intuitive answer, and best one, so far as I can see, is offered above.

IR: Once again, however, they are not looking at particles in the size range of 40 - 140 nanometers, so they are likely missing a whole lot of material that that

is not seen because of their stipulated concern with LOD (*Limit of Detection*).

IR: Re the differential between RNA number with and without masks: 250 to 560 respectively, this is sort of like saying 560 bullets are coming at you versus 250 bullets coming at you. Statistically speaking, the expectation that you are going to get hit by one of those bullets is still a 100% in either case.

INFO: Apparently, “There was no significant difference in copy number between influenza A and B virus infection in either the coarse ... or fine ... fraction.”

“Reported asthma ... and feverishness ... were associated with significantly lower fine fraction copy numbers.” This means people were getting sick with lower fine fraction copy numbers.

INFO: *** The fine fraction copy numbers were on average 808 times larger than coarse fraction copy numbers — there are a whole lot more RNA copies in fine than in coarse particles.

CCav: “testing was not associated with exhaled copy numbers” although that was the point of this

study???

iNFO: This study is important to my thesis since it shows infectious virus IS present in aerosol and supports the concern that masks that do not effectively protect against aerosols are not going to protect against the virus: “WE RECOVERED INFECTIOUS VIRUS FROM FINE PARTICLE SAMPLES (WITH AND WITHOUT MASK) PRODUCED BY THE TWO SUBJECTS WITH THE HIGHEST NUMBERS OF VIRAL RNA COPIES IN THE FINE PARTICLE FRACTION ...”

CCav: Time seems to drop the number of virus copies: each day after onset they found a 6.0 fold drop in the number of virus copies detected from the onset of symptoms in the coarse fraction. and a 2.4 fold drop in fine particles: “**Virus copy number (Table 3) declined with time since onset of symptoms.** In the coarse fraction, each additional day after onset was associated with a 6.0 fold drop in the number of virus copies detected (95% CI 1.7 to 21 fold). Fine particles also declined with time, each additional day after onset was associated with a 2.4 fold drop in the number of copies detected (95% CI 1.1 to 5.1 fold).”

NOTE: *** I remember earlier some question was

raised about a reduction in cases as the epidemic/pandemic came into its final phases: “Nevertheless, it is logical to argue that the secondary attack rate declined in the later phase as the awareness was greatly heightened.” TA of that article suggested this was because “awareness was greatly heightened,” but it is more likely because, as TA of our present enquiry noted, “virus copy number \propto declined with time since onset of symptoms.”

DISCUSSION: [One question I’ve had is related to what viral load is necessary to infect; this article addresses that issue. Apparently, the aerosol particles are MORE infectious than the large droplets since viral copies were greater in number in the fine than in the coarse.

INFO: *** “The infectious dose via aerosol is about two orders of magnitude lower than via large droplets” suggests “an important role for aerosols in seasonal influenza transmission.”

[NOTE: In some of these studies, especially those that seem to show the most promise for contradicting my own thesis, I went over them a second and third time reviewing my notes and clarifying my findings. That is the case with this study. Consequently, some of what

follows seems to repeat what came before. I'm leaving it because there are some insights and information caught in the first run that I don't want to lose, and I don't have time to compare the following notes to those before to cull out repeated information.]

CCav: HEY: "We used a specially designed aerosol sampler to collect particles from 0.05 to 50 μm " oh! Well — that's promising.

"We view results from Johnson et al and the present study as complementary. Together the studies show that surgical masks can limit the emission of large droplet spray and aerosol droplets **LARGER THAN 5 μm .**" So, we are right back where we started — surgical masks don't do well with droplets, or particles, smaller than say 0.3 μm — **"HOWEVER, SURGICAL MASKS ARE NOT AS EFFICIENT AT PREVENTING RELEASE OF VERY SMALL PARTICLES."**

"It is well known that surgical masks are NOT EFFECTIVE for preventing exposure to fine particles when worn as personal protection." Oh boy, this whole thing falls apart right here.

"WE HAD HYPOTHESIZED THAT WHEN USED

AS SOURCE CONTROL, EXHALED DROPLETS MIGHT BE LARGE ENOUGH PRIOR TO EVAPORATION TO BE EFFECTIVELY CAPTURED, PRIMARILY THROUGH IMPACTION. THIS APPEARS TO BE TRUE FOR VIRUS CARRIED IN COARSE PARTICLES. BUT THE MAJORITY OF VIRUS IN THE EXHALED AEROSOL APPEAR TO BE IN THE FINE FRACTION THAT IS NOT WELL CONTAINED.

CLAIM: These researchers are nevertheless hopeful that universal use of masks might reduce the overall infection rate since they do successfully capture the large particles and reduce the number of RNA copies released in the fine particles.

It was thought that infectious virion might not be prevalent or even present in the smaller particles: However, this study showed: "... that it was possible to recover culturable virus from the fine-particle fraction using our device" which they said, "demonstrates that humans generate infectious influenza aerosols in both coarse and fine particle fractions.":

THIS MIGHT HAVE BEEN ONE OF THE VERY BEST STUDIES I'VE EXAMINED.

The test claim that Milton found surgical masks

produced a 3.4 fold reduction in viral copies in exhaled breath is a factual statement but while that might be an appropriate take away in terms of the author's interests and objective in his study, it is a far cry from being an honest estimation of what his very excellent work establishes. Aerosols carry infectious virion, and while masks MIGHT contribute in some mysterious way to a reduction of RNA copy numbers in the particles gathered (See explanation above ("CCav?: ... Another ...")), even if we grant that, they do not remove a sufficient number of infectious RNA to achieve protection for the wearer as PPE or of the community as source control.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r22> (Alternate address: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>)

So, let's look at another study presented in this article:

Vanden Driessche K., et al., Surgical masks reduce airborne spread of *Pseudomonas aeruginosa* in colonized patients with cystic fibrosis. *Am. J. Respir. Crit. Care Med.* **192**, 897–899 (2015).

[\[PubMed\]](#) [\[Google Scholar\]](#) [\[Ref list\]](#)

Hopefully we can make short work of this since it does not seem to address the influenza question:

FN01.38.00.15.00-

https://www.atsjournals.org/doi/10.1164/rccm.201503-0481LE?url_ver=Z39.88-

2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed. PDF: FN01.38.00.15.Surgical Masks Reduce Airborne Spread of Pseudomonas aeruginosa in Colonized Patients with Cystic Fibrosis _ American Journal of Respiratory and Critical Care Medicine

PC: 2015

CCP: Driessche, Hens, Tilley, Quon, Chilvers, Groot, Cotton, Marais, Speert, Zlosnik (Quon: 1 of 10) / **ORIGIN:** Canada, Netherlands, Belgium, South Africa, and Australia / **REF:** Xie, Li, Chwang, Ho, Seto; Tang; Cowling; MacIntyre, Chughtai (4 of 13). / **FUNDING:** All I find is a note revealing KVD (Koen Vanden Driessche—University of British Columbia, Canada), MFC (Mark F. Cotton—Stellenbosch U, Cape Town, South Africa), RdG (Ronald de Groot—Radboudumc Nijmegen, the Netherlands) and BJM (Ben J. Marias—U of Sydney, Australia) “helped obtain funding” but I

don't see the source.

RCT: Not asserted. MM; see Method description in pertinent part: “Because we were primarily interested in airborne transmission, we only took delayed aerosol samples collected 1 minute after coughing. Statistical comparisons were performed using generalized linear mixed models. (See online supplement for more detailed methods.)” (FN01.38.00.15.01.SUPP.disclosures; and **FN01.38.00.15.02-SUPP2**-https://thoracic-prod-cdn.literatumonline.com/journals/content/ajrccm/2015/ajrccm.2015.192.issue-7/rccm.201503-04811e/20150923/suppl/vanden%20driessche_data_supplement.pdf?b92b4ad1b4f274c70877518410abb28bf45a6fadfff54c0884ea58110075615c1d5919ea753725730a4097154a835ed54e83b3cea2e0dfe100903851cb739a35e1bbb55e4837fab7e523022dec2f4b44f4fc7a34eb52bd524da9570a33f057df96667578e307313b64da3a076d888eea98846ac750da504d761091871c9e9a2927e95a205923fac98486531cce7cfbcc844122113cc49092c6dbfa02bbee1cd0476b3950bd74519d1354edc66228 PDF: FN01.38.00.15.02-SUPP2.vanden driessche_data_supplement

CONTENT:

IR: this article does not address questions related to our concerns. *Pseudomonas* is a bacteria (a germ) that is common, in soil, water, etc. One of the many different types of *Pseudomonas* can cause infections in humans called *Pseudomonas aeruginosa* which causes infections in the blood, lungs (pneumonia) or other parts of the body after surgery. Persons with **Cystic Fibrosis** (CF) are cautioned to wear masks in hospital settings to protect against this contagion — but this particle is not so small as a virion. It is carried in “infectious droplets in the air” — “Cough aerosol particles smaller than 60 μm will evaporate into particles smaller than 5 μm before touching the ground, classically referred to as airborne droplet nuclei.”

INFO: *** But, helpful information: “Droplets are larger particles that do not stay in the air **beyond 30 seconds.**”

INFO: And, “Surgical masks were originally developed to prevent droplet contamination of operating fields. VERY LITTLE IS KNOWN ABOUT THEIR ABILITY TO PREVENT DROPLET NUCLEI GENERATION.” (That was true in 2015, but since then many studies have been brought forward to show masks cannot be depended upon for PPE or for source

control in the community, or general population.)

IR: In any event, we are talking about particles that are outside the range of our concern: 5 μm is 5000 nanometers, we are concerned with particles in the submicron level: 40-140 nanometers.

NOTE: This study references the one I just examined above: Milton's research.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (Alternate web address to same article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>)

Now TA sends me to examine 73. Wood M. E., et al., Face masks and cough etiquette reduce the cough aerosol concentration of *Pseudomonas aeruginosa* in people with cystic fibrosis. *Am. J. Respir. Crit. Care Med.* **197**, 348–355 (2018). [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.16.00-

https://www.atsjournals.org/doi/10.1164/rccm.201707-14570C?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20

%20pubmed. PDF: FN01.38.00.16.Face Masks and Cough Etiquette Reduce the Cough Aerosol Concentration of Pseudomonas aeruginosa in People with Cystic Fibrosis

PC: 2018

CCP: Wook, Stockwell, JHohson, Ramsay, Sherrard, Jabbour, Ballard, O'Rourke, Kidd, Wainwright, Knibbs, Sly, Morawska, Bell (1 of 14-Morawska, although all are Australia-2018) / **ORIGIN:** Australia, dominates this study, with Belfast, UK / **REF:** Zeng; Cheng, Denning; Hu; Wang; WHO; Lee, Wang; Cheng; Zhou; Lim, Seet, Lee; MacIntyre, Dwyer, Seale, Cheung; Cheng (~11 of 44) / **FUNDING:** Grants from Cystic Fibrosis Foundatino Therapeutics USA and The Prince Charles Hospital Foundation; Early Career Fellowship of National Health and Medical Research Council; etc. (Here is a link to an article telling us “Prince Charles Agrees with Gates — Reduce the World Population” — <https://www.armstrongeconomics.com/international-news/great-reset/prince-charles-agrees-with-gates-reduce-the-world-population/> ; here is an article indicating the link between The Prince Charles Hospital and Bill & Melinda Gates Foundation: <https://www.gatesfoundation.org/about/committed-grants/2021/11/inv034765>.) Here is a link indicating

a connection between the Medical Research Council and Bill Gates:

<https://www.gatesfoundation.org/about/committed-grants/2013/07/opp1055865>, assuming the Medical Research Council named in this article is the same mentioned under funding for this study.

RCT: No. See Methods: It's OS based trial involving some scientific measurements: "Twenty-five adults with CF and chronic *P. aeruginosa* infection were recruited. Participants performed six talking and coughing maneuvers, with or without facemasks (surgical and N95) and hand covering the mouth when coughing (cough etiquette) in an aerosol-sampling device. An Andersen Cascade Impactor was used to sample the aerosol at 2 meters from each participant. Quantitative sputum and aerosol bacterial cultures were performed, and participants rated the mask comfort levels during the cough maneuvers."

CONTENT: CLAIM: Wood et al found, for their 14 cystic fibrosis patients with high viable aerosol production during coughing, a reduction in aerosol *P. aeruginosa* concentration at 2 m from the source by using an N95 mask ... or a surgical mask ..."

IR: LIKE the study previously examined, this deals

with Cystic Fibrosis (CF) patients concern with *P. aeruginosa* and treats of particles in sizes outside our range of concern: 5 μ m.

IR: In Paragraph beginning with “Airborne transmission ...” TA are dealing with particles in the range of respiratory aerosol droplets (>5 μ m) that quickly evaporate into droplet nuclei (\leq 5 μ m). As pointed out before, the intent is to express the smallest measure, so the droplet nuclei we are talking about is greater than 4 μ m — or 4000 nanometers.

ACK: “The primary role of the surgical mask is to prevent contamination of the environment by infectious droplets. **The relatively low efficiency capture of aerosols, particularly during coughing, and incomplete seal may allow particles to escape around the perimeter (22).** The N95 mask provides inward protection from inhaled airborne pathogens, and it is reasonable also to expect limitation of aerosolized infectious material generated by the wearer. **To date, there is limited evidence of outward protection by surgical and N95 masks, and the tolerability of these interventions has not been widely studied in patients with lung disease.**”

CE: Of course, interpretation of results is always

going to be affected by some measure of bias in the researcher, and in those examining the research. Given! It seems to me the evidence presented here confounds the assumptions premised on it. For example, “No aerosol CFUs were recovered from either talk maneuvers for 23 of 24 (96%) participants, and a single aerosol *P. aeruginosa* CFU was cultured from the remaining two participants (one masked and one unmasked study) (Table 2).” If no particles were recovered from either talk maneuvers for 23 of 24 participants, and then only a “single aerosol P” was found in two participants, one masked, and one unmasked, it seems to me this means masks are not doing anything significant to control outward infection. Were it not that this result shows up repeatedly in these studies, we might dismiss it as incidental, but this comes up repeatedly—that is, the differential between masked and unmasked is insignificant, that is when a scientific test like the one described here is being used.

Then we find this strange anomaly that flies in the face of repeated studies, so many that a firm consensus has framed up around multiple studies affirming that N95s filtration is superior to surgical mask filtration: and yet — “Of the 19 participants who produced culture-positive aerosols during uncovered

coughing, 2 (11%) produced *P. aeruginosa*-positive aerosols while wearing the surgical mask, and 4 (21%) grew *P. aeruginosa* in their aerosol cultures when wearing the N95 mask (Table 2). In contrast, 68% of these participants (n = 13) grew *P. aeruginosa* in their aerosols using cough etiquette (Table 2).” Doesn’t it seem odd that only only 2 in the surgical mask group produced positive aerosols while 4 in the N95 mask group did?

The study shows a significant reduction in aerosol particles that are ≥ 4000 nm (See above “IR: In the paragraph beginning ...”)

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (Alternate web address for this article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>)

TA directs us to another study: Stockwell R. E., et al., Face masks reduce the release of *Pseudomonas aeruginosa* cough aerosols when worn for clinically relevant periods. *Am. J. Respir. Crit. Care Med.* **198**, 1339–1342 (2018). [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.17.00-

https://www.atsjournals.org/doi/10.1164/rccm.201805-0823LE?url_ver=Z39.88-

[2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed](https://www.atsjournals.org/doi/10.1164/rccm.201805-0823LE?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed) PDF: FN01.38.00.17.Face Masks

Reduce the Release of Pseudomonas aeruginosa Cough Aerosols When Worn for Clinically Relevant Periods _ American Journal of Respiratory and Critical Care Medicine

PC: Prior to COVID - 2018

CCP: He (1 of 10) all others Australia connected / **ORIGIN:** Australia; UK. / **REF:** Quon; MacIntyre,

Chughtai (2 of 11) / **FUNDING:** Cystic Fibrosis Foundation Therapeutics USA etc. This looks like the

same paragraph used to stipulate funding for FN01.38.00.16.00 above. See (Here is a link to an article telling us “Prince Charles Agrees with Gates — Reduce the World Population” —

<https://www.armstrongeconomics.com/international-news/great-reset/prince-charles-agrees-with-gates-reduce-the-world-population/> ; here is an article

indicating the link between The Prince Charles Hospital and Bill & Melinda Gates Foundation:

<https://www.gatesfoundation.org/about/committed-grants/2021/11/inv034765>.) Here is a link indicating

a connection between the Medical Research Council and Bill Gates:

<https://www.gatesfoundation.org/about/committed-grants/2013/07/opp1055865>, assuming the Medical Research Council named in this article is the same mentioned under funding for this study.

RCT: No. (This is very similar to FN01.38.00.16.00. Method described: “We recruited 25 people with CF and chronic *P. aeruginosa* infection (6) from the Adult CysticFibrosis Centre, The Prince Charles Hospital, Brisbane, Australia. Ten healthy volunteers wererecruited from hospital and research staffto assess mask comfort and mask weight change. Allparticipants performed up to five randomly ordered tests in a validated cough system (7):uncovered cough, coughing with surgical mask worn for 10 minutes, coughing with surgicalmask worn for 20 minutes, coughing with surgical mask worn for 40 minutes, and coughingwith N95 mask worn for 20 minutes (3, 7). The N95 test was an optional test based on the poorcomfort ratings observed in our earlier mask study (3).”

CONTENT:

IR: see above. Except this study does not address

the particle size issue at all; at least not that I can find.

TA makes no claims or findings that concern our study. Searched: *particle, droplet, aerosol* (multiple hits but none related to questions related to penetration or filtration of masks tested), *μm, mm, nano* with results NULL.

—> Back to **FN01.38.00.03-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>

TA refers to another article: Dharmadhikari A. S., et al., Surgical face masks worn by patients with multidrug-resistant tuberculosis: Impact on infectivity of air on a hospital ward. *Am. J. Respir. Crit. Care Med.* **185**, 1104–1109 (2012). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see :

FN01.27.05.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3359891/>. Here is the **PDF FN01.27.05.00.00.Surgical Face Masks Worn by Patients with Multidrug-Resistant Tuberculosis _ Impact on Infectivity of Air on a Hospital Ward _ American Journal of Respiratory and Critical Care Medicine.** SEARCHED: got some hits.

(Alternate web address for same article:

<https://www.atsjournals.org/doi/full/10.1164/rccm.201107-11900C>.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (Alternate web address same article:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>)

TA refers us to another article: Chan J. F. W., et al., Surgical mask partition reduces the risk of non-contact transmission in a golden Syrian hamster model for Coronavirus Disease 2019 (COVID-19). *Clin. Infect. Dis.* **71**, 2139–2149 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.18.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7314229/pdf/ciaa644.pdf> PDF: FN01.38.00.18.Surgical mask partition reduces the risk of non-contact transmission in a golden Syrian hamster model for Coronavirus Disease 2019 (COVID-19)ciaa644 **Rated by ECDC as LOW to MODERATE confidence:** see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: May 2020

CCP: Chan, Yuan, Zhang, Poon, Chan, Lee, Fan, Li, Liang, Cao, Tang, Luo, Cheng, Cai, Chu, Chan, To, Yuen, and Sridhar / **ORIGIN:** U of Hong Kong, Special Administrative Region (SAR) China / **REF:** Lai, Poon; Lau, Woo, Li; Ge, Li, Yang; Chan, To, Tse, Jin, Yuen; Chan, Lau, To, Cheng, Woo, Yuen; Zhu, Zhang, Wang; Zhou, Yang, Wang; Chan, Kok, Zhu; Chan, Yuan, Kok; Huang, Wang, Li; To, Tsang, Leung; Cheung, Hung, Chan; Guan, Ni, Hu; WHO; Chan, Zhang, Yuan; Chu, Chan, Yuen; Chan, Chan KH., Choi; Zhou, Chu, Li; Chu, Chan, Wang; Chan, Yip, To; Iwatsuki-Horimoto, Nakajima, Ichiko; Jayaraman, Raman; Cheng, Wong, Chuang; Dharmadhikari, Mphahlele; Cowling, Zhou, Ip, Leung, Aiello; Wong, Cowling, Aiello; Hung, Cheng, Li (27 of 37). / **FUNDING:** Statement: See Financial Support — “This study was partly supported by the donations of May Tam Mak Mei Yin, Richard Yu and Carol Yu, the Shaw Foundation Hong Kong, Michael Seak-Kan Tong, Respiratory Viral Research Foundation Limited, Hui Ming, Hui Hoy and Chow Sin Lan Charity Fund Limited, Chan Yin Chuen Memorial Charitable Foundation, Marina Man-Wai Lee, the Hong Kong Hainan Commercial Association South China Microbiology Research Fund, the Jessie & George Ho

Charitable Foundation, Perfect Shape Medical Limited, and Kai Chong Tong; and funding from the Health and Medical Research Fund (grant no. COVID190121 and COVID190123), the Food and Health Bureau, The Government of the Hong Kong Special Administrative Region; the National Program on Key Research Project of China (grant no. 2020YFA0707500 and 2020YFA0707504); the Consultancy Service for Enhancing Laboratory Surveillance of Emerging Infectious Diseases and Research Capability on Antimicrobial Resistance for Department of Health of the Hong Kong Special Administrative Region Government; the Theme-Based Research Scheme (T11/707/15) of the Research Grants Council, Hong Kong Special Administrative Region; Sanming Project of 19 Medicine in Shenzhen, China (No. SZSM201911014); and the High Level-Hospital Program, Health Commission of Guangdong Province, China.”

RCT: No. Searched: *randomized, randomise, controlled, control, trial, cohort* (only in Footnotes), *clinical* (multiples, none related to type of study), with results NULL. Method: put exposed and “naive” hamsters is separate sections of a cage separated by partition representing the mask. Air blowing over exposed hamsters toward partition into the second

section. Many problems with this, among them the problem of mask simulation not representative of one wearing a mask, where you have multiple gaps around seal, etc. etc.

CONTENT: CLAIM: Non-contact transmission — of SARS-CoV-2. Surgical mask partition significantly reduced the transmission of virus via respiratory droplets and/or airborne droplet nuclei.

[NOTE: Random thought: If my argument rests upon the evidence supporting mask virion penetration and escape through gaps in seal, it means more not less virion particles enter aerosol, and so a question arises therefore how is it that in some observational studies fewer become with masks become infected than without them? Actually, that is not what the observational studies demonstrate consistently. And this does not change the fact that it's impossible to address all the confounders in such studies that might account for the dissimilarity in results.]

CCav/IR: Major caveat compromise, contradicting claim: "...surgical masks is [sic - are] most efficient in filtering out large respiratory droplets of more than $10\mu\text{m}$, but not the airborne aerosol particles of less than $5\mu\text{m}$."

OS: RESULTS: *** Virus found in 66.7% (10 of 15) hamsters exposed. Mask used to create a partition, transmission reduced to 25% — 6 of 24. First, as is typical of OS studies, to increase the case size from 15 to 24 creates a confounder. Perhaps if they used the same set size, 15, the same 6 hamsters would have gotten sick because of factors unrelated to masks versus no masks. Then the result would have been 40%, which in terms of viral contagion is borderline compared with 67%. But by the same reasoning, perhaps fewer would have gotten sick, but we don't know when care is not taken to control the experiment for these sorts of things. Besides, this sort of trial is problematic for a host of other reasons, one of them insinuated above, and that is the relative health, and immune robustness of the individual hamsters in each set. Unless tests were done to ascertain the relative immune health of each hamster in the set, and a parity was attempted between the groups, we cannot know what contribution to the results natural health status of the hamsters in each state might have made. And even then, it's *might have made*. Here is my point. These sorts of experiments can never offer anything better than inconclusive results with nothing more than apparent value. *** Here is the RULE: any observational study that virtually contradicts RCT or is

not supportable by a carefully constructed legitimate RTC that looks at the questions related to penetration, and filtration, mask fit, comfort, etc. must be suspect. It is NOT reasonable to throw out the hard evidence provided by a proper RCT in favor of questionable results obtained from an observational study. PERIOD!

SP: These yahoos are still pushing the Wuhan meat market lie. That totally compromises this study and makes it SP.

CCav: “Although we could not differentiate whether transmission occurred by respiratory droplets or airborne aerosols in this study, both types of non-contact transmission might have happened because **SURGICAL MASKS IS [SIC] MOST EFFICIENT I FILTERING OUT LARGE RESPIRATORY DROPLETS OF MORE THAN 10 μm , BUT NOT THE AIRBORNE AEROSOL PARTICLES OF LESS THAN 5 μm .”**

CCav: The researchers affirm that virus DID penetrate the mask: “Therefore, non-contact transmission still occurred in our hamster model despite a reduction of transmission when the naive hamsters were protected by mask partitioning. Alternatively, **the filtration efficiency of the masks might have declined over time during the study**

period.”

CCav: “Unlike the use of surgical masks in healthcare settings, masking in the community remains controversial.”

CE: *** “The World Health Organization found **NO EVIDENCE THAT WEARING A SURGICAL MASK BY HEALTHY PERSONS CAN PREVENT ACQUISITION OF SARS-CoV-2.**” Mentions the US CDC nevertheless recommends use because of concern about pre-symptomatic shedding. — In other words, CDC continues to assert surgical masks support source control even if they do not support PPE.

This was a poorly constructed study and frankly, at this point, I cannot trust a totally CCP embedded study that essentially is full of SS (statements of scientists) that do not follow the science stated, namely, *“surgical masks are most efficient filtering out large respiratory droplets of more than 10 μm , but not the airborne aerosol particles of less than 5 μm .”*

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (Alternate web address:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC784>

8583/)

TA refers to Asadi S., et al., Aerosol emission and superemission during human speech increase with voice loudness. *Sci. Rep.* 9, 2348 (2019). [PMC free article] [PubMed] [Google Scholar] [Ref list]

Already vetted in these notes: see

FN01.38.00.03.26-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382806/>. PDF: FN01.38.00.03.26.Aerosol emission and superemission during human speech increase with voice loudness - PMC For SUP see FN01.38.00.03.26.SUP.

TA also refers to Stadnytskyi V., Bax C. E., Bax A., Anfinrud P., The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission. *Proc. Natl. Acad. Sci. U.S.A.* 117, 11875–11877 (2020). [PMC free article] [PubMed] [Google Scholar] [Ref list]

Already vetted in these notes: see

FN01.38.00.03.27—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7275719/>. PDF: FN01.38.00.03.27.Brief Report_ The airborne lifetime of small speech droplets and their

potential importance in SARS-CoV-2 transmission -
PMC

“Multiple simulation studies ...” Show “generally available household materials had between a 58-94% filtration rate for 1- μ m bacteria particles, whereas surgical masks filtered 96% of those particles (77).”

IR: Particle/Droplet size out of range: 1 μ m is 1000 nanometers, so, that does not help us when we are looking for protection against particles that are 40-140 nm.

NOTE: * In fact, it's disturbing that a mask with pores that are 300 nanometers only blocks 96% of particles that are 1000 nanometers in size. Yikes!**

TA refers to Davies A., et al., Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? *Disaster Med. Public Health Prep.* 7, 413–418 (2013). [PMC free article] [PubMed] [Google Scholar] [Ref list] for support.

Already vetted in these notes: see
FN01.38.00.03.31—
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC710>

8646/ PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

CLAIM: “A tea cloth mask was found to filter 60% of particles between 0.02 μm and 1 μm , where surgical masks filtered 75%. That’s between 20 and 1000 nanometers — this is VERY suspicious. The study they point to is no. 78. Let’s take a look.

van der Sande M., Teunis P., Sabel R., Professional and home-made face masks reduce exposure to respiratory infections among the general population. *PloS One* **3**, e2618 (2008). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.19.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00.Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

PC: Prior to COVID: July 2008

CCP: van der Sande, Teunis, and Sabel / **ORIGIN:** National Institute for Public Health and the Environment, Netherlands; Hubert Dept. of Global

Health, Emory University, GA, US (affiliated with
CDC—

<https://www.cdcfoundation.org/what/program/cdc-hubert-global-health-award>); and Netherlands

Organisation for Applied Scientific Research,

Netherlands, McGill University, Canada. / **REF:** Lau,

Tsui, Lau, Yang; Lo, Tsang, Leung, Yeung, Wu; Low; Qu,

Xu, Zhou, Lin; Tang, Wong; WHO (2); Balazy, Adhikari,

Sivasubramani (8 of 16) / **FUNDING:** Statement:

“**Funding:** The study was funded by the Netherlands Ministry of Health, Welfare and Sports. The sponsor had no role in design and conduct of the study, in the collection, analysis and interpretation, nor in the preparation, review or approval of the manuscript.”

RCT: No. Search: randomise, randomize, control (none related to study or research methodology), clinical, cohort, trial, with results NULL. Method description very vague: “We assessed transmission reduction potential provided by personal respirators, surgical masks and home-made masks when worn during a variety of activities by healthy volunteers and a simulated patient.”

CONTENT:

CE: This seems to contradict statement made by

TA of FN01.38.00.03.00 who cited this article for support re efficacy of tea cloth: in paragraph beginning “Protective effects of face masks have been studied ...” the author mentions homemade masks made of **tea cloth** in a context that strongly suggests this would be something **far less protective** than surgical masks which are designed to protect against “respiratory droplets” because the homemade mask is much more loosely fitting. ???

CE: I found mention of the interesting size range referred to in FN01.38.00.03.00 that caught my interest: “0.02 μm to 1 μm ” but here it is a reference to the Portacount® that was used to register particles floating in the air with sizes between 0.02 μm to 1 μm , covering “most of the size range of infectious respiratory aerosols.” It is not connected with a statement that tea cloth succeeds at capturing this range of particle sizes.

CE: This statement seems to contradict TA of FN01.38.00.03.00 who suggested tea cloth was superior to surgical masks: “SURGICAL MASKS PROVIDED ABOUT TWICE AS MUCH PROTECTION AS HOME MADE MASKS, THE DIFFERENCE A BIT MORE MARKED AMONG ADULTS.”

INFO/CE: *** One thing I learn here is that increased activity decreases effectiveness of the mask. See TABLE 2. CE: By the way, this table shows the **tea cloth mask underperformed the Surgical and the European version of the N95.**

NO WHERE DOES THIS STUDY SAY TEA CLOTH MASKS BLOCKED PARTICLES SIZED AT 0.02 μm , or 20 nanometers. Wow! Unless I read the doc wrong; I'll take another look. Here is the quote, taken directly from the doc: "A tea cloth mask was found to filter 60% of particles between 0.02 m and 1 m, where surgical masks filtered 75% (78)." Unreal! I have examined this carefully for any evidence of a typo at work here, or other editing type mistake and cannot discern any. It does not seem likely the TA would lie, and then make reference to the document that proves the lie, so I have to conclude it was a careless error.

NOTE: Trying to figure this out, I searched FN01.38.00.19.00 for 60% with results NULL. There is NO statement that says tea cloth filtered 60% of anything. ???

I think I figured out what happened. TA of FN01.38.00.03.00 noticed TA of FN01.38.00.19.00 used a machine called the Portacount that registers

particles floating in air with sizes between 0.02 μm and 1 μm : “The Portacount® can register particles floating in the air with sizes between 0.02 μm to 1 μm , covering most of the size range of infectious respiratory aerosols [12].” The cited article does assert that the European equivalent of the N95, which is called “a surgical mask” by European standards, has a filtering efficiency of 95% for particles in this size range (0.02 μm to 1 μm), in the context of speaking of the effort to compare these masks to surgical and homemade cloth masks: “Each volunteer followed the same protocol wearing a Filtering Facepiece against Particles (FFP)-2 mask 1872V® (3M); which is the European equivalent of a N95 mask, a surgical mask (1818 Tie-On®, 3M; with a filtering efficiency of around 95% for particles of sizes between 0.02 μm to 1 μm ; <http://jada.ada.org/cgi/content/full/136/7/877>) and a home-made mask (made of TD Cerise Multi® teacloths, Blokker).”

However, nowhere in the cited article (FN01.38.00.19.00) is it asserted that the tea cloth or surgical masks filtered particles at the size range stipulated for the “European equivalent of the N95.” This suggests a superficial reading of the literature cited.

TA of FN01.38.00.19.00 clearly admits while N95 or equivalent face protection can filter out very fine particles (but even these don't do extremely well in the supersubmicron sizes (1 nm- 50 nm), and the surgical masks are second in efficacy and the cloth, including the tea cloth masks are at the bottom of the efficacy scale: "In contrast, surgical masks, as commonly worn in the operating theatre, are primarily used to protect the environment from the respiratory droplets produced by the wearer. With these masks, facial fit is much looser. The fit of home made masks, which could be e.g. made of a tea cloth or other comparable material available in the home, is likely to be even looser. Thus personal respirators confer a higher degree of protection than surgical masks, and these are again likely to give a higher degree of protection than home-made masks."

A RULE takes shape here: never buy into a statement that you know is so far outside the consensus, or that contradicts known established science, and I mean the science truly so-called, not that fake sort the Bible warns against. ALWAYS check it carefully. I offer this case as an example of what should be the usual protocol.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>

CLAIM: So, the claim: “A tea cloth mask was found to filter 60% of particles between 0.02 μm and 1 μm , where surgical masks filtered 75%” — is totally BOGUS because the range used here was, in the sourced article, expressive of the equipment’s ability to identify a range of particle sizes and of the efficacy of the European equivalent to the US N95 — NOT A STATEMENT ABOUT THE EFFICACY OF TEA CLOTH MASKS, or SURGICAL MASKS. This study never specified what size particle the homemade masks filtered, nor did it specify the size of particles filtered by the surgical masks — it measured filtration according to a scale that was within the range of the machine used, but did not state what size particles were being filtered by the respective masks, only indicated that the FF2P was more efficacious than the surgical, which in turn was MORE efficacious than the homemade — good night! If any study proved Surgical masks filtered particles down to a size of 20 nanometers, I would have saved my self a huge amount of grief and study — alas, too bad! It’s NOT TRUE.

Next, TA refers us to 59. Anfinrud P., Stadnytskyi V., Bax C. E., Bax A., Visualizing speech-generated oral fluid droplets with laser light scattering. *N. Engl. J. Med.* **382**, 2061–2063 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.20.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7179962/>. PDF: FN01.38.00.20.Visualizing Speech-Generated Oral Fluid Droplets with Laser Light Scattering - PMC

PC: April, 2020

CCP: Anfinrud, Stadnytski, Bax C., and Bax, A., each NIH affiliated; Bax, C Perelman School of Medicine at U of PN, PA. / **ORIGIN:** NIH, US-Maryland, Pennsylvania — New England Journal of Medicine / **REF:** Tang; Chao, Wan (2 of 4) / **FUNDING:** The Netherlands Ministry of Health, Welfare and Sports.

RCT: No. Weak methodological statement: “We assessed transmission reduction potential provided by personal respirators, surgical masks and home-made masks when worn during a variety of activities by healthy volunteers and a simulated patient.”

CONTENT:

CLAIM: “The act of speaking generates oral fluid droplets that vary widely in size,(1) and these droplets can harbor infectious virus particles. Whereas large droplets fall quickly to the ground, small droplets can dehydrate and linger as ‘droplet nuclei’ in the air, where they behave like aerosol and thereby expand the spatial extent of emitted infectious particles.(2)”

Let’s take a quick look at the doc cited for support of statement re size and extension of spatial extent:

(1) — Duguid JP. The size and the duration of air-carriage of respiratory droplets and droplet-nuclei. *J Hyg (Lond)* 1946;44:471-479. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.20.01-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2234804/pdf/jhyg00188-0053.pdf> (Full Text). PFD: FN01.38.00.20.01.The size and the duration of air-carriage of respiratory droplets and droplet-nuclei - PMC.jhyg00188-0053 For FULL TEXT: see FN01.38.00.03.20.01.The size and duration of air-carriage - droplet nuclei jhyg00188-0053

PC: 1946

CCP: Duguid, J.P. / **ORIGIN:** The Dept. of Bacteriology, Edinburgh University; No discernible CCP bias. / **REF:** None (0 of 27) / **FUNDING:** nd
Assumed author institutions.

RCT: Not asserted. Reads like a RL or SRL.

CONTENT:

INFO: *** If droplets are $>200\ \mu$ (apparently, in 1946, μ referred to μm , or micrometers) they remain airborne for only a few seconds; but if under $20\ \mu$ they remained suspended for as much as a few minutes to a few hours: “Lange & Keschichian (1925), observing droplets of an artificially atomized eosin solution, found that these remained airborne for only a few seconds if they were over $200\ \mu$ in diameter, but for as much as a few minutes or a few hours if they were under $20\ \mu$ in diameter.”

INFO: “Wells (1934) showed that droplets larger than about $100\ \mu$ in diameter fall to ground within 1 or 2 sec.” Droplets “initially smaller than $100\ \mu$ evaporate before falling to ground and so form residues, or ‘droplet-nuclei’, which can remain airborne for some

hours or EVEN SOME DAYS.” Wells evaluated water, and noted that saliva would evaporate a little more slowly, but asserted the relative influence of size would assure the “general relationships would hold.”

Falling times at 2 m (meters) in saturated air [?]

1000 μ — 0-6 seconds
200 μ — 2 seconds
100 μ — 6 sec.
30 μ — 1 minute.
10 μ — 10 minutes
1 μ — 17 hours.

Evaporation times in unsaturated air [?] at 18 C.

1000 μ — 3 minutes
200 μ — 7 seconds
100 μ — 1-7 seconds [?]
50 μ — 0-4 seconds

[APPARENTLY — anything smaller than 50 μ evaporates almost immediately.]

Nuclei larger than 5 μ are deposited in the “upper respiratory tract” (nasal cavity). Many particles smaller than 5 μ settle in the alveoli of the lungs.

SUBMICRON sized particles examined at sizes
1/4-1/2, and 1/2-1 μ .

1/4 would be .25 or 250 nanometers. So we are
still not getting into the size range of our concern.
Nevertheless, for the record:

SNEEZES:

.25-.5 — 215 particles at 1 1/2 feet and 49 at 5 ft.

COUGHS with Mouth initially CLOSED:

.25-.5 — 68 at 1 1/2 feet and 8 at 5

COUGHS with Mouth OPEN

.25-.5 — 0 at 1 1/2 ft.

SPEAKING LOUDLY:

.25-.5 — 10 at 1 1/2 feet.

Amount of particles suspended as droplet nuclei
relative to size and expulsion method:

1-2 μ — One sneeze: 26k, on cough with mouth
closed 50, and counting loudly from 1 to 100, 1.

IR: This is a great study for examining questions

like evaporation, suspension, travel, etc. But so far as our q is concerned it is otherwise IR.

The Second reference:

(2) Marr LC, Tang JW, Van Mullekom J, Lakdawala SS. Mechanistic insights into the effect of humidity on airborne influenza virus survival, transmission and incidence. *J R Soc Interface* 2019;16(150). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.20.02-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6364647/>. PDF: FN01.38.00.22.Mechanistic insights into the effect of humidity on airborne influenza virus survival, transmission and incidence - PMC (This article was referenced, or cited, in FN01.38.00.20.00)

PC: Before COVID — but close — Jan. 2019

CCP: Linsey, Tang, Mulldkom, Lakdawala (1 of 4) / **ORIGIN:** USA-VA, PA; UK — however in this date range CCP bias should be anticipated. / **REF:** Shaman (2); Yoon, Wang; Lin, Sun; Maassab; Maassab; Imai; Jin; Yang; Yang; Tang; Zhao, Jong; Lin; Lin; Zeng; Tang, Lai, Wong, Hon; Loh, Lai, Tan, Thoon, Tee, Tang; Uejio, Shaman; Nguyen; Nguyen; International Energy

Agency [?]; Cowling; Yan, Chao; Morawska; Xie, Li, Sun, Liu; Liu, Wei, Li, Ooi; Xie, Li, Chwang, Ho, Seto; Wei, Leng, Huang; You; Ud-Dean (30 of 83) / **FUNDING:** NIH (There's the Tell)

RCT: No. Statistical Analyses; MM Searched: randomise, randomize, clinical, cohort, trial, control, intervention with results NULL relative to type of trial or study. See “The application of linear and log-linear multiple regression models to the data produced modest fits and varying results about the significance of AH and RH, but we achieved the best fit to the results using a random forest model, which indicated that RH and temperature were stronger predictors of virus survival than was AH [30].”

CONTENT:

IR: Not about masks, has to do with the effect of humidity on airborne influenza virus survival, transmission and incidence. See title. (Search: *mask* only found in references, no mention in text.)

NOTE: So, if I find a need for info on the effect of humidity on virus particles, this would be a study to examine.

—> Back to **FN01.38.00.20.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7179962/>. PDF: FN01.38.00.20.00.Visualizing Speech-Generated Oral Fluid Droplets with Laser Light Scattering - PMC

INFO: They used a “532-nm green laser operating at 2.5-W optical power.” It was adjusted to create a “light sheet” approx. “1 mm thick and 150 mm tall.” Directed light sheet through “slits on the sides of a cardboard box measuring 53x46x62 cm.”

INFO: Interior of box painted black, enclosure. What this study does it show that in fact droplet nuclei does disperse from speaking.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> “An Evidence Review ...” (Alternate web address to this article:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>)

ACK: Although many studies show masks limit the emission cloud, “there are no studies that have directly measured the filtration of SMALLER OR LATERAL PARTICLES in this setting.”

ACK/CCav: “There are many standards around the world for both of these issues [filtration capabilities of the material, and the fit and design of the mask], such as the US National Institute for Occupational Safety and Health (NIOSH) N95 classification. The ‘95’ designation means that, when subjected to testing, the respirator blocks at least 96% of VERY SMALL (0.3 μm) test particles.”

IR: The important thing here is that the test size is 300 nanometers. My own research stipulates to this. Our concern is with sizes in the range of 40-140 nm.

CCav: When it comes to measuring filtration for particles at the 78-nm size, it was found that 90% of these particles penetrated all cotton masks and handkerchiefs, and 50-60% penetration occurred for surgical masks and non-woven nonmedical masks.”

The above suggests at least some value in the masks to reduce that amount of virion particles emitting or penetrating a surgical mask (50-60%), however, when considering the study earlier examined showing how many of these particles are in play, it virtually makes zero difference with regard to

infection.

***** To approach anything like what is considered effective barrier protection (95+%), we have to talk about sizes ranging >0.3 μm , or 300 nm.**

TA references a 1926 study presented by Wu Lien Teh — (4) that concluded a silk face covering with flannel added over the mouth and nose was highly effective against pneumonic plague. (I think this was a bacterial infection, but I'm not certain.)

Here is the study: Wu L. T., *A Treatise on Pneumonic Plague* (League of Nations, Health Organization, 1926), pp. 373–398. [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.22-

<https://iiif.wellcomecollection.org/pdf/b19164415>.

(That was the original link I used to access this material. When used during editing, the link was no longer working. I found a new link:

<https://wellcomecollection.org/works/drfulpc3x/items?canvas=2>. ON THE COVER PAGE FOR THIS ONLINE REPRESENTATION OF THE DOC:

<https://wellcomecollection.org/works/drfulpc3x>)

PDF: FN01.38.00.03.22.A Treatise On Pneumonic Plague b19164415

PC: 1926

CCP: WU LIEN-TEH is well respected in this field, but he does hail from a Mask friendly culture, which does appear in his findings. I cannot search the PDF of this doc. Wu's oriental orientation is evident throughout and established the beginnings of draconian mitigation measures: **“TO prevent its further spread to the sough, stoppage of passenger traffic was necessary along the railway, together with MEDICAL INSPECTION AND THE ESTABLISHMENT OF DETENTION CAMPS AND ISOLATION HOSPITALS AT IMPORTANT CENTRES.”** See p. vi.

RCT: Not asserted. (It's more of a history documentary approach rather than a scientific experimental approach.)

CONTENT: (The content of interest to this research is Chapter VII, pages 346-402, especially B. Other Measures of Personal Prophylaxis: 2. History of the Mask, and 3. The Mask as at present. Nevertheless, these sections are IR since they do not address in any

scientific manner the efficacy of masks; rather AME characterizes Wu's approach to the mask issue as we would expect.

AME: Silk covering with flannel:

p. 393 discussing this history of using masks to protect from "contagion" we learn that the Chinese have been very keen on masks for centuries before, in Harbin, in 1911, it was strongly recommended for the Chinese staff at Harbin. The mask in use was one invented by Wu Lien-Teh. It consisted of two layers of gauze enclosing a flat oblong piece of absorbent cotton 6 inches by 4 inches." p. 393-394.

CCav: Some of the early efforts to improve the efficacy of the Teh mask caused serious problems: they tried soaking it in liquid disinfectants, creosote and carbolic acid, for example, which tended to "burn the nose and other parts of the face." Corrosive-sublimate solution causes skin trouble as well as GINGIVITIS, loos of teeth, etc." p. 394.

CCav: They were sensitive to the fact that these masks leave openings around the nose and cheeks and attempted to close these off in various ingenious ways.

The latest, at that time, 1921-1926, simplified the design of Wu-Teh — so far, we've got some AME based on OS.

SS: — author indicates the mask he contrived was efficient except IN IMMEDIATE CONTACT WITH COUGHING PATIENTS. p. 395

EVIDENCE of MASK EFFICACY: p. 395:3. They used some of the same sorts of experiments used today: mask material was set between a coughing patient and agar-plates. The plates were found to be quite steril, and so it was concluded the mask “would be sufficient to protect the doctor if patients always wore masks over their nose and mouth.” p. 395

The above gauze mask seemed efficient for bacterial transmission, but for pneumonic plague, a mask made especially for this called the Mukden mask was not efficient.

“The ‘Mukden mask’ in general use during the epidemic of pneumonic plague in Manchuria during the winter of 1910 to 1911 DOES NOT PREVENT THE PASSAGE INTO THE MOUTH AND NOSTRILS OF B. prodigiousus when contained in small droplets sprayed around the mask.”

It was an enhanced guaze mask and it did not block pneumonic plague.

They tried a hood secured at the neck, with “a window in front,” which provided for breathing, and that was, I assume, covered with the equivalent of the Mukden mask, see above. “It [did] not, however, offer an absolute barrier to the passage of *prodigiosus* bacilli into the mouth and nostrils of the subject.” p. 395.

The above experiment proved the inefficiency of the Mukden mask was not soley do to the fact that it did not cover the face adequately, “BUT THAT THE BACTERIA MAY PASS DIRECTLY THROUGH THE MASK.” They determined this by putting a piece of moist cotton in the center of the mask and found it tested positive for the presence of *prodigiosus* bacilli.”

IF: Now, I’m simply curious about this; but the fact is this is all IR since it does not even come CLOSE to addressing particles of the size we are concerned with.

The conclusion was that these masks actually “lent a false sense of security, which may have led to taking unnecessary risks.” p. 395-396

They were struggling with everything we do today: loose fitting corrected by extreme measures that can never become popular because of discomfort and difficulty breathing.

Like almost EVERY study done today, the researchers conclude “It can be seen that the experimental evidence is NOT ENTIRELY IN FAVOUR OF THE ABSOLUTE PROTECTION AFFORDED BY MASKS.” p. 397

This is followed by what we hear now all the time: “We can but repeat, however, that it is impossible to base actual conditions always upon the results of experiments.” IBID.

OS dependency: “Our practical experience, gathered from the three large pneumonic-plague epidemics of North China, WHERE CERTAINLY CONDITIONS WERE RATHER FAVOURABLE FOR A SPREAD OF INFECTION, IS UNDOUBTEDLY IN FAVOUR OF THE MASK.”

Even the bit about wearing masks makes others sensitive to presence of danger and is beneficial in that way is used here.

I read the entire section dealing with mask efficacy and nothing I found recommended a silk mask covered by flannel. I certainly could have missed it, and it's possible it appears elsewhere, but there seems to be a pressing need to find it.

I will say, however, that after reading Wu-Lien Teh carefully, I would agree he advocated for masks and considered them helpful, but like all these studies I've read, his science is actually inconclusive, and the only time he mentioned a mask as "highly effective" it was related to blocking large droplets. When it came to pneumonia plague, and dealing with airborne particles, not so much.

As for the hood design being more comfortable, I beg to differ. Teh suggested these hoods were uncomfortable in certain weather and almost unbearable if they were worn more than an hour or so.

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/> — An evidence review

Next study recommended is by Van der Sande et al.

It's a study I've already vetted: van der Sande M.,

Teunis P., Sabel R., Professional and home-made face masks reduce exposure to respiratory infections among the general population. *PloS One* **3**, e2618 (2008). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

FN01.38.00.19.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

CONTINUING with **FN01.38.00.03.00** — An evidence review

SP/IR: Another misleading characterization is found in this study: “All types of masks are at least somewhat effective at protecting the wearers.” Followed by a reference to the above work—which does NOT provide any evidence cloth masks or surgical masks protect against particles smaller than 300 nm.

Next TA refers to Chu et al. Another doc I’ve already vetted: Chu D. K., et al., Physical distancing, face masks, and eye protection to prevent person-to-

person transmission of SARS-CoV-2 and COVID-19: A systematic review and meta-analysis. *Lancet* **395**, P1973–P1987 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

See Physical distancing, face masks, and eye protection to ... above. Conclusion: not an RCT, refusal to acknowledge RCTs that contradict their supposition, no definitive proof masks are effective to prevent infection, and all language asserting some efficacy is equivocal.

CONTINUING: FN01.38.00.03.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

Next he refers us to 25. MacIntyre C. R., et al., A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. *BMJ Open* **5**, e006577 (2015). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

I'm sure I've seen this study before, perhaps with those studies that prove against the thesis of these researchers. Let's take a look.

****** FN01.38.00.03.23-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC

Rated by ECDC as VERY LOW confidence:

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Prior to COVID: April 2015

CCP: MacIntyre has appeared in many apparently CCP biased studies. See also Dung, Hien, Nga, Wang. See also Australia, Vietnam, and Beijing, China in list of Author Affiliations / **ORIGIN: AUSTRALIA-NSQ** Sydney: U. of NSW, School of Public Health and Community Med., Faculty of Med.; Institute for Clinical Pathology and Med. Research. , VIETNAM-Hanoi: Ntl. Institute of Hygiene and Epidemiology. CHINA-Beijing: Beijing CDC / **REF: WHO (4);** Chughtai, Seale, MacIntyre; MacIntyre, Wang; MacIntyre, Wang, Seale; Chughtai, MacIntyre, Zheng; Chughtai, Seale, Chi; Pang, Zhu, Xu; Yang, Seale, MacIntyre; MacIntyre, Cheghtai; Chughtai, Seale, MacIntyre; MacIntyre, Dwyer; Wang; Wang, Ren; Thi; Standards Australia Ltd; Li, Wong, Chung; Institute of Med.; US CDC with WHO; MacIntyre,

Chughtai, Seale; US CDC (23 of 40) / **FUNDING:**
Statement: “**Funding:** Funding to conduct this study was received from the Australian Research Council (ARC) (grant number LP0990749).”

RCT: No. A “cluster randomized trial” See FN01.38.00.03.23a for explanation that a cluster randomized trial differs from individual RCT is that the unit of randomization is something other than the individual participant or patient. “They are particularly well suited to testing differences in a method of approach to patient care (as opposed to evaluating the physiological effects of a specific intervention).” The reason this is not ideal for testing mask efficacy is that ultimately, the question is whether masks filter the particles of interest in the study, whereas in a Cluster approach, the question is more about how to get groups to wear masks.

CONTENT:

IR: Healthcare worker study (I included this at SE005.02.12.00 in the evidence supporting my thesis).

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

He mentions “natural experiments”?

26. Ogilvie D., et al., Using natural experimental studies to guide public health action: Turning the evidence-based medicine paradigm on its head. *J. Epidemiol. Community Health* **74**, 203–208 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

******FN01.38.00.03.24-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993029/>. PDF: FN01.38.00.03.24.Using natural experimental studies to guide public health action_turning the evidence-based medicine paradigm on its head - PMC

PC: Feb. 2020

CCP: Ogilvie, Adams, Bauman, Gregg, Panter, Siefel, Wareham, White (Authors ?)/ ORIGIN: UK-CEDAR at Cambridge, and Imperial College, London; Australia- U. of Sydney, NSW, USA- Atlanta, GA CDC — so, yes, evidence of possible CCP bias / REF: UN; Lee; consider this on as of interest: Mackenbach: Politics is nothing but medicine at a larger scale”???. Cochrane; Ling; Dunning; Geng (7 of 40) / **FUNDING**: Some authors funded by the Medical Research Council, which I have

shown is Bill Gates foundation supported; also NIH is involved in this, and the US-CDC contributed funding for this paper. The Funding statement follows with the standard “disclaimer”: “The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or other funders mentioned.” This suggests CDC had a significant role in funding, or a special interest in distancing itself from the paper.

RCT: No! “Population health interventions are often implemented as natural experiments, which makes their evaluation more complex and unpredictable than a typical randomised controlled trial (RCT). We discuss the growing importance of evaluating natural experiments and their distinctive contribution to the evidence for public health policy.” (***) Taking together the SP: Aim observation below (See “SP: Aim...”) with this statement regarding method and it’s clear the researchers are growing weary of attempting to fabricate evidence supporting their masking policy and turning AWAY from RCTs to depending more heavily upon OS. It’s a CCav, effectively admitting RCTs do NOT SUPPORT their mask policy, and so they are turning to OS to find “scientific support.” *** **NOTE: NO OS STUDY (or**

“natural study”) SHOULD BE DEPENDED UPON FOR PUBLIC HEALTH POLICY THAT CONTRADICTS THE SCIENCE ESTABLISHED BY THE GOLD STANDARD OF SCIENTIFIC ENQUIRY — THE RANDOMIZED CONTROLLED TRIAL. It is absurd to argue that every carefully constructed RCT says surgical masks do not provide adequate protection from contagion or infection of disease brought on by a virus, that is surgical masks, cloth masks, etc. are not adequate to recommend as PPE or as source control, and then construct some “natural study” that contradicts the RCT based conclusions. Every person of science worth his salt knows that it is nonsense to say we have PROVED viral penetration of surgical masks sufficient to cause infection during inspiration or expiration and then say, however, when a bunch of people wear masks, somehow, magically, they become efficacious. In the same we we don’t do stupid things like argue no one should drive a car because then no one would die from auto accidents—and it is equally foolish to put everyone in a mask because the minimal and questionable benefit just *might* save a life.]

CONTENT:

SP: Aim seems to be on shifting population behavior patterns: “Nevertheless, how to shift population behaviour patterns in this way remains one of the greatest uncertainties for research and policy.”

How to “shift population behavior patterns ...” — it’s about manipulating behaviors. Discusses the difficulty of conducting “population health interventions are often implemented as natural experiments ...”

SS: “Despite smaller effect size, interventions delivered at population level to prevent non-communicable diseases generally have greater reach, impact and equity than those delivered to high-risk groups.”

NOTE: *** So that’s what they are doing with their vaccines — it’s called a “natural experiment.” There are virtually NO CONTROLS — no doubt, this explains why they are not following the controls used in the past and SHUTTING down the “experiment” although VAERS suggests many are adversely affected by the vaccine than would normally be tolerated.

SP: *** Alarming — shifting FROM science to

superstition. This study CONTRASTS “the established evidence-based practice pathway, in which RCTs generate ‘definitive’ evidence for particular interventions, with a practice-based evidence pathway in which evaluation can help adjust the compass bearing of existing policy.” **Well, this is alarming!!!!**

*** This is an effort to disconnect science from the empirical scientific method to a more subjective observational science base. **“We propose that intervention studies should focus on reducing critical uncertainties, that non-randomized study designs should be EMBRACED RATHER THAN TOLERATED and that a more nuanced approach to appraising the utility of diverse types of evidence is required.”**

SP: *** “Of course, this may appear to sit uneasily within a research funding system based on a biomedical paradigm that privileges the RCT above all other methods for establishing effectiveness. But randomisation does not necessarily hold the key to unlocking questions about public health action. Nor does the proliferation of epidemiological studies that link environmental exposures with health behaviours in a statistically robust way but are incapable of testing whether altering the former influences the

latter. If a given method or study design is chosen for its alignment with the applied research question and executed in a rigorous and transparent way, it is likely to contribute important evidence even though (and perhaps because) it falls into the implicitly disparaging category of ‘non-randomised’ studies.”

WOW! These wicked people want to bring down the standards of science to the level of Medieval inference from observations without requiring those to be tested by rigors of the scientific method. This is the kind of “science” that notices wood catches fire and conclude fire is in the wood and, under special circumstances, escapes. GOD HELP US!

NOTE: They are weary of trying to force “science” to yield the results they want to support popular public policy, so they are going to disconnect public policy from science, and attach it to a system much more “nuanced,” a system much more pliable, one that is easier to fudge and create support for an hypothesis— **from science to superstition.**

NOTE: This is an open effort to subordinate RCT (experimental research) to the influence of OS (observational studies). So they invented a term:

Decision-theoretical approach. It is defined as follows:
“A decision-theory approach utilizes relevant knowledge, theory and data both from [sic] observational and experimental studies to evaluate the likely efficacy of an intervention.”

*** GET THIS: It means if an intervention is sufficiently UNLIKELY (not proved by empirical science to be unharmed, but it is *sufficiently unlikely*) to cause net harm [Oh, my God — it *can* cause harm, but if in the aggregate, that harm is considered by “them” to be negligible, or whatever threshold they establish for this “nuanced” criteria or criterion] **THEN WE CAN MOVE TO ESTIMATE COST-EFFECTIVENESS.** In other words, if it appears to these monsters that the intervention they propose will not cause harm in the aggregate, the COLLECTIVE, then we can move completely away from any need to prove efficacy — forget about that. Let’s look at what actually matters, and that is how much this will cost. **MOVING FROM INDIVIDUAL INTERVENTION STRATEGIES BASED ON RCT TO COLLECTIVIST INTERVENTIONS BASED ON “NATURAL EXPERIMENTS.”**

**** NOTE: What about the COSTS that are overlooked, or not considered, like the cost to

personal freedom, dignity, autonomy of the body and so forth??? You can bet those “harms” will not be factored in. Besides, again, masks are not a benign intervention; over extended periods of use, beyond the degradation of human dignity, and the symbolic psychological bondage they represent, there is actual PHYSICAL HARM — interesting they are willing to think in terms of extending a minor, and likely non-existent benefit to wearing masks over a large population to estimate potential medical benefit but REFUSE TO ACKNOWLEDGE THE VERY REAL, SUBSTANTIATED NEGATIVE OF MASK WEARING AND EXTRAPOLATE THAT OUT OVER THE LARGER POPULATION TO ESTIMATE THE GREAT DAMAGE THAT WILL CERTAINLY COME FROM THIS IDEA OF UNIVERSAL MASK MANDATE POLICY.

In the section, Table 1, TA provides a glossary of selected terms. The first is Decision-theoretical approach. **This (the above) contrasts with the hypothesis-testing approach in which decisions about the efficacy of an intervention are made solely by using the findings of scientific studies that use statistical testing to evaluate their efficacy.** Here is the full quotation: “That is, we assess if the benefit relative to its cost is sufficient for the intervention to be recommended for application to

population groups under consideration. This contrasts with the hypothesis-testing approach in which decisions about the efficacy of an intervention are made solely by using the findings of scientific studies that use statistical testing to evaluate their efficacy. The hypothesis-testing approach is central to evidence-based medicine but in practice groups charged with reaching decisions about health interventions for populations also use additional evidence alongside scientific, methodological and philosophical judgements.”

[NOTE: On the question of the spelling *judgements* versus *judgments*, see <https://proofed.com/writing-tips/spelling-tips-judgement-judgment/> where it is explained that British and Australian writers might prefer to use *judgements* (referring to a decision making capacity) in preference to *judgments* (speaking more broadly and including the former but also to a sentence, or a legal or formal pronouncement).]

INFO: They define NATURAL EXPERIMENT: “The term(...)lacks an exact definition, and many variants are found in the literature. The common thread in most definitions is that exposure to the event or intervention of interest has not been manipulated by the researcher. Natural experiments are, by definition,

events that occur outside the CONTROL OF THE RESEARCHER. They are not ‘conducted’ or ‘designed’; on the contrary, they are DISCOVERED.”

NOTE: *** There it is, as I assumed above. The Pfizer/Moderna/J&J groups are conducting a NATURAL EXPERIMENT on the American population, and this certainly explains why they are not concerning themselves with the controls that were put in place back in the day when empirical science actually meant something.

*** WE ARE LOSING SCIENCE!

*** PRIMORDIAL PREVENTION: [???] The idea is to eliminate risk factors instead of focusing on reducing exposure. I would have to see what that looks like, but it sounds like it would apply to policies related to social distancing and masks. If it is deemed to be NOT HARMFUL, and not cost prohibitive, let’s impose these measures to eliminate the risk factor?? But don’t these measures merely reduce risk of exposure?? So, I’m not sure what is meant here.

*** QUASI-EXPERIMENT — really? “A situation in which the investigator lacks full control over the allocation and/or timing of intervention but

nonetheless conducts the study as if it were an experiment...” So, what’s this? Let’s PRETEND we are conducting an experiment? This eliminates the need for RANDOMIZATION — or at least it accommodates studies that lack this critical feature in scientific study.

CCav: When applying this approach to a review of literature addressing certain questions, it was found that for the question of air quality: “The evidence base, comprising non-randomized studies only, **WAS OF LOW OR VERY LOW CERTAINTY(...)**GIVEN THE HETEROGENEITY ACROSS INTERVENTIONS, OUTCOMES, AND METHODS, IT WAS **DIFFICULT TO DERIVE OVERALL CONCLUSIONS.**”

WELL, that sounds like these researchers ran in to just what I would expect them to encounter when examining such studies: INCONCLUSIVE.

They offered advice how to strengthen their non-randomized studies.

CCav: On the question of fortifying food with vitamin A to address a vitamin A deficiency: “We are uncertain whether fortifying staple foods with vitamin A alone makes little or no difference for serum retinol concentration ...” concluding that the uncertainty of

the evidence was mainly affected by risk of bias, imprecision and inconsistency.

Once again, yes, this is what I would expect from studies that are disconnected from the empirical, tested hypothesis approach where RCTs are used.

NOTE: This continues through each of the test cases they present. **Evidence that was based on the research methods advocated did not produce adequate results.**

NOTE: Nevertheless, TA moves from this examination of studies and concludes they are not adequate, to actually recommend this approach when it comes to “population,” studies. I think when one reads “population” in this study they should think in terms of “the collective,” or “the hive.”

ACK: One big obstacle is political — it’s difficult to impose on a collective the measures needed to do this sort of research.

CCav: ON THE OTHER HAND: Once again, these researchers hit on a very important admission. They recognize the bias inherent in a circumstance where research “FOLLOWS” the money, or funding. **“In this**

way [the researchers] may therefore be distorting the agenda in research” which, as they admit, would have a corresponding affect on policy.

IR: This study actually does not address the question of my research, although it was quite enlightening on other matters of importance to that research.

—> Back to FN01.38.00.03.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>

Now we go to 9. Greenhalgh T., Face coverings for the public: Laying straw men to rest. *J. Eval. Clin. Pract.* **1**, e13415 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.25-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8581764/>. PDF: FN01.38.00.03.25.Face coverings for the public_ Laying straw men to rest - PMC

PC: May, 2020

CCP: Greenhalgh (a mask crusader almost as zealous as MacIntyre) / **ORIGIN:** UK-Oxford. / **REF:**

Greenhalgh; (5) Huang, Li; WHO; Anfinrud, Bax CE; Duguid; Morawska, Johnson; Davies; van der Sande; Yokoe; Aiello (2); Kim, Lee; Hidaka; Zhang, Peng, Ou; Sung A., Sung J.; Wu, Ma, Yang; Lau, Tsui, Lau; Shin; Wu, Xu, Zhou; Zuo, Hua, Luo, Li; Yan, Chen H., Chen L.; CDC; Lai, Shih, Ko; WHO; Ngai; Cheng, Lam, Leung; (Okay, this is weird: Anonymous??—2x); Cowling, Ng; Kai; Doward (32 (not counting Anon) of 89) / **FUNDING:** “National Institute for Health Research, Grant/Award Number: BRC-1215-20008; Wellcome Trust, Grant/Award Number: WT104830MA”

RCT: No. In fact, this is no scientific study at all; it’s an argument, or a rebuttal against those who have given negative critiques her work on masks.

CONTENT: This follows the above study in the same spirit of arguing against the bias in favor of RCTs.

SP: Trish advocates embracing the “full range of evidence,” [let’s not be so provincial we think limiting ourselves to science is adequate] to “remember our professional accountability to a society in crisis.” — Here you go, “society in crisis...” it’s always the excuse used to destroy any semblance of reasoned study and go whole hog running in fear taking every ad hoc remedy thrown at us. (ad hoc referring to anything

seemingly helpful in the immediate moment without deliberation.)

SP/Mask Bias: Trisha Greenhalgh is a dedicated advocate for face coverings:

1. Greenhalgh T, Schmid MB, Czypionka T, et al. Face masks for the public during the covid-19 crisis. *BMJ*. 2020;369:m1435. 10.1136/bmj.m1435. [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]
2. Tufekci Z, Howard J, Greenhalgh T. The real reason to wear a mask. *The Atlantic*. April 22, 2020. <https://www.theatlantic.com/health/archive/2020/04/dont-wear-mask-yourself/610336/>. Accessed April 27, 2020. [[Ref list](#)]
3. Greenhalgh T, Howard J. Masks for all? The science says yes. (blog). *fast.ai*; 2020. <https://www.fast.ai/2020/04/13/masks-summary/>. Accessed April 27, 2020. [[Ref list](#)]

I know I've seen these before but can't find them. So, after I finish vetting this rebuttal against her detractors, I'll come back and read these three articles she presents as evidence for the need for masking.

She challenges her detractors to put up a point by point critique, or to "back off." She cites two who have made the effort to provide a solid critique of her work.

The are as follows:

4. Martin G, Hanna E, Dingwall R. Face masks for the public during Covid-19: an appeal for caution in policy. *Preprint*; 2020. https://wwwdoradmuacuk/bitstream/handle/2086/19526/Face%20masks%20caution%20in%20policy_v1_2020-04-22%20%28with%20disclaimers%29pdf. Accessed April 27, 2020. [[Ref list](#)]

And

5. Martin G, Hanna E, Dingwall R. Response to Greenhalgh et al. *BMJ rapid responses*; 2020. <https://www.bmj.com/content/369/bmj.m1435/rr-43>. Accessed April 27, 2020. [[Ref list](#)]

Again, after I'm done looking at this article, I'll come take a look at these also.

Her claim: Her detractors, Martin, et al, “completely ignore various types of evidence—including basic science, mathematical modeling and real-world case examples of asymptomatic transmission and super-spreader events.”

She confesses that she depended [my word] on the “narrative review by Howard et al.” See it here:

6. Howard J, Huang A, Li Z, et al. Face masks against COVID-19: an evidence review. *Preprints*; 2020. <https://www.preprints.org/manuscript/202004.0203/v1>. Accessed April 27, 2020. [[Ref list](#)]

CCP: HERE WE FIND THE CCP Bias factor —

SP: She further stipulates she avoids use of the word *mask* “when referring to a cloth face covering (either homemade or purchased) use by a member of the public.”

Her arguments consists in the following:

First, that SARS-CoV-2 is different from -1 — the -1 is a less contagious lower respiratory tract virus; the later -2 replicates in the upper respiratory tract. Offers references. But since this is not in dispute, I’ll not include review of those articles.

She explains that this means it is primarily transmitted by droplets, triggering emphasis on handwashing since droplets contaminate surfaces. She makes mention of the fact, also stipulated, that

droplets are emitted from the human respiratory tract, and that these are “relatively large,” and that these are emitted not only by coughing and sneezing “but also by speaking.” She stipulates a point I make often, that these “quickly turn into aerosols (smaller microdroplets), so unless they are controlled at source, they become much harder to block.”

I would stipulate to everything she has said thus far, adding only that it’s a mistake to discount the smaller aerosols that escape masks during expiration, or to discount the effects of desiccation on droplets. She offers a research paper supporting statements regarding droplets quickly becoming aerosols:

11. Papineni RS, Rosenthal FS. The size distribution of droplets in the exhaled breath of healthy human subjects. *J Aerosol Med.* 1997;10(2):105-116.

[\[PubMed\]](#) [\[Google Scholar\]](#) [\[Ref list\]](#)

SS: She observes that most research is on the efficacy of masks to protect the wearer, and that the current question is whether covering the face protects other people from droplets emitted by the wearer, something called source control.

But this also is stipulated: there is no objection to the statement that masks block droplets from being

emitted into the atmosphere.

[The question is will a mask block virus particles from getting into the atmosphere? The answer to that question is NO!]

SP: Essentially, her argument seems to be that because masks block large droplets from emitting into the atmosphere they defacto protect the public from spread of the virus.

Well, you see, that's the problem. Because in fact, A. while they block larger droplets ($>5\mu\text{m}$) thousands upon thousands of microdroplets escape the mask ($<3\mu\text{m}$), and B. because these larger droplets evaporate quickly, the virion is released and blown through the mask into the atmosphere, or drawn deeply into the lungs to exacerbate sickness at the source.

SS/NC: She argues that source control face coverings can POTENTIALLY, there is the obligatory NC language we ALWAYS see in these efforts to support masking, to say "source control face coverings **CAN POTENTIALLY BE VERY EFFECTIVE EVEN IF THEY ONLY BLOCK THE LARGER DROPLET PARTICLES.**"

Well, that's total SS — and AME, while at the same time presenting a CCav. She admits the smaller droplets are being emitted into the atmosphere.

Second, asymptomatic carriage is assumed, and this provides the basis for the speculation that EVERYONE MUST WEAR A MASK because who knows who is sick.

*** We can stipulate asymptomatic contagion and even transmission; but what this Mommy does not understand is that it's part of NATURE'S system of filtration. People disperse stuff from their lungs that their body is ejecting, and it dissipates into the atmosphere, where, indeed, some others receive it, and if they are healthy, generally, their natural immunity responds by adaptation, this cycles breaking down the potency of the virus. Furthermore, the virus mutates toward a less acute disease symptoms in order not to kill its host, etc. and in process of time, it's nature's way of filtering the spread. Also, the weak and susceptible are the ones most likely to be harmed by this, which is why the interventions are recommended for those persons — or in environments where there is an unusually high concentration of infectious material—but in everyday life, the healthy (including

those whose constitution is strong enough to provide antibodies that defeat the virus, maybe I should say, especially these people) should be left alone. There is an argument for letting NATURE take its course and TRUSTING the CREATOR's design.

[*** You see, this idea that *if one person is saved* from the danger of this disease there is no amount of inconvenience that is too much to ask, is a powerful deception and Satan is making use of it through his “children of disobedience.” Everyone knows that SOME virion particles will be trapped, and SOME particles will be diverted from target, and SOME people MIGHT escape infection on day one through day ten, but SOME will not, and some will be missed one day and got the next, and, you see it's nonsense, except to signal out those most susceptible to serious sickness and encourage some intervention strategies for them—but to make the whole world put on a mask because someone MIGHT get sick who would almost certainly get sick anyway is absurd. It is not sufficient basis for imposing breath limiting interventions on everyone, all day, every day — it's nonsense.]

*** It's wrong headed because this takes us down a path where if someone makes an argument that, for example, if no one drove cars, no one would die in an

automobile accident, and from there, press every example of someone hit by a car that would be alive today if only everyone would surrender their access to transportation to save just one life. (What is ironic is the same people are often very okay with purposely targeting an unborn baby for murder.)

*** Furthermore, it is very likely the number of lives saved by the availability of vehicles is greater than those lost. And further furthermore, the whole question of the harmful physical effects of masks has to be taken into consideration, beyond the psychological harm. **Some studies noting that wearing masks actually reduces natural immunity in two ways, one by blocking immunity triggering particles in small doses creating a natural barrier to the disease caused by the virus, and two, by double, triple, and more exposure to virions rebreathed —**

In other words, what about the POTENTIAL harm of masks? That's what is never, or I should say, rarely spoken to.

OS: I can't believe she used this example of an OS study to support her claim that there "**are some impressive [her word] case examples of infected**

individuals *not* [emphasis hers] passing on the virus when wearing a mask. FOR EXAMPLE ONE MAN FLEW FROM CHINA TO TORONTO WEARING A MASK FOR THE ENTIRE FLIGHT, BECAME SYMPTOMATIC THE NEXT DAY AND TESTED POSITIVE FOR COVID-19; NONE OF THE OTHER PASSENGERS OR CREW MEMBERS BECAME INFECTED. — The infamous example of inferential bias: 22. Schwartz KL, Murti M, Finkelstein M, et al. Lack of COVID-19 transmission on an international flight. *CMAJ*. 2020;192(15):E410-E410. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

The number of things WRONG with using this as an example are too many to bother attempting to stipulate them in full.

Consider this abbreviated list: 1. we don't know if the guy was contagious during the flight, it is *possible* he contracted the disease on his way home from the airport and just happens to be one of those cases that is NOT ASYMPTOMATIC; 2. we don't know if the filtration system on the plane did not effectively protect the passengers; 3. we don't know what might have happened if this person had NOT worn a mask for the entire flight; it's possible the result would have been the same because the mask did nothing, and

other factors effected the desirable result. And this goes on and on.

The problem I have with Trish using this example is that it makes me disinclined to take her seriously at all. She is supposed to be a trained scientist and therefore really should know better.

And then, her appeal to super-spreader event cases is deeply disturbing. A choir practice, where social distancing was maintained, out of which 45 to 60 people became infected proves NOTHING about masks, or face coverings, since any number of other contacts could have been made between uninfected with infected persons having nothing to do with masks — and problem with such “evidence,” is that it’s evidence of only one thing — 45 TO 60 people got infected who happened to have been at the same choir practice event — we have no idea how many more were infected that came into contact with whatever made these people sick that did not attend the event, or whether any or all of these persons were infected by someone at the event, or, and so forth.

IF this Mommy (disclosure: I don’t know if Trish has children, but what seems to be driving her conclusions is a powerful “mothering instinct”) wants

to impose policy on the rest of us on such flimsy evidence of mask efficacy, I think we need to run from her as quickly as we can.

In the Choir rehearsal case, all infections were traced to contact, but NOT NECESSARILY PHYSICAL TOUCHING. Not *necessarily*. I've been to choir rehearsals, and there is a great deal of hugging, shaking hands, touching common surfaces, using shared restroom facilities, etc. etc. etc.

There is NOTHING to say if masks were worn the results would have been any different.

Her goal is *substantial reduction* not absolute protection. However, the studies indicate there is no substantial reduction in spread by use of masks. A very recent study of over 550 school districts comparing schools with mask mandates in place and those without mask mandates showed NO substantial difference in cases. [See 884.17.2-No Relationship Between School Masking and COVID-19 Cases_ Study. (https://www.theepochtimes.com/no-relationship-between-school-masking-and-covid-19-cases-study_4497792.html?est=yMQse5BMU0GK6W7N6pJD2j4BFwvXXi6B8gwLal%2BsmR3ws0%2FmVFTp43kZGVMqQ%3D%3D)

I'll add this to my notes as PDF:
FN01.38.00.03.25a-No Relationship Between School Masking and COVID-19 Cases_ Study copy.pdf

She [Trisha] has compromised herself so completely in this study I am not going to chase down all her references. Here is one that I'm sure presents a whole list of anecdotal evidence that is virtually worthless: Kay J. COVID-19 superspreader events in 28 countries: critical patterns and lessons. *Quillette*. April 23, 2020. [[Ref list](#)]

Then she appeals to mathematical modeling — the problems with this have been discussed earlier. Figures don't lie, but liars do figure. There are so many problems with dependence upon these artificial constructs that it is near impossible to make anything more of them than to say they suggest more or less strongly support for a thesis, or raise a question worthy of further study — but these do NOT PROVE ANYTHING.

SS: “a face covering that is 60% effective at blocking a viral transmission and is worn by 60% of the population will reduce RO to below 1.0.” But that's a totally abstract way to look at this. For example ...

A person wears a mask that is 60% effective is exposed to 40% of the droplets the mask specs claim to block, that DOES NOT EVEN INCLUDE THE HUNDREDS OF THOUSANDS OF VIRIONS THE MASK DOES NOT BLOCK AT ALL!

Until that is factored in, the estimates are very weak, if not virtually meaningless. It amounts to nothing more than a “guess.” The chance that these measures effect, ultimately, any meaningful impact on transmission is unlikely, but anyone wearing these cursed masks all day, every day, or 60% of the day, and 60% of the week??? you see what I mean? ??? is almost certainly going to contribute to another statistic, and that is people who suffer from wearing masks, especially for any duration.

SS: Then she talks about “natural experiments” which we have already addressed and so far as I’m concerned, dismissed as ineffective as they are unethical.

OS: She depends ENTIRELY upon OS, points to observations taken from the case of the Czech Republic and the Republic of Austria implementing distancing on the same day, while the Czechs also

added masking. New COVID cases fell more quickly in Czech than in Austria — and viola, there you have proof — this is scary! She is supposed to be smart! The number of variables and confounders that might have contributed to these results are just totally out of the range of reasonable efforts to document here, mostly because every intelligent person with a few minutes thought can immediately see this means only one thing — according to the numbers we have available, the case rate declined more rapidly in the Czech Republic than in Austria and coincidentally, the Czechs used masks with distancing. That’s it! She even admits a confounder in this example of a “natural experiment.” “The Austrian data was confounded by changes in testing policy.” Well, now what? This is the problem with “natural experiments.” First, if indeed this was an “experiment” how dare these governments use their citizens as lab rats for their edification; and second, nothing is actually learned by these natural experiments because they depend too much on anecdotal evidence that cannot be verified—that is, replicated, since it would be impossible to reconstruct all the ad hoc factors present in the original study.

SS: Then she goes into the “precautionary principle” — weak evidence and potential harm.

The problem here is the assumption that the potential harm is entirely on the side of not wearing a mask. Never does she, or any of these people take into consideration the “potential harm” caused by wearing the mask.

*** In other words, *caution* is a principle that applies equally to both sides of a question like whether masks are efficacious and not only to one side.

*** CCav: She misapplies the precautionary principle in reverse of its usual meaning, and admits this CCav: “The term ‘precautionary principle’ does not have a fixed meaning, though I ACCEPT THAT IT IS MORE USUALLY INVOKED AS DESCRIBED BY MARTIN ET AL.”

The description she means says that when harm is not currently happening and a proposed intervention might cause harm, caution is on the side of consideration, in this case, of the downside of masks.

SP: I don’t think Trish has rightly stated the principle—it is not when there is no reason at all for the intervention that we should then consider the possible harmful effects of it before implementing it. That’s absurd. Clearly, the correct way to see this is in

a case, like what is before us, where 95% overall are naturally protected and will not die from the disease caused by this virus, consideration for an intervention that could cause harm should be weighed against the actual danger faced. Nevertheless, Trisha wants to apply it inversely, and say “when serious harm is currently happening and a proposed intervention may reduce that harm” the favor should be given to the side of implementing the intervention.

*** But that is just the sort of lib-think, socialist sort of thinking that rubs independent free people the wrong way. You are afraid I’ll make you sick by breathing naturally, so I have to impose on myself a breathing restriction to accommodate your irrational fear. Sorry! That is not a reasonable proposition.

But is it exactly the sort of thing libs do all the time. Trish might be a dedicated conservative, for all I know; but that is not my point. Libthink is collectivist think and it runs along the lines indicated above.

A measure that is “aimed” at preventing harm leaves open the debate over the measure, whether in fact it prevents harm, or causes it. That is the debate Trisha does not address, except with OS, and SS with a heavy dose of AME.

SS: “the evidence base for face coverings (described above) is not weak.” Well, I say it is! And so does virtually every serious scientist who would never subordinate real science to OS or to the SS of scientists biased by AME.

Here she cites various studies, and a cursory overview indicates I’ve looked at all of them. But, in the interest of thoroughness:

32. Cowling BJ, Fung RO, Cheng CK, et al. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. *PLoS One*. 2008;3(5):e2101. 10.1371/journal.pone.0002101. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.08.06.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/>

33. Cowling BJ, Chan KH, Fang VJ, et al. Facemasks and hand hygiene to prevent influenza transmission in households: a cluster randomized trial. *Ann Intern Med*.

2009;151(7):437-446. 10.7326/0003-4819-151-7-200910060-00142. [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

FN01.08.08.00.00-

<https://pubmed.ncbi.nlm.nih.gov/19652172/> The full text of the study:

<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>

34. Suess T, Remschmidt C, Schink SB, et al. The role of facemasks and hand hygiene in the prevention of influenza transmission in households: results from a cluster randomised trial; Berlin, Germany, 2009-2011. *BMC Infect Dis.* 2012;12(1):26. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: **FN01.08.07.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>. PDF: FN01.08.07.00.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC

35. Canini L, Andreoletti L, Ferrari P, et al. Surgical mask to prevent influenza transmission in households:

a cluster randomized trial. *PLoS One*.
2010;5(11):e13998.
10.1371/journal.pone.0013998. [[PMC free
article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Okay, I don't have this one in these notes:

FN01.38.00.03.25b-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2984432/>. PDF: FN01.38.00.03.25b.Surgical Mask to Prevent Influenza Transmission in Households_ A Cluster Randomized Trial - PMC

Rated by ECDC as LOW to MODERATE confidence. See
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Nov. 2010, based on research conducted 2008-2009

CCP: Canini, Andreoletti, Ferrari, D'Angelo, Blanchon, Lemaitre, Filleut, Ferry, Desmaizieres, Smadja, Valleron, Carrat / **ORIGIN:** France-Paris, Reims, Bordeaux, Audincourt; Italy / **REF:** Aiello, Davis; Cowling, Chan, Fang, Cheng, Fung; Cowling,

Fung, Cheng, Fang, Chan; MacIntyre, Dwyer, Seale, Cheung; Cowling, Zhou, Leung, Aiello (5 of 18) /
FUNDING: “Ministere de la Sante and la Direction des Hopitaux.”

RCT: No. Described under Methodology ... as “A cluster randomized intervention trial was conducted in France during the 2008–2009 influenza season.” It’s a species of RCT we’ve discussed several times; I’m actually interested in these “cluster randomized intervention trials” as a species of RCT that has more merit than a straight up OS, but in the end, the conclusions are OS based on research that is almost impossible to replicate.

CONTENT:

*** NOTE: One interesting revelation is that during 2010 they were stockpiling PPE equipment: “Facemasks and respirators have been stockpiled during pandemic preparedness.” Oh, really? That’s interesting since we have reason, now, to believe in 2010 Fauci was in full gof mode developing mutations of bat virus, while at the same time, these elaborate conferences on laying out a plan for the next pandemic were being conducted, and talk from Gates, Fauci, et al. was that such a pandemic was coming?????

Anyway —

CCav: “However, data on their effectiveness for limiting transmission are scarce.” Followed by conclusion: “This study should be interpreted with caution since the lack of statistical power prevents us to draw formal conclusion regarding effectiveness of facemasks in the context of a seasonal epidemic.” And finally: “WE DID NOT SHOW ANY SIGNIFICANT DIFFERENCE IN ILI PROPORTION AMONG HOUSEHOLD CONTACTS BETWEEN THE INTERVENTION ARM AND THE CONTROL ARM.” They explained their study was underpowered due to premature termination, or interruption, and the reduction of sample size. Furthermore, there was no lab verification of ILI self-reports and asymptomatic or subclinical infections might have been missed. “We did not identify any difference in adherence to mask use between household with secondary illnesses and households with secondary illness.”

IR: it’s a study on limiting the spread of LARGE DROPLETS produced during coughing in households.

As I’m reading this I see very familiar language; I’m sure I’ve seen this article before under a different

name and published in a separate doc. Oh well!

Next:

36. Larson EL, Ferng Y-H, Wong-McLoughlin J, Wang S, Haber M, Morse SS. Impact of non-pharmaceutical interventions on URIs and influenza in crowded, urban households. *Public Health Rep.* 2010;125(2):178-191. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.08.03.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821845/>

37. MacIntyre CR, Cauchemez S, Dwyer DE, et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis.* 2009;15(2):233-241. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to**

MODERATE confidence. See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

38. Barasheed O, Alfelali M, Mushta S, et al. Uptake and effectiveness of facemask against respiratory infections at mass gatherings: a systematic review. *Int J Infect Dis.* 2016;47:105-111. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.25c-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110449/>. PDF: FN01.38.00.03.25c.Uptake and effectiveness of facemask against respiratory infections at mass gatherings_ a systematic review - PMC

Oops, I found this article after creating the entry above:

Already vetted in these notes: See

FN01.32.01.00.00-

[https://www.ijidonline.com/article/S1201-9712\(16\)31010-4/fulltext](https://www.ijidonline.com/article/S1201-9712(16)31010-4/fulltext) PDF: FN01.32.01.Uptake and effectiveness of facemask against respiratory infections at mass gatherings_ a systematic review -

International Journal of Infectious Disease. (See also <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110449/>)

39. Simmerman JM, Suntarattiwong P, Levy J, et al. Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand. *Influenza Other Respir Viruses*. 2011;5(4):256-267. 10.1111/j.1750-2659.2011.00205.x. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: **FN01.01.01.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>. PDF: FN01.01.01.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC

40. Lau JT, Lau M, Kim JH, et al. Probable secondary infections in households of SARS patients in Hong Kong. *Emerg Infect Dis*. 2004;10(2):236-243. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.25d-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC332>

2902/. PDF: FN01.38.00.03.25d.Probable Secondary Infections in Households of SARS Patients in Hong Kong - PMC

PC: Prior-COVID Feb. 2004.

CCP: Lau, Lau M, Kim, Wong, Tsui, Tsang, Wong W. / **ORIGIN:** Chinese U of Hong Kong, Special Administrative Region, People's Republic of China (SAR); Dept. Health, Hong Kong SAR / **REF:** WHO (3); Lee, Hui, Wu, Chan; Honk Kong Dept. Health (3); Hong Kong Gvt. (2); Hong Kong Hospital Authority; Lau, Yang, Tsui, Kim; Chan (12 of 12) / **FUNDING:** "The study was funded from internal funds of the Faculty of Medicine of the Chinese University of Hong Kong."

RCT: No. OS. Standard study design and methods for an observational based analysis of data collected from records and interviews. Multiple confounders.

CONTENT:

INFO: It's about SARS -1

IR/AME: This is not about mask efficacy, all conclusions assume mask efficacy.

CCav: Weakness of the study illustrated:
“Moreover, individual household members who had visited the index patient when neither the index patient nor the visitor had worn a mask were more likely to have contracted SARS, when compared to those who had not visited the index patient (OR = 3.12, Table 6). Those household members who had had occasional or frequent close contacts of <1 m with the index patient were more likely than other household members to be included in the case group (OR = 2.14 and 2.30, Table 6).”

OS: This is OS, many factors could confound the results and so nothing conclusive can be determined from the data from such a loosely constructed study. There are way too many variables here that could have confounded the results.

CCav: Here are limitations that effectively rank this study as nonconclusive and WEAK:

“The study has a few limitations. First, there is no way to confirm that the probable secondary infection of household members actually came from the index patient. Nosocomial infections, rather than secondary infections, may also have occurred in some of the household members during hospital visits to the index

patient, but it is not possible to distinguish the two scenarios. The possibility of household members contracting the SARS virus in the community outside the home was, however, very small. Nevertheless, infection by environmental contamination has not been implicated as a large source of SARS except among Amoy Block E residents. Second, 44.6% of the time, information was provided by the household member most familiar with the household situation rather than the index patient. The households interviewed by the index patients and the households interviewed by proxy did not, however, differ in the distribution of risk factors. Moreover, most Hong Kong residents live in small apartments of <60 m², and many avoided going out during the SARS epidemic; the people were very sensitized to close contact to those with SARS or flu-like symptoms ([10](#)). Hence, although the results may still be influenced by recall and reporting bias, the amount of bias should not substantially alter the findings. Third, even though recall bias may be another potential problem, almost all of the interviews were made within 3 weeks after the index patient's onset of fever; given the extremely unusual nature of SARS, respondents should have been able to reliably recall the requested information. Fourth, the study was not able to cover all SARS patients in Hong Kong, but after incorrect or

unavailable contact numbers were eliminated, 78.3% of all SARS patients had been covered by this study, and the refusal rate was moderate (10.5%). Finally, the case definition of SARS was nonspecific. Data on laboratory confirmation of the SARS coronavirus were not available so it was possible that some of the cases were in fact pneumonia rather than SARS. In the later phase of the epidemic, it was possible that either case-finding became more thorough or case-finding was more specific as more information became more available. Nevertheless, it is logical to argue that the secondary attack rate declined in the later phase as the awareness was greatly heightened. It is emphasized that the figures reported in this study are probable, rather than actual attack rates.”

The last study Trish presents to support her case is ...

41. MacIntyre CR, Zhang Y, Chughtai AA, et al. Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness. *BMJ Open*. 2016;6(12):e012330. 10.1136/bmjopen-2016-012330. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.25e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223715/>. PDF: FN01.38.00.03.25e.Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness - PMC

Rated by ECDC Low to MODERATE confidence:

see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Prior to COVID: Dec. 2016.

CCP: MacIntyre (I see MacIntyre in many compromised studies, multiples deemed by ECDC as low to moderate and very low confidence —note in this study it is revealed that MacIntyre held a grant with 3M (“CRM (Chandini Raina MacIntyre) has held an Australian Research Council Linkage Grant with 3M as the industry partner, for investigator driven research” 3M is a mask manufacturer-see https://www.3m.com/3M/en_US/p/c/ppe/healthcare-masks/. MacIntyre has also received grants from Pfizer, GSK and Bio-CSL..), OTHER AUTHORS INCLUDE: Zhang, Chughtai, Seale, Zhang D., Chu, Zhang H., Rahman, Wang / **ORIGIN**: CHINA-Beijing’s CDC; Australia-NSW, US-Phoenix, AZ / **REF**: Chughtai, Seale,

MacIntyre; WHO; MacIntyre, Chughtai; Institute of Medicine; Cowling, Fung, Cheng; Cowling, Chan, Fang; MacIntyre, Dwyer; Ferng, Wong; Suess; Davies; Houang; Cowling; MacIntyre, Seale, Dung; MacIntyre, Wang; MacIntyre, Wang, Seale; Seale, Dwyer (16 of 29).
/ **FUNDING:** “This study was supported by a UNSW Goldstar award.” UNSW is University of New South Wales.

RCT: Yes, this study purports to be a Randomized Controlled Trial — to examine medical mask use as SOURCE CONTROL. However, it is DESIGNED as a “cluster randomised controlled trial — so, typical deception from the CCP deceptions — I find these to be sophisticated OS which show a great deal of AME.

CONTENT:

OS: Once again, no controlled experiment is provided to prove the masks, alone, or even significantly, contributed to the results observed.

CCav: “In an intention-to-treat analysis, rates of clinical respiratory illness ..., ILI ... and laboratory-confirmed viral infections ... were consistently lower in the mask arm compared with the control, **ALTHOUGH NOT STATISTICALLY SIGNIFICANT.**” What

this means is that it is as likely that a series of these studies would show it averages out to no difference.

CCav: “A post hoc comparison between the mask versus no-mask groups showed a protective effect against clinical respiratory illness, **BUT NOT AGAINST ILI AND LABORATORY-CONFIRMED VIRAL RESPIRATORY INFECTIONS.**”

CCav: “The study indicates a potential benefit of medical masks for source control, but is limited by small sample size and **LOW SECONDARY ATTACK RATES.** Larger trials are needed to confirm efficacy of medial masks for source control.”

Nonconclusive.

—> Back to **FN01.38.00.03.25**.Face coverings for the public_ Laying straw men to rest - PMC
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8581764/#jep13415-bib-0037>

All the rest of Trish’s study references are OS and/or are of low quality. I’ll look at her studies referenced earlier and pass on any further consideration for her studies.

Start at: These are articles Trish has co-authored:

1. Greenhalgh T, Schmid MB, Czypionka T, et al. Face masks for the public during the covid-19 crisis. *BMJ*. 2020;369:m1435. 10.1136/bmj.m1435. [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.25f-

<https://www.bmj.com/content/369/bmj.m1435.long>
(Full Text:

<https://www.bmj.com/content/369/bmj.m1435.full>)

PDF: FN01.38.00.03.25f.Face masks for the public during the covid-19 crisis

PC: April 2020

CCP: Greenhalgh (We have already established Trish is in the CCP circle and demonstrates CCP bias), other authors: Schmid, Czypionka, Bassler, Gruer / **ORIGIN:** UK-Oxford, London, Edinburgh, Glasgow; Switzerland-Zurich; Austria-Vienna. / **REF:** Feng, Shen, Xia, Song, Fan, Cowling; NHS-UK; European Commission; Long, Hu, Liu; MacIntyre, Dwyer; Jefferson; Cowling, Zhou, Ip, Leung, Aiello; Xio, Shiu, Gao; WHO (3); US CDC; MacIntyre, Seale, Dung; Fauci; Leung, Chu, Shiu; Cowling, Ng; Leung, Chu, Shiu; Lau, Tsui, Lau, Yang; Jefferson (19 of 40) / **FUNDING:** nd

INFO: (Anomaly found in the references: Footnote 34: For autocratic regimes, COVID-19 is a window to consolidate power. Newsday 2020
<https://www.newsday.co.zw/2020/04/for-autocratic-regimes-covid-19-is-a-window-to-consolidate-power/>)

RCT: No. An apologetic for the Precautionary Principle and a call to apply it in the case of COVID pandemic.

CONTENT: ***Argument: Time to apply the precautionary principle. (I've addressed this fallacy elsewhere.)

INFO: Here she offers a clarifying definition: “A strategy for approaching issues of potential harm when extensive scientific knowledge on the matter is lacking.”

*** CCav: In other words, what to do when science cannot GUIDE. Or when science does not know where to lead — SO HOW DO WE “FOLLOW THE SCIENCE” WHEN, ACCORDING TO THIS CCav SCIENCE DOES NOT KNOW WHERE TO GO?

*** NOTE: When you can't follow the *science* follow the *scientist* is a very dangerous proposition — ask survivors of Auschwitz, since you can't ask its victims.

This is enough to dismiss this paper, but let's see if she decides "to give science a chance."

*** NOTE: She clearly desires to separate the MASK question from the restrictions of EMPIRICAL science: "Evidence based medicine tends to focus predominantly on internal validity—whether primary research studies were 'done right'—using tools to assess risk of bias and adequacy of statistical analysis. External validity relates to a different question: whether findings of primary studies done in a different population with a different disease or risk state are relevant to the current policy question. WE ARGUE THAT THERE SHOULD BE A GREATER FOCUS ON EXTERNAL VALIDITY IN EVALUATION OF MASKS."

She does make a run at offering some "science" to her argument citing five studies she categorizes as follows:

CCav: They "used" to call reviews omitting RCTs
EMPTY: AN "empty review" - March 2020, that showed

NO RANDOMIZED TRIALS OF MASKS UP TO THEN DURING THE PANDEMIC. 4. Marasinghe KM. A systematic review investigating the effectiveness of face mask use in limiting the spread of COVID-19 among medically not diagnosed individuals: shedding light on current recommendations provided to individuals not medically diagnosed with covid-19. Version 2. Research Square 2020.[Preprint.] doi:10.21203/rs.3.rs-16701/v2.<https://www.researchsquare.com/article/rs-16701/v2>. Google Scholar (Latest preprint version: <https://www.researchsquare.com/article/rs-16701/v4>)

Let's look at, Face mask use among individuals who are not medically diagnosed with COVID-19: a lack of evidence for and against and implications around public health recommendations.

FN01.38.00.03.25g—
<https://www.researchsquare.com/article/rs-16701/v4>. (pdf: <https://assets.researchsquare.com/files/rs-16701/v4/04d1d213-ec47-4c46-a5f0-6692cd06b94e.pdf?c=1631846374>) PDF:
FN01.38.00.03.25g.Face mask use among individuals

who are not medically diagnosed with COVID-19_ A lack of evidence for and against and implications around public health recommendations. _ Research Square.pdf (For supplemental materials: FN01.38.00.03.25g-SUP PRISMA Checklist)

PC: Journal Pub. Sep. 2020 (Research Square)

CCP: Keshini Madara Marasinghe / ORIGIN: University of Waterloo, Ontario, CANADA. / REF: Under Footnotes: US-CDC and the FDA; Under References: [1] Refers to virus as “The Wuhan coronavirus”; [2] CDC (Americans should NOT wear masks) (3); Shen, Peng, Xiao, Zhang; Xie; [8] N95 overkill against coronavirus; WHO (4); see [21] Can face masks protect you ...?; Canadian Centre for Occupational Health ([#] noted for personal interest, except CDC reference, which counts with CCP bias suspicion — 10 of 36)

RCT: No. SRL (Inclusion criteria: “Randomized control trials (RCTs), cohort, retrospective or prospective studies that evaluated the effectiveness or ineffectiveness of face masks in limiting the spread of COVID-19 among the general population or in community settings.”)

CONTENT:

CCav: “No studies were found, demonstrating a **LACK OF EVIDENCE** for and against face mask use suggesting implications around public health recommendations provided to ‘healthy individuals’ since the beginning of the COVID-19 outbreak.”

CCav: “Very strong public health recommendations have been provided on whether they should or should not wear face masks to limit the spread of COVID-19. **A LACK OF SCIENTIFIC EVIDENCE HEAVILY QUESTIONS THE BASIS OF THESE PUBLIC HEALTH RECOMMENDATIONS PROVIDED AT THE VERY EARLY, YET A CRUCIAL STAGE OF AN OUTBREAK.**”

CCav: Researchers stipulate that it is not surprising to find a paucity of evidence regarding an outbreak that is “fairly new.” **HOWEVER, THE PUBLIC HEALTH RECOMMENDATIONS THAT HAVE BEEN PROVIDED IN THE ABSENCE OF EVIDENCE AT A VERY EARLY STAGE OF AN OUTBREAK ... ARE QUESTIONABLE.**”

NOTE: *** In other words, the whole *follow the science* bit is a ruse.

SS: After admitting there is no science, the researchers offer a series of recommendations that fall in line with the WHO and CDC [whom we have shown to be liars] and argues from a droplet point of view, advocating CCP protocols. NOTE: At this time, CDC was not recommending masks for the general public.

CCav: “Recommendations that are not supported by scientific evidence can create confusion and controversy and also increase the risk of unnecessary spread of the infection...”

SP: This is followed by, “**HOWEVER, WHILE EVIDENCE-BASED RECOMMENDATIONS ARE IDEAL, IT IS IMPERATIVE THAT PUBLIC HEALTH PROFESSIONALS RECOGNIZE THE BEST APPROACHES TO TAKE WHEN THERE IS A LACK OF EVIDENCE AROUND A PRECAUTIONARY METHOD.**”

SP: “It is unrealistic and unsuccessful to wait until the presence of evidence to provide evidence-based recommendations. **IN THE ABSENCE OF EVIDENCE, precautionary recommendations should be given greater consideration in order to prevent and lessen the widespread of the outbreak.**”

NOTE: *** So, you see — *it's not about the science.*

NOTE: Better to err on the side of caution????
Really? What about the caution that restricting natural measures for the control of such things can be damaging and exacerbate spread?

TA refers to A 2020 “systematic review”:
Long Y, Hu T, Liu L, et al. Effectiveness of N95 respirators versus surgical masks against influenza: A systematic review and meta-analysis. J Evid Based Med 2020. doi:10.1111/jebm.12381 pmid:32167245 CrossRefPubMedGoogle Scholar —

Already vetted in these notes: See
FN01.10.01.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7228345/> PDF: FN01.10.01.00.00.Effectiveness of N95 respirators versus surgical masks against influenza_ A systematic review and meta-analysis - PMC

Hu T. referenced a study that compared surgical (s.) masks and respirators (resp.), included a small trial from 2009 for resp. and s masks and no masks during influenza epidemic in Australia — that study can be evaluated at
MacIntyre CR, Cauchemez S, Dwyer DE, et al. Face

mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009;15:233-41. —TA claims this study supports a benefit of masks over no masks, and that masks were worn less than 50% of the time.

Already vetted in these notes: See

FN01.08.05.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

—> Back to **FN01.38.00.03.25f-**

<https://www.bmj.com/content/369/bmj.m1435.long>

Next, Trish cites the 2011 Cochrane review, which depended mostly on the 2009 Australian trial.

Jefferson T, Del Mar CB, Dooley L, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane Database Syst Rev* 2011;7:CD006207.. doi:10.1002/14651858.CD00

6207.pub4 pmid:21735402 CrossRef PubMed Google Scholar

Already vetted in these notes: See

FN01.38.00.08.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>. PDF: FN01.38.00.08.00.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC J

Next, TA refers us to another systematic review of face masks in influenza epidemics provided in 2010: This one is CCav:

Cowling BJ, Zhou Y, Ip DK, Leung GM, Aiello AE. Face masks to prevent transmission of influenza virus: a systematic review. *Epidemiol Infect* 2010;138:449-56. doi:10.1017/S0950268809991658 pmid:20092668 CrossRefPubMedGoogle Scholar

Already vetted in these notes: See

FN01.32.03.00.00-

<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05> PDF: FN01.32.03.00.00.Face masks to prevent

transmission of influenza virus_ a systematic review _
Epidemiology & Infection _ Cambridge Core.

The study found some efficacy of masks if worn by those with respiratory symptoms but not if worn by “asymptomatic individuals.” This would argue against asymptomatic spread. Here is the study:

Finally, Trish refers us to a 2007 systematic review and EXPERT PANEL DELIBERATION, which acknowledges the difficulties in interpreting evidence:

Aledort JE, Lurie N, Wasserman J, Bozzette SA. Non-pharmaceutical public health interventions for pandemic influenza: an evaluation of the evidence base. BMC Public Health 2007;7:208. doi:10.1186/1471-2458-7-208 pmid:17697389 CrossRef PubMed Google Scholar

Not in these notes:

FN01.38.00.03.25h-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2040158/>. PDF: FN01.38.00.03.25h.Non-pharmaceutical public health interventions for pandemic influenza_ an evaluation of the evidence base - PMC (For supplement listing all articles evaluated for use in this

study, see FN01.38.00.03.25h SUP 1471-2458-7-208-S2)

PC: Prior to COVID — 2007

CCP: Aledort, Lurie, Wasserman, Bozzette / **ORIGIN:** US-Santa Monica, CA, RAND Center for Domestic and Intl. Health Security; UCSD (San Diego) / **REF:** WHO (3); US-CDC; Abdullah; Pang, Zhu, Xu, Guo, Gong, Liu, Liu Z. Chin (all Beijing); Seto, Tsang, Yung, Ching, Ng, Ho, Ho M.; Institute of Medicine; Jong; NacIntyre (10 of 55) / **FUNDING:** US Dept. of Health and Human Services, Office of Emergency Public Health Emergency Preparedness.

RCT: No. RL. “Our formal ratings of the articles revealed few high quality studies to inform the evidence base for non-pharmaceutical interventions for influenza. The majority of topically relevant articles we identified were narrative reviews, case reports, observational studies or expert opinion, editorials and commentaries (Table2). We found only 9 systematic reviews of relevant material and 3 randomized clinical trials. Additionally, few of the topically relevant articles were directly on-point.”

CONTENT:

CCav: “With the exception of some evidence from SARS, we did not find any published data that directly support the use of masks ... by the public.”

RESULTS: CCav/SS: “In light of the evident lack of scientific evidence about specific non-pharmaceutical interventions in the context of seasonal or pandemic influenza, there was limited directly useable information from the majority of the studies identified in the formal Medline search. For this reason, we turned to expert opinion to inform and categorize the findings [14]. And “The literature contained a dearth of evidence on the efficacy or effectiveness of most non-pharmaceutical interventions for influenza.” So because there was no science, they asked the *scientist*.

CCav/SS: “IN THE ABSENCE OF STRONG SCIENTIFIC EVIDENCE, THE EXPERTS ULTIMATELY ENDORSED HAND HYGIENE AND RESPIRATORY ETIQUETTE, SURVEILLANCE AND CASE REPORTING, AND RAPID VIRAL DIAGNOSIS IN ALL SETTINGS AND DURING ALL PANDEMIC PHASES. THEY ALSO ENCOURAGED PATIENT AND PROVIDER USE OF MASKS AND OTHER PERSONAL PROTECTIVE EQUIPMENT AS WELL AS VOLUNTARY SELF-ISOLATION OF PATIENTS DURING ALL PANDEMIC

PHASES.”

CCav: “Other non-pharmaceutical interventions including mask-use and other [PPE] for the general public, school and workplace closures early in an epidemic, and mandatory travel restrictions were REJECTED as likely to be INEFFECTIVE, INFEASIBLE, OR UNACCEPTABLE TO THE PUBLIC.”

***This strongly illustrates my point that prior to COVID, scientists were NOT RECOMMENDING MASKS as a public intervention, and agreeing that there was insufficient scientific evidence to support their use.

***“**Present policy recommendations must rely heavily on EXPERT JUDGMENT.**” But what is that *expert judgment* equivocates, flip-flops, and shows strong evidence of bias from both personal interests and outside influence unrelated to science?

—> Back to **FN01.38.00.03.25f-**
<https://www.bmj.com/content/369/bmj.m1435.long>
(See also
<https://www.bmj.com/content/369/bmj.m1435.full>)

So that completes consideration of what “science”

Trish does appeal to for support.

The next article Trish participated in is 2. Tufekci Z, Howard J, Greenhalgh T. The real reason to wear a mask. *The Atlantic*. April 22, 2020. <https://www.theatlantic.com/health/archive/2020/04/dont-wear-mask-yourself/610336/>. Accessed April 27, 2020. [[Ref list](#)]

FN01.38.00.03.25i-

<https://www.theatlantic.com/health/archive/2020/04/dont-wear-mask-yourself/610336/>. PDF: FN01.38.00.03.25i.Don't Wear a Mask for Yourself - The Atlantic

PC: April 23, 2020

CCP: Greenhalgh (1 of 3) / **ORIGIN:** The Atlantic (The seething CCP friendly bias of the Atlantic is well known.) / **REF:** References are embedded in text; any of interest will be vetted below. / **FUNDING:** The Atlantic

RCT: No. A report.

CONTENT:

NOTE: This addresses the issue of masks to protect the wearer as opposed to masks worn to protect others.

[NOTE: It seems intuitive to suppose if they are not effective in the one case they would not be in the second. However, the argument depends on blocking larger droplets and does not consider aerosols containing particles smaller than 5 μm — or, to be generous, say smaller than 3 μm — and so the statements of these scientists are IR.]

NOTE: Their argument is that a key transmission route of COVID-19 is via “droplets that fly out of our mouths—that includes when we speak, not just when we cough or sneeze.”

NOTE/CCav: Well, we know that! *** The problem is as has been noted, even by the likes of Fauci, the particles carrying influenza (a la COVID) are too small to be stopped by a mask. [CCav] And in this article, it is admitted that the droplets “quickly evaporate” becoming “tiny particles whose inhalation by those nearby is hard to prevent.”

NOTE: “But the opposite concern also exists: *egress*, or transmission of particles from the wearer to

the outside world.”

SS: From here is it all SS — “Controlling [egress] is crucial to stopping the person-to-person spread of a disease.”

AME/CCav: [AME] **“Masks can be worn to protect the wearer** from getting infected or masks can be worn to protect others from being infected by the wearer. [CCav] **Protecting the wearer is difficult: It requires medical-grade respirator masks, a proper fit, and careful putting on and taking off.”**

AME: Really??? “And it’s OBVIOUS that society-wide source control becomes very important during a pandemic.” Yep! Obvious! SS — AME — and etc.

Then they just go into flat out liar mode: “Research shows that even a cotton mask **dramatically** reduces the number of virus particles emitted from our mouths—by as much as 99 percent.” REALLY!!!!!! This is nonsense, and only a little bit of work on the part of this reporter would have been necessary to avoid making this ridiculous statement.

She references a study:
<https://www.preprints.org/manuscript/202004.0203>

/v1 Let's look at it!

FN01.38.00.03.25j—

<https://www.preprints.org/manuscript/202004.0203/v1>. PDF: FN01.38.00.03.25j.Face Masks Against COVID-19- An Evidence Review (See also: <https://www.pnas.org/doi/full/10.1073/pnas.2014564118>; see also <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/> — the peer reviewed version.)

Some of these articles are published under the same or similar name but found at an alternative web address. This is a case in point. This article is the root article I'm evaluating right now: **FN01.38.00.03.00**, and one I've looked at earlier, at FN01.02.00.00.00, that is being examined more closely.

—> Back to **FN01.38.00.03.25i-**

<https://www.theatlantic.com/health/archive/2020/04/dont-wear-mask-yourself/610336/>. PDF: FN01.38.00.03.25i.Don't Wear a Mask for Yourself - The Atlantic

The next resource cited in the Atlantic article is <https://www.nejm.org/doi/full/10.1056/NEJMc2007800>. Let's see if I can find it in these notes: Yep! Found

it —

Already vetted in these notes: See
FN01.38.00.20.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7179962/>. PDF: FN01.38.00.20.00.Visualizing Speech-Generated Oral Fluid Droplets with Laser Light Scattering - PMC

Already vetted.

The Atlantic article next points to
<https://wellcomeopenresearch.org/articles/5-58>
“The contribution of pre-symptomatic infection to the transmission dynamics of COVID-2019.”

Liu Y, Centre for Mathematical Modelling of Infectious Diseases nCoV Working Group, Funk S and Flasche S. The contribution of pre-symptomatic infection to the transmission dynamics of COVID-2019 [version 1; peer review: 3 approved]. Wellcome Open Res 2020, 5:58
(<https://doi.org/10.12688/wellcomeopenres.15788.1>)

NOT IN THESE NOTES:

FN01.38.00.03.25k-

<https://wellcomeopenresearch.org/articles/5-58>.

PDF: FN01.38.00.03.25k.6b899904-1364-44e9-aca6-c5afc8704445_15788_-_yang_liu

PC: Published: Apr. 2020

CCP: Yang, Funk, Flasche / **ORIGIN:** Centre for Mathematical Modelling [US spelling: Modeling] of Infectious Diseases nCoV Working Group / **REF:** CMMID (Govt. Org.); WHO (3); Kam, Yung, Cui; Shi, Han, Jiang; Young, Ong; Bai, Yao, Wei; Tong, Tang, Li; Wu; Bi, Wu, Mei; Lli, Guan, Wu; Nishiura; Liu; R Core Team (Govt. Org.); Ip, Lau, Leung (16 of 23) / **FUNDING:** Statement: "CMMID nCoV working group funding statements: Mark Jit (**BMGF [GATES]** (INV-003174), **NIHR** (16/137/109)), Nikos I Bosse (Wellcome Trust **[GATES]** (210758/Z/18/Z)), Amy Gimma (Global Challenges Research Fund (GCRF) for the project "RECAP" managed through RCUK and ESRC (ES/P010873/1)), Petra Klepac (**BMGF [GATES]** (INV-003174)), Timothy W Russell (Wellcome Trust **[GATES]** (206250/Z/17/Z)), Fiona Sun (**NIHR** (16/137/109)), Alicia Rosello (**NIHR** (PR-OD-1017-20002)), Rein M G J Houben (European Research Council Starting Grant #757699), Charlie Diamond(**NIHR** (16/137/109)), Adam J Kucharski

(Wellcome Trust **[GATES]** (206250/Z/17/Z)), James D Munday (Wellcome Trust **[GATES]** (210758/Z/18/Z)), Thibaut Jambart (RCUK/ESRC (grant: ES/P010873/1); UK PH RST; **NIHR** HPRU Modelling Methodology), Kevin van Zandvoort (R2HC), Rosalind M Eggo (HDR UK MR/S003975/1), Hamish Gibbs (DHSC/NIHR (ITCRZ 03010)), Sam Abbott (Wellcome Trust **[GATES]** (210758/Z/18/Z)), Joel Hellewell (Wellcome Trust (210758/Z/18/Z)), Billy J Quilty (**NIHR** (16/137/109)), Christopher I Jarvis (Global Challenges Research Fund (GCRF) for the project "RECAP" managed through RCUK and ESRC (ES/P010873/1)), Kiesha Prem (**BMGF [GATES]** (INV-003174)), Samuel Clifford (Wellcome Trust **[GATES]** (208812/Z/17/Z)), Nicholas Davies (**NIHR** (HPRU-2012-10096))." [I identified those orgs associated with either the NIH or Gates. There are a few listed I suspect are funded by Gates that I did not mark because I don't have time to look into it at this time.] **FUNDING:** Partially FUNDED BY THE BILL & MELINDA GATES FOUNDATION, the NIHR, the UK. A disclaimer is attached saying the study reflects the views of the author only.

RCT: No. MM. From Methods: "Using the probability for symptom onset on a given day inferred from the incubation period, we attributed the serial

interval reported from Shenzhen, China, into likely pre-symptomatic and symptomatic transmission.”

CONTENT:

IR: Searched *mask* with results NULL. This is not about masks, it has to do with pre-symptomatic (asymptomatic) transmission. Searched mask, respirator, droplet and got no hits. IR

—> Back to **FN01.38.00.03.25i-**
<https://www.theatlantic.com/health/archive/2020/04/dont-wear-mask-yourself/610336/>. PDF:
FN01.38.00.03.25i.Don't Wear a Mask for Yourself -
The Atlantic

AME/SS: TA refers to mathematical models, academic papers, and so on — it's all superficial on the science side and biased.

SP: “While cloth masks are sufficient for protecting others ...” You’ve got to be kidding me! These people are LIARS and posing a serious danger to the public. There is no way any cloth mask that allows a human being to breathe at all is going to stop particles smaller than 3 μm , and the particle size of the virus in question is 0.125 μm .

SS: But TA declares, “The community use of masks for source control is a ‘public-good’: something we all contribute to that eventually benefits everyone.” Truth is, it’s a public nuisance and hazard.

NOTE: But, one good thing here is that the lead writer, Zeynep Tucekci, is professor at the UNIVERSITY OF NORTH CAROLINA. And she studies the interaction between digital technology, artificial intelligence, and society. This means she has no more particular expertise in the efficacy of masks than a Doctor of Systematic Theology who graduated summa cum.

—> Back to **FN01.38.00.03.25f-**
<https://www.bmj.com/content/369/bmj.m1435.long>

The next article Trish contributed to, in this case, as lead writer: 3. Greenhalgh T, Howard J. Masks for all? The science says yes. (blog). *fast.ai*; 2020. <https://www.fast.ai/2020/04/13/masks-summary/>. Accessed April 27, 2020. [[Ref list](#)]

FN01.38.00.03.25L-
<https://www.fast.ai/2020/04/13/masks-summary/>.
PDF: FN01.38.00.03.25L.Masks for all_ The science

says yes. · fast.ai.pdf

PC: April 2020

CCP: Greenhalgh, Jeremy Howard (For Howard: see <https://www.fast.ai/about/> — founding researcher at fast.ai, an honorary prof at U of Queensland; a data scientist, etc.) / **ORIGIN:** Jeremy's research org, fast.ai / **REF:** Bai, Yan, Yao, Tao, Fei, Dong, Lijuan, Wang; Morawska; Peng, Yinan, Namita, Finnie; To, Wang, Tak-Yin, Wai, Tam, Wu, Lung, Chik-Yan; Wei; Yan, Jing; Zhang, Juanjuan, Wei, Yan, Xiaowei, Xinghui, Mei; Zou, Lirong, Feng, Huang, Liang, Huang, Zhongsi, Yu (8 of 19) / **FUNDING:** nd (not disclosed)

RCT: No. No disclosure re method,

CONTENT:

SS/SP/AME: *** But purports to be science based. Rhetorically minimizes RCT: “**An artificial experiment is when a researcher allocates people (usually at random – hence the term ‘randomized controlled trial’ or RCT)** to either wearing a mask or not wearing a mask (the control group). There have been no RCTs of mask-wearing by members of the public in COVID-19. RCTs of mask-wearing to prevent

other diseases (such as influenza or tuberculosis) have tended to show a small effect which in many studies was not statistically significant. In most such studies, people assigned to the mask-wearing group didn't always wear their masks." He juxtaposes this to a "natural experiment" which is rhetorically presented as more favorable: **"A natural experiment is when we study something that is really happening** – for example when a country introduces a policy of wearing masks. South Korea, for example, had rapid community spread that tracked the trajectory in Italy in the initial weeks. Then, in late February 2020, the government provided a regular supply of masks to every citizen. From that point, everything changed. As Italy's death count accelerated to horrific levels, South Korea's actually started decreasing. Here's South Korea's number of reported cases (red), and Italy's (blue); take a close look at what happened in early March, as the impact of the mask distribution kicked in (this South Korean analysis is thanks to Hyokon Zhiang and visualization by Reshama Shaikh: (See chart under Mask-wearing experiments...))

***** TA reeks with bias, and that of itself is not problematic. The problem is the dishonesty. TA fails to point out that so-called natural experiments are generally disregarded by serious**

scientists in favor of RCTS. The reason is that in so-called natural experiments, the confounders are impossible to eliminate to any adequate degree to remove their skewing influence. For example, the illustration TA gives regarding comparative data between Italy and S. Korea. Of course, providing the data collection and reporting in on par for each country, and that is not a given, nevertheless, the number of factors that might have contributed to the different results are huge. Cultural factors (that go way beyond mask acceptance), and other anomalous differentials in the movement of something so uncontrollable as air currents, happenstance encounters with so-called super-spreaders, and a myriad of other things. For this reason, any interpretation of the comparative data between people groups **MUST BE DRIVEN BY SOLID RCT SCIENCE. In other words, if RCT science shows definitively that masks **DO NOT BLOCK VIRIONS**, it is ridiculous to assume the differences in outcomes between Italy and Korea were related even remotely to mask use, not to mention the nonsense of assuming masks were a primary contributor to the results.**

CCav: WELL — I noticed an important caveat provided by TA that restores some confidence:

“Natural experiments are scientifically imperfect, because there is no direct control group so we can’t be sure that any change is due to the masks.” Also, TA recognizes the contribution of multiple interventions, confounding ANY certainty for their conclusions: “In some countries that introduced mask-wearing, other measures such as strict social distancing, school closures, and cancellation of public events happened at around the same time.”

SP: The above notwithstanding, TA goes on to assert sufficient value to their conclusions based on admittedly imperfect (a rhetorical device intended to neutralize, or greatly weaken the caveat, since no research is PERFECT, and this is something TA knows full well) science.

Dependent on perviously vetted sources: the root source doc for this section of my review: 38.00.03.00. And 38.00.03.

Notice the specious argument, or use of inflated authority: “We’ve been looking at the science (see our papers Face Masks Against COVID-19: An Evidence Review — with 104 references!”

Oh my, 104 references, well, then that’s proof.

INFO: Some contribution to my learning here: RO refers to infection rate. A rate of 1.0 means every infected person, on average, infects one other person. A disease with less than 1.0 will die out. [And also, a disease that wanes in infectiousness to below 1.0 will die out, as ALL INFECTIONS DO.]

SP: Then they go into speculation: “The RO of the virus which causes COVID-19 was ESTIMATED at 2.4 ... although some research suggests it COULD be as high as 5.7.”

NOTE: * It never reached these numbers, by the way! But, of course, it's better to err on the side of caution, therefore, destroy the economies of the world, send millions into bankruptcy, and drive multiple thousands to suicide, because it's better to err on the side of caution.**

NOTE: In the very beginning of all this I cringed when Trump turned the nation over to the power of Medical people. It's what I've said before about turning public policy entirely into the power of medical people — their focus is very narrow and the arrogance of their assumptions is dangerous.

CE: The PHYSICS of droplets and aerosols — presented here as supporting their thesis actually contradicts it.

CCav/INFO: “Tiny micro droplets are ejected from your mouth. If you’re infectious, these contain virus particles. Only the very largest droplets end up surviving more than 0.1s before drying out and turning into droplet nuclei ... that are 3-5 times smaller than the original droplet itself, but still contain some virus.”

Their conclusion is that “It’s much easier to block droplets as they come out of your mouth, when they are much larger, compared to blocking them as they approach the face of a non-infected person who is on the receiving end of those droplets.” Stipulated, but what about the microdroplets that escape capture on either side of the masks, what about the stated desiccation of droplets, evaporating very quickly, within fractions of a second, and what about the virions thereby released — ?

SS/SP: Here is a case illustrating arrogant presumption: and these guys really should know better; I suspect that they do!

First assumption — only “large” droplets are expressed in exhalation, or coughing, etc. That is unproven, and in fact, disproven. We KNOW that microdroplets are included in the spray that is ejected from the mouth by speaking, breathing, etc.

Second assumption — the mask will trap the large droplets, given, but what happens when these dry, which these researchers stipulate occurs within 0.1 seconds, maybe a bit longer if trapped in a mask that has gotten moistened by exhalation — NOT A GOOD THING, BY THE WAY— veritable petri dish for growing bacteria — but the virions are freed from the droplet at evaporation and then SHOT into the atmosphere at the next exhale, or drawn back into the host, but this time sucked right on down more deeply which is likely to exacerbate existing infection.

CCav/SP: “For 100% protection, [SP—there is no such creature as 100% protection unless you stop breathing altogether] the wearer needs a properly fitted medical respirator (such as an N95). **BUT CLOTH MASKS, WORN BY AN INFECTED PERSON ARE HIGHLY EFFECTIVE AT PROTECTING THE PEOPLE AROUND THEM.**” (Caps, and bold type added to bring attention to this statement, the italics were added by the writers for emphasis.)

NOTE: *** Can you believe these people are legitimate scientists? Look at the false statements in this. Cloth masks are NOT *highly effective*, they are at best weak protection.

You see, if you want to argue that trapping the larger particles is at least helpful because then at least those particles didn't get out there and so you are lessening the volume of contagious particles and that has to be helpful, it is a specious argument! See below:

I've addressed this before and it's pure fallacy. I used the illustration of a machine gun firing thousands of rounds at you, and you somehow block 100 rounds — THAT DID NOT INCREASE YOUR CHANCE OF AVOIDING GETTING HIT BY THE MULTIPLE THOUSANDS OF ROUNDS THAT GOT THROUGH YOUR DEFENSES. It's nonsense.

It is so irresponsible of these medical practitioners that I must believe this paper, and papers like it are PROPAGANDA.

SP: TA mentions a study that concluded cloth masks were ineffective but complained it's because this study dropped out of consideration analysis

where the cotton masks were PERFECTLY EFFECTIVE. Yeah! Perhaps they removed those because there was suspicion these anomalous out takes were compromised and not reflective of reality. I notice TA did not cite this study in their references? Now isn't THAT suspicious omission? How did TA know the article mentioned dropped the study they mentioned unless the study mentioned REVEALED THIS? That would at least be HONEST. However, the fact that TA mentions an article they do not reference deprives the reader the opportunity to examine it for themselves. There is insufficient information here for me to track it down, however, I've read several such studies and consistently cloth masks are rated as providing the weakest protection against any other mask.

Even though TAs are restricting their interest to source control, every study I've looked at that measures efficacy of the mask to block droplets and/or particles and NONE OF THEM concludes cloth masks work BETTER than a surgical mask with the exception of a highly technical study that presented modifications to cloth masks that are, first, so onerous no one in the general public is expected to follow the instructions, and second, very restrictive of breathing, and third, the effect of the modification is not permanent, or even satisfactorily enduring.

Furthermore, all such studies prove virion particles are too small to be blocked by the masks recommended to us by Fauci, et al. when they are smaller than $3\mu\text{m}$ in diameter. That's 300 nm. I remind that the virions we are concerned with are between 40-140 nm, and the droplets we are concerned with range from 70-200 nm.

MM: *** They use mathematical modeling and I've already addressed the problems with that method. Mathematical modeling has to assume certain things, so we have a lot of AME bias in these models. If we have SCIENCE supporting the assumptions, then mathematical modeling can be helpful. But if the model depends on faulty science, or no science, only mere assumptions, the models are worthless.

CCav: IN each case, we find an important CCav — the effectiveness of mask-wearing depends on three things, one of them being the ability of the mask to block the virus. That ENDS the discussion, because no mask, except the N95, will block virions that are smaller than $3\mu\text{m}$.

*** HERE IS A GROUP OF LYING SCOUNDRELS WHO ARE BEGINNING TO PUSH US AWAY FROM REAL SCIENCE INTO FAKE SCIENCE.

NOTE: [I pointed this out above.] They are suggesting that what Fauci, et al., have called the GOLD STANDARD of scientific research, is ARTIFICIAL. Whereas, NATURAL experiments, studies that are dependent on observational science, considered by all scientists to be UNRELIABLE, but these scoundrels, these liars are now shifting the premise of science away from EMPIRICAL, *replicable*, controlled experimentation to the subjective, easily manipulated, observational studies based on anecdotal evidence. SCIENCE IS DEAD! These people are killing science in order to PUSH the masks!

SP: The lie that a natural experiment is when we study something that is actually happening is galling. When someone constructs an RCT they are studying something that is actually happening. **When someone examines anecdotal evidence, there are so many confounders, and the ability to replicate any such study is nearly impossible, and it comes down to the bias of the observer.**

CCav: CONCLUSION: “While not every piece of scientific evidence supports mask-wearing, most of it points in the same direction.”

SP: This nonsense about “keep your droplets to yourself” is absolutely one of the stupidest things I’ve heard come from the mouth of anyone purporting to be a scientist. **THE ONLY WAY TO KEEP YOUR DROPLETS TO YOUR SELF IS TO QUIT BREATHING.** Just sew the nose and mouth shut, and be done with it! Because nasty little droplets are escaping through your cloth and surgical masks and we can’t be T000 careful, so the only way to stop this is — **STOP BREATHING!**

The title for this article should be “Masks for all? The (GOVERNMENT LAPDOG) SCIENTISTS say yes.”

—> Back to **FN01.38.00.03.25f-**
<https://www.bmj.com/content/369/bmj.m1435.long>

CCav: Trish refers to a study that examined RCTs published between 1946-2018 “that tested the efficacy of face masks (including standard surgical masks and commercially produced paper face masks designed for the public) for preventing laboratory confirmed influenza. **A POOLED META-ANALYSIS FOUND NO SIGNIFICANT REDUCTION IN INFLUENZA TRANSMISSION ...**” And she offers another damning study published in April 2020 examining whether masks or other barriers, goggles shields, a veil etc.

works and found they do not provide any statistically relevant protection: “The evidence is not sufficiently strong to support the widespread use of facemasks as a protective measure against covid19.”

I’ve seen those studies and vetted them elsewhere.

She then goes into “CONTESTED INTERPRETATIONS.” She tells us what we already know, that “policy makers” have ignored (she said interpreted differently) these studies. So now we hear about what the CDC, the WHO etc had decided — which is clearly CONTRARY TO THE SCIENCE.

Both org are CCP influenced.

And, as per usual, she circles back to her advocacy for the **precautionary principle**, which I’ve addressed.

—> Back to **FN01.38.00.03.25-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8581764/> 9. Greenhalgh T., Face coverings for the public: Laying straw men to rest. *J. Eval. Clin. Pract.* **1**, e13415 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

She challenges her detractors to put up a point by point critique, or to “back off.” She cites two who have made the effort to provide a solid critique of her work. The are as follows:

4. Martin G, Hanna E, Dingwall R. Face masks for the public during Covid-19: an appeal for caution in policy. *Preprint*; 2020. https://wwwdoradmuacuk/bitstream/handle/2086/19526/Face%20masks%20caution%20in%20policy_v1_2020-04-22%20%28with%20disclaimers%29pdf. Accessed April 27, 2020. [[Ref list](#)]

And

5. Martin G, Hanna E, Dingwall R. Response to Greenhalgh et al. *BMJ rapid responses*; 2020. <https://www.bmj.com/content/369/bmj.m1435/rr-43>. Accessed April 27, 2020. [[Ref list](#)]

Again, after I’m done looking at this article, I’ll come take a look at these also.

Her claim: Detractors, Martin, et al., “completely ignore various types of evidence—including basic science, mathematical modeling and real-world case

examples of asymptomatic transmission and super-spreader events.”

She confesses that she depended [my word] on the “narrative review by Howard et al.” See it here:

6. Howard J, Huang A, Li Z, et al. Face masks against COVID-19: an evidence review. *Preprints*; 2020. <https://www.preprints.org/manuscript/202004.0203/v1>. Accessed April 27, 2020. [[Ref list](#)]

Already vetted in these note: See **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/> (See alternate: <https://pubmed.ncbi.nlm.nih.gov/33431650/>). PDF: FN01.38.00.03.An evidence review of face masks against COVID-19 - PMC — actually, this is the article I’m currently vetting. Let’s go to .

53. Asadi S., et al., Aerosol emission and superemission during human speech increase with voice loudness. *Sci. Rep.* **9**, 2348 (2019). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.26-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382806/>. PDF: FN01.38.00.03.26.Aerosol emission and superemission during human speech increase with voice loudness - PMC For SUP see FN01.38.00.03.26.SUP.

PC: Received June 2018, Accepted Jan. 2019

CCP: Asadi (1 of 6) / **ORIGIN:** US-UC Davis; NY-Dept. of Medicine; Div. of Infectious Disease / **REF:** Tang; Wei, Li; Yang, Lee, Chen, Wu, Yu; Han, Weng, Huang; Morawska; Yan; Chao; Morawska; Xie, Li, Sun, Liu; Grupta, Lin, Chen; Xi; Wong; Lau; Chun; Shinya; Xie, Li, Chwang; Liu, Wei (16 of 54) / **FUNDING:** NIAID/NIH (Fauci's group, and Collins) and a grant from NIEHS UC Davis Core Centre.

RCT: No. Used a similar particle capture method to other studies I've examined, along with mechanical means to determine volume, and to see the particles. Nothings stands out as problematic.

CONTENT: Query: Does aerosol emission and superemission during human speech increase with voice volume. Most studies concentrate on coughing and sneezing, but what about speech volume?

IR: Unrelated to mask efficacy.

INFO: *** The coughing and sneezing events emit both large easily visible droplets and large quantities of particles too small for the eye to see. However, we have long known that **NORMAL SPEECH ALSO YIELDS LARGE QUANTITIES OF PARTICLES THAT ARE TOO SMALL TO SEE BY EYE, BUT ARE LARGE ENOUGH TO CARRY A VARIETY OF COMMUNICABLE RESPIRATORY PATHOGENS.**”

[NOTE: The above is stipulated. NOTE: These particles increase in number as they get smaller, and when they get smaller than 0.3 μm no mask, other than an N95, is going to provide protection, which will not provide sufficient protection for anything smaller than 0.1 μm .]

INFO: *** The rate of particle emission during regular speech is 1-50 particles per second during regular speech. [NOTE: In a minute of speaking, from 60 to 3,600 particles are expressed into ambient atmosphere. After an hour, in a crowded room, you get the idea. **SO, EVERYBODY, STOP TALKING, STOP BREATHING.**]

CCav: This study presents what appears to me an

awkward CCav, or at the very least a strange admission that their research did very little to support their thesis: they found that some people emit a great deal more droplets of all sizes into the atmosphere than others, “consistently releasing an order of magnitude more particles than their peers.” They identify these people as “speech superemitters.” And conclude: “These results suggest that other unknown physiological factors, varying dramatically among individuals, could affect the probability of respiratory infectious disease transmission, and also help explain the existence of superspreaders who are disproportionately responsible for outbreaks of airborne infectious disease.” [*** IMPORTANT: This is a confounder in any group or community study since these groups are not screened for these so-called superspreaders.]

[Oh no! Will “they” identify “super-spreaders” and force them to wear a yellow arm band???)

IR: Anyway, none of this has to do with our particular question, although the tangential information is connected to our interest in this research. For example, it is helpful to have some data showing how much particulate matter is expressed during speech, and so forth, simply because it shows

the UTTER FUTILITY of attempting to hide behind a mask. *** **It's like putting up a cardboard barrier to protect yourself from a machine gun attack.**

INFO: *** “Indeed, recent work by Yan et al. has confirmed that significant amounts of influenza viral RNA are present in small particles (<5 μm) emitted by influenza-infected individuals during natural breathing, without coughing or sneezing.”

The article offers more interesting information, showing that human life fills ambient atmosphere with emitted particles on a scale beyond anything one might imagine:

*** “These small particles are potentially **more infectious than larger sneeze-** or cough-generated droplets for several reasons. First, smaller particles **persist in the air for longer time periods** before setting by gravity, thus increasing the probability of inhalation by susceptible individuals . Second, smaller particles have a **larger probability of penetrating further into the respiratory tract** of a susceptible individual to initiate a lower respiratory tract infection . Third, and perhaps most importantly, **speech can release dramatically larger numbers of particles compared to coughing.** Early work by

Papineni and Rosenthal and Loudon and Roberts reported that **speaking** (as exemplified by counting aloud) **releases about 2–10 times as many total particles as a single cough**. Similarly, Loudon and Roberts investigated the role of **singing** in the spread of tuberculosis and showed that the percentage of **air-borne droplet nuclei generated by singing is 6 times more than that emitted during normal talking and approximately equivalent to that released by coughing**. *[But, TA just pointed out that “speaking ... releases about 2-10 times as many total particles as a single cough”??? Similarly, see below bold.]* More recent work using advanced particle characterization techniques have yielded similar results. Chao et al. used an interferometric imaging technique to obtain the size distribution of particles larger than 2 μm and found that **counting** aloud from 1 to 100 **releases at least 6 times as many particles as an individual cough**. Likewise, Morawska and coworkers reported that counting aloud for 10 seconds followed by 10 seconds of breathing, repeated over two minutes, releases half as many particles as 30 seconds of continual coughing, which in turn releases half as many particles as saying “aah” for 30 seconds. They also reported that more particles are released when speech is voiced, which involves vocal folds vibration, rather than whispered, which does not.”

CCav: I don't think it is the intent of these researchers to present an argument against masks but the information here certainly does. The analogy I've used often, of a barrage of bullets coming at you, say 10k, and one succeeds at neutralizing 1k leaves 9k to assault the target. Anyone depending on protection that only eliminates 1k of 10k is providing NO PROTECTION AT ALL. And in the case before us, it's even worse. Because the protection used is actually exacerbating the problem, actually enhancing the strength of the attack. SO, let's look at the documentation establishing this.

To begin, consider the supporting documentation:

First: the micron-scale particles carry a variety of respiratory pathogens, such as measles virus, which are from 50-500 nm in size: footnote no. 22

22. Liljeroos L, Huiskonen JT, Ora A, Susi P, Butcher SJ. Electron cryotomography of measles virus reveals how matrix protein coats the ribonucleocapsid within intact virions. *Proceedings of the National Academy of Sciences of the United States of America*. 2011;**108**:18085–18090. doi: 10.1073/pnas.1105770108. [[PMC free](#)]

[article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.26a-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3207687/>. PDF: FN01.38.00.03.26a.Electron cryotomography of measles virus reveals how matrix protein coats the ribonucleocapsid within intact virions - PMC (For SUPPs see FN01.38.00.03.26a.SUPP 1 1105770108_pnas.201105770SI.pdf (Supporting information). This supplementary material includes six movies illustrating various aspects of the study which I did not see fit to download.)

PC: Received for review April 2011 and published Nov. 2011

CCP: Susi (1 of 5) / **ORIGIN:** Finland-Helsinki, Turku, UK-Oxford; US-IN. / **REF:** WHO; Yanagi, Takeda, Ohno; Hirano, Wang, Wong; Hirano, Ayata, Wang, Wong; Iwasaki; Suryanarayana; Tahara, Takeda, Yanagi; Oyanagi (8 of 47) / **FUNDING:** The Academy of Finland; Sigrid Juselius Foundation; Viikki Grad School in Molecular Biosciences and European Molecular Biology Organization Short-Term Fellowship.

RCT: Not asserted. See MATERIALS AND METHODS. The methods and materials used to pursue

this study are all equivalent or superior to what I've seen in other studies.

CONTENT:

IR: with regard to the question of masks. No where spoken of in this study.

INFO: They used cryotomography with subvolume averaging and immunosorbent electron microscopy to identify 3D ultrastructure of a virion. So, it has NOTHING to do with our study. However, tangentially, it provides docu for establishing the size and volume issues of concern to us.

Crytomography: see TECH30.Electron Cryotomography <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2869529/>. Essentially this tech allows 3D imaging of very small stuff: down to the range of ~4 nm—getting into the molecular world.

INFO: “WT virus” is a strain of measles virus. “The WT particles varied in diameter from about 50 to 510 nm and exhibited a multitude of different shapes ...”

—> Back to **FN01.38.00.03.26-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382806/#_ffn_sectitle

The next study referenced by TA establishes the relative size of the influenza virus at 100 nm, or 1 μm :
23. Rossman JS, Lamb RA. Influenza virus assembly and budding. *Virology*. 2011;**411**:229–236.
doi: 10.1016/j.virol.2010.12.003. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.26b-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3086653/>. PDF: FN01.38.00.03.26b.Influenza Virus Assembly and Budding - PMC

PC: Sep. 15, 2011

CCP: Actually, this question is IR in this connection. Nevertheless: Rossman, Lamb / **ORIGIN**: US-IL, Northwestern University. / **REF**: US-CDC (2); Chen (7); Cheung, Guan, Ng, Chen H. Wong, Poon; Chu; Shai; Min, Bang, Cho, Choi, Yang, Lee, Seong, Kim, Kim S, Jung, Choi, Kim IS, Cho N; Nakajima, Sato, Katano, Kaneko, Nagata, Katoaka, Tashiro, Odai, Urasawa, Hanaoka H., Watanabe, Sata T; Nanbo, Imai, Watanabe, Noda, Takahashi, Kawaoka; Nayak, Yamada; Noda, Kawaoka; Nguyen, Soto, Tatko, Ma, Ohigashi; Noda, Sagara, Yen,

Takada, Kida, Cheng, Kawaoka; Jing; Jing; Zhang, Zhuang; Saarikangas, Zhao; Saeed; Sha, Luo; Sun, Susanto; Takeda; Thaa, Veit; Tian, Gao; Wang D; Wang X; Watanabe; Yuan; Zhang (3); Zou, Wu, Lu, Huang, Chen (35 of 116). / **FUNDING:** NIH

RCT: No. Reads like a report on existing knowledge reflected in literature. Not quite a review, since TA does not offer critique of the literature, rather, as pointed out, a sort of report of consensus on questions raised. These are related to initiation of virus budding. Virus budding is about virus exiting the host cell and so furthering its infection of the host body by viral replication. (See Structural Insights into Viral Budding ...

<https://www.genengnews.com/topics/drug-discovery/structural-insights-into-viral-budding-unveil-potential-target-for-deadly-diseases/>,
TECH31.Structural Insights into Viral Budding Unveil Potential Target for Deadly Diseases <https://www.genengnews.com/topics/drug-discovery/structural-insights-into-viral-budding-unveil-potential-target-for-deadly-diseases/>)

CONTENT:

IR: This article offers no insight regarding mask

efficacy beyond tangential information helpful to understand particle size and transmission dynamic.

INFO: “The influenza virion is pleiomorphic [creating polymorphism, multiple shapes or forms], forming spherical virions that are ~100 nm in diameter as well as filamentous virions that are ~100 nm in diameter but reaching over 20 μm [20000 nm] in length.” By the way, this is in reference to influenza, which does correspond significantly to the SARS-CoV-2 virus but not in every respect. The virus causing COVID does not present in lengths of 20 μm , at least not that I have read anywhere thus far (500+ studies and counting). The question is are SARS-2 virus found as filamentous and spherical or spherical only? If SARS-2 is like the common strands of influenza perhaps they are spherical in aerosol or larger droplets but become filamentous in vivo human infection????

[SO, a question arises whether these move in a straight string or do they double and twist about, producing an overall size greater than 100 nm, perhaps even greater than 300 nm? If so, since these are the primary forms in influenza virus produced in the lungs during infection it is possible masks that block particles $>3\mu\text{m}$ might block these??? Yet, if these

are ejected as spherical only, or predominantly, we are back to the original thesis. Something to watch for as I proceed.]

INFO: So there are spherical and filamentous strands. The filamentous appear to be the most commonly replicated, *in vivo*, while the spherical seem to be the form the virus takes in transport. Nevertheless, spherical virions also are replicated. Each contains only ONE GENOME.

NOTE: Oh, but, “the loss of filament-forming ability [in eggs] may be an adaptation to growth in eggs and not specifically applicable to human infection, although it should be noted that even infections with filamentous strains produce both filamentous AS WELL AS SPHERICAL virions. It is not clear if certain infection conditions will select for one form of the virus over the other, thus research into both the filamentous as well as spherical forms of influenza virus is necessary.”

INFO: From what I’m reading, it sounds like the virions form into filamentous strains during repeated passage through the tissue of the lungs. [?] There is a question regarding the function of the filamentous versus the spherical and I propose some study is done

to determine whether the function of the filamentous strain is to anchor the virus in the tissue. **Perhaps the spherical form allows for entry, and the filamentous form serves to anchor the virus in the host.** This would suggest either that once infected, a host is less likely to infect another than it would be otherwise, or that the virus has a dynamic ability to form and break form depending on whether it is forming up for spreading the infection from its host, or forming up to maintain its foothold in the host. After all, this is the meaning of *pleiomorphic* and “The influenza virus is pleimorphic, forming spherical virions that are ~100 nm in diameter as well as filamentous virions that are ~100 nm in diameter but reaching over 20 μm in length.” [SEE NOTE: *** Supporting ...” below.]

NOTE: Apparently, the infection process involves the spherical virions — “recent data suggest that spherical virus particles binding to cells may trigger the activation of receptor tyrosine kinases, such as the epidermal growth factor receptor ... , causing cellular signaling that results in the *de novo* formation of clathrin coated pits ... , and the subsequent uptake of influenza virions.”

NOTE: *** Supporting my hypothesis: TA offers

insight concerning the discrepancy between VLP [Virus Like Particles] and virus budding, giving insight supportive of my own theory noted above: “Even when expressing all viral proteins, transfected 293T cells produce only spherical VLPs, while expression of the same viral proteins during virus-infection leads to predominantly filamentous virions **This alteration in virion morphology may be attributed to differential modification of virus proteins during infection as compared to transfection, differential interactions between viral and host proteins, or alterations in viral proteins expression or localization.**”

[NOTE: *** None of the studies I’ve examined touching on the particle size of SARS or other virions bring into consideration the length of the virus strain. Apparently, it is not a factor when considering size relative to masks. This might be on account of the fact that, 1. filamentous development is not part of transmission, but a feature of infectious process, noted above, or 2. expression of virions break down the filamentous structure into spherical; or, 3. sufficient numbers of spherical particles are expressed so as to make the issue moot.]

NOTE: It does seem that anything so long as 20 μm

(20000 nm) would require a large droplet to express, and it seems unlikely the “intelligence” evident in the activity of these living organisms would find this an efficient mechanism for reproduction. Clearly, the concern we have is with spherical virions, or filamentous virions that are under 0.3 μm in length when folded together, depending on how the particle attacks the mask.

On the question of the size of Tuberculosis sizes see footnote 24 of 26b.

24. Fennelly KP, et al. Variability of infectious aerosols produced during coughing by patients with pulmonary tuberculosis. *American Journal of Respiratory and Critical Care Medicine*. 2012;**186**:450–457. doi: 10.1164/rccm.201203-04440C. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.26c-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3443801/>. PDF: FN01.38.00.03.26c.Variability of Infectious Aerosols Produced during Coughing by Patients with Pulmonary Tuberculosis - PMC

PC: Sep. 2012

CCP: This is IR for my purpose here. Nevertheless: Ayakaka, Kim, Okwera (3 of 16) / **ORIGIN:** USA-FL, MA, NJ, AK; Uganda-Kampala; UK-London. / **REF:** CDC; Myking, Kim; Zayas, Zayas A.; Zayas, Zayas A.; Anuj (5 of 43) / **FUNDING:** Statement: “Supported by the Wellcome Trust [**GATES**]—Burroughs Wellcome Fund Infectious Diseases Initiative grant 063410/ABC/00/Z, National Institute of Health Career Development Award #1K23 AI01676 (K.P.F.), and the American Society for Tropical Medicine and Research (K.P.F.)”

RCT: Yes, and references several

CONTENT:

IR: Does not address questions re mask efficacy. Of tangential interest only.

INFO: Mycobacterium tuberculosis is transmitted by infectious aerosols.

INFO: *** “In 10 minutes of coughing... nearly all (96.4%) cultivable particles were 0.65 to 4.7 μm in size.” That’s 650 to 4700 nm, and so beyond our interest regarding mask efficacy.

INFO: Good news: “A minority of patients with TB (28%) produced culturable cough aerosols.”

INFO: On the question of volume of influenza viral RNA present in small particles (<5 µm) emitted during natural breathing, without coughing or sneezing, see footnote 25.

25. Yan J, et al. Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community. *Proceedings of the National Academy of Sciences of the United States of America*. 2018;**115**:1081–1086.
doi: 10.1073/pnas.1716561115. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.26d-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5798362/>. PDF: FN01.38.00.03.26d.From the Cover_ Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community - PMC For SUP see FN01.38.00.03.26d.SUP pnas.201716561SI.pdf

PC: Jan. 2018

CCP This is IR for present purpose. Nevertheless:

Yan, Liu (2 of 8), with Jiang, Zhang, Chen listed for “programming and statistical consultations” under acknowledgments. / **ORIGIN:** USA-MO, CA, MD — [NOTICE: the presence of Chinese scientists, or persons with Chinese heritage does NOT automatically provide grounds for dismissal of the research. The point of identifying possible Chinese or Chinese origin has NOTHING to do with China, but everything to do with concerns about CCP control and influence that might be reflected in the research or in the conclusions drawn from that research. However, there does seem to be a cultural bias in favor of masks throughout the East.] / **REF:** Nguyen-Van-Tam; Aiello; Cowling; Poon; Liu, Li, Wei; Morawska; Chao; Zhou; Kwong; Park; Rijmen (11 of 35) / **FUNDING:** Statement: “This work was funded by Centers for Disease Control and Prevention Cooperative Agreement 1U01P000497 and by NIH Grant 5RC1AI086900.”

RCT: Not asserted. See Methods: used an RCT like approach to examine exhaled breath samples. This is not a study attempting to establish mask efficacy and so the fact that the particle sizes in view here are outside our criteria is only interesting as it pertains to our query and not any claim made by TA: “The inlet cone draws in 130 L of air per minute and allowed

participants to breathe, talk, cough, and sneeze naturally throughout sample collection while maintaining >90% collection efficiency for exhaled and coughed droplets $\leq 100 \mu\text{m}$.”

CONTENT:

Concern about airborne transmission of influenza virus in aerosol shedding.

INFO: “We provide overwhelming evidence that humans generate infectious aerosols and quantitative data to improve mathematical models of transmission and public health interventions.”

INFO: **** “Fine-particle exhaled aerosols reflect infection in the lung...”. WOAHA: “**OUR OBSERVATION OF AN ASSOCIATION BETWEEN REPEATED VACCINATION AND INCREASED VIRAL AEROSOL GENERATION DEMONSTRATED THE POWER OF OUR METHOD, BUT NEEDS CONFIRMATION.**”

INFO: Coarse particles are those $> 5 \mu\text{m}$ and fine aerosols are $\leq 5 \mu\text{m}$.

INFO: *** They recovered infectious virus from 39% of the fine aerosols collected and 89% of the

nasal swabs with valid cultures.

INFO: Particle volume: The volume is expressed in notation I don't understand: the RNA copy numbers were 3.8×10 to the fourth (10000)/30 minutes fine to 1.2×10 to the fourth (10000)/30 minutes coarse aerosol sample.

INFO: *** I understand this to mean they found 3.8×10000 copies of viral RNA in the breathing aerosols collected in 30 minutes of natural breathing. That's 38,000 fine particle ($<5\mu\text{m}$) virions expressed in 30 minutes of natural breathing. 39% of these were infectious, that's 14,820 fine infectious particles in thirty minutes of normal breathing.

****** It was noted that those with flu vaccination expressed MORE infectious particles than those without vaccination.**

INFO: Apparently, infection from influenza virus is compartmentalized into upper and lower respiratory regions, and these are independent; that is, one might have upper respiratory infection and another lower region infection, and some, I suppose, can have both.

MM: *** Mathematical models are limited: they

are bound to estimates of unmeasured parameters: the viral load in exhaled breath and coughs, frequency of sneezing and so forth: “Mathematical models that have been used to understand and estimate the contribution of each mode are very sensitive to estimates of unmeasured parameters (9, 10), such as the viral load in exhaled breath and coughs and the frequency of sneezing by influenza cases (8).”

INFO: “Recent reports have shown that infectious influenza virus can be recovered from exhaled aerosols.”

INFO: *** As I pointed out earlier, the finer particles are the most infectious: “Influenza virus RNA was detected in 76% of the fine aerosol samples, 40% of the coarse-aerosol samples, and 97% of the NP swabs of enrolled volunteers.” As for VIRAL LOAD: see above, the viral RNA content of fine-aerosol samples was 3.8×10^4 th, and 1.2×10^4 th for coarse aerosols. In a cough scenario, it increases to 3.7×10^5 th — or, in a single cough, 100,000 particles are released.

INFO: The numbers seem to move about a bit, and I don’t have time to examine the study closely enough to ferret out why at this place in the study (see paragraph beginning “Viral RNA in NP swabs ...”) the

load is reported differently. Regarding cough samples, it was noted that only 3 (13%) of 23 coarse-aerosol samples where no coughs were observed had detectable viral RNA, while 11 (48%) of the corresponding 23 fine-aerosol samples had detectable viral RNA and 8 [of these? or of all?] were positive by culture.” This statement is followed by “RNA copies in the fine-aerosol, no cough samples ranged from 3.7×10^5 th (adjusted GM 1.5×10^3 rd, 95% CI 4.2×10^2 nd to 5.3×10^3 rd) and infectious virus to 1.4×10^2 nd FFU [Fluorescent Focus Units] per 30-min sample.”

NOTE: So, this seems to say that after the fine math is done, they found that normal breathing produced 370,000 particles in 30 minutes of breathing, with 140 infectious particles identifiable by FFIDA — a process that allows identification of virions.

INFO: ??? They measure the amount of fluorescence measurable from molecules which helps differentiate them by size and even type. Apparently, they tested the breath samples collected and found that out of 370k particles, 140 were infectious? Is this 14 particles, or 140 subjects tested?

The DISCUSSION section will, I hope, clarify.

1. They collected 52 samples of fine aerosols from exhaled breath, and spontaneous coughs produced by 142 cases of “Symptomatic influenza infection” during 218 clinic visits.

2. They found infectious virus in 39% of fine-aerosol samples collected during 30 minutes of normal tidal breathing.

3. This was conducted in a “large community-based study of CONFIRMED INFLUENZA INFECTION...”

4. This established that a significant fraction of influenza cases routinely shed infectious virus (not merely detectable RNA), into aerosol particles small enough to remain suspended in air and present a risk for airborne transmission.

5. This study provides for “well-grounded” parameter estimates for future models of the risk of airborne influenza transmission from people WITH SYMPTOMATIC ILLNESS.”

6. They established that cases shed considerable quantities of virus into aerosols: >100000 RNA copies per 30 minutes. This includes 1000 (or 10 to the 3rd) infectious particles per 30 minutes, allowing for “large numbers of variants [to be] transmitted via aerosols, especially in the short-range mode.”

7. Longer range concerns are greatly diminished since the atmosphere provides a large diluting

influence. (Like dropping an ounce of arsenic in Lake Cachuma.)

8. They detected culturable virus in fine aerosols during 48% of sampling sessions when no coughs were observed, so exhaled droplets, generated by breathing, are responsible for a portion of the viral load observed in fine-aerosol fraction.

NOTE: On the point that “these small particles are **POTENTIALLY MORE INFECTIOUS** than larger sneeze- or cough-generated droplets for several reasons. One [The **FIRST**] being smaller particles persist in the air for longer time periods before setting by gravity ... See footnote 26.

And **SECOND**, “smaller particles have a larger probability of penetrating further into the respiratory tract of a susceptible individual to initiate a lower respiratory tract infection.” See footnote no. 4.

And **THIRD**, “and perhaps most importantly, speech **CAN RELEASE DRAMATICALLY LARGER NUMBERS OF PARTICLES COMPARED TO COUGHING.**” For this, see footnote no.s 16, and 19. The last two studies report that “speaking (as exemplified by counting aloud) releases 2-10 times as many total particles as a single cough.” Let’s look at the docs for

this.

26. Shaman J, Kohn M. Absolute humidity modulates influenza survival, transmission, and seasonality. *Proceedings of the National Academy of Sciences of the United States of America*. 2009;**106**:3243–3248. doi: 10.1073/pnas.0806852106. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.26e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2651255/> PDF: FN01.38.00.03.26e.Absolute humidity modulates influenza survival, transmission, and seasonality - PMC (A related article cited within this study: FN01.38.00.03.26e.SUP <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2656132/>)

Small particles are potentially MORE INFECTIOUS than larger sneeze- or cough-generated droplets:

PC: March 2009.

CCP: Shaman, Kohn / **ORIGIN**: US-OR, College of Oceanic and Atmospheric Sciences; NJ, Public Health Division. / **REF**: Tang, Li; Lee; WHO; de Jong; Duguid

(5 of 32) / FUNDING: nd

RCT: Not asserted. See Method: describes equipment used and procedure to measure sizes of particles and etc. Conforms to all such studies.

CONTENT:

IR: Not about mask efficacy. Query limited to transmission. Of tangential interest.

NOTE: One of four suspected routs of transmission is “airborne transmission via expelled particles $<2.5\ \mu\text{m}$ in radius, which are referred to as droplet nuclei and remain suspended in air as aerosols for extended periods of time.”

[INFO: Interesting, this targets a size that is just under what surgical masks are expected to block — $\leq 3\ \mu\text{m}$.]

[INFO: The current threshold of *droplet nuclei* seems to be $<5\ \mu\text{m}$. The reference to droplet nuclei as $<2.5\ \mu\text{m}$ does not mean that was then the threshold, but it raises the question, when did the current threshold become the standard?]

INFO: *** RH (relative humidity) AFFECTS virus viability in two ways: greater humidity decreases evaporation time, allowing more time for the droplet to settle before it aerosolizes. And second, and influenza virus survival (IVS) increases as RH decreases, so the virion remains airborne longer.

INFO: *** Two affects begin immediately when droplets are expelled from host: sedimentation and evaporation.

INFO: Interesting: Stokes drag force — refers to the drag generated by the field in which the spherical object is moving and it is known that drag is the resistance that acts against gravity and against velocity. Drag increases with velocity, and reduces velocity according to various factors and this is accounted for in Stokes drag force equation.

NOTE: *** So a particle is sent into the atmosphere with some velocity, the drag it encounters eventually stops its forward motion, and the force of drag and gravity equal out, or balance, and the object then settles, or floats. If it is particularly small, it responds to the slightest currents of air, or reacts to greater gusts, and so forth, but it begins to be carried about by currents and gusts — these particles can remain

infectious for hours and even for days.

NOTE: *** The velocity of a particle droplet also affects evaporation, along with other factors, and evaporation quickly releases the virion particle into the air, where the drag and gravity forces equalize quickly and the particle becomes free-floating.

NOTE: *** Apparently, the reason for suggesting smaller particles are more infectious is that they remain aloft for much longer periods, in fact “droplet nuclei, because of near-surface turbulence and air currents, may stay aloft for days.”

*** I theorize that breaking the droplets free of droplets increases both the volume and life of the virion producing overall enhanced infectiousness.

On the question of smaller particles being more likely to penetrate further into the respiratory tract:

4. Gralton J, Tovey E, McLaws ML, Rawlinson WD. The role of particle size in aerosolised pathogen transmission: a review. *Journal of Infection*. 2011;**62**:1-13.
doi: 10.1016/j.jinf.2010.11.010. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

**** **FN01.38.00.03.26f-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7112663/>. PDF: FN01.38.00.03.26f.The role of particle size in aerosolised pathogen transmission_ A review - PMC

The ROLE OF PARTICLE SIZE in aerosolised pathogen transmission is dead on point of my interest.

PC: Jan. 2011

CCP: Gralton, Tovey, McLaws, Rawlinson (All hail from Australia) / **ORIGIN:** AUSTRALIA-U of NSW (or UNSW), Prince of Wales Hospital, U of Sydney. / **REF:** WHO; Yu; Yeh; Cheng, Yamada, Yeh; Cheng, Yeh; Mok; You, Want; Illi, Lau; Fung, Cowling, Chan; Lee; Huynh; Lee; Gupta, Lin, Chen; Wein; Li; Hyg; Xie, Li, Sun, Liu; Li, Hao, Lin, Chang, Wang; Tseng, Li; Lai, Huang, Chang, Lin; Chang, Kim; Yamamoto, Fujii; Ukiwe, Kwok; Park, Zhu; Li, Chwang, Seto, Ho, Yuen; Chao, Wan, Morawska; Yang, Lee, Chen, Wu, Yu; Fang, Lau, Chan, Hung, Lee; Morawska; Pui; Morawska; Wan, Chao; Tse; Wang, Li, Sun, Zhang, Zhao, Wei; Abdullah; Zayas G, Zayas A (36 of 129) / **FUNDING:** nd

RCT: No. RL “This review examines the role of

particle size in the aerosolised spread of infectious disease.”

CONTENT:

IR: Not related to mask efficacy. Tangential interest limited to particle size in relation to infection.

INFO: “Particle generation and size are key determinant for pathogen carriage, aerosolisation, and transmission.”

INFO: *** This suggests that very small particles — as small as 50 nm — can cause infection “Particle sizes generated from breathing, coughing, sneezing and talking ... [from] healthy individuals generate particles between 0.01 and 500 μm [10-500,000 nm], and individuals with infections produce particles between 0.05 and 500 μm [50-500,000 nm].”

Here is a statement supporting the claim that smaller particles are more likely to penetrate further [sic-farther] into the respiratory tract:

*** “Although small particles may also deposit in the upper airways,[26](#), [30](#), [31](#) the usual behaviour is for small particles to travel with the inhaled air current

and avoid impaction within the nasal region; this enables deposition lower in the respiratory tract^{23, 32} and the establishment of infection in this region.²⁶ Similar reasoning is also used by Nicas (2005), **who used an equilibrium size of 10 μm in diameter in risk calculations of airborne transmission.**²⁹ Based upon the likelihood of deposition in the respiratory tract rather than generated particle size, Weber and Stilianakis, in their review article, **suggest a cut-off of 10 μm in diameter to separate particles likely to transmit disease (particles ≤10 μm in diameter) from those that are less likely (particles >10 μm in diameter).**³³ This group also used this cut-off in recent computer models and proposed likely predominant airborne transmission of particles ≤10 μm in sustained disease outbreaks and likely predominant droplet transmission in short-term epidemic outbreaks.³⁴

*** Notice the MORE INFECTIOUS particles, those MOST LIKELY to TRANSMIT disease, are ≤ 10 μm. Particles larger than 10 μm are LESS LIKELY to transmit disease.

*** Lower tract infection is connected to “increased severity, morbidity and fatality due to the

possibility of causing impairment of lung function, the initiation of other chronic respiratory illness and the effects of comorbid factors.”

*** Under CONCLUSIONS: “Infectious particles less than 10 μm have more serious health implications as they are able to penetrate into the lower respiratory tract to establish infection.”

As for the issue that speech can release dramatically larger numbers of particles compared to coughing — see first,

16. Papineni RS, Rosenthal FS. The size distribution of droplets in the exhaled breath of healthy human subjects. *Journal of Aerosol Medicine and Pulmonary Drug Delivery*. 1997;**10**:105–116. [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

This article is unavailable as a free download. The publishers want \$51.00 for the study. The Abstract for the article:

FN01.38.00.03.26f1-
<https://pubmed.ncbi.nlm.nih.gov/10168531/> PDF:
FN01.38.00.03.26f1.The size distribution of droplets in the exhaled breath of healthy human subjects -

PubMed (Restricted vetting available!)

PC: Summer 1997.

CCP: Papineni, Rosenthal / **ORIGIN:** US-IN
Lafayette: Purdue U., School of Health Sciences / **REF:**
Abstract only, cited references not available. /
FUNDING: nd

RCT: Not asserted.

CONTENT: “Droplets carried in exhaled breath may carry microorganisms capable of transmitting disease over both short and long distances. ... The OPC [Optical Particle Counter] indicated a preponderance of particles less than 1 μ [where μ = a micron], although larger particles were also found.”

And then ...

19. Loudon RG, Roberts RM. Droplet expulsion from the respiratory tract. *American Review of Respiratory Disease*. 1967;**95**:435–442.
doi: 10.1164/arrd.1967.95.3.435. [[PubMed](#)]
[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

This article requires a payment of \$40 to view. I

get one page to review. From that page:

FN01.38.00.03.26f2-

https://www.atsjournals.org/doi/10.1164/arrd.1967.95.3.435?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed (Only one page available to view.) PDF: FN01.38.00.03.26f2.Droplet Expulsion from the Respiratory TRACT _ American Review of Respiratory Disease

PC: Prior COVID: May 1966.

CCP: Robert Loudon and Rena Roberts / **ORIGIN:** nd / **REF:** nd / **FUNDING:** nd

RCT: Not asserted.

CONTENT:

NOTE: Relevance: Title: Droplet Expulsion from the Respiratory TRACT.

No pertinent information is available on the one page available to peruse. Interesting only as historical background on development of understanding particle transmission.

—> Back to

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382806/#CR16> FN01.38.00.03.26.Aerosol emission ...

Done.

—> Back to

FN01.38.00.03.<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (Alternate: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>) An Evidence Review ...

“Normal speaking produces thousands of oral fluid particles (aerosols and droplets) between 1 μm and 500 μm , which can harbor respiratory pathogens, including SARS-CoV-2.”

Documentation for the above assertion was examined above, that these pathogens can include SARS-2, see the following:

54. Stadnytskyi V., Bax C. E., Bax A., Anfinrud P., The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission. *Proc. Natl. Acad. Sci. U.S.A.* **117**, 11875–11877 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google](#)

[Scholar](#)] [[Ref list](#)]

FN01.38.00.03.27-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7275719/>. PDF: FN01.38.00.03.27.Brief Report_ The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission - PMC

PC: June, 2020.

CCP: Stadnytskyi, Bax C, Bax A, Anfinrud (3 of 4) / **ORIGIN:** USA-MD, Laboratory of Chemical Physics, Ntl Inst. of Diabetes and Digestive and Kidney Disease, **NIH;** PA, Perelman School of Medicine, U of PA, CA, Stanford / **REF:** Duguid; Morawska; Yan; Chan; Chao; Asadi; Anfinrud, Bax C, Bax A.; Liu; Anfinrud, Bax C, Bax A. (9 of 20) / **FUNDING:** Intramural Research Program of the National Institute of Diabetes and Digestive and Kidney Diseases.

RCT: No. A mechanical examination of particles: “Our laser light scattering method not only provides real-time visual evidence for speech droplet emission, but also assesses their airborne lifetime. This direct visualization demonstrates how normal speech generates airborne droplets that can remain

suspended for tens of minutes or longer and are eminently capable of transmitting disease in confined spaces.”

CONTENT:

IR: Study does not address the question of mask efficacy. Our interest is in the experiment establishing SARS-CoV-2 infectious particles relative to size and volume.

NOTE: TA pushes the asymptomatic spread narrative.

INFO/CCav: “It is less widely known that normal speaking also produces thousands of oral fluid droplets with a broad size distribution (*ca.* 1 μm to 500 μm)” with “At an average viral load of 7×10^6 per milliliter (7) [That’s 7 million copies per 0.034 ounces], we estimate that 1 min of loud speaking generates at least 1,000 virion-containing droplet nuclei that remain airborne for more than 8 min.” Taken with “The independent action hypothesis (IAH)” which “states that each virion has an equal, nonzero probability of causing an infection” tells us there are a huge number of virion assaults on any mask, in the millions, and if even ONE of those penetrate, or escape

capture (an expression I use for a droplet that gets caught by the mask, but because of desiccation, eventually, and that means very quickly, escapes capture) infection is possible. No mask recommended by Fauci and friends captures 100% of even particles in the size range of $5\mu\text{m}$ (or 5000 nm).

**** NOTICE: TA explains that the IAH principle has not been proven to apply to SARS-CoV-2 and human transmission. TA argues in favor of a far less probability of transmission from droplets than heretofore estimated. I'm not sure I can verify the assertions in this passage, but if they prove out to be true, there seems to be a contradiction between the hyped up fear of transmission, and the actual probability of it.

So, first, it is stipulated that there are as many as 7 million virus RNA copies, and a maximum of 2.35×10^9 or well over 2 BN copies of virus RNA, in a milliliter (mL) of liquid (that is a huge spread)—and a mL is 0.034 ounces—this means a mL (milliliter) is about 1/4 of a teaspoon. According to TA, this means a 50,000 nm sized droplet, prior to dehydration, only has a 37% chance of containing one virion. This decreases with the shrinkage of the droplet. So that a $10\mu\text{m}$ diameter droplet has only a 0.37% probability

of containing 1 virion. WHERE IS TA GETTING THESE ESTIMATES??? Out of 7 million RNA copies, 2,590,000 are likely to be infectious. First, why is that? Second, by what study has this been determined? The reference cited supports the number of RNA copies in the volume stipulated, but TA offers no reference to support the estimates he asserts.

Nevertheless, even if we take these estimates, it means on the lower end of exposure, in a cloud of ejecta that, if concentrated, filled a quarter teaspoon, again, taking the LOWER estimate, out of 7 million RNA copies, in a 10 μm droplet, there are 25,900 active virions assaulting the mask. Of course, if it's true that the number of active virions reduces dramatically as indicated here, when we get to below 1 μm (or 1000 nm), the probability of the presence of active, or infectious virion exposure reduces to near 0. In fact, later in this study, TA estimates the probability that a 1 μm sized droplet contains one virion is 0.01%. By that estimate (and it is important to remember we are dealing with *estimates*) the probability reduces to an estimated 700 virions. Intuitively, I don't buy these estimates. And that is supported by the number of studies I've read that indicate any viral particle at a size of 125 nm is expected to be infectious. By what reasoning does TA suggest 70%, closer to 80% of viral

particles are NOT INFECTIOUS?

SS: “However, we also note that, even while the smallest droplet nuclei effectively remain airborne indefinitely and have half-lives that are dominated by the ventilation rate, at a saliva viral load of 7×10^6 copies per milliliter, the probability that a 1- μm droplet nucleus (scaled back to its originally hydrated 3- μm size) contains a virion is only 0.01%.” Essentially, TA is dismissing aerosol transmission by any droplet under 5 μm . TA provides no support documentation for this assertion. That’s why I indicated it as SS.

*** I have assumed a *virus particle* is correlated to 1 RNA strand, but from what I’m reading in this study, it almost appears TA is saying there are multiple RNA strands in each particle. Otherwise, it makes no sense to suggest out of 7 million copies of RNA only 37% of droplets that are 50000 nm in size, that could potentially carry 400 virus particles, take half that number, and say on average 50000 nm sized droplets contain 200 particles each, the number of these 50000 nm sized particles in a quarter teaspoon would be impossible for me to calculate without some computer help.

So, first, I know that 1 mL (milliliter) is 0.034 of an

ounce, which is ~ 0.25 teaspoon (tspn).

I know that 1 milliliter (mL) converts to $1e+21$ nanometers. (By the way $\#e+\#\#$ means follow the first number with a number of zeroes equal to the $+\#\#$ — or, in this case, 1 followed by 21 zeroes.)

See TECH33.Convert milliliter to cubic nanometers - Conversion of Measurement Units.

I know that it takes $1e+21$ nanometers cubed to fill a tspn. That's an incredibly large number:

See TECH34.Convert $1e+21$ to number. <https://calculator.name/scientific-notation-to-decimal/1e+21>

This number is unreadable to me: 1×10^{21} , or a 1 followed by 21 0. It looks like this
1,000,000,000,000,000,000,000. It's one sextillion.

Now that we know there are one sextillion nanometers in a tspn, we need to multiply that by 0.034 to get the number of nanometers in one mL.

That calculates to $2.94117647059e+22$. We will round off to 2.9×10^{22} . And that equals:

10,000,000,000,000,000,000 or ten quintillion times 3 or 30 quintillion.

See TECH35.[https://duckduckgo.com/?q=0.034x1%2C000%2C000%2C000%2C000%2C000%2C000&atb=v314-1&ia=calculator.jpg](https://duckduckgo.com/?q=0.034x1%2C000%2C000%2C000%2C000%2C000%2C000%2C000&atb=v314-1&ia=calculator.jpg)

Now we will divide that by 50,000 nm. which gives 600 Trillion, well, now we are getting into US deficit range. :)

See TECH36.Calculate with Large Numbers.
<https://rechneronline.de/decimal-places/large-numbers.php>

Anyway, you begin to see my dilemma. According to these calculations, a mL of ejecta COULD hold 600 trillion 5 μm droplets.

Of course, there is a great deal of other matter in 1 mL of ejecta besides virions — and apparently, the numbers indicating how many virus particles are present in a mL of ejecta are calculated premised on the observations made with their equipment.

They do not specify the LOD (limits of detection) for that equipment, and they stipulate they did not catch “every small particle” and all indications within the text of their study indicates they did not examine any particles less than 10 μm , and certainly nothing smaller than 1 μm . So this study comes down to verifying the estimates of how many of the RNA copies can be expected to be infectious.

TA did not rule out the IAH principle, In fact, it appears TA uses it and dismisses it based on their point in the moment.

For example, TA refers to it as supportive of the claim we should all be concerned about 1000 virion-containing drople nuclei airborne for more than 8 minutes: “These therefore could be inhaled by others and, according to IAH, trigger a new SARS-CoV-2 infection.”

On the other hand, **“The independent action hypothesis (IAH) states that each virion has an equal, nonzero probability of causing an infection.** Validity of IAH was demonstrated for infection of insect larvae by baculovirus (15), and of plants by Tobacco etch virus variants that carried green fluorescent protein markers (16). IAH applies to

systems where the host is highly susceptible, **but the extent to which IAH is valid for humans and SARS-CoV-2 has not yet been firmly established.** For COVID-19, with an oral fluid average virus RNA load of 7×10^6 copies per milliliter (maximum of 2.35×10^9 copies per milliliter) (7), the probability that a 50- μm -diameter droplet, prior to dehydration, contains at least one virion is $\sim 37\%$. For a 10- μm droplet, this probability drops to 0.37%, and the probability that it contains more than one virion, if generated from a homogeneous distribution of oral fluid, is negligible. **Therefore, airborne droplets pose a significant risk only if IAH applies to human virus transmission.** Considering that frequent person-to-person transmission has been reported in community and health care settings, **it appears likely that IAH applies to COVID-19 and other highly contagious airborne respiratory diseases,** such as influenza and measles.” [See eval of the the article referenced: FN01.38.00.03.27a]

So, you see what appears to be rhetorical sleight of hand—. He essentially dismisses aerosol transmission for any droplets $\leq 50 \mu\text{m}$, or 50,000 nm, on the basis of the probabilities he asserted, for which, by the way, TA does not provide documentation to support. I’ll check the footnotes, or references, he cites supporting other

comments, just in case there is support for these assertions there, but that is not the way references/footnotes are notated, usually. It's footnote no. 7. It is indicated where one would expect it to support the statement regarding how many RNA copies there are in a mL of ejecta — I've seen numbers like these before, perhaps here, and they do not present a challenge to my thesis. However, if TA is accurate in his probability assertions, there seems to be little concern for infection from droplets smaller than 10 μm . But then, he contradicts himself, and says based on the fact that person to person transmission seems to occur with COVID-19, and other influenza like illnesses, "IT APPEARS LIKELY THAT IAH APPLIES TO COVID-19 AND OTHER HIGHLY CONTAGIOUS AIRBORNE RESPIRATORY DISEASES, SUCH AS INFLUENZA AND MEASLES."

I can't believe I did not read this more carefully the first time through. WHY TA threw in the hypothesis with his probability assessments and then turn around and undermine them is something I can't figure! Is this something that is being contemplated among the dudes???

But, where did he come up with the idea, that only 37% of RNA present in a mL of ejecta are likely to be

infectious, that is, virions?

He presents footnote 7, as I pointed out, at a place supporting a different claim, but let's look at it.

Wölfel R., et al., Virological assessment of hospitalized patients with COVID-2019. Nature, 10.1038/s41586-020-2196-x (2020). [PubMed] [CrossRef] [Google Scholar]

FN01.38.00.03.27a-

<https://www.nature.com/articles/s41586-020-2196-x>. (pdf: <https://www.nature.com/articles/s41586-020-2196-x.pdf>) PDF: FN01.38.00.03.27a.Virological assessment of hospitalized patients with COVID-2019 (For SUPP see FN01.38.00.03.27a.SUPP 41586_2020_2196_MOESM1_ESM) (This article as been UPDATED: access to updated version got complicated. Besides, I need to vet the one referenced by TA above.)

PC: April 2020; Author corrected publication date: Dec. 2020

CCP: All Authors from Germany, except Jones (UK) / **ORIGIN**: Germany-Munich, Berlin; UK-Cambridge / **REF**: Zhu; WHO; Leung; Zou; Young; Poon; Xu; Zhou;

Leung; Chen (10 of 28). / **FUNDING:** nd

RCT: Not asserted. Under METHODS TA lays out a thorough explanation of methodology employed. It is characterized as a Clinical Trial. Essentially, the researchers tested patients and analyzed results of their findings.

CONTENT: CLAIM I'm looking to support: remember, the only reason I'm looking at this study is that TA in FN01.38.00.03.27 offered no documenting support for his estimates regarding the number of infectious virions present in 7 million viral RNA copies. He estimated there was only a 37% probability that 1 infectious RNA strand would be present in any droplet 50,000 nm, or 5 μm present in 1 mL of ejecta. I did some calculations (see above) and the capacity of 1 mL of ejecta to carry 7 million viral RNA is very easily accommodated, so, that's not the problem. The question is where did TA come up with these probabilities. He attaches no reference to this statement, and does not explain what basis he has for them. I thought maybe the study he does reference in this paragraph might have some information to help me sort this out.

First, I found the the supporting statement in this

study: “For COVID-19, with an oral fluid average virus RNA load of 7×10^6 copies per milliliter (maximum of 2.35×10^9 copies per milliliter) (7).” This is the statement TA of FN01.38.00.03.27 referenced. Let’s look about here to see if the probability assessments are indicated anywhere in the vicinity. No where in this section do I find anything remotely approaching information supportive of TA-27’s claim. I did not expect to, but hoped I might.

So, let’s try another approach: Searched key words taken from the statement in question: *probability, probable, 37%, 7, 0.01%, 1%; 50 μm, 50, 10* with results NULL. Did the same search through the Supplement file with the same results.

So, I totally don’t get where TA got his estimates. He did not show any work indicating the number of RNA copies in a 50 μm (50000 nm) droplets that are found in a mL of ejecta.

As for my understanding that each complete particle IS a virion (that is, an infectious unit) and includes 1 strand of RNA (or DNA) is verified by the following: **“Viruses are small obligate intracellular parasites, which by definition contain either a RNA or DNA genome** surrounded by a protective, virus-

coded protein coat. Viruses may be viewed as mobile genetic elements, most probably of cellular origin and characterized by a long co-evolution of virus and host. For propagation viruses depend on specialized host cells supplying the complex metabolic and biosynthetic machinery of eukaryotic or prokaryotic cells. **A complete virus particle is called a virion. The main function of the virion is to deliver its DNA or RNA genome into the host cell so that the genome can be expressed (transcribed and translated) by the host cell.** The viral genome, often with associated basic proteins, is packaged inside a symmetric protein capsid. The nucleic acid-associated protein, called nucleoprotein, together with the genome, forms the nucleocapsid. In enveloped viruses, the nucleocapsid is surrounded by a lipid bilayer derived from the modified host cell membrane and studded with an outer layer of virus envelope glycoproteins.” See TECH32.Structure and Classification of Viruses - Medical Microbiology - NCBI Bookshelf <https://www.ncbi.nlm.nih.gov/books/NBK8174/?report=reader>

—> Back to FN01.38.00.03.27-
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7275719/#_ffn_sectitle

INFO/CCav: “Once airborne, speech-generated droplets rapidly dehydrate due to evaporation, thereby decreasing in size and slowing their fall.”

“The probability that a droplet contains one or more virions scales with its initial hydrated volume, that is, as the cube of its diameter, d .”

There is something identified as independent action hypothesis (IAH) which asserts the reasonable assumption that “each virion has an equal, nonzero probability of causing an infection.”

***** THIS IS IMPORTANT to the theory that one virion escaping capture is sufficient to transmit disease.**

It appears the SARS-2 virus is not as communicable as indicated by the hysteria we see everywhere exhibited by the govt. medical establishment:

SS: The following turns out to be SS (see discussion above): “For COVID-19, with an oral fluid average virus RNA load of 7×10^6 copies per milliliter (maximum of 2.35×10^9 copies per

milliliter) (7), the probability that a 50- μ m-diameter droplet, prior to dehydration, contains at least one virion is $\sim 37\%$. For a 10- μ m droplet, this probability drops to 0.37%, and the probability that it contains one or more virion, if generated from a homogeneous distribution of oral fluid is negligible.”

Therefore, airborne droplets pose a significant risk **ONLY IF IAH APPLIES TO HUMAN VIRUS TRANSMISSION.**

“Considering that frequent person-to-person transmission has been reported in community and health care settings, **IT APPEARS LIKELY THAT IAH APPLIES TO COVID-19 AND OTHER HIGHLY CONTAGIOUS AIRBORNE RESPIRATORY DISEASES, SUCH AS INFLUENZA AND MEASLES.**”

Curious, I did some work to show how many particle nanometers can fit into 1 mL of liquid.

Let’s run the numbers: $10^7=10,000,000$ (Ten million). Ten to the ninth is 1,000,000,000 (1 BILLION).

Multiply 10,000,000 by 7 in the first case: 70 million

Multiply 1 billion by 2.35 — 2 billion 350 million.

Copies per milliliter — one milliliter is 0.03381413 ounces. Or, approximately, 1/3 of 1 ounce.

THIS GOES TO EXPOSURE: This means in every 1/3 of an ounce of spittle, or droplets expressed 1/3 ounce cumulative contains 70 million virion particles, 37% of which are likely going to be infectious. 37% of 70 million is 25 million 900 thousand infectious particles are present in every 1/3 ounce of droplets aggregate, in a 50- μ m droplet.

1 Ounce is 30 milliliters. Here is a study that says there are 0.0021929205257495 ounces in a single drop. 1 Drop is equal to 50 microliters. As best I can figure, this would represent a 50 μ m droplet. If so, a 50 μ m droplet has the equivalent of ~1 drop volume of water. 1 Drop is .0021929...rounded to .0022 ounces. This means it would take 454 drops to equal 1 ounce. The milliliter is 1/3 of this, or ~151 drops — that is, 151 individual 50 μ m droplets.

In 151 50 μ m droplets 37% could be infectious. That means ~56 droplets could be infectious.

I really don't know if my math is correct. I need to ask Zach.

For a 10- μm droplet, the probability drops to 0.37% - or .0037. That would mean with 151 50 μm droplets coming at at your mask fewer than one-half of one droplets might have an infectious particle.

You can see that unless the IAH applies, you have very little to fear regarding transmission of SARS-2.

Because we have multiple reports of person-to-person transmission, it is assumed that IAH applies to COVID-19 contagion.

That every 50 μm droplet that contains a virion is to be considered infectious. The same is true in every 10 μm droplet. And we have already seen studies that show infectious virions are present in droplets that are $<5 \mu\text{m}$ in diameter. In fact, studies have indicated infectious virion particles are present in particles that are $\leq 3 \mu\text{m}$.

*** SO, speaking emits a huge amount of particles, however, according to this latest study, unless IAH applies, transmission by aerosol emission from common speech, breathing, or even coughing, is highly unlikely. This means ordinary coughing/sneezing etiquette, and sanitation, would be adequate to protect

from transmission, except when in close contact for prolonged periods of time—transmission probability is negligible. In this case, **THE MASK IS UNNECESSARY**. Assuming IAH does apply, the volume of particles is such that if one virion escapes capture by your mask, you are going to get sick. Since the virion, released from its droplet, is only $.125 \mu\text{m}$ and the best mask you are encouraged to use, the surgical mask, has a mesh size of $.3 \mu\text{m}$, that is, about three times the size of the particle you are trying to block with it, your mask is not going to help you.

—> Back to **FN01.38.00.03.00** —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (See also <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/>)

CCav: “The ability of masks to filter particles depends on the particle size and trajectory, with smaller floating aerosols more challenging to filter than larger particles with momentum ([66](#)). Because speech produces more particles containing the SARS-CoV-2 virus, and because transmission of SARS-CoV-2 without symptoms is associated with URT shedding, where particles formed through vocalization are likely to contain the virus, we should be particularly

cognizant of the role of speech particles in transmission (59). Speech particles lose their momentum and become much smaller shortly after ejection, which is likely to make them easier to filter by source control (as egress at the wearer) than by PPE (at ingress to an [sic] susceptible person). We will look at source control and PPE efficacy in turn.”

*** The problem with source control is 1. evaporation occurs very quickly and reduces the size of the droplet to micro which may pass through the mask; 2. at evaporation, the virions are set free and blow through the mask easily; 3. or the virion is drawn back into the host and sucked deep into the lungs thus exacerbating the illness already present.

The mask thing is a JOKE!

INFO/CCav: More studies to establish the idea that speaking emits particles from asymptomatic infected persons, some of which are infectious, and that “masks provide a critical barrier.” Then they proceed with a CCav: “The site of inhalation is also affected by the size of these particles, with the smallest particles ($\leq 5\mu\text{m}$) able to reach into the respiratory bronchioles and alveoli in the lungs and medium-sized ones (up to $10\mu\text{m}$ to $15\mu\text{m}$) able to deposit in ‘the trachea and large

intrathoracic airways.”

For this, he points to Footnote no. 52:
52. Milton D. K., A Rosetta Stone for understanding infectious drops and aerosols. *J. Pediatric Infect. Dis. Soc.* **9**, 413–415 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.28-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/>. PDF: FN01.38.00.03.28.A Rosetta Stone for Understanding Infectious Drops and Aerosols - PMC

PC: Sep. 2020; Published online: Jul. 2020

CCP: Milton / **ORIGIN:** USA-MD, U of Maryland School of Public Health. Published by Journal of the Pediatric Infectious Disease Society, Oxford U Press / **REF:** The American Meteorological Society (AMS) [?—okay, I get it - dealing with droplets, etc. part of atmospheric concerns.]; Lu, Gu, Li; Hou, Okuda; Leung, Chu, Shiu; Chu, Akl, Duda; Morawska, Tang (5 of 13 (did not include AMS)) / **FUNDING:** “The author has received research support from the National Institute of Allergy and Infectious Disease Centers for Influenza Research and Surveillance (CEIRS), and the Defense Advanced Research Projects Agency (DARPA).

RCT: No. It's essentially an analysis of studies re aerodynamic physics in application to viral transmission models with evidence dependent on OS.

CONTENT: Argument: desires to show that the standard definition of aerosol (particles $\leq 5 \mu\text{m}$) is "out of sync" with known "modern aerosol physics."

SP: specious argument — Milton makes an argument to include larger droplets, $10\mu\text{m}$ to $50\mu\text{m}$ in the category of aerosols, which are usually limited to particles $\leq 5 \mu\text{m}$. Doing this allows "scientists" to make statements like, *surgical masks are known to block aerosols*. But the argument is specious. The concept of *aerosol* is that the drag and gravity coefficients equalize suspending a particle in atmosphere indefinitely. Milton argues that because of physics of aerodynamics larger particles can be carried in suspension for much longer periods than consensus allows and so also should be called aerosols. By that kind of reasoning, one could call trees aerodynamic because in a tornado or hurricane they are suspended in atmosphere for extended periods.

Milton cites Hinds to say particles in the range of $10 \mu\text{m}$ are suspended in air for 5 minutes after release

from a cough, and continue at about 1 meter above the floor during that time. Is this true?

Hinds WC. Aerosol technology: properties, behavior, and measurement of airborne particles. 2nd ed. New York: Wiley; 1999. [Google Scholar] [Ref list]

FN01.38.00.03.28.01-

<https://books.google.com/books?hl=en&lr=&id=p8p6EAAAQBAJ&oi=fnd&pg=PR11&ots=4Mm2GyoXYr&sig=KOpDgIF->

[mS9srakPvBvRvhUbDvU#v=onepage&q&f=false](https://books.google.com/books?hl=en&lr=&id=p8p6EAAAQBAJ&oi=fnd&pg=PR11&ots=4Mm2GyoXYr&sig=KOpDgIF-mS9srakPvBvRvhUbDvU#v=onepage&q&f=false) PDF: NOT AVAIL AS PDF, landing page to view preview and/or purchase book: FN01.38.00.03.28.01.Aerosol Technology_ Properties, Behavior, and Measurement of Airborne Particles - William C. Hinds, Yifang Zhu - Google Books.pdf

Purchase at (\$120.00), or preview with very limited access online at above address. Vetting is unnecessary, but an effort to find anything in the available pages confirming TA's claim that particles in the range of 10 μm remain suspended in air at 1 meter above the floor yielded NULL results. Of course, this does not mean the book does not provide evidence or statements to that effect. I will stipulate to the assertion.

Let's see if the claim is affirmed elsewhere:

FN01.38.00.03.28.02-

<https://gpooasis.com/en/particles-suspended-in-the-air/>. PDF: FN01.38.00.03.28.02.Particles suspended in the air. _ Dust Collectors.pdf

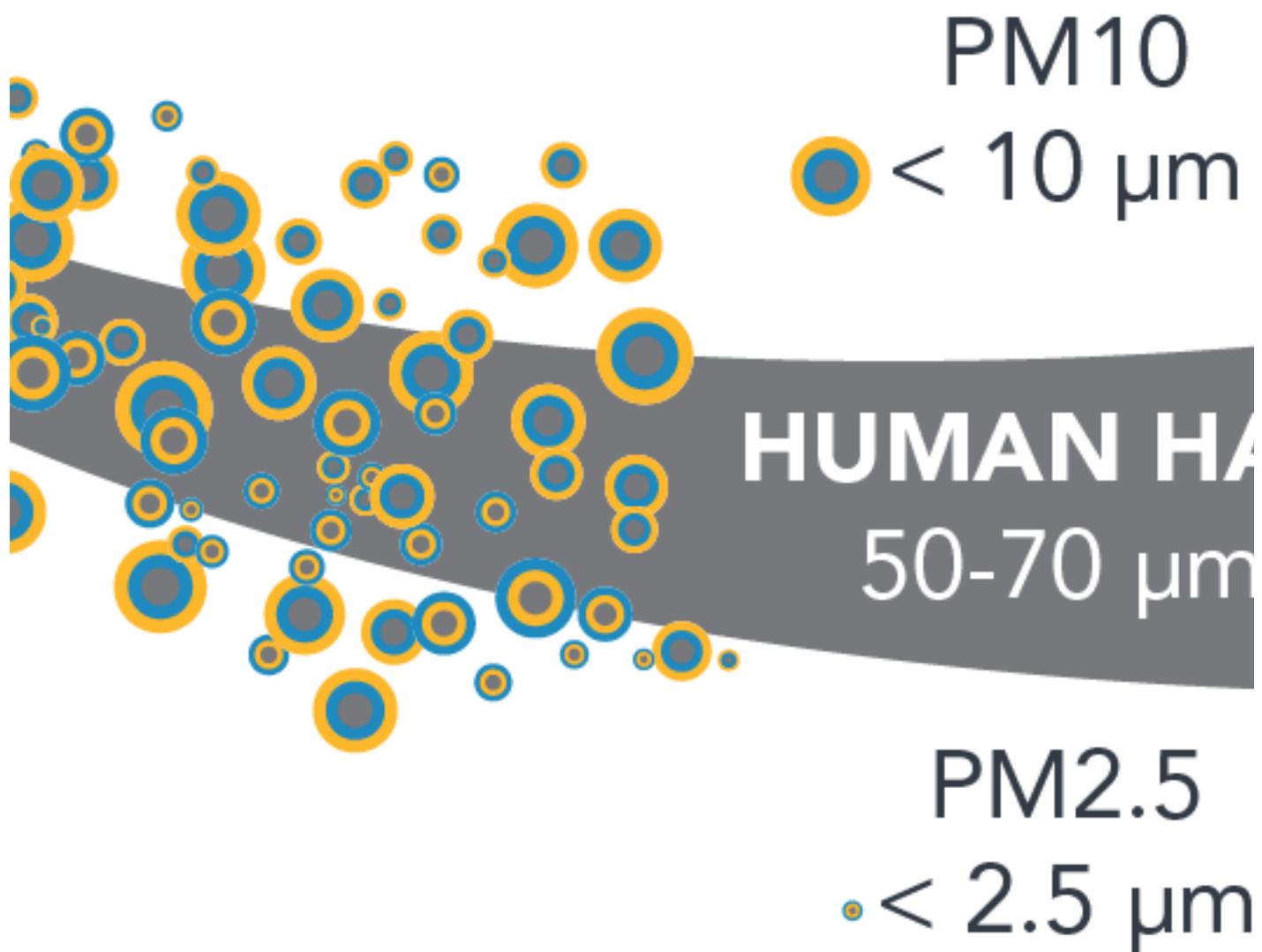
No vetting necessary.

***INFO: From this article the following descriptions are considered helpful:

- “• Total Suspended Particles (PST), which comprise a size range between 0.005 and 100 microns or microns (μm) in aerodynamic diameter.
- Most of the particles present in the atmosphere are smaller than 40 μm .
- Particles with an aerodynamic diameter less than 10 μm (PM10) are also known as respirable or inhalable fraction.
- The coarse fraction is made up of particles whose aerodynamic diameter is between 2.5 and 10 μm (PM2.5-10).
- The fine fraction comprises particles with an aerodynamic diameter less than 2.5 μm (PM2.5).
- Ultrafines refer to particles smaller than 1 μm (PM1).”

TECH37.Inhalable Particulate Matter and Health
(PM2.5 and PM10) _ California Air Resources
Board.pdf <https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health> *** [NOTE: for reference, a human hair is 50-70 μm . INFO: PM10 refers to particulate matter that is $<10 \mu\text{m}$, and PM2.5 refers to particulate matter that is $<2.5 \mu\text{m}$]

Particulate Size Comparison



<https://www.encyclopedie-environnement.org/en/air-en/air-pollution-particles-what-are-they/>. PDF: FN01.38.00.03.28.03.air-pollution-particles-what-are-they-encyclopedie-environnement

No vetting necessary. This article is helpful to understand particle size terminology.

INFO: *** Understanding why some define aerosol as $\leq 5\mu\text{m}$ and over time this was morphed to say an aerosol is $\leq 10\mu\text{m}$, and how some are beginning to refer to aerosols as inclusive of particles in the range of $\leq 50\mu\text{m}$. None have gone so far as this article to say aerosols begin at $\leq 100\mu\text{m}$, which is curious since these broader ranges are coming from environmental disciplines and not medical.

For example, this article appears to confirm Milton's hypothesis: "A particle is often and incorrectly called an aerosol. In reality, the word aerosol refers to the mixture of a gas, usually air, and fine solid or liquid suspended particles (see Figure 1). Particulate matter is therefore one of the components of an aerosol. For them to remain suspended in the gas, their falling rate must be low. **It is generally accepted that the (spherical) particles of an aerosol have a**

dimension (their diameter) approximately less than 100 μm or 0.1 mm.” This comports with Milton’s assessment that particles may be called aerosols that are significantly larger than 5 μm .

It is probable that language in the field of environmental concerns will differ in some measure from language used in virology. That is something I’ve run into often when examining literature across various disciplines. Consistently, in literature discussing viral transmission, aerosol is defined as below 5 μm and here, when discussing environmental pollution, the cut off for aerosol appears to be 100 μm — that is a huge disparity. I wonder if Milton is making the mistake of carrying language and understanding of *aerosol* from one discipline and applying it to another inappropriately?

—> Back to **FN01.38.00.03.28-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/#_ffn_sectitle

SP: Here is a study that labors to morph the definition of aerosol to include particles $>5\mu\text{m}$ in the context of virology. ***[It’s important, because otherwise masks are irrelevant re blocking aerosols and the pressure of real science against them cannot

be overcome. By shifting the definition (a technique employed by deceivers in every discipline, something I encounter very often in my own discipline, *Theology*) Milton, et al., can make statements like *surgical masks efficiently block aerosols with 90%+ efficacy*. A statement that is dismissed as absurd for particles in the size range of $\leq 5 \mu\text{m}$, but entirely probable if the size range includes particles that are $10 \mu\text{m}$ and larger. Milton might simply desire to bring attention to the presence of and danger of larger viral droplets. But one thinks this can be achieved without challenging standard definitions. Therefore, I rate the essential claim of Milton, that *aerosol* includes particles $\geq 5 \mu\text{m}$ to $\leq 10 \mu\text{m}$ as SP.]

CLAIM: Martin claims a $10 \mu\text{m}$ particle remains suspended in air 1 meter above the floor for five minutes when there is no air movement. He refers to 3. Hinds WC. *Aerosol technology: properties, behavior, and measurement of airborne particles*. 2nd ed. New York: Wiley; 1999. [[Google Scholar](#)] [[Ref list](#)]

The price for Mr. Hinds work is prohibitive for my purpose.

The FACT is, the 5 minute “float” time of a $10 \mu\text{m}$ particle is irrelevant to my interests since according to

every study I've examined heretofore, any droplet that size has evaporated long before 5 minutes has expired. These particles shrink as they evaporate. We know that as particles are ejected, many if not most of them begin large, even as large as 50-100 μm (and larger if we are talking about spittle, etc.). We also know these begin to sediment and evaporate. As they succumb to gravity, they are also succumbing to desiccation (evaporation), and as they evaporate, they become smaller. As they become smaller, their descent slows, at some point the drag and gravity coefficients equalize and the particle begins to take on the feature of aerosol dynamics — which is no doubt the reason they hover at about 1 meter after ejection. In other words, the particles hovering at 1 meter above the floor for five minutes are very likely between 5 μm and 10 μm .

So, I'm not sure what environment Hinds concocted to conduct his study but it surely was not one that even remotely reflected real life. This is intimated by Martin when he follows with "But indoor air is not still," suggesting Hinds created an environment in which the air was still. Other factors must have been present to greatly reduce evaporation time also. So this study can be ignored for our purpose.

—> Back to

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/#_ffn_sectitle

Then Milton talks about the “upward velocity of air in the thermal plume” from a human body being greater than the “settling velocity of a 50- μ m droplet” and offers the following study for support: 4. Gena AW, Voelker C, Settles GS. Qualitative and quantitative schlieren optical measurement of the human thermal plume. *Indoor Air* 2020; 30:757–66. [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

TECH37-

<https://onlinelibrary.wiley.com/doi/10.1111/ina.12674>. PDF: **TECH37. Qualitative and quantitative schlieren optical measurement** - Wiley Online Library.pdf .pdf

<https://onlinelibrary.wiley.com/doi/10.1111/ina.12674>

Stipulated: I am aware, from earlier studies examined, that the plume sends particles out at a velocity that is greater than their settling rate, until the drag equalizes with gravity.

—> Back to FN01.38.00.03.28-

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/#_ffn_sectitle

5905/#_ffn_sectitle

NOTE: Even if a mask captures a 50 μm droplet (which would be very unusual due to sedimentation and evaporation, especially evaporation) it dries quickly on the mask, releases whatever virion might be trapped in it, and quickly (within seconds or a few minutes depending on humidity, moisture in or on the mask, and etc.) so that when, not if, it reduces to below 0.3 μm (300 nm) it will be either ejected into the atmosphere or drawn deeply into the lungs — so this study is specious.

It does appear several have lately moved the goal posts on the question of particle aerosolization from $\leq 5 \mu\text{m}$ to 10 μm and even up to 50 μm , and Milton might have led the way in this effort. Nevertheless, it's only a matter of time before every one is aware of the newly stipulated range for what is considered aerosol and will adjust their understanding to accommodate the new consensus. And this means if this is done to allow “scientists” to *say* masks are efficacious to protect against aerosols, the effort will finally fail. No matter what someone calls an aerosol, particles smaller than 300 nm will penetrate surgical masks.

—> Back to 38.00.03.28-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/>

SP: Milton. refers us to a case where ventilation was such that these 10 μm particles remained suspended for long durations — is he talking about SARS-2 virions — yep; “In the context of a reported COVID-19 restaurant outbreak in Guangzhou ...”

Here is the Guangzhou OS CCP biased study: 5. Lu J, Gu J, Li K, et al.. COVID-19 Outbreak associated with air conditioning in restaurant, Guangzhou, China, 2020. *Emerg Infect Dis* 2020; 26:1628–31. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.28a-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7323555/>. PDF: FN01.38.00.03.28a.COVID-19 Outbreak Associated with Air Conditioning in Restaurant, Guangzhou, China, 2020 - PMC

PC: Jul. of 2020

CCP: Jianyun Lu, Gu, Li, Xu, Su, Lai, Zhou, Chao, Xu, Yang / **ORIGIN:** CHINA-Guangzhou Center for Disease Control and Prevention. China CDC / **REF:** Han, Zhang, Zhu, Yu; Lee, Hui, Wu, Chan; Kim, Chang, Sung, Park

Kim, Lee; Tong, Tang, Li K., Li P., Want, Yi; Chan, Yuan, Kok, To, Chu, Yang (5 of 8) / **FUNDING:** Medical Health Technology Project for Guangzhou (CHINA); the Science and Tech. Project of Guangzhou (CHINA), and Project for Key Medicine Discipline Construction of Guangzhou Municipality (CHINA).

RCT: No. OS: all the way. Search: *method, random, clinical, cohort, intervention, trial, mask* with results NULL excepting: *clinical* used clinical lab. results from tests on subjects.

CONTENT:

IR: This study did not address mask efficacy.

CCav: “Virus transmission in this outbreak cannot be explained by droplet transmission alone. Larger respiratory droplets (>5 μ m) remain in the air for only a short time and travel only short distances, generally <1 m.” — for support of this statement, the researchers point to

2. Pica N, Bouvier NM. Environmental factors affecting the transmission of respiratory viruses. *Curr Opin Virol.* 2012;2:90–5.
10.1016/j.coviro.2011.12.003 [[PMC free](#)]

[article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.28b-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3311988/>. PDF: FN01.38.00.03.28b.Environmental factors affecting the transmission of respiratory viruses - PMC

PC: Feb. 2012

CCP: Pica, Bouvier [?] / **ORIGIN:** USA-NY, Mt. Sinai School of Medicine; Dept. of Medicine, Division of Infectious Diseases. / **REF:** Hui, Chan; Yuen; Yang; Chan, Chew, Tan, Chua, Hooi; Shek, Lee; Abdullah; Tang, Lai, Nymadawa, Deng; Zuo, Wand, Milton; Milton; Yu, Li, Wong, Tam, Chan, Lee, Leung, Ho; Gong; Chen, Zhao, Yang, Li (12 of 63). / **FUNDING:** “This work was funded by Keck Foundation and the NIH Center of Excellence for Influenza Research and Surveillance (CEIRS).”

RCT: No. Search: *method, random, trial, clinical, cohort, intervention, mask* with results NULL, except *clinical*, found 1z related to symptoms diagnosis and unrelated to any study conducted by TA. I would characterize the article as RL.

CONTENT: Only of tangential interest as it

addresses question of transmission and particle size without offering any insight into size issues. Search: μm and mm found once re size in reference to rainfall. Aerosols discussed without reference to particle sizes, in context of transmission occurring from improperly sealed plumbing, or importance of proper ventilation in hospital wards etc. The same held true of *droplets*. This is not a scientific study but rather reads more like a RL.

IR: Unrelated to the question of mask efficacy except tangentially, see above characterization of the article.

CCav: After naming the routes of transmission the authors admit: **“Uncertainties remain with respect to the relative importance of these factors and roles that they play.”**

FN01.38.00.03.28a also references:

3. Kutter JS, Spronken MI, Fraaij PL, Fouchier RA, Herfst S. Transmission routes of respiratory viruses among humans. *Curr Opin Virol.* 2018;28:142–51. 10.1016/j.coviro.2018.01.001 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]./

FN01.38.00.03.28c-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7102683/>. PDF: FN01.38.00.03.28c.Transmission routes of respiratory viruses among humans - PMC

PC: Feb. 2018

CCP: Kutter, Spronken, Fraaij, Foughier, Herfst [?]
/ **ORIGIN:** Netherlands-Rotterdam, Erasmus Medical Centre. / **REF:** WHO (2); Ching, Li, Wang, WHO; CDC (assume US) (3); Milton; Pica; Chen; Lau; Lee; Ngyen; Yu; Lee; Oh; Kim; Seto; Chu; Lau; Cowling; Tang (21 of 141). / **FUNDING:** NWO VIDI grant [?—a Netherlands research funding org. I cannot find to what the letters NWO refer. Probably the *N* is for Netherlands]; NIAID/NIH contract. EU FP7 [?]

RCT: No. OS: dependency on observational studies.

CONTENT: This article pertains to questions regarding transmission routes of respiratory viruses. The only place *mask* appears is in references cited.

IR: Does not address mask efficacy against viruses.

CCav: “Therefore, fundamental knowledge on

transmission routes that could be used to improve intervention strategies is still missing.”

CCav: “However, until today, results on the relative importance of droplet and aerosol transmission of influenza viruses stay inconclusive ...”

CCav: with regard to the argument of Martin, this statement belies his efforts: “Influenza virus RNA was detected in the air up to 3.7 m away from patients with the majority of the viral RNA contained in aerosols (<5µm).” And yet, here is another study that suggests infection via aerosol is not as problematic as we are encouraged to believe: “The presence of virus in aerosols could indicate potential airborne transmission, **ALTHOUGH MANY STUDIES ONLY QUANTIFIED THE AMOUNT OF VIRAL RNA. A FEW STUDIES QUANTIFIED VIABLE VIRUS, ALTHOUGH THIS WAS ONLY RECOVERED FROM A MINORITY OF SAMPLES.**”

The SARS outbreak was primarily linked to healthcare settings (49% or more cases from hospitals).

The only reference to masks in this study is in a footnote: 130. Allison M.A. Feasibility of elementary

school children's use of hand gel and facemasks during influenza season. *Influenza and Other Respiratory Viruses*. 2010;4:223–229. [PMC free article] [PubMed] [Google Scholar]

FN01.38.00.03.28d-

<https://onlinelibrary.wiley.com/doi/10.1111/j.1750-2659.2010.00142.x> PDF:

FN01.38.00.03.28d.Feasibility of elementary school children's use of hand gel and facemasks during influenza season - Allison - 2010 - *Influenza and Other Respiratory Viruses* - Wiley Online Library

PC: July, 2010

CCP: Allison, Ginger, Nelson, Pavia, Srivastava, Gesterland, Rolfs, Andersen, Calame, Young, Byington (All Salt Lake City, Utah, USA / **ORIGIN:** USA-UTAH Salt Lake City: University of Utah, Division of General Pediatrics; Dept. of Pediatric Emergency Med.; Dept. of Pediatric Infectious Disease; Division of Inpatient Med.; Utah Dept. of Health; Salt Lake City Public School District / **REF:** US CDC; Infectious Disease Society; Aiello; Lo, Tsang, Leung, Yeung Wu, Lim; Aiello; MacIntyre, Dwyer; Cowling, Chan, Fang; Seale, Dwyer, MacIntyre (8 of 30) / **FUNDING:** Statement: "This study was supported by the Department of Pediatrics,

the Primary Care Research Center, and the Child Health Research Center at the University of Utah and Primary Children’s Medical Center, the Rocky Mountain Center of Excellence in Public Health Informatics (**funded by the Centers for Disease Control and Prevention**), the Salt Lake Valley Health Department, and the Utah Department of Health.”

RCT: No. Essentially, it’s OS: “Intervention: We provided hand gel and face masks to 20 teachers and their students over 4 weeks. Gel use was promoted for the first 2 weeks; mask use was promoted for the second 2 weeks. Outcomes: Acceptability, adherence, and barriers were measured by teachers’ responses on weekly surveys. Mask use was also measured by observation.” A species of cohort trial.

CONTENT: CLAIM: re willingness to use hand gel and/or facemasks. This study does not examine the question of efficacy. AME: Conclusions: “Hand gel use is a feasible strategy in elementary schools. Acceptability and adherence with facemasks was low, but some students and teachers did use facemasks for 2 weeks, and most teachers would use masks in their classroom in a pandemic.”

IR: Not about mask efficacy.

CCav: Pandemic influenza guidelines do not specifically recommend the use of facemasks in schools, but do advise their use in ‘crowded public spaces.’”

26 Aiello AE, Murray GF, Perez V et al. Mask use, hand hygiene, and seasonal influenza-like illness among young adults: a randomized intervention trial. *J Infect Dis* 2010; 201(4):491–498.

Already vetted in these notes: See
FN01.38.00.12.00-
<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12.00.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic

27 MacIntyre CR, Cauchemez S, Dwyer DE et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009; 15(2):233–241.

Already vetted in these notes: See
FN01.08.05.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC266>

2657/. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

The study does not contribute any new information and does not present an argument that overturns all the scientific data I've accumulated during this study.

Continuing with ...28d: "The distances between patient A1 and persons at other tables, especially those at table C, were all >1 m. HOWEVER, STRONG AIRFLOW FROM THE AIR CONDITIONER COULD HAVE PROPAGATED DROPLETS FROM TABLE C TO TABLE A, THEN TO TABLE B, AND THEN BACK TO TABLE C."

TA provide a neat little diagram to illustrate — *Oh, Ah So! I see! Yes, of course!* What nonsense. The accelerated movement of the droplets through ambient space only enhances the evaporation rate — as for the theory that the air movement in the room carried infectious virion particles from table to table,

there is little doubt. But these particle droplets originating from speaking emissions at $10\mu\text{m}$ or $50\mu\text{m}$ did not continue at that size for more than milliseconds to a few seconds (depending on humidity, ect.) from emission, they were evaporating so fast, by the time they crossed 1 m distance (about 3 feet), they were already at a slimmed down size probably of under $5\mu\text{m}$, and very quickly reduced to under $3\mu\text{m}$, so that no mask efficacy was reduced so significantly they would not protect anyone.

—> Back to FN01.38.00.03.28c —

CCav: In this study, they had not yet even settled on “the relative importance of transmission routes of respiratory viruses” — they were “still unclear.” Owing to too many variables, it’s near impossible to construct a trial that would address this issue satisfactorily.

—> Back to 38.00.03.28b — environmental factors etc.

Increased ventilation (mixing outside, or fresh air with room air) DECREASED TRANSMISSION.
23. Schulman J.L., Kilbourne E.D. Airborne transmission of influenza virus infection in

mice. *Nature*. 1962;195:1129–1130. [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Stipulated.

—> Back to **FN01.38.00.03.28b** — environmental factors etc.

Authors make use of the Amoy Gardens high-rise apartment complex in Hong Kong incident. **Turns out it was related to fecal contamination.** Apparently, the aerosol plumes escaped into that community through improperly sealed plumbing U-traps. The spread originated in the high rise, and through the airshaft it was wafted to neighboring buildings 60 m away. (61. Yu I.T., Li Y., Wong T.W., Tam W., Chan A.T., Lee J.H., Leung D.Y., Ho T. Evidence of airborne transmission of the severe acute respiratory syndrome virus. *N Engl J Med*. 2004;350:1731–1739. [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]
62. McKinney K.R., Gong Y.Y., Lewis T.G. Environmental transmission of SARS at Amoy Gardens. *J Environ Health*. 2006;68:26–30. quiz 51-22. [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] — all CCP]

Stipulated: Again, relative to my query, this is all stipulated. We do not argue that transmission does not

occur in such circumstances, only that a mask is not going to make a difference in these circumstances.

—> Back to **FN01.38.00.03.28a**—Guangzhou

CC/SS: With the exception that the authors offer a SS regarding what COULD have happened, the SCIENCE stipulated contradicts that expectation.

CCav: Furthermore, consider these other CCav statements: “Virus-laden small (<5 μm) aerosolized droplets can remain in the air and travel long distances, >1 m ([4](#)). Potential aerosol transmission of severe acute respiratory syndrome and Middle East respiratory syndrome viruses has been reported ([5,6](#)). **However, none of the staff or other diners in restaurant X were infected. Moreover, the smear samples from the air conditioner were all nucleotide negative. This finding is less consistent with aerosol transmission.** However, aerosols would tend to follow the airflow, and the lower concentrations of aerosols at greater distances might have been insufficient to cause infection in other parts of the restaurant.”

OS: This illustrates the problem with these sorts of anecdotal based arguments. Nothing conclusive can be

drawn from them, there are too many confounders, and in this case, there exists evidence contradicting the conclusions.

—> Back to the Rosetta stone: **FN01.38.00.03.28-**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/#_ffn_sectitle—

INFO: Interesting: “Exposure scientists and industrial hygienists classify aerosols based on where they deposit in the respiratory tract as respirable aerosols or particulate matter (<2.5 μm (PM2.5); thoracic aerosols or particulate matter <10 μm (PM10) [later: “thoracic aerosols are those larger particles (up to 10-15 μm) able to penetrate into the trachea and large intrathoracic airways”]; and inhalable aerosols or total suspended particulates (TSP)” [*total suspended particulates*]. TA tells us “inhalable aerosols are the largest particles, up to about 100-200 μm , that can be aspirated into the nose. Provides a source: 6. Volkwein JC, Maynard AD, Harper M. Workplace aerosol measurement. In: Kulkarni P, Baron PA, Willeke K, eds. *Aerosol measurement*. Hoboken, NJ: John Wiley & Sons, Inc, 2011:571–90. [[Google Scholar](#)] [[Ref list](#)]

CLAIM: “Face masks that block shedding of

inhalable and thoracic aerosols and reduce shedding of respirable aerosols [9] can be expected to make an important contribution as source control. There is evidence that physical distance, face masks, and eye protection all contribute to reducing the spread of betacoronavirus infections [10].”

SP: While it is true a mask can be depended upon to block particles in a size range of 100-200 μm (100000-200000 nm), it must be remembered that virions are itsy bitsy by comparison, (compare 100000 to 300), and there are NO VIRUSES in this size range. What the mask is capturing are the DROPLETS carrying the virions. A droplet the size of 100000 nm is huge, and would potentially carry a very large number of virions—multiple thousands. No droplet this size is going to travel any distance at all unless someone spits, or perhaps in an explosive uncovered sneeze in someone’s face. These droplets, ejected from any distance over 1 meter, are going to drop rapidly, and begin desiccation immediately. The whole thing is an exercise in vain jangling. So many factors are ignored in such statements. The facts are the mask is not going to PROTECT anyone from transmission because for all their capacity to capture large droplets, they cannot block the smaller virions that actually transmit the disease.

SP: See above. “Respirable aerosols are defined as those particles small enough to reach the respiratory bronchioles and alveoli and include particles that are $\leq 5\mu\text{m}$.”

IR: “In the context of ambient air pollution measurement, PM_{2.5} is the standard metric.” A reference to particles that are <PM_{2.5} refers to particulate matter that is ~ 1 to 1.5 or at the most $2.0\mu\text{m}$. SMALLER THAN 2500 but larger than 1000 nm. Yet the SARS-2 virion is $.125\mu\text{m}$, or 125 nm. THINK ABOUT THAT for half a second.

IR: Thoracic aerosols are larger, from $10\text{-}15\mu\text{m}$, and these are able to penetrate into the trachea and large intrathoracic airways. These are from 10000 to 15000 nm.

These can be aspirated from capture in the nose.

IR: Inhalable aerosols are the largest, from $100\text{-}200\mu\text{m}$ (100,000-200,000 nm) — It is nonsense to suggest these sizes have any relevance to virions, which are far smaller than what is called respirable aerosol. For bacterium, there is an arguable benefit—protection from tuberculosis—or diseases

communicated by larger particles, but for virus, no way!

SP: Nevertheless, TA tells us these sizes are relevant to virus “that uses a receptor present on the surface of cells throughout the length of the respiratory tract.” He offers for support:

8. Hou YJ, Okuda K, Edwards CE, et al.. SARS-CoV-2 reverse genetics reveals a variable infection gradient in the respiratory tract [manuscript published online ahead of print 27 May 2020]. *Cell* 2020. doi:10.1016/j.cell.2020.05.042. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.28f-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7250779/>. PDF: FN01.38.00.03.28f.SARS-CoV-2 Reverse Genetics Reveals a Variable Infection Gradient in the Respiratory Tract - PMC

PC: May 2020

CCP: Yixuan, Okuda, Asakura, Kato, Lee, Chen, Ghio, Tse, Dang, Nakano, Sun, Vishwaraj, **RALPH BARIC** (13 of 43) / **ORIGIN**: Department of Epidemiology, U of NC at Chapel Hill — **RALPH BARIC** this name on this

study says all you need to know about CCP bias influence; virtually all researchers are connected to Chapel Hill (Baric); Duke U Medical Center, Durham, NC; OH, Dept. of Population and Quantitative Health Science; NM-Dept. of Pathology, U of NM; NY-Cornell; MD-Lab. of Chronic Airway Infection; Canada-Halifax, Dept. of Microbiology and Immunology, Canadian Center for Vaccinology; CHINA-Guangdong, Lab. of Immunology / **REF:** Lin, Hou, Wang, BARIC; Okada; Tsukahara; US CDC COVID-19 Response Team; Chan, Zheng, Mok, Li, Liu, Chu; Chen, Sun Kato, Okuda, Lin; Choi; Yang; Cho, Dang; BARIC; Guan, Liang, Zhao, Liang, Chen Z., Liu, Chen R. Tang, Wang (China medical expert group); Huang, Wang, Li, Ren, Zhao, Hu, Zhang, Fan, Xu, Gu; Huan, Guo, Guan, Yang, Leong-Poi; Jia; Sears, Davis; Kuba, Imai, Rao, Gao, Guo, Guan, Huan, Yang, Zhyang, Deng; Leung, Yang, Tam; Liu, Ning, Chen, Guo, Liu,, Gali, Sun, Duan, Cai; Tu, Chen; Takeda, Taguchi, Shirato; Matsuyama, Morikawa, Taguchi; Fan, Li; Morawska, Cao; Wang, Wang S.; Sirohi, Chen, Kuhn; Tsutsumi; Okuda, Chen, Kato, Chua, Dang; Okuda, Dang, Nakano, Kato T., Chen G., Chua; Ota, Ng-; Pan, Chen, Xia, Wu, Li, Ou, Zhou, Liu; Pan, Zhang, Yang, Poon, Wang; Tiwari; Sajuthi; Santarpia; Shang, Ye, Shi, Wan, Luo, Geng; BARIC, COLLINS; Sodhi, Nguyen, Yamaguchi, Lu; Kim; Sungnak, Huang; Thao; Tian, Huang, Xia, Lu, SHi, Jiang, Yang, Wu, Ying; Wang, Wang L., Zhang, Shi; Wang; Wu;

Wu; Wu A., Peng, Huang, Ding, Wang, Niu, Meng, Zhu, Zhang, Wang; Xie, Narayanan, Zhang, Zou; Xu, Yu, Qu, Zhang, Jiang, Huang, Chen, Zhang, Guan; Yan, Zhang, Li, Xia, Guo, Zhou; Yung, Prabakaram, Du, Shi, Feng, Wang Y., Wang L., Li, Jiang, Zhou; **BARIC R.S.**; Yu, Zhang, Jiang, Ci, Wang D., Wang N., Fu, Shi, Li; Zhu, Chakraborti, He, Xiao, Prabakaran; Zhu, Zhang, Wang, Li, Yang, Song, Zhao, Huang, Shi, Lu; Zou, Ruan, Huang, Liang, Huang, Hong, Yu, Kang, Song, Xia (54 of 107) / **FUNDING:** Primary funding from NIAID, NIH; Cystic Fibrosis Foundation, American Lung Association; NHLBI/NIH; Duke U. and etc.

RCT: Not asserted. Characterized as an experimental model, internal statements indicate deep dive into DNA etc. Title says it all: SARS-CoV-2 Reverse Genetics Reveals a Variable Infection Gradient in the Respiratory Tract.

CONTENT: CLAIM: “**Although speculative**, if the nasal cavity is the initial site mediating seeding of the lung via aspiration, these studies argue for the widespread use of masks to prevent aerosol, large droplet, and/or mechanical exposure to the nasal passages.”

IR/CCav/SP: In the claim statement, *Baric et al.*,

admit their recommendation for masking is speculative. SP: Baric knows full well that while a mask *might* block particles that get caught in the nasal pathway, they will not block the smaller particles that escape capture by the nasal pathway. To argue that blocking particles from entering the lungs that are **ALREADY EFFICIENTLY BLOCKED BY THE NATURAL FILTRATION SYSTEM DESIGNED BY THE CREATOR, THE NASAL PATHWAY**, is somehow protecting anyone from infection is specious since they all know, the danger is in the smaller particles that escape capture by the nasal pathway, which are small enough to penetrate the masks.

CCav: “First, SARS-CoV-2 RNA has been detected in aerosol particles in the range of aerodynamic sizes exhaled during normal tidal breathing (Liu et al., 2020, Papineni and Rosenthal, 1997).” (Both referenced articles have been vetted.)

NOTE: I would be looking for something that explains how virus that uses a receptor present on the surface of cells increases the overall size of the virion particle. This presents the problem with citing a reference without specifying what in that reference corresponds to the point it is used to support.

INFO: This led me to examine aerodynamic size ranges and to this article:
<https://www.copleyscientific.com/en/inhaler-testing/aerodynamic-particle-size-distribution-apsd/>.
It's an advertisement for a machine used to measure movement of particles in air stream, or how they behave in an air stream. It informs the potential customer that **“Typically particles should be in the range of 1 to 5 microns to be effective, any larger than 5 microns [5µm] and they are likely to impact the oropharynx and be swallowed, any smaller than 1 micron and it is possible that the particles will remain entrained in the air system.”**

[WOAH! — More evidence suggesting communication via aerosol is NOT SO CUT AND DRIED AS SUGGESTED. GOD'S FILTRATION SYSTEM is very effective. **If someone DOES inhale a particle larger than 5 µm, it will likely impact with the oropharynx and be swallowed** — [the digestive acids will immediately neutralize the virion]. **If it is smaller than 1 µm, there is a possibility it will remain in suspension and not attach anywhere.**

CE: Now, I expect this might be where the receptor issue presents — if the virion in question uses a receptor present on the cell along the respiratory tract,

it will likely attach and so infect. BUT IF THIS IS THE CASE, $A \leq 0.3 \mu\text{m}$ virion, 300 nm or less, will pass through the surgical mask. And as we have already established, there will be far more particles in this size range than in the size range of $>0.3 \mu\text{m}$.

*** A surgical, or standard procedure mask can block SOME particles that are $\geq 0.3\mu\text{m}$ droplets/virions, but any that are greater than or equal to $5 \mu\text{m}$ will **not likely infect** because it will be swallowed. THIS IS VERY INTERESTING.

Aerodynamic size range appears to be 0.5 to 9.9 μm , or 500-9,900 nm. (see <https://pubmed.ncbi.nlm.nih.gov/12650548/> “... representing an aerodynamic size range of 0.5 to 9.9 microm.”

FN01.38.00.03.28g-

<https://pubmed.ncbi.nlm.nih.gov/12650548/> PDF: FN01.38.00.03.28g.Rapid detection and determination of the aerodynamic size range of airborne mycobacteria associated with whirlpools - PubMed

NOTE: For some reason, I have assigned a reference notation and created a PDF but did not vet this article. It is inaccessible, or only the abstract and

some author information is accessible, so perhaps I decided not to vet. From the accessible info:

PC: Nov. 2010

CCP: Shafer, Martinez, Matthews / **ORIGIN:** USA-OH, NIOSH. / **REF:** not available. **FUNDING:** NIOSH. / **FUNDING:** nd Assumed NIOSH

RCT: Not asserted.

CONTENT: Abstract access only.

Confirmed Claim: Found the quote supported in this doc: “The airborne mycobacteria particles were predominantly collected on MOUDI stages 1-6 representing an aerodynamic size range of 0.5 to 9.9 microm.”

IR: Outside the range of our query.

—> Back to **FN01.38.00.03.28f-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7250779/>. — still looking for support of the assumption the size of the SARS-2 virion is enhanced by its ability to attach to receptors on cells in the respiratory tract.

CCav: As late as May of 2020: “The mode of acquisition and causes for the variable clinical spectrum of coronavirus disease 2019 (COVID-19) remain unknown.”

NOTE: Interesting that the host antibodies target the spike protein associated with the virus.

CE: “TRANSMISSION IS MEDIATED BY AIRBORNE MICROPARTICLES DIRECTLY INFECTING THE LUNG.” Here the belief is that infection occurs also from viral inoculum being aspirated from the oropharynx into the lung — whereas, above, the assumption is that such would be swallowed????

NOTE: I’ve read through the document, looking closely when language seemed hopeful, and used a search on *micron*, μm , *mm*, *size*, *receptor*, *aerodynamic*, and *aerosol* to find anything in this document that tells us the size of the SARS-2 virus is enhanced if its mechanism for infection includes latching onto receptors lining the respiratory tract. Apparently, this note was not intended to suggest the virion size is affected, but only addresses the issue raised by the fact that particles smaller than **1 μm will likely remain suspended in the air system and not attach to the body cells.** Those virions that have a mechanism for

making that attachment, will more likely cause infection — and so such virions that are carried in droplets that are 1 μm or less, will almost certainly have evaporated by the time they reach the target, and will be much smaller than 1 μm , and if not smaller than 5 μm they will likely hit the oropharynx will be swallowed into the digestive system, or if captured on a mask will be broken down yet smaller, to under 0.3 μm and so escape any mask recommended by the authorities and experts.

**** NOTE: GOD'S NATURAL design provides an effective filter for particles in the range that might be captured by a mask. And, here is the problem. The natural filtration system captures particles $\geq 5 \mu\text{m}$ and holds them in a suspension of secretions in the nose, etc. that are ejected through swallowing, or sneezing, and coughing. Only the very small virion droplets can by pass the natural filter. AND HERE IS THE POINT. THE NATURAL FILTER IS BETTER THAN THE MASK — on the mask, the droplets desiccate and release the smaller virions into aerosol allowing them to PENETRATE the mask and BYPASS the natural filtering system.

—> Back to the Rosetta Stone:
FN01.38.00.03.28.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7495905/> See the Rosetta stone: FN01.38.00.03.28.00.A Rosetta Stone for Understanding Infectious Drops and Aerosols - PMC

SP/IR: So, the diagram (See FN01.38.00.03.28.00.FIGURE 1) is deceitful, grossly deceitful. The red dots represent particles that are ≤ 2.5 to $5 \mu\text{m}$ — because 1. the relative number of those that are less than $2.5 \mu\text{m}$ is not stipulated; 2. this study becomes IR since the size range is significantly outside our interest: $\leq 0.3 \mu\text{m}$. We would stipulate that the typical surgical mask can be depended upon to block particles that are in the range of $\leq 2.5 \mu\text{m}$ assuming the bottom of the range indicated by $\leq 2.5 \mu\text{m}$ would be from 2.4 , or 2.0 , but certainly not anything smaller than $1 \mu\text{m}$, and the particle size we are concerned with is well below $0.5 \mu\text{m}$. So, this study is way outside the range of our interest and is very deceptive since it pretends to address protection against a virus, and specifically the SARS-CoV-2 virus.

For that reason, the diagram offered at Figure 1 is totally irrelevant and deceptive. SP.

SP: Furthermore, while Figure 1 (see FN01.38.00.03.28.00.FIGURE 1) shows some

respirable aerosols escaping the mask at source, it shows zero particle penetrating the target, or exposed contact, mask, which is a flat out misrepresentation. **There is no way the aerosols less than 2.5 μm remain that close to source; they travel at least a meter, and farther if currents are present, and they always are. The heavier droplets indeed drop quickly to the ground overtaken by gravity, but even they evaporate so quickly, it is likely the virion particle starts riding the currents before the droplet lands on surface.** There will certainly be some respirable aerosol hovering around the masked exposed contact, and likely penetrating the mask — and this is ADMITTED in the paragraph under the diagram. — see CCav: “For the...” below. (Ooh, these liars! — how many will look at the diagram and become instantly convinced masks offer protection from a virus?)

CCav: “For the general population, physical distance will limit exposure to splash and spray and contaminated surfaces, BUT WILL BE LESS EFFECTIVE AT BLOCKING AEROSOLS OF EVEN 20- TO 30- μm PARTICLES THAT CAN TRAVEL CONSIDERABLE DISTANCES.” *Even 30 μm particles???*

NC: They make a come back to support their effort

to mask us with this NC: “Face masks that block shedding of inhalable and thoracic aerosols and reduce shedding of respirable aerosols can be expected to make an important contribution as source control.” The study used to support this claim is 9. Leung NHL, Chu DKW, Shiu EYC, et al.. Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nat Med* 2020; 26:676–80. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

CLAIM: “Face masks that block shedding of inhalable and thoracic aerosols and reduce shedding of respirable aerosols can be expected to make an important contribution as source control.”

The link takes us to <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8238571/> — I’m sure I’ve seen this article, but I can’t find it in these notes. Oh, it’s got another search address: <https://www.nature.com/articles/s41591-020-0843-2> and the article is found in these notes under this title and address.

Already vetted in these notes: See **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.28.03.00.00.Respiratory virus shedding

in exhaled breath and efficacy of face masks _ Nature Medicine.pdf (See also FN01.32.05.00.00)

Next, FN01.38.00.03.28 TA claims: “There is evidence that physical distance, face masks, and eye protection *all* contribute to reducing the spread of betacoronavirus infections” and cites

10. Chu DK, Akl EA, Duda S, et al.; COVID-19 Systematic Urgent Review Group Effort (SURGE) Study Authors . Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *Lancet* 2020; 395:1973–87. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See
FN01.38.00.04.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/>. PDF: FN01.38.00.04.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - PMC

NOTE: TA returns to the argument that it’s a language issue, the fact that the related disciplines use different language to discuss certain things — but as I

pointed out, this trickster is attempting to shape the discussion by manipulating the science, trying to establish $>5 \mu\text{m}$ particles as included in “aerosols” in order to then be able to say masks block aerosols without having the “science” come behind him with a club and clobber him with FACTS.

—> Back to the **FN01.38.00.03.03-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> - An Evidence Review

Another CCav: “The ability of masks to filter particles depends on the particle size and trajectory, with smaller floating aerosols more challenging to filter than larger particles with momentum.” He cites for support: 66. Brosseau L., et al., “N95 respirators and surgical masks.” *NIOSH Science Blog*. <https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95>. Accessed 3 April 2020. [[Ref list](#)]

FN01.38.00.03.29-<https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95/> PDF:
FN01.38.00.03.29.N95 Respirators and Surgical Masks
_ Blogs _ CDC

PC: Oct. 2009 —

CCP: Authors are not named / **ORIGIN:** CDC; U of MN School of Public Health, specializes in measurement of aerosols; NIOSH National Personal Protective Tech. Lab. / **REF:** None suggesting CCP influence either by profession or culture. Very few references, including titles such as *Is a mask necessary in the operating theatre?* and *Surgical face masks in modern operating rooms—a costly and unnecessary ritual?* These articles might argue in favor of their use, the reason they are of interest is that they are asking the question. Also, a note appears explaining that since CDC is addressing questions related to COVID-19 they closed this article to comments [????] / **FUNDING:** nd Assumed CDC

RCT: Not asserted. It reads like a history lesson offering historical background and development of mask use.

CONTENT:

IR: History of masks — groan!

INFO: Porosity is the ration of open space to fibers in a mask, or face covering. “There are three mechanical collection mechanisms that operate to

capture particles: inertial impaction, interception, and diffusion. Inertial impaction and interception are the mechanisms responsible for collecting larger particles, while diffusion is the mechanism responsible for collecting smaller particles. In some fibrous filters constructed from charged fibers, an additional mechanism of electrostatic attraction also operates.”

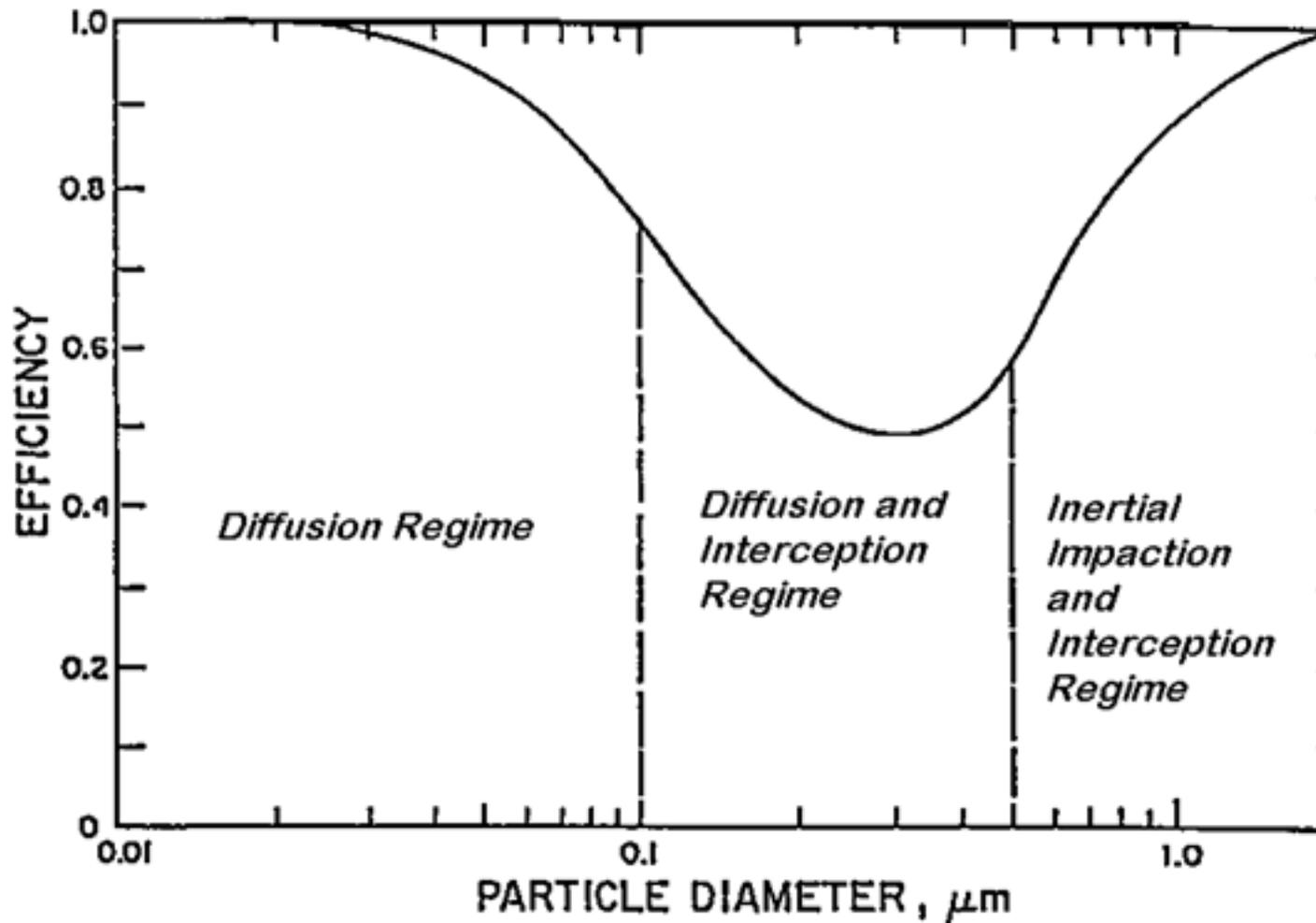
CCav: *** “First, the filter must be able to capture the full range of hazardous particles, typically within a wide range of sizes (<1 to >100 μm) over a range of airflow (approximately 10 to 100 L/min). Second, leakage must be prevented at the boundary of the facepiece and the face. However, it is not possible to assure the latter—good face seal performance—without first ensuring a well-functioning filter.”

Remember that the interest of the research is to stipulate the lower end of range to the higher range. This means if the lower range included particles that were in the submicron order of sizes found with the SARS-2 virions, 40-140 nm (0.04 - 0.14 μm), credulity would limit the researchers by <1 μm to mean nothing smaller in the lower range than <0.5 μm to > 100 μm , or at the very smallest 0.3 μm , and etc. To start with <1 μm (which is 1000 nm) TA almost certainly did not intend to say masks must be efficient to efficiently block particles below 0.5 μm , which, by the way,

comports with all other studies I've examined. So let's be generous and say the lower range indicated by $<1 \mu\text{m}$ includes particles from $0.3 \mu\text{m}$ to $1 \mu\text{m}$, or 300-1000 nm. I chose this is the lowest beginning place of particle sizes used by virtually every other scientific study I've examined (well over 400).

CCav: "As seen in *Figure 2*, there is a particle size at which NONE OF THE 'MECHANICAL' COLLECTION MECHANISMS (interception, impaction, or diffusion) IS PARTICULARLY EFFECTIVE." I can't make out what this figure is communicating.

I'll try to interpret the diagram (Figure 2: Filter efficiency versus particle diameter.)



Three mechanisms of capture: 1. inertial impaction and 2. interception, captures the larger particles; 3. diffusion is for capturing the smaller particles (See “INFO: Porosity ...”)

The horizontal scale, along the bottom of the figure, indicates particle size from 0.01 μm to 1.0 μm (or 10 nm to 1000 nm). The vertical scale on the left side indicates efficiency from the bottom, at 0 efficiency, increasing to 1 for complete efficiency. This curve suggests the diffusion regime of masks

INCREASES as the particle size DECREASES, which is nonsense. Even if we flipped the chart horizontally so it reads intuitively from larger to smaller particles, the message continues to be *as the particle size diminishes, the efficacy increases*. If one flips the curve, however, the diagram makes perfect sense, as then the mask efficiency increases with particle size, and that is what the article itself indicates: “Further, the filter’s collection efficiency is a **function of the size of the particles**, and is not dependent on whether they are bioaerosols or inert particles.” OBVIOUSLY, the efficiency of a mask INCREASES as the particle size INCREASES.

NOTE: *** It must be the case that this figure should be read with the curve flipped so that the beginning place of curve line begins at the zero point of the efficiency scale and the 0.01 point of the particle size scale. This kind of error in an article published by CDC is embarrassing, and greatly reduces confidence in the study.

So, what does this diagram tell us? TA said this figure, Figure 2, illustrates the truth that “there is a particle size at which none of the ‘mechanical’ collection mechanisms (interception, impaction, or diffusion) is particularly effective.” Therefore, and

reaffirming the discussion above about the unfortunate orientation of this diagram, the beginning point of the curve line indicates the point at which masks have 0 efficiency. It shows that efficiency does not even begin until we reach particle sizes that are significant size increase from 10 nm. But it's difficult to say, from this diagram, what that size IS. This is because the particle size scale is also virtually impossible to read with anything like precision. In my experience, when very clever people speak with purposed imprecision it's because they are hiding something, or betraying uncertainty.

Assuming the diagram is premised upon some scale of relative size, converting the numbers from micrometers into nanometers, the sizes run from 10 nm to 1000 nm. Obviously, midway would be 500 nm. Not so fast. The scale is not *to scale*. The half way point is very near the marker identified as 0.1 μm , or 100 nm. So the distance from 0.01 to 1.0 represents 10 to 100 nm. Apparently, TA does not want to stipulate at what point the masks begin to capture particles. This means, according to the diagram, which actually cannot be trusted at all, that mask efficiency just begins to move from the base line of 0 at ~ 40 nm, which is the low range of the SARS-CoV-2 virion. And when I say just begins to show movement from the

base line of 0 efficacy, I mean this diagram indicates a virtual zero efficacy at that size. The efficacy slowly increases with particle size and NEVER reaches better than 20% efficacy (you must remember the curve must be flipped so it's beginning point starts at 0 efficacy for 10 nm sized particles) — according to this diagram, masks are inadequate to protect against particles in the size range from 40nm to 100 nm at better than 20% (represented on the scale that runs from 0-1, in increments represented as 0-0.2-0.4-0.5-0.8-1.0) — it never gets past ~0.2. And this means, according to this CDC document, after telling us filtration is a feature of PARTICLE SIZE, that masks are known to provide NO effective PROTECTION against contagion from particles in the size range of the SARS-CoV-2 (40-140 nm).

Further analysis of the Figure 2 shows that at particle sizes 300-500 nm, efficacy gets no better than ~50% — which means if multiple thousands of virions are attacking the mask, and 50% penetrate, thousands of contagious virions penetrate the mask either in exhalation or inhalation — .

NOTE: Even if I invert, or flip, the curve, there continues to be a compromising anomaly. Flipping the curve solves the dilemma of suggesting the mask has

100% efficacy against virions that are 10 nm and DECREASES efficacy as the virions get LARGER. But now we have the other side of the diagram, when flipped, suggesting that the mask become less efficacious against virions as they get larger. If the vertical scale indicating efficiency was flipped on the left side, and then placed as it is on the right side, indicating an inversion taking place as the particle sizes increased, it would correct the problem, but also create a very strange diagram leaving a gapping WHY? Why not simply show what we know to be true, and have the curve line move from 0 efficacy to full efficacy on a simple scale? Of course, there is no way to know it, but this looks like a purposed effort to obfuscate from the reader what this chart tells us. Turns out, the only reasonable interpretation of it, says what well over 400 studies that I've examined have already said.

Earlier, examining FIGURE 2, I wrote: Figure 2 seems to be saying, when inertial impaction is combined with interception, the result is about 80% filtering for 1 μm — the blasted curved line along top is totally confusing. If the stupid line touches the top, 1.0 efficiency, does that mean total efficiency, or 0 efficiency. Does 1.0 mean all particles of the size indicated below on the particle diameter scale, penetrate the mask? — it seems counter intuitive to

put 0 for total efficiency and 1 for total inefficiency, but that must be what they are doing here.

So, assuming for the moment that 1.0 efficiency means ALL PARTICLES OF THE SIZE indicated will penetrate the mask.

This would mean that the range of particle capture for a mask employing inertial impaction and/or interception is from 1.0 (zero efficiency) to roughly, sort of, kind of, in the neighborhood of 0.6, or 40% efficiency (60% of all 1 μm particles will penetrate the mask.) [I can't believe CDC published this confusing and very difficult to read diagram, and the study itself is weak.]

INFO: “One of the best tests of a filter’s performance involves measuring particle collection at its most penetrating particle size, which ensures better performance for larger and smaller particles. Further, the filter’s collection efficiency is a function of the size of the particles, and is not dependent on whether they are bioaerosols or inert particles.”

CCav: Well, here we go! The test aerosol was an aerodynamic diameter particle of about 0.3 μm (300 nm), and this is the MPPS-range for MOST FILTERS.

And this simply makes the Figure 2 even more inscrutable. Also, I've noticed that 0.3 μm is standardized, it is consistently the size masks are tested for.

It identifies for 1 μm down to 0.01 μm but the test size was 0.3 μm . ????

The 0.3 μm is “worst case scenario”? — Really????

CCav/IR: This study admits it does not take seriously the surgical mask. After telling us how stringent the tests are for N95 respirators, etc. we are told, **“The surgical mask, on the other hand, must demonstrate that their product is at least as good as a mask already on the market ...”** Then, after some jargon, frankly, that I can't follow without digging deeper into this than I either care to go, or need to go, we read later: **“In studies comparing the performance of surgical mask filters using a standardized airflow, filter performance has been shown to be HIGHLY VARIABLE. Collection efficiency of surgical mask filters can range from less than 10% to nearly 90% for different manufacturers' masks when measured using the test parameters for NIOSH certification.”** These are the standards stipulated earlier that use a particle size

of 0.3 μm as the standard. WOW! That means the typical surgical mask blocks only from 10% to 90% of particles $\geq 0.3 \mu\text{m}$ — or 300 nm.

CCav: Also, “A recent study of five surgical masks with ‘good’ filters found that 80-100% of subjects failed an OSHA-accepted qualitative fit test...”

The web page directs us to the more government approved status of this question during the COVID thing!

—> Back to the **FN01.38.00.03.00** study we are presently examining:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An evidence review ...

CLAIM: SOURCE CONTROL argument — masks might not help as PPE but they can be important for “source control.”

These authors think the following study is “one of the most relevant papers” on the question of the efficacy of masks for source control for seasonal coronaviruses:

67. Leung N. H., et al., Respiratory virus shedding

in exhaled breath and efficacy of face masks. *Nat. Med.* **26**, 676–680 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2> (Alternate web page:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8238571/>) PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine.pdf (See FN01.32.05.00.00-
<https://www.nature.com/articles/s41591-020-0843-2> PDF: FN01.32.05.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine — for DUPLICATE, BUT VETTED AT FN01.28.03.00.00.

Continuing **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>

SP: TA claims the article showed “masks were effective at blocking coronavirus particles of ALL SIZES FOR EVERY SUBJECT.” Oh, really? That’s not what I found when I vetted this article. The elasticity of language is never more evident than in these articles. Coronavirus particles range from 40-140 nm,

even those studies that claim 80% efficacy for surgical masks (an outrageous claim) base the claim on a particle size in excess of 0.3 μm (300 nm) and more often than not, when examined carefully, these studies don't get that rating with particles smaller than 5 μm . "Particles of *all sizes ...*" ??? Not hardly.

CCav: Oh, then comes the CCav: "However, masks were far less effective at blocking rhinovirus particles of any size, **or of blocking small influenza particles.**" Which is rather the POINT! Except that not even the M95 will fair well against an attack of particles in the <50 nm and are only somewhat more effective for those between 50-100 nm.

In fact, this literally contradicts the first statement. Coronavirus particles of ALL SIZES? SARS-2 IS a coronavirus, and it's not smaller than SARS-1, nor are these particularly larger than the influenza virus.

According to research I've accessed earlier, an influenza virus is typically from 80-120 nm. One researcher estimated the bottom size range at 70 μm . (I have since found research that puts the low range as low as 40 and the high at 140 nm).

IR: Well, that is a particle size appreciably smaller

than what is given for the SARS-2 virus, which ranges from 60-140 nm, and usually given at the average size of 120 or 125 nm. (As indicated above, over the course of my research, later studies are reporting smaller sizes for the SARS-CoV-2 and the lowest I've seen so far is 40.)

*** In any event, the statement that masks are “less effective at blocking ... small influenza particles” would have to be applied to SARS-2 in the same way: *masks are less effective at blocking small coronavirus particles.*

Granted, at the time this study was posted, 2021, according to the authors, it was not yet known whether SARS-CoV-2 “behaves the same as these seasonal coronaviruses, which are of the same family.”

SP: *** But the masks were effective at blocking coronavirus particles of all sizes — ? Again, that is not what I found in that study. Of course, much depends on the meaning of the word *effective*? Perhaps he found that the mask blocked at least some of the coronavirus particles of every size — but *some* is a *fudgeable* number. *Enough* is the criteria of concern. Efficacy must be measured against the standard that the mask blocks *enough* viral particulate matter to

make a significant difference in transmission. They Don't!!!

IR: TA next references a study that found masked subjects expelled an average of 19 contaminates per 5 cubic feet where 63% were smaller than 4 μm . I remember this study; and the problem remains that smaller than 4 μm (4000 nm) is at best 3 μm (3000 nm) and we already know that our concern is with sizes smaller than 0.3 μm — (300 nm). So that test is IR.

The authors reference a study where subject coughed 20 cm distance from a plate, which was afterwards tested by RT-PCR for influenza. No influenza was found on the plates of those wearing masks, and on the plates of seven of nine patients without the mask, influenza was found. This study is...

70. Johnson D. F., Druce J. D., Birch C., Grayson M. L., A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. *Clin. Infect. Dis.* **49**, 275–277 (2009). [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.30-

<https://academic.oup.com/cid/article/49/2/275/405>

108?login=false/. PDF: FN01.38.00.03.30.Quantitative Assessment of the Efficacy of Surgical and N95 Masks to Filter Influenza Virus in Patients with Acute Influenza Infection _ Clinical Infectious Diseases _ Oxford Academic

Already vetted in these notes: See

FN01.38.00.13.00-

<https://academic.oup.com/cid/article/49/2/275/405108?login=false>. PDF: FN01.38.00.13.00.Quantitative Assessment of the Efficacy of Surgical and N95 Masks to Filter Influenza Virus in Patients with Acute Influenza Infection _ Clinical Infectious Diseases _ Oxford Academic

—> Back to the **FN01.38.00.03.00** study we are presently examining:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ...

TA references the Milton study I worked on earlier.

71. Milton D. K., Fabian M. P., Cowling B. J., Grantham M. L., McDevitt J. J., Influenza virus aerosols in human exhaled breath: Particle size, culturability, and effect of surgical masks. *PLoS Pathog.* **9**, e1003205 (2013). [[PMC free article](#)] [[PubMed](#)] [[Google](#)

[Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

******FN01.38.00.14.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3591312/>. PDF: FN01.38.00.14.00.Influenza Virus Aerosols in Human Exhaled Breath_ Particle Size, Culturability, and Effect of Surgical Masks - PMC

I rather liked this study as it was the closest I have found to being a truly legitimate examination of the question. Nevertheless, the study does not support the thesis tested in this research, namely, that masks are an effective protection device for contagion or transmission.

Next, TA of **FN01.38.00.03.00** (see above —> Back to FN01.38.00.03.00 study we are presently examining:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ...) refers to another study I've already vetted:

72. Vanden Driessche K., et al., Surgical masks reduce airborne spread of *Pseudomonas aeruginosa* in colonized patients with cystic fibrosis. *Am. J. Respir. Crit. Care Med.* **192**, 897–899 (2015).

[\[PubMed\]](#) [\[Google Scholar\]](#) [\[Ref list\]](#)

Already vetted in these notes: See

FN01.38.00.15.00-

https://www.atsjournals.org/doi/10.1164/rccm.201503-0481LE?url_ver=Z39.88-

[2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed](#). PDF: FN01.38.00.15.00.Surgical Masks Reduce Airborne Spread of *Pseudomonas aeruginosa* in Colonized Patients with Cystic Fibrosis _ American Journal of Respiratory and Critical Care Medicine

The next study cited by TA (FN01.38.00.03.00) is

73. Wood M. E., et al., Face masks and cough etiquette reduce the cough aerosol concentration of *Pseudomonas aeruginosa* in people with cystic fibrosis. *Am. J. Respir. Crit. Care Med.* **197**, 348–355 (2018). [\[PubMed\]](#) [\[Google Scholar\]](#) [\[Ref list\]](#) has also been vetted:

Already vetted in these notes: See

FN01.38.00.16.00-

https://www.atsjournals.org/doi/10.1164/rccm.201707-14570C?url_ver=Z39.88-

[2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed](#). PDF: FN01.38.00.16.00.Face Masks and

Cough Etiquette Reduce the Cough Aerosol Concentration of *Pseudomonas aeruginosa* in People with Cystic Fibrosis

AND THE NEXT article cited by TA of FN01.38.00.03.00:

74. Stockwell R. E., et al., Face masks reduce the release of *Pseudomonas aeruginosa* cough aerosols when worn for clinically relevant periods. *Am. J. Respir. Crit. Care Med.* **198**, 1339–1342 (2018).
[\[PubMed\]](#) [\[Google Scholar\]](#) [\[Ref list\]](#)

Already vetted in these notes: See
FN01.38.00.17.00-
https://www.atsjournals.org/doi/10.1164/rccm.201805-0823LE?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed PDF: FN01.38.00.17.00.Face Masks Reduce the Release of *Pseudomonas aeruginosa* Cough Aerosols When Worn for Clinically Relevant Periods _ American Journal of Respiratory and Critical Care Medicine

And the next:

75. Dharmadhikari A. S., et al., Surgical face masks

worn by patients with multidrug-resistant tuberculosis: Impact on infectivity of air on a hospital ward. *Am. J. Respir. Crit. Care Med.* **185**, 1104–1109 (2012). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.27.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3359891/>. Here is the **PDF: FN01.27.05.00.00.** Surgical Face Masks Worn by Patients with Multidrug-Resistant Tuberculosis _ Impact on Infectivity of Air on a Hospital Ward _ American Journal of Respiratory and Critical Care Medicine. SEARCHED: got some hits.

And the next:

76. Chan J. F. W., et al., Surgical mask partition reduces the risk of non-contact transmission in a golden Syrian hamster model for Coronavirus Disease 2019 (COVID-19). *Clin. Infect. Dis.* **71**, 2139–2149 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.38.00.18.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC731>

4229/pdf/ciaa644.pdf PDF:
FN01.38.00.18.00.Surgical mask partition reduces the risk of non-contact transmission in a golden Syrian hamster model for Coronavirus Disease 2019 (COVID-19)ciaa644

CLAIM/IR: Author claims efficacy for cloth masks to be 58-94% for 1 μm bacteria: “Multiple simulation studies show the filtration effects of cloth masks relative to surgical masks. Generally available household materials had between a 58% and 94% filtration rate for 1- μm bacteria particles, whereas surgical masks filtered 96% of those particles (77)” — IR for our purposes. Let’s look at the supporting study:

77. Davies A., et al., Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? *Disaster Med. Public Health Prep.* **7**, 413–418 (2013). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.31—
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

PC: May 2013

CCP: Davies (1 of 6, 5 ?) / **ORIGIN:** UK-Salisbury, Public Health England (HPA); London / **REF:** MacIntyre, Dwyer; van der Sande, Teunis; Syed, Sopwith (3 of 16) / **FUNDING:** nd

RCT: No. However, TA describes study as lab work investigating common household materials for filtration efficacy against bacterial and viral aerosols. Especially concerned with the highly recommended surgical masks as “most likely to be used by the general public.” They used this mask for their control — to measure pressure drop across each of the other materials examined.

CONTENT: CLAIM: FOUND: the “median-fit factor of the homemade masks was one-half that of the surgical masks. Both masks significantly reduced the number of microorganisms expelled by volunteers, although the surgical mask was 3 times more effective in blocking transmission than the homemade mask.”

SP: Curious, the lying started early. Blocking “transmission”? Really?

NOTE: This *really* sounds like one of those prep

studies — we know the “plandemic” was in fact planned in advance; the proof of that is well established with the studies exposed mapping out a comprehensive scheme for controlling a coming pandemic, complete with war-scenarios plotting how to “market” the panic, and control the narrative, etc. etc.. This study appears like a few I’ve seen that appear to fit that narrative: PREPPING everyone for changing the standard practice in western culture from no mandates on public masking to mandating public masking. You’ll have to read it yourself to determine whether this take on the article is fair, but I recommend you read it in connection with all the articles that came before it on the question of the efficacy of masks. Then I think you too will notice the stark and sudden shift!!!

TA of FN01.38.00.03.31 uses for support the following:

1. MacIntyre CR, Cauchemez S, Dwyer DE, et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis*. 2009;15:233-241. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: **FN01.08.05.00.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

CLAIM: “Both (homemade and surgical) masks significantly reduced the number of microorganisms expelled by volunteers, although the surgical mask was 3 times more effective in blocking transmission than the homemade mask.”

INFO: MICROORGANISMS used in the test:

Two microorganisms were used to simulate particle challenge: *Bacillus atrophaeus* (BA), and Bacteriophage MS2 (BM).

IR: BA is a rod-shaped spore-forming bacterium that is 0.95-1.25 μm (950 to 1250 nm). We can rule these out as IR since the size range is outside our concerns.

INFO: BM, however, is 23 nm in diameter and

known to survive the stresses of aerosolization. I'll stipulate to this but if reason compels further inquiry:
5. Dubovi EJ, Akers TA. Airborne stability of tailless bacterial viruses S-13 and MS-2. *Appl Microbiol.* 1970;19:624-628. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

CLAIM: TA claim the “two test organisms can be compared in size to influenza virus, which is pleomorphic and ranges from 60-100 nm.” Then the author specifies which specific bacteria is being tested: [1] “Yersinia pestis, which is 0.75 μm ; [2] B anthracis, which is 1 to 1.3 μm ; [3] Francisella tularensis, which is 0.2 μm ; and [4] Mycobacterium tuberculosis, which is 0.2 to 0.5 μm .”

IR/SP: After teasing us with what looked like a promise to challenge the mask materials with particles as small as 23 nm, or something at least as small as 100 nm, the author instead selects representatives of the virus that are ALL LARGER THAN THE 60-100 nm range he stipulated as being representative of the size of influenza virus: [1] is 750 nm; [2] is 1000-1300 nm; [3] 200 nm; and [4] 200-500 nm. All of these are **OUTSIDE THE RANGE OF WHAT TA STIPULATED FOR PARTICLES SIZES HE OSTENSIBLY TESTED THE MASKS TO PROTECT AGAINST.**

Supporting the above claim, TA cites:

6. Stanley WM. The size of influenza virus. *J Exp Med.* 1944;79:267-283. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] which I have vetted earlier. I will stipulate to these sizes.

CONTINUING with FN01.38.00.03.31. Testing the Efficacy ...

CLAIM: Bacteriophage MS2 and B atrophaeus were specifically chosen to be the test subjects for influenza. He does not re assert the size, so we assume these are 23 nm in diameter.

It's a little odd that he names the two organisms he chose, states they range from 60-100 nm, and follows this with a list of organisms none of which are under 200 nm??? This is very confusing???? But I can't ask the authors what they were thinking here, so, I'll have to move on.

Nevertheless, he comes back to the two test organisms selected to represent influenza virus and identifies them again as Bacteriophage MS2 which he stated is 23 nm, and B atropheaus which he indicated

is 950 to 1250 nm. The B atropheaus is out of the range of our concern; but the Bateriophage MS2 is certainly of interest to us.

AME: The thing about this study is that it's about relative efficacy and not about specific efficacy: in other words, there is an AME bias assuming both masks block some particles, but it is not specified in a manner that is clear.

TA presents Table 4 (See FN01.38.00.03.31a.Image 7-26-22 at 8.03 PM.jpg). In that table, TA reports on findings re “Total Colony-Forming Units Isolated by Particle Size From 21 Volunteers Coughing When Wearing a Surgical Mask, Homemade Mask, and No Mask:

A colony-forming unit is explained at TECH38.Colony Forming Unit (CFU) in Microbiology _ Definition and Uses <https://www.toppr.com/guides/biology/microorganisms/colony-forming-unit-cfu-in-microbiology/> : “It is a unit that we use for estimating the number of viable bacteria or the fungal cells in a sample.” Each colony-forming unit is a CFU.

Here is that table:

Table 4

Total Colony-Forming Units Isolated by Particle Size From 21 Volunteers Coughing When Wearing a Surgical Mask, Homemade Mask, and No Mask

Particle Diameter, μm	No Mask	Homemade Mask	Surgical Mask
>7	9	3	5
4.7-7	18	7	7
3.3-4.7	5	4	4
2.1-3.3	47	7	5
1.1-2.1	100	16	6
0.65-1.1	21	6	3
Total	200	43	30

Here is the conclusion TA arrived at from their study: “Our findings suggest that a homemade mask should only be considered as a last resort to prevent droplet transmission from infected individuals, but it would be better than no protection. (Disaster Med Public Health Preparedness. 2013;0:1–6).”

AME: So you see what I mean when I say this study examines the *relative* efficacy of the masks tested and not the efficacy of masks to protect specifically against the particle sizes of our concern. The smallest particle challenging these masks for which TA reports their findings, was 650 nm. That's almost 6 time larger than the normal size of a SARS-CoV-2 virion: 125nm, and thirteen times larger than the low end of the size range of those virions: 40 nm.

INFO/IR: A study of the Table reveals some interesting data. Nearly all the particles ejected in coughing were smaller than 0.3 μm (168 CFUs from a total of 200: that's 84% of the particles challenging the masks were under 300 nm). Assuming the ejecta of of the 21 participants was relatively close in approximation of CFUs ejected in each trial — no mask, homemade mask, and surgical mask (which is not likely): The homemade mask allegedly released 29 of 168 CFUs ejected, blocking 139 CFUs, and surgical masks released 14, blocking 154 compared to the control. A CFU is a “colony” including sufficient bacteria to be viable in infection—I won't take time to research that out right now, but it's likely to represent multiple copies of viral RNA—but nevertheless, clearly 29 CFUs escaped the homemade mask and 14 escaped

the surgical mask in the size range of 650-3000 nm, any one of which can transmit, which is the point of a CFU measurement, the size colony that is viable, and so the masks were defeated. Add to this the fact that we are talking about particles way smaller than these, and it's clear the masks DON'T WORK!

IR: And then, when it comes to the coughing test, the study does not provide any data on the sizes of interest to us: it goes only to 0.65-1.1, which is 650-1100 nm.

IR: With the Table 3, we have similar issues. They provide the Median Interquartile range — the range that is within the median segment of the overall results.

IR: Let's go to Table 1, it's the one I think that tells us what is the filtration efficacy of each of the materials tested. It's given as the % of filtration efficacy.

Here we have Bacteriophage MS2 indicated with a percentage of filtration efficacy. They told us the quantity of the material they used in their challenge: TA claims the materials were “challenged with high concentrations of bacterial and viral aerosols to assess

their filtration efficiencies”: volume of BA was 10^7 th, and bacteriophage was 10^9 th.

IR: Again, I’m not interested in the B atrophaeus (950-1250 nm).

So let’s look at the B. MS2 — and according to this study, the surgical mask blocked 89.52% of a particle that is 23 nm???? No WAY! What am I missing in this study. If this was true, every Fauci fawning sycophant would be touting this study constantly. What am I missing? This study is so anomalous to virtually every other I’ve examined its results are inexplicable with the information available. How did they examine the ejecta, and in what intervals did the subjects express their coughs, for examples. I ran into a thing a while back where the time between sessions was not sufficient to all viral replenishing after coughing, talking, etc., ejected some measure of it. When something like this happens, where the results are so far afield of other studies where the researchers were much more conscientious re stipulating their methods and materials and describing in detail the procedure, I simply can’t take this seriously. However ...

10^9 th is 1 billion particles. This means that 890 million 520 thousand particles were blocked, and

109,480,000 blew through the mask, any one of which could be infectious. One way to get a high rating is to increase the challenge exponentially. I think that is what was intended.

IR: ***Clearly, if 109 million bullets get past your barrier, the fact that it stopped 890 million is irrelevant.

SP: So, that's my first clue that this is a deceptive study.

And the question is why they did not get a challenge closer in proximity to the size of a virion? They are too high on the one side, 950-1200 nm, and too small on the other 23nm. So what affect does plaque forming have on the size of the particles? Is that the issue? I don't think so.

For definition and explanation of *bacteriophage* see TECH39.bacteriophage _ Definition, Life Cycle, & Research _ Britannica. <https://www.britannica.com/science/bacteriophage>: From Britannica: "**bacteriophage**, also called **phage** or **bacterial virus**, any of a group of **viruses** that infect **bacteria**. Bacteriophages were discovered independently by **Frederick W. Twort** in

Great Britain (1915) and [Félix d'Hérelle](#) in France (1917). D'Hérelle coined the term *bacteriophage*, meaning “bacteria eater,” to describe the agent’s bacteriocidal ability. Bacteriophages also infect the single-celled prokaryotic organisms known as [archaea](#).”

NOTE: I question the size of the bacteriophage. Something is off. In the noted doc I find that bacteriophage S-13 and MS-2 are 230 to 300 nm, not 23. See **FN01.38.00.03.32-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC376752/?page=1>. PDF: FN01.38.00.03.32.Airborne Stability of Tailless Bacterial Viruses S-13 and MS-2 - PMC

You’ve got to be kidding me!!! So the statement that Bacteriophage MS2 is 23 nm is a typo, or a misprint??? He references us to

5. Dubovi EJ, Akers TA. Airborne stability of tailless bacterial viruses S-13 and MS-2. *Appl Microbiol.* 1970;19:624-628. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

I ran that down, as per above: the page I copied (PDF: FN01.38.00.03.32.Airborne Stability of Tailless Bacterial Viruses S-13 and MS-2 - PMC) tells us the

phage in question ranges from 230-300, **“Two unusual bacterial viruses, S-13 and MS-2, were selected for studies on airborne stability.** These were chosen because of physical characteristics that closely resemble many animal viruses: (i) **BOTH ARE 230 TO 300 NM** with apparent icosahedral symmetry ... both contain single-stranded nucleic acids ...”

FN01.38.00.03.32.Airborne Stability of Tailless Bacterial Viruses S-13 and MS-2 - PMC — NOTE: This PDF is not searchable. Find the quote on first page, first column, second paragraph, and go to second to last line; begins, “many animal viruses ...”

*** Unreal. So, I guess he DID choose a particle that is relative to the size of a virion, but larger than the SARS-2, which is almost half the size of what was selected.

This explains why I could not find any corroborating documentation supporting the size stipulated in this study.

IR: So, back to the test—what would happen if he used a microorganism more in line with the size of the virus that concerns us. It’s an estimate, but I would argue that it is likely the difference would be very, very dramatic.

Let's say half the capture, which is more than fair, since the virion is about 5.5 x smaller than the low end (230/40) and a little more than half the size by comparison on the high end (300/140): 40-140 nm as compares with 230-300 nm. Also, how many of the bacteriophage fell into the 300 nm size category as opposed to the 230 nm category? No doubt some of the 300 nm particles pushed through, but the 230 nm particles most likely blew through.

If my estimate is even remotely close, the results would be dramatically different. Instead of 89.6% efficacy, we are talking about 44.56% efficacy and that would mean the surgical mask blocked only about 45 million particles and let through well over 55 million—I'm guessing the differential would actually be much higher, but I think we can rest on this.

This might explain why the authors of FN01.38.00.03.00 referenced this article **BUT ONLY TO ESTABLISH the standard of using 30 L/min or higher challenge aerosol, which is around 3 to 6 times the ventilation of a human at rest or doing light work,** which is near a quote from that doc. Otherwise, this guy would have jumped all over a simulation that indicated a surgical mask would block 89+% of a

particle the size of 23 nm.

—> Back to the **FN01.38.00.03.03-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>

Under Human Studies: Aerosol and Droplet Filtration. Stipulated: cloth masks block *some* particle emissions during speech.

[*** Observation: and the same barrier interferes with SOME fresh air during inhalation. BREATHING OUT is always followed by BREATHING IN. If stuff your body wants to expel from your body is emitted during exhalation, and if any or some significant portion of that is trapped in a face barrier, then during inhalation it is certainly being drawn back into the body — THIS DEFEATS THE PURPOSE OF BREATHING.]

CCav/SP: **“There are no studies that have directly measured the filtration of smaller or lateral particles in this setting...”** Followed by the SP (specious argument): **“although, using Schlieren imaging, it has been shown that all kinds of masks GREATLY limit the spread of the emission cloud.”** (With a footnote No. 79 supporting the statement.)

And a statement that this is consistent with a “fluid dynamic simulation that estimated this filtration level at 90%” with a footnote 80 to support. Then another SP: **“Another study used a manikin and visible smoke to simulate coughing, and found that a stitched cloth mask was the most effective of the tested designs at source control, reducing the jet distance in all directions from 8 feet (with no mask) to 2.5 inches.”** Footnote 81. Okay, here we go.

CLAIM: First claim: “Schlieren imaging” shows that ALL KINDS of masks GREATLY limit the spread of the emission cloud.

79. Viola I., et al., Face coverings, aerosol dispersion and mitigation of virus transmission risk. arXiv:2005.10720v1 (19 May 2020). [[Ref list](#)]

No link. Let’s find it by title. The link has been accessed indicating I’ve already vetted this study. But I can’t find it in these notes, at least not at this address: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8545035/> or any search combination of title and author. Found it!

FN01.38.00.03.33-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC854>

5035/. PDF: FN01.38.00.03.33.Face Coverings, Aerosol Dispersion and Mitigation of Virus Transmission Risk - PMC For SUP see FN01.38.00.03.33. SUP supp1-3053215

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Jan. 2021

CCP: Pavar, Akhtar, Tsz-Yan (3 of 20) / **ORIGIN:** UK-U. of Edinburgh, School of Engineering; Bicester, Centre for Clinical Brain Sciences; Pakistan-Lahore, U. of Engineering and Tech., Dept. Mechanical Engineering. / **REF:** Chu; Wang; Ueki; Dhanak; Tang (4); Zhu, Kato, Yang; Gupta, Lin, Chen; Khan; Tokgoz (12 of 31) / **FUNDING:** European Research Council; UK Engineering and Physical Sciences Research Council; Institute Strategic Programme; UK Biotechnology and Biological Sciences Research Council; Higher Education Commission, Pakistan.

RCT: No. RL (See “Face coverings were tested with the manikin to ensure high repeatability. For the unfiltered tests, the differences between a human

cough and that of the manikin are summarised in Table 2 (see also Supplementary Materials, Spirometry).”)

CONTENT: CLAIM: “Schlieren imaging” shows that ALL KINDS of masks GREATLY limit the spread of the emission cloud.

SS: “It is now ascertained that the use of face coverings is PARAMOUNT to mitigate SARS-CoV-2 virus transmission and to address the COVID-19 pandemic.” Resource: 1 [1] Chu D. K. et al., “Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: A systematic review and meta-analysis,” *Lancet*, vol. 6736, no. 20, 2020. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See
FN01.38.00.04.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/>. PDF: FN01.38.00.04.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - PMC

Other studies referenced by Viola, et al.

[2] Rodriguez-Palacios A., Cominelli F., Basson A. R., Pizarro T. T., and Ilic S., “Textile masks and surface covers—A spray simulation method and a ‘Universal Droplet Reduction Model’ against respiratory pandemics,” *Front. Med.*, vol. 7, pp. 1–11, May 2020. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] and [11] Dbouk T. and Drikakis D., “On respiratory droplets and face masks,” *Phys. Fluids*, vol. 32, no. 6, 2020. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] neither of which have been vetted in these notes. Let’s look at them.

FN01.38.00.03.34-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267001/>. PDF: FN01.38.00.03.34.Textile Masks and Surface Covers—A Spray Simulation Method and a “Universal Droplet Reduction Model” Against Respiratory Pandemics - PMC For SUP data, see FN01.38.00.03.34.SUP Data_Sheet_1

PC: May, 2020

CCP: Rodriguez-Palacios, Cominelli, Basson, Pizarro, Ilic / **ORIGIN:** USA- OH, Cleveland: Division of Gastroenterology and Liver Disease, U. Hospitals; Dept.

Pathology; Case Western Reserve U, and College of Education, Dept. Human Sciences, Human Nutrition, etc.; OH State U; US FDA; Ghent U in Belgium; Brazil-Federal U. of Para. / **REF:** Du, Cowling; Chughtail, Seale, Dung, Rahman, MacIntyre; WHO (4); US CDC (4); Kim, Choe, Oh Y., Oh KJ., Kim, Park; WCHM [?]; Xiao, Wang MI., Wei, Wang J., Zhao, Yi; Shiu, Leung, Cowling; Liu, Ning, Chen, Guo, Liu, Gali; Cowling, Tang; Sun, Zhang, Chen X., Chen L., Deng, Zou; Cai, Sun, Huang, Wu, He; Kooij, Sijs, Denn; Han, Weng, Huang; Han, Shim, Shin, Lee, Lee JS., Ahn; Xie, Li, Sun, Liu; Chan, Yuan, Kok, To, Chu, Yang; Lee; MacIntyre, Dwyer, Seale, Cheung; Liu, Yu, Ge, Wang L., Zhang, Li; MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu; MacIntyre, Seale, Dung, Hien, Nga, Chughtai; Wada, Oka-Ezoe; MacIntyre, Chughtai; Offeddu, Yung, Low, Tam; Ali, Zhang; UA-DHS—Science and Tech.[?]; Huang, Tufekci, Zdimal; Gupta M., Gupta K., Gupta S.; Konda, Prakash, Guha (36 of 57) / **FUNDING:** Statement: “**Funding.** This study was conducted with discretionary funds allocated to AR-P and SI. AR-P received partial support from NIH via grants R21DK118373, entitled Identification of pathogenic bacteria in Crohn's disease, P30DK097948 NIH Silvio O. Conte Cleveland Digestive Diseases Research Core Center, and P01DK091222 (Germ-Free and Gut Microbiome Core) to FC and TP, Case Western Reserve University. AB received support via NIH F32.”

RCT: No. An experiment described as follows: “we used a bacterial-suspension strategy to quantify the number of droplets that could not be visualized, but that could escape textile barriers and cause long-/short-range surface contamination. To enumerate bacteria-carrying micro-droplets, we used household spray bottles filled with an aqueous suspension of 12-probiotic-cultured dairy product (Lactobacillus lactis, L. rhamnosus, L. plantarum, L. casei, L. acidophilus, Leuconostoc cremoris, Bifidobacterium longum, B. breve, B. lactis, Streptococcus diacetylactis, and Saccharomyces florentinus, 75 ml; $3 \times 10^6-7$ cfu/ml, 25 ml Saliva 10^6-7) in 1,000 ml PBS (Fisher BP-399-1) to simulate a cloud of droplets produced by a sneeze.”

CONTENT:

NOTE: TA refers to 1. Oaklander M. Health experts are telling healthy people not to wear face masks for coronavirus. So why are so many doing? *Time* (2020, March 04). Available online at: <https://time.com/5794729/coronavirus-face-masks/> (accessed March 20, 2020). [[Ref list](#)] **advising against masks for public. Followed by a counter attack by mask advocates:** 2. Tufekci Z. Why telling

people they don't need masks backfired. To help manage the shortage, the authorities sent a message that made them untrustworthy. *The New York Times*. (2020, March 17). Available at <https://www.nytimes.com/2020/03/17/opinion/coronavirus-face-masks.html> (accessed March 24, 2020). [[Ref list](#)]

SS/AME: Regardless of clinical presentation [the authors here did not evaluate the relative value of the two opposing arguments, but dismiss the issue in favor of AME], COVID-19 transmits person-to-person, including children (3), via ‘oral-respiratory droplets’ produced when...” people live their lives in any ordinary way. The authors admit: “no scientific data/guidelines exist promoting masks as a ‘droplet precaution’ for the public” and offers 5, 9, 11 as support.

CLAIM: The one claim, that transmission occurs from children, needs attention: 3. Du Z, Nugent C, Cowling B, Meyers L. Hundreds of severe pediatric COVID-19 infections in Wuhan prior to the lockdown. *medRxiv [preprint]*. (2020). 10.1101/2020.03.16.20037176 [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.34a-

[https://scholar.google.com/scholar_lookup?journal=medRxiv+%5Bpreprint%5D.&title=Hundreds+of+severe+pediatric+COVID-](https://scholar.google.com/scholar_lookup?journal=medRxiv+%5Bpreprint%5D.&title=Hundreds+of+severe+pediatric+COVID-19+infections+in+Wuhan+prior+to+the+lockdown&author=Z+Du&author=C+Nugent&author=B+Cowling&author=L+Meyers&publication_year=2020&doi=10.1101/2020.03.16.20037176)

[19+infections+in+Wuhan+prior+to+the+lockdown&author=Z+Du&author=C+Nugent&author=B+Cowling&author=L+Meyers&publication_year=2020&doi=10.1101/2020.03.16.20037176](https://scholar.google.com/scholar_lookup?journal=medRxiv+%5Bpreprint%5D.&title=Hundreds+of+severe+pediatric+COVID-19+infections+in+Wuhan+prior+to+the+lockdown&author=Z+Du&author=C+Nugent&author=B+Cowling&author=L+Meyers&publication_year=2020&doi=10.1101/2020.03.16.20037176) & with online pdf at

<https://www.medrxiv.org/content/10.1101/2020.03.16.20037176v2.full.pdf>. My PDF:

FN01.38.00.03.34a.Hundreds of severe pediatric COVID-19 infections in Wuhan prior to the lockdown

PC: March 2020

CCP: Zhanwei, Ciara, Cowling / **ORIGIN:** US-TX Austin: The University of Texas at Austin; NM Santa Fe: Santa Fe Institute; CHINA-HONG KONG SAR: The University of Hong Kong / **REF:** Li, Guan, Wu; Chan, Yuan, Kok; Liu, Zhang, Chen; Zhanwei, Wang; Tang, Xu, Shen (5 of 5) / **FUNDING:** Statement: “We acknowledge gratn support from **NIH** ...”

RCT: No. OS.

CONTENT: CLAIM: “hundreds of severe pediatric COVID-19 infections in Wuhan” prove children are

highly susceptible to SARS-CoV-2?

SP: This is ridiculous! The claim that there were “hundreds of severe pediatric COVID-19 infections in Wuhan” is premised entirely upon a report that is based on one confirmed report that six children were admitted to one of three central Wuhan hospitals between Jan. 7th and 15th. 43 children out of 336 tested positive for COVID-19 AND INFLUENZA, respectively — read that sentence again, in fact, let’s put it right here:

“There were six and 43 children out of 336 who tested positive for COVID-19 and influenza, respectively among all pediatric admissions during the 9-day period.”

SP: It’s bad writing, or clever phrasing to hide the fact that 6 children tested positive for COVID-19 and 43 for influenza. From this they established a “ratio” to “estimate” that there were 313 children hospitalized for COVID-19 in Wuhan during that period. ????. What sort of nonsense is this? They don’t KNOW how many children were admitted to hospital and diagnosed either clinically or by RT-PCR testing for COVID? Why would they not have records to support their claim, but instead had to create an estimate based on the

experience of one hospital?

CCav: Then there is the obligatory CCav:
“Children are strikingly absent from COVID-19 reports and limited data suggest that pediatric infections are overwhelmingly mild.” What do these liars do with such information? Well, for them it provides basis for the wild claim that **“hundreds of severe pediatric cases likely translates to thousands or even tens of thousands of mildly infected children, suggesting that the force of infection from children may be grossly underestimated and the infection fatality rate overestimated from confirmed case counts alone.”**

[*** I’ve been looking at this stuff for months and I get weary of the superficial, exaggerated claims—it amounts to fear mongering of the most obscene kind—terrorizing us with threats to our children that are simply NOT REAL! It’s stuff like this that so disgusts me I feel justified to dismiss the entire paper.]

SP: Add now the LIE that there is NO TREATMENT for COVID-19. Supporting docs: 12. Geller C, Varbanov M, Duval RE. Human coronaviruses: insights into environmental resistance and its influence on the development of new antiseptic

strategies. *Viruses*. (2012) 4:3044–68.
10.3390/v4113044 [[PMC free article](#)] [[PubMed](#)]
[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)] and 13. Kahn JS,
McIntosh K. History and recent advances in
coronavirus discovery. *Pediatr Infect Dis
J*. (2005) 24:S223–7.
10.1097/01.inf.0000188166.17324.60 [[PubMed](#)]
[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Let's take a quick look at these.

12. Geller C, Varbanov M, Duval RE. Human
coronaviruses: insights into environmental resistance
and its influence on the development of new antiseptic
strategies. *Viruses*. (2012) 4:3044–68.
10.3390/v4113044 [[PMC free article](#)] [[PubMed](#)]
[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.34b-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7301882/>. PDF: FN01.38.00.03.34b.On respiratory droplets and face masks - PMC. (For SUP: see <https://aip.scitation.org/doi/10.1063/5.0015044#suppl> PDF: FN01.38.00.03.34b.SUPP On respiratory droplets and face masks_ Physics of Fluids_ Vol 32, No 6. This is further supplemented by a very cool video:

cdn.literatumonline.com/journals/content/phf/2020/
phf.2020.32.issue-
6/5.0015044/20200613/suppl/video.mp4?b92b4ad1
b4f274c7087751811dabb28b320a70be1a0e2455776
b6a732940c70910d24d152057b68c72ff50256414d0
77f6c2dec11da9a43a93c4e6bceef11d0b9956e71e709
5d4de4016bc4466c7760e13823d8408929ddaa1c591
4a148f1a7710cd0c2ce82da5ea6627bbe8550a1d54d2
d0772cf49569c788472703d354dd6b5b. It shows a
guy without a mask emitting a huge volume of ejecta,
and a guy with a mask emitting way more than enough
to kill anyone — it's a sickening bastardization of
science. Either these people are just not mentally
equipped to handle the data or they are liars.

PC: June 2020

CCP: Dbouk, Drikakis / **ORIGIN:** Cyprus, Nicosia, U.
of Nicosia / **REF:** Liu; Dbouk, Drikakis; Hui, Chow, Chu,
Ng, Lee, Gin, Chan; Tang; Hsu; Cowling, Zhou, Leung,
Aiello; bin-Reza; MacIntyre, Wang, Seale, Rahman, Gao,
Yang, Hi, Pang, Zhang, Moa, Dwyer; Xie, Li, Sun, Liu;
Zhu, Kato Yang; Yeoh, Tu; Drikakis; Feng, Yi; Wu; Guo,
LI, Nian, Xu, Liu, Wang; Bai; Bai; Davies; Balazy (19 of
52) / **FUNDING:** nd.

RCT: No. RL and MM

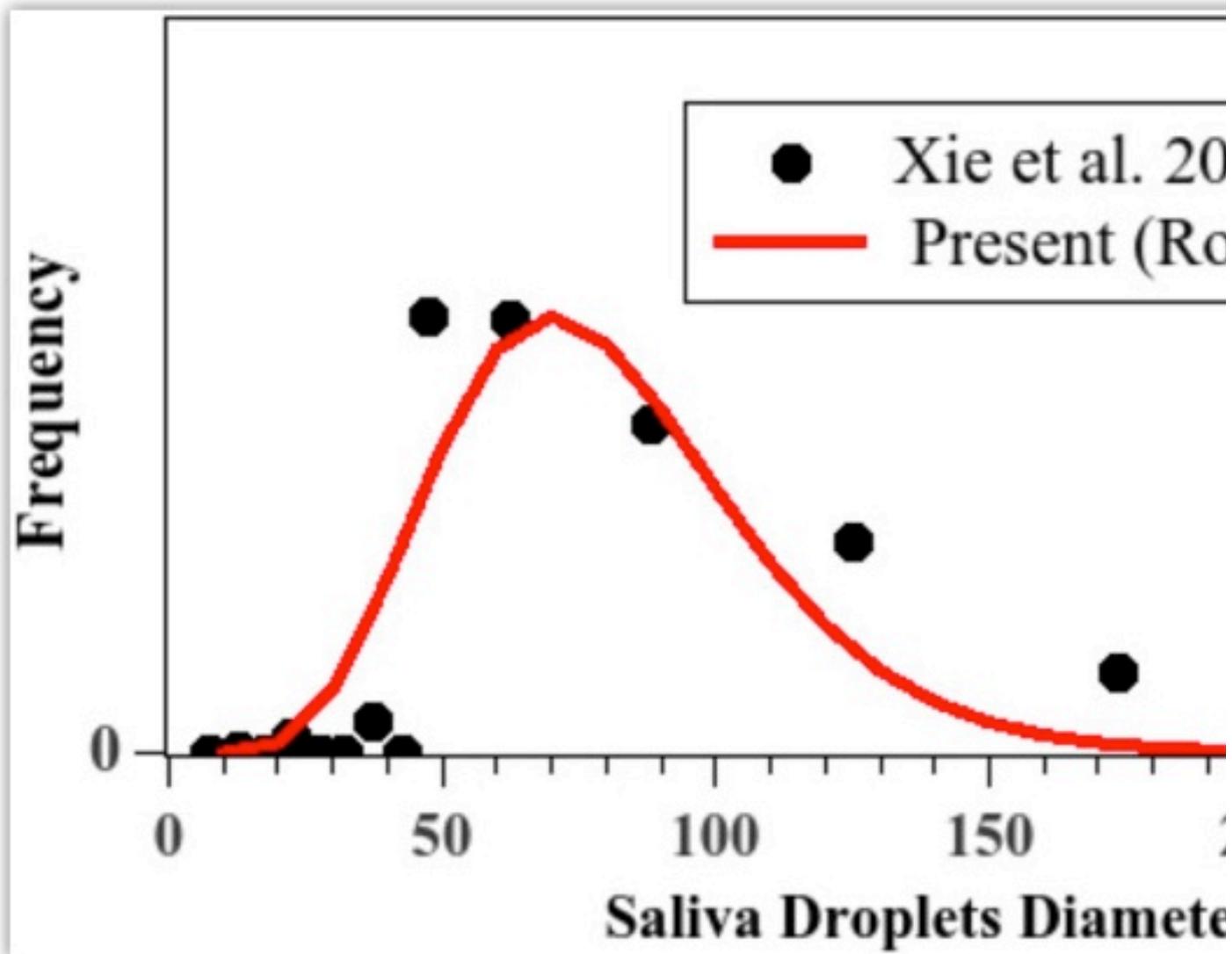
CONTENT:

IR: “The initial size distribution of droplets (Fig. 1) is the same as in the study of Dbouk and Drikakis,³ taken in the range of [1 μm , 300 μm] with 80 μm as the mean diameter. This initial size distribution is very close to the data obtained by Xie *et al.*²⁵ fitted using a Rosin–Rammler distribution law,²⁶ also known as a Weibull distribution.²⁷” Notice the particle size range is outside our interest.

NOTE: My summary: Essentially, this study, like many others, show that masks do catch *SOME* emissions, in a size range outside our query, but even then releases some too, even if less. Masks tested do not provide anything like adequate protection for targets, and simply exacerbates the irritation for source.

NOTE: Notice the diagram, Fig. 1, (See: FN01.38.00.03.34b1.FIGURE 1 Image 7-27-22 at 10.34 AM.jpg)

FIG. 1.



IR: The scale of droplet sizes in consideration are from 0 to 300 μm . However, the scale is in micrometers and so cannot begin with submicron sizes, that is, 0-1 (e.g., 1 nm to 1000 nm) is not represented on the scale. Each tic on the scale is 10 μm , so the beginning place indicated as 0 actually

represents 1 μm . It's clearly beginning with 1 μm because the scale is divided into 10 μm segments, as noted, and therefore, 0 is the place immediately before 1 μm , or, since we are measuring in units of nanometers, 0 would be something like 999.99 nanometers. We notice no particles (indicated by the black dots) smaller than 5 μm are represented and that the line graphing the presence of droplets begins at 10 μm , which is fairly standard. **So this study does not address the sizes of concern to us, since we are talking about micro-droplets that can be as small as 0.04-0.125 μm .**

CLAIM this article was cited to support there is no treatment for COVID-19.

SP: Results of my examination of this doc: Cannot find the words *treatment, therapy, therapeutic, pharmaceutical*, or even *pharma*. The word *medicine* is found once in a footnote (no. 50) referring to an article titled: "The porosity of masks used in medicine," which has no bearing on our query. There is no mention of *therapeutic, therapy, treatment, treat, Ivermectin, Hydroxychloroquine, Monoclonal Antibodies, remdisivir, antibody, antibodies, in the absence, until, pharmaceutical*, or even *vaccine* (a search on each of these came up empty). **This is yet another example**

of the problem with simply naming a reference and not offering at least a short excerpt quote to identify where in the doc the author finds support for their statement. It's one thing if the title of the article includes a statement supporting the point, but if someone has to scour the doc to find some tangential statement, some passing reference, well, that's another. Let's see if it's in the conclusion, or discussion.

A statement like what I'm looking for, that there were no therapeutics, or treatments for COVID-19 at the time this study was published, June, 2020, would be expected in the abstract, introduction, discussion, or conclusion, since it is not the focus or point of the study. I've looked everywhere in this article. NULL results.

The ABSTRACT: CCav: “The study shows that the criteria employed for assessing the face mask performance must be modified to take into account the penetration dynamics of airborne droplet transmission, the fluid dynamics leakage around the filter, and reduction of efficiency during cough cycles. A NEW CRITERION FOR CALCULATING MORE ACCURATELY THE MASK EFFICIENCY BY TAKING INTO ACCOUNT THE PENETRATION DYNAMICS IS PROPOSED. WE SHOW THAT THE USE OF MASKS

WILL REDUCE THE AIRBORNE DROPLET TRANSMISSION AND WILL ALSO PROTECT THE WEARER FROM THE DROPLETS EXPELLED FROM OTHER SUBJECTS. **HOWEVER, MANY DROPLETS STILL SPREAD AROUND AND AWAY FROM THE COVER, CUMULATIVELY, DURING COUGH CYCLES. THEREFORE, THE USE OF A MASK DOES NOT PROVIDE COMPLETE PROTECTION, AND SOCIAL DISTANCING REMAINS IMPORTANT DURING A PANDEMIC. THE IMPLICATIONS OF THE REDUCED MASK EFFICIENCY AND RESPIRATORY DROPLET TRANSMISSION AWAY FROM THE MASK ARE EVEN MORE CRITICAL FOR HEALTH CARE WORKERS.”**

*** So in my estimation the abstract concludes the results of their study support the guidance given by government. With what I now know about all this, when I read the nonsense given in the abstract segment quoted, I read an admission that masks actually do not work, and so we need to continue social distancing.

AME: The diagrams (See Fig. 6) illustrate relative efficacy of masks to no masks. However, the particle size is not addressed. Search: *particle, aerosol* (mentioned 1x not defined, and context is admission masks ineffective to block: “However, they allowed

simultaneous displacement of aerosol emission upward and downward from the mask.⁴”), *droplet* (1x, again, in context speaking of leakage, and not stipulating size with a major CCav: “Although both surgical and N95 masks decelerate the turbulent jet, none of them will prevent the droplets entirely from penetrating or escaping the mask, i.e., droplet transmission” — the ONLY place particle size is addressed begins with 1 μm and shows particles beginning at 5 μm all outside our range of query. See Fig 1, above.)

ACK/CCav: “... laboratory studies concerning coughing and infectious subjects showed that surgical masks are effective at reducing the emission of large droplets ^{21,22} and minimizing the lateral dispersion of droplets. [CCav] However, they allowed simultaneous displacement of aerosol emission upward and downward from **the mask.**⁴ **Several randomized trials have not found statistical differences in the effectiveness of surgical masks vs N95 filtering face-piece respirators (FFRs) at reducing respiratory diseases for healthcare workers.**^{23,24}”

THE INTRODUCTION: CCav: “a recent paper ... [vetted] ...showed that human saliva-disease-carrier

droplets could travel unexpected considerable distances depending on environmental conditions.”

TA admits policy makers need to adjust their policies to “scientific evidence.” But the “scientific evidence” they recommend is far from adequate.

CCav: “Although both surgical and N95 masks decelerate the turbulent jet, **none of them will prevent the droplets entirely from penetrating or escaping the mask**, i.e., droplet transmission.” Noted above. (Keep in mind, I am going over all my notes a second time both to edit and deepen my familiarity with these studies.) And I might add, *i.e., **droplet transmission is not defeated by use of any mask. Not even the N95???***

So, we find no supporting statement where you would expect one to the effect that we need to look at these non-pharmaceutical interventions because we don’t have any therapeutics available... etc.

DISCUSSION: There is no DISCUSSION segment in this study, so we skip to the conclusion: Conclusions and Recommendations.

CONCLUSION and RECOMMENDATIONS: CCav:

With masks, the bulk of the droplets emitted travelled about half the distance of those emitted without a mask—70 cm (a little over two feet 3.5 inches) without, and so ~35 cm (a little over one foot, 1.3 inches) with. **“However, in both cases, there are still isolated droplets transmitted beyond 70 cm.”** Apparently this is true with or without the masks.

CCav: “Mask efficiency is dynamic (not constant).” Therefore, even if you are depending of the partial protection a mask might provide against getting zapped with large droplets, their “efficiency is dynamic...” and that does not mean it’s powerful like dynamite, it means its inconstant, changing, sometimes on sometimes off.

CCav: “We should expect more significant efficiency reduction for severe coughing events, as well as when wearing a mask for a longer period.” You’ve got to be kidding me! Wearing these face diapers for a “longer period” does NOT increase efficacy, it decreases it. The masks lose effectiveness the longer they are worn. Everyone knows that! What is wrong with these people?

CCav: here is a suggestion that masks **can actually increase micro droplet dispersion during a severe**

coughing fit: “The diameter of the transmitted droplets is larger across cough cycles when no mask is worn.” The larger the droplets, the more quickly they settle, and the less likely they are to infect a target. This means masks actually serve to break up the larger droplets into smaller ones that are in fact **MORE DANGEROUS**.

ACK: Leakage contributes to reduction of mask efficiency.

SP: This study, like others post-COVID, cite evidence that masks do not work, do not guarantee protection from transmission, and can’t even really promise a net benefit, and all use the information to **ADD** social distancing requirements to compensate for the failure of masks to provide adequate protection.

Okay, now we go to the inevitable conclusion of all this nonsense: To protect healthcare workers, the fact that the masks are ineffective to provide adequate protection, these students advise: “we can protect healthcare workers only if we equip them with a complete PPE, e.g., a **HELMET WITH A BUILT-IN AIR FILTER, A FACE SHIELD TOGETHER WITH A DISPOSABLE SUIT OVER THE WHOLE ENSEMBLE, AND A DOUBLT SET OF GLOVES.**”

NOBODY does this. No one does this in any hospital I know about or have visited during this mess. It's over the top! The only place you see this is in level 4 bio labs where they are working up close and personal with these pathogens.

NC: They admit **further research is needed** to understand the impact of something I've alluded to several times, what happens to the junk caught in the masks? And the impact of "high-filter efficiency offered by more advanced mask designs relative to breathing comfort." How about breathing, period?

So, that takes care of this study and with regard to the CLAIM — it is superficial work to cite a reference that **NO WHERE EVEN ASSERTS THE CLAIM THAT WAS MADE** — I find nothing in this study that even mentions the absence of therapeutics for COVID, much less makes any such assertion.

SP: This makes the entire article SP, or sloppy, or, maybe the authors just got real tired and goofed. But it sure cost me a huge amount of work!!!

Now, let's zero in on the claim that the Schlieren optical study establishes that masks GREATLY LIMIT

spread of the emission cloud. He referenced as support a doc that merely makes the assertion regarding the use of the Schlieren optical study to verify this, and I vetted that doc above.

Here is the actual schlieren optical study cited earlier:

5. Tang J. W., Liebner T. J., Craven B. A., and Settles G. S., “A schlieren optical study of the human cough with and without wearing masks for aerosol infection control,” *J. R. Soc., Interface* 6, 727–736 (2009).
10.1098/rsif.2009.0295.focus [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.35-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843945/> PDF: FN01.38.00.03.35.A schlieren optical study of the human cough with and without wearing masks for aerosol infection control - PMC (For SUPP: see

<https://aip.scitation.org/doi/10.1063/5.0015044#suppl> with video: <https://doi.org/10.1063/5.0015044> PDF: FN01.38.00.03.35.SUP On respiratory droplets and face masks_ Physics of Fluids_ Vol 32, No 6

This is a claim found in FN01.38.00.03.00—CCav:

“There are no studies that have directly measured the filtration of smaller or lateral particles in this setting...” Followed by the SP (specious argument): “although, using Schlieren imaging, it has been shown that all kinds of masks GREATLY limit the spread of the emission cloud.” (With a footnote No. 79 supporting the statement.)

The claim being tested is whether the doc cited actually makes that claim, and, if it does, does the claim have merit regarding our study.

PC: Received Jul, 2009 accepted Sep. 2009

CCP: Tang (1 of 4) / **ORIGIN:** Singapore-U. of Singapore, Dept. of Lab Medicine; USA-PN, PN State U, Gas Dynamics Lab, Dept of Mechanical and Nuclear Engineering. / **REF:** Chen (2); Davies; Hui, Chan, Chow, Tsou, Sung; Hui, Tang, Tang W., Wong, Chan, Chan P. Sung J.; Hui, Chan, Chow, Ng, Gin, Sung; Hui, Chow, Chu, Ng, Gin, Chan; Inouye; Ip; Khan; Kim; Lee; LI, Duan, Yu, Wong; Li, Huang, Yu, Wong, Qian; Li; Sze-To, Tham, Chao, Khoo; Qian, Li, Wong, Chwang; Qian; Tang, Li; Tang, Li; Tang J., LI; Tang J.; Wong, Lee Tam, Lau, Yu, Liu, Chan, Li; Xie, Li, Zhang, Fang; Xie, Li, Chwang; Xie, Li, Sun, Liu; Yu, Li, Wong, Tam, Chan, Lee, Leung, Ho; Yu, Wong, Chiu, Lee, Li (28 of 59) / **FUNDING:** nd

RCT: No. See Material and Methods: “We used a large, sensitive schlieren optical system (figure 2) based on a 1 m diameter parabolic telescope mirror (Settles 2001) to image the airflows associated with the human cough. The 1 m diameter is large enough to visualize the flow about human volunteers and at least the near-field extent of exhaled flows owing to coughing.”

CONTENT: CLAIM: “... all kinds of masks GREATLY limit the spread of the emission cloud.”

CCav/SP: In statements supporting the claim: “Wearing a standard surgical mask effectively blocks the forward momentum of the cough jet and its aerosol content, **although the loose fit of the mask allows MUCH of the air ejected by the cough to leak around the top, bottom and especially the sides of the mask.**” “This leakage air also has MINIMAL MOMENTUM, but is usually entrained into the thermal plume of the cougher [SP] RATHER THAN BEING PROJECTED IN SUCH A WAY AS TO AFFECT OTHERS.” “Therefore, the resulting air jet directly through the front of the mask is MUCH REDUCED, **though this can vary depending on how the mask is worn and its shape and tightness of fit to an individual’s face.**”

The particles released into ambient air around source quickly desiccate into aerosols that are carried by air currents for significant distances. The statement that this plume is not likely to affect others is SP.

[*** SO, no consideration is given to the fact that these droplets that escape the mask become aerosols that are easily carried by air currents for considerable distances, ranging from a few feet to several meters, and even farther. Also, I need to examine the size of the particles they measured in emissions by this test.]

Particle size is agreed to be a factor in filtration.

“Surgical and N95 masks have different capture efficiencies for particles with aerodynamic diameters in the sub-micrometre range.” He cites Lee et al. 2008, a study I do not have cited in these notes:

Lee S. A., Grinshpun S. A., Reponen T.
2008. Respiratory performance offered by N95 respirators and surgical masks: human subject evaluation with NaCl aerosol representing bacterial and viral particle size range. *Ann. Occup. Hyg.* **52**, 177–185. (10.1093/annhyg/men005) [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

I'll load it into my research folder and vet it here:

FN01.38.00.03.35a-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7539566/>. PDF: FN01.38.00.03.35a.Respiratory Performance Offered by N95 Respirators and Surgical Masks_ Human Subject Evaluation with NaCl Aerosol Representing Bacterial and Viral Particle Size Range - PMC

PC: Published online: March 2008, Oxford U Press: April 2008; CCP: ? Taiwan, Republic of China, and USA-OH; —

CCP: Lee (1 of 3) / **ORIGIN:** CHINA-Taiwan, Republic of China (Not under The PEOPLE'S REPUBLIC OF CHINA, or CCP), Dept. of Environmental Engineering and Science; USA-OH, U of Cincinnati. / **REF:** Balazy (2); US CDC (3); Chen (2); Choe, Trunov [?]; Zhuang; OSHA (2); Lee, Li; Lee; Lee; NIOSH (2); Wang, Chen, Liu; WHO (4); Zhuang (22 of 37) / **FUNDING:** NIOSH; U of Cincinnati, OH.

RCT: No. Experiment described: "The protection levels of N95 filtering facepiece respirators (four models) and surgical masks (three models) were investigated while they were donned by 12 subjects

performing the OSHA (US Occupational Safety and Health Administration) fit-testing exercises in a test chamber.” Chamber not described but probably standard for use by OSHA.

CONTENT: “Surgical and N95 masks have different capture efficiencies for particles with aerodynamic diameters in the sub-micrometre range.” [NOTE: Not sure why I vetted this study since I would stipulate to the claim.]

This study aims to test N95s and surgical masks against a size range within our interest: 0.04-1.3 μm , or 40 to 1300 nm.

CCav: The protection factor of N95s were on average 8-12 times greater than the surgical mask (SM). The MINIMUM protection factors (PFs) [for the N95] were in the range of 0.04-0.2 μm , or 40-200 nm. So, this actually goes to proof for my thesis, that surgical masks do not provide adequate protection from airborne transmission of a virus the size of SARS-2, 125 nm. or 0.125 μm .

CCav: CONCLUSION: “The study indicates that N95 filtering facepiece respirators **MAY NOT ACHIEVE THE EXPECTED PROTECTION LEVEL AGAINST**

BACTERIA AND VIRUSES.” A valve on the N95 DOES NOT AFFECT THE RESPIRATORY PROTECTION — but helps reduce breathing resistance. [*** Well, well! Later these yahoos, Fauci, et al., wanted to eliminate the air valve — these creeps simply want human life to end, they don’t want us breathing!~ We are, in their view, a carbon based unit of infection —]

NOTE: *** I would stipulate to the claim that masks reduce the plume, and even greatly so, trapping larger particles, but with the authors of this study, I would say surgical masks DO NOT PROVIDE ADEQUATE protection against bacteria and virus. And that is because the test results showed inadequate protection from particles in the size range 0.04-0.2 μm , or 40-200 nm. Exactly as I have found to be consistently true throughout this research.

CCav/INFO: ***But here are some helpful support statements: the presently defined “the most penetrating particle size range” is set at 0.3 μm , or 300 nm. Confirming my own thesis emerging from my research: “The number 95 in this designation means that the filtration efficiency of the respirator is at least 95% at the most penetrating particle size range (presently defined as a mass median aerodynamic size of 0.3 μm) at a flow rate of 85 l min⁻¹ simulating the

respiratory rate at heavy workload (International Commission on Radiological Protection, 1994).” The virus we are concerned with is .125 μm , or 125 nm.

IR/INFO: FURTHER: *** “the physical size of an [sic-*a*] SARS-causing coronavirus is about 0.08-0.12 μm ,” or 80-120 nm. The authors of this study refer to another that showed infectivity of single airborne virions based on the evidence that aerosol transmission of influenza improved under low relative humidity. That study is ...

The authors of this study (FN01.38.00.03.35a), state that the infectivity of single airborne virions is believed to be associated with two possible factors: **small size of airborne viral particles due to quick evaporation of water and the stability of airborne infectious virions at low humidity.** He refers to the study mentioned below:

Lowen AC, Mubareka S, Steel J, et al. Influenza virus transmission is dependent on relative humidity and temperature. *PLoS Pathog.* 2007;3:1470–6. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)].
Stipulated: I’ve seen other studies indicating evidence supporting this, so I do not recognize a need to examine this article. However, if need arises, I’ll return

to it.

FN01.38.00.03.35b-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2034399/>. PDF: FN01.38.00.03.35b.Influenza Virus Transmission Is Dependent on Relative Humidity and Temperature (Claim is stipulated so article is not vetted. However, I offer some helpful gleanings:)

CCav: Effects of evaporation: “At low RH [Relative Humidity], evaporation of water from exhaled bioaerosols would occur rapidly, leading to the formation of droplet nuclei; conversely, at high RH, small respiratory droplets would take on water, increase in size and settle more quickly out of the air [16].” And “The relationship between transmission via aerosols and relative humidity at 20 °C is similar to that previously reported for the stability of influenza viruses (except at high relative humidity, 80%), implying that the effects of humidity act largely at the level of the virus particle.”

INFO: “The term ‘aerosol’ is used herein to describe respiratory droplets of all sizes. The term ‘droplet nuclei’ is used to refer to droplets that remain airborne (typically less than 5 μm in diameter).”

INFO: *** “Droplet nuclei are less than 5 μm in diameter and, unlike larger droplets, they remain airborne for an extended period of time, thereby increasing the opportunity for transmission of pathogens they carry [17]”

—> Back to **FN01.38.00.03.35-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843945/>

So, as per the above cited article, we see that the reference actually defeats the premise of the authors using it.

SP: TA dismiss the relevance of the study, and others that conclude similarly, because those studies examine the masks for target protection rather than as source control. [Part of the move from surgical masks as PPE (personal protective equipment) to SC (source control)].

[*** Of course, any reasonable person would understand that if the virions are penetrating masks they are escaping capture also. However, they dodge to the droplet size issue arguing that at origination the droplet sizes are predominantly larger, and so may be trapped by the mask. However, this does not take into

consideration, 1. the eventual evaporation of the droplet and release of the virion from it through the masks, and 2. the number of microdroplets that are escaping capture and become an aerosol that floats freely and exposes others to the virus at sizes that can easily penetrate any protection they are wearing, and 3. the fact that the mask can serve to break down the droplet, accelerating evaporation, and multiplying the number of virions emitted. One must study how many virions are in a large droplet, and whether any infectious virions are carried forward into the atmosphere in the smaller droplets, that are very quickly evaporated and aerosolized.]

SP: Further, the students of this research argue from the fact that “influenza viruses (with sizes in the 0.08-0.12 μm range) and other viruses of similar size are CAPABLE OF PENETRATING THE MASKS IN **EITHER DIRECTION**. This makes the bulk airflow behavior of these masks, retarding or diverting the turbulent cough jet into the rising human thermal plume ... THAT MUCH MORE SIGNIFICANT IN LIMITING THE DISSEMINATION OF INFECTIOUS AEROSOLS when these masks are worn by infected, coughing individuals.”

[*** Wow! So the fact that the masks DON'T work

makes it more important than ever to encourage their use. To be more reflective of what they are trying to say, let's put it this way. DANGER, DANGER, DANGER — the virions penetrate any mask you wear both ways, expiration and inspiration. And for that reason, it is more important than ever that we, now listen carefully here, LIMIT AIRFLOW, to retard or divert the turbulent cough jet — and here is what you see.

CCav/SP: First, masks DO IN FACT LIMIT AIRFLOW — and regardless of the fact they **DO NOT BLOCK** viral particle penetration (to a degree that offers actual protection), they **DO INHIBIT AIRFLOW** and this means they serve to slow down the velocity of these airborne particles, and this **CAN HELP** reduce the **AMOUNT** of **EXPOSURE**.

NOTE: *** The study provides no answer to the obvious confounders: namely, 1. are the masks actually more effective than standard cough etiquette, and 2. second, if they block at least some particles and slow or divert the jet of most of what is ejected, will not air currents carry the aerosol virions about in suspension for hours, creating exposure resulting in infection, and 3. how many infectious virions are required to make one sick?

According to the IAH assumption, which is a reasonable surmise, every particle should be considered infectious.

*** And I return to the analogy I've used often — if someone drops a fragment bomb dispersing a few thousand fragments in a group of twenty men, even if fifty-percent of the fragments are effectively blocked, how many fragments will hit targets, and hitting them, kill them? It's a pretty good analogy since it is almost impossible that any of the twenty will escape some contact with a fragment, but not all hit will die — just like COVID.

INFO: This study was limited to examples of coughing. Some studies I've read argue, and show evidence to support their argument, that talking over a prolonged period of time emits far more particles than coughing.

CCav: CONCLUSIONS: The researchers conclude OSHA standards “overestimate the actual protection offered by N95 respirators against bacteria and viruses.” Wow! What does that mean about surgical masks? It's obvious what it means. SM Don't protect!

—> Back to **FN01.38.00.03.00**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ...

So, the reference to the schlieren imaging study does not provide support for the claims of these researchers, at least not with regard to the question of whether these masks provide adequate protection from a virus — in fact, although I examined these closely, the fact is, even a cursory examination of these studies serve to corroborate my thesis and defeat theirs. Mine: masks do not provide adequate protection from infection either for wearers or as source control to protect others. Theirs: rewrite to state the opposite view.

SP: In a further effort to grab the dropped ball (my analogy for situations I see often in these studies where they make an assertion that is contradicted by an asserted, or stipulated fact, and so scramble to find a way to recover their argument) these researchers cite another study that claims a fluid dynamic simulation estimated a filtration level of 90% —

SP: Anyone reading this without knowledge on the subject would assume this means here is a test that proved 90% efficacy for masks — but it is devilish how these people massage the language to move away

from talking about the filtration of “smaller or lateral particles” to a discussion of studies that establish some benefit of masks in managing emission clouds, and filtering particles in a size range way outside our concern.

CCav/SP: Like the Shlieren imaging test, the article actually proves against the implied assertion, and states that this test revealed masks are inadequate for filtering particles in the size range of our concern (0.04-0.12—or 40-120 nm). Yeah, the study this guy cites actually concludes against his theory; but you have to remember that they are arguing relative to the number of virions emitted, masks reduce the volume — but the study cited was honest and after examination concluded the **N95 is overrated in terms of its PF** (protection factor) against the range of particles we are concerned with. And so now he puts up another, that is intentionally, I think, cited to suggest to the mind of his readers that masks provide 90% protection efficiency — and no doubt the study he cites does, except he dishonestly, in my estimation, fails to point out that it blocks 90% of particles **EXCEEDING the size range of our concern**. Let’s see if I got it right.

80. Kumar V., et al., On the utility of cloth

facemasks for controlling ejecta during respiratory events. arXiv:2005.03444v1 (5 May 2020). [[Ref list](#)]

No link! Search by title: I can only find access to the abstract. Had to set up an account to gain access, but they have a vetting process that will take some time, apparently. The link to request the PDF of this article:

https://www.researchgate.net/publication/341231526_On_the_utility_of_cloth_facemasks_for_controlling_ejecta_during_respiratory_events

Judging from the abstract:

(-) FN01.38.00.03.35c-

https://www.researchgate.net/publication/341231526_On_the_utility_of_cloth_facemasks_for_controlling_ejecta_during_respiratory_events. PDF:

FN01.38.00.03.35c.On the utility of cloth facemasks for controlling ejecta during respiratory events _ Request PDF (Not vetted. Abstract only.)

IR: “The utility of wearing simple cloth face masks is analyzed using computational fluid dynamics simulations. We simulate the aerodynamic flow through the mask and the spatial spread of droplet ejecta resulting from respiratory events such as

coughing or sneezing. Without a mask, a turbulent jet forms, and droplets with a broad size distribution are ejected. Large droplets (greater than about 125 μm in diameter) fall to the ground within about 2 m, while turbulent clouds transport a mist of small aerosolized droplets over significant distances (~ 5 m), consistent with reported experimental findings. A loosely fitted simple cotton cloth mask (with a pore size ~ 4 microns) qualitatively changes the propagation of the high velocity jet, and largely eliminates the turbulent cloud downstream of the mask. About 12% of the airflow leaks around the sides of a mask, considering a uniform gap of only 1 mm all around, between the face and the mask. The spread of ejecta is also changed, with most large droplets trapped at the mask surface. We present the viral load in the air and deposited around the person, and show that wearing even a simple cloth mask substantially decreases the extent of spatial spread of virus particles when an infected person coughs or sneezes.” IR because the particle size is outside our query.

They used, as stipulated by the authors referencing this study, “computational fluid dynammmics simulations.” They simulated the aerodynamic flow through the mask and the spatial

spread of droplet ejecta resulting from respiratory events.”

They discovered what follows:

1. During a cough, large droplets, which they define as greater than 125 μm in diameter (greater than 1250 nm) fall to the ground within about 2 minutes.

2. Turbulent clouds (plumes), transport a mist of small aerosolized droplets over significant distances (~ 5 meters).

3. A loosely fitted simple cotton cloth mask (with a pore size of $\sim 4 \mu\text{m}$) qualitatively changes the propagation of the high velocity jet, and **LARGELY ELIMINATES THE TURBULENT CLOUD DOWNSTREAM OF THE MASK.**

4. Conclusion, a mask, even a simple cloth mask “substantially decreases the extent of spatial spread of virus particles when an infected person coughs or sneezes.”

NOTE: ***Now, what to make of that information.

First, we stipulate to the assertion large droplets are emitted when someone coughs.

Second, we stipulate to the assertion the clouds generated in a cough include a great many “small particles” that travel significant distances.

Third, and here is where I QUALIFY the implication intended by the researchers who provided this source as supporting the assertion that masks, and most especially a simple cotton mask with a pore size of $\sim 4 \mu\text{m}$ (OR 4000 nm!!!! Yikes!) is going to block a barrage of particles that are only $\sim 120 \text{ nm}$ in diameter.

SP: So the hype about “substantially decrease[ing] the extent of spatial spread of virus particles ...” might be found technically true, but THAT HAS NO BEARING ON THE ABILITY OF THE PARTICLES TO PENETRATE these cotton masks with a 4000 nm pore size. Not even the surgical mask, with a mesh size at $\sim 0.3 \mu\text{m}$ will suffice.

[SP: *** Now, the problem here is SP — I think authors who pull this should be disqualified from presenting any research papers. Not talking about the source referenced, but the source — read this and see if you don’t agree:

“There are no studies that have directly measured the filtration of smaller or lateral particles in this

setting, although, using Schlieren imaging, it has been shown that **all kinds of masks greatly limit the spread of the emission cloud** (79), consistent with a fluid dynamic simulation that estimated this filtration level at 90% (80).”

Let’s parse: after stating “no studies” have directly measured the filtration of smaller or lateral particles, the author offers some ALTHOUGHs. The ALTHOUGHs are obviously intended to suggest something equivalent to however, as if to say, but here are some studies that do suggest something to us about the filtration efficacy of masks. Now, given the broader context, and the conclusions of these authors, the assumption must be that these studies rather lend support to their conclusion that masks have a significant filtering capacity. Right, or wrong?

CE: Then he offers two studies that actually contradict the idea that masks have an adequate filtering capacity to protect anyone from transmitting or becoming infected with a virus particle in the size range in question: 0.4-0.12 μm (40-120 nm). But note how he introduces them as though they actually mitigate against the statement that no studies have directly measured filtration of smaller or lateral particles. Now, if he meant to say, *no studies have been*

done to measure the filtration of smaller or lateral particles in the setting of coughing through a mask, and measuring the forward direction of the ejecta, but here are two that indicate masks do not protect against ejecta in the size range of 40-120 nm, that would be one thing. But this smells a lot like a rhetorical sleight of hand device I've seen used often in my many years of research.]

Next, he takes us to another study that used manikins and visible smoke to show the SURPRISING result that a barrier made of stitched cloth “was the most effective of the tested designs at source control, REDUCING THE JET DISTANCE IN ALL DIRECTIONS FROM 8 FEET (WITH NO MASK) TO 2.5 INCHES.” He sends us to 81. Verma S., Dhanak M., Frankenfield J., Visualizing the effectiveness of face masks in obstructing respiratory jets. *Phys. Fluids* **32**, 061708 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)].

Already vetted in these notes: see
FN01.36.01.04.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7327717/>. PDF: FN01.36.01.04.00.Visualizing the effectiveness of face masks in obstructing respiratory jets - PMC.

My observations on this study show it provides ZERO support to the article citing it. Unless this is another sleight of hand trick, where TA sets up reader to assume he is talking about particles in the size range of 0.4-2.4 μm , when all he is actually telling us is the experiment showed cloth masks block particles in the size range of 1 μm to 500 μm , or 1000 nm, to 500,000 nm.

The next study cited by the author/s is to argue because masks collect large droplets at source (stipulated), they do not emit and fall to contaminate surfaces. Immediately after mentioning this, he provides a HOWEVER, “contact through surfaces is not believed to be the main way SARS-CoV-2 spreads, and the risk of transmission may be small.” He cites no.

82. Centers for Disease Control and Prevention, How coronavirus spreads. <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html>. Accessed 5 July 2020. [[Ref list](#)] and 83 —

83. Goldman E., Exaggerated risk of transmission of COVID-19 by fomites. *Lancet Infect. Dis.* **20**, 892–893 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google](#)

[Scholar](#)] [[Ref list](#)].

For our present purpose, I'll stipulate to these assertions allegedly supported by the above studies, but note them here, without notation, or inclusion in my archives, for later examination if necessary.

[*** I would add that although fomite transmission is debatable, as a matter of fact, the mask captured droplet dries and exhalation launches the virion into the atmosphere where it becomes aerosolized which is a far greater danger than if the larger droplet was allowed to be expelled naturally, and fall to the surface.]

Next, this study examines masks as protection for the wearer: or masks as PPE (personal protective equipment).

CCav: “Protection of the wearer is more challenging than source control, since the particles of interest are smaller. It is also much harder to directly test mask efficacy for PPE using a human subject, so simulations must be used instead. **Masks can be made of different materials and designs (66) which influence their filtering capability.**”

66. Brosseau L., et al., “N95 respirators and surgical masks.” *NIOSH Science Blog*. <https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95>. Accessed 3 April 2020. [[Ref list](#)]

Already vetted in these notes: see **FN01.38.00.03.29**-<https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95/> PDF: **FN01.38.00.03.29.N95 Respirators and Surgical Masks _ Blogs _ CDC**

Continuing: **FN01.38.00.03.00**-<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ...

CCav/IR: Helpful information confirming my thesis: Talking about the N95: “The ‘95’ designation means that, when subjected to testing, the respirator blocks at least 95% of very small (0.3 μm) test particles.” 0.3 μm equals 300 nm, the particle we are concerned with is 0.125 μm , or 125 nm.

This is supposedly testing for the “worst case” scenario: “These are designed to be tests of the worst case (i.e., it produces maximum filter penetration), because the test conditions are the most severe that

are likely to be encountered in a work environment (85).”

He refers us to Footnote 85.

85. National Institute for Occupational Safety and Health , NIOSH guide to the selection and use of particulate respirators certified under 42 CFR 84 (96-101). <https://www.cdc.gov/niosh/docs/96-101/default.html>. Accessed 7 July 2020. [[Ref list](#)].

I’ll stipulate to the assertion allegedly supported by the NIOSH article cited at Footnote 85, and argue that the size range of concern does not meet the threshold of protection from particles that are in the range of 0.04-0.12 μm .

NOTE: However, “a study of filtration using the NIOSH approach (86), but with 78-nm particles,” is definitely in the range of our interest. Let’s take a look.

Prepared by the WHO leaves me with major CCP bias concerns. The study is found at Footnote 86.

86. Jung H., et al., Comparison of filtration efficiency and pressure drop in anti-yellow sand masks, quarantine masks, medical masks, general

masks, and handkerchiefs. *Aerosol. Air. Qual. Res.* **14**, 991–1002 (2013). [[Google Scholar](#)] [[Ref list](#)], and the article presenting the WHO recommendations from this study is found at 87.

87. World Health Organization , “Advice on the use of masks in the context of COVID-19: Interim guidance, 5 June 2020” (Tech. Rep. WHO/2019-nCoV/IPC_Masks/2020.4, World Health Organization, 2020). [[Ref list](#)].

CCav: The claim presented by TA is that this study shows “there was over 90% penetration for all cotton masks and handkerchiefs ...” [so much for the 90% efficacy of a simple cotton mask with 0.4 μm pores, see above] “... and 50-60% penetration for surgical masks and nonwoven nonmedical masks.” Well, that does not exactly inspire confidence. But, let’s look at these studies.

86. Jung H., et al., Comparison of filtration efficiency and pressure drop in anti-yellow sand masks, quarantine masks, medical masks, general masks, and handkerchiefs. *Aerosol. Air. Qual. Res.* **14**, 991–1002 (2013). [[Google Scholar](#)] [[Ref list](#)]

No link! Title search yielded: well, here is another

article that is shielded from general access. I've attempted to create an account with this org but have not been "accepted" yet. So, we'll see. However, I did find a place where with some manipulation, I might get a look at it: <https://aaqr.org/articles/aaqr-13-06-0a-0201>

Never mind, I found a pdf link:

**** **FN01.38.00.03.36-**

<https://aaqr.org/articles/aaqr-13-06-0a-0201.pdf>
PDF: FN01.38.00.03.36.Comparison of Filtration Efficiency - 36_AAQR-13-06-OA-0201_.pdf

Title: "Comparison of Filtration Efficiency and Pressure Drop in Anti-Yellow Sand Masks, Quarantine Masks, Medical Masks, General Masks, and Handkerchiefs."

PC: 2014

CCP: Hyejung, Kim, Lee, Lee J., Kim J., Pernggy Tsai, Chungsik Yoon (all authors) / **ORIGIN:** S. Korea-Seoul: Institute of Health and Environment, School of Public Health; Department of Clothing and Textiles, Woman's U.; Seoku-Dong: Occupational Health & Environment Safety Division; Taiwan-Shueh-Shih Road:

Association for Aerosol Research, no reference to the Republic of China. Authors: Jung, Kim, Lee, Kim, Tsai, Yoon; China- China Medical University in Taiwan. / **REF:** Balazy (2); Chao, Chan, Rao, Lee, Chuang, Chiu, Hsu, Wu; Cho, Yoon, Lee, Lee S.; Cho, Yoon; Jung; Kang, Chu, Jeong, Han, Yu; Kim, Kim M.; Lai, Poon, Cheung; Lee; Cheong, Lee, Kim; van der Sande; Wang, Chen, Liu, Chen, Chen H., Yang, Chen P., Yeh, Kao, Huang, Hsueh, Wang J., Sheng, Fang, Hung, Hsief, Su, Chiang, Yang, Lin, Hsief S., Hu, Chiang, Wang J., Yang, Chang; Zhang, Chai, Zhang, Xue (14 of 48) / **FUNDING:** Statement: “This research was partly supported by the Occupational Health and Environmental Safety Division of 3M Korea and partly by the Basic Science Research Program through the National Research Foundation of Korea (NRF), funded by the Ministry of Education, Science and Technology (No. 2011-0002926).”

RCT: No. After describing the masks chosen for their tests, TA explains what challenge they used: NaCl and Paraffin oil. The instrument used was TSI 8130 Automatic Filter Testers (AFTs), approved for use by NIOSH Regulation 42 CFR Part 84 protocols. They tested the materials for penetration in both directions to simulate inspiration and expiration. They included evaluation of pressure drop. TA further elaborates on the testing protocols under METHODS.

CONTENT: CLAIM: particles penetrated surgical mask at a level of 50-60%. Size of particles penetrating the masks not stipulated and is part of this query. Let's look for it!

CCav: “Medical masks, general masks, and handkerchiefs were FOUND TO PROVIDE LITTLE PROTECTION AGAINST RESPIRATORY AEROSOLS.”

CCav: “Blazy et al (2006a) conducted experiments using two types of N95 half-mask respirators and two types of surgical masks exposed to aerosolized MS2 virus.” [That's the bacteriophage I studied earlier that is ~230 nm in diameter.] **“N95 half-mask respirators MAY NOT PROVIDE PROPER PROTECTION AGAINST VIRUSES, WHICH ARE CONSIDERABLY SMALLER THAN THE ACCEPTED SMALLEST PARTICLE PENETRATION SIZE (300 nm) USED IN THE CERTIFICATION TESTS, AND SOME N95 RESPIRATORS MAY FALL BELOW 95%. THE EFFICIENCY OF THE SURGICAL MASK IS MUCH LOWER THAN THAT OF THE N95 RESPIRATORS.”**

***** AFFIRMING** my supposition that wearing masks for any significant length of time might actually have the REVERSE effect and increase chance of

infection: “One large prospective randomized control trial reported on general surgical patients. Half the group underwent operations during which the surgical team used masks, and in the other half, masks were not used. **NO SIGNIFICANT DIFFERENCE WAS OBSERVED IN THE INFECTION RATE, and the bacteria that were subsequently cultured did not differ between the two groups. INDEED, A TREND FOR MORE INFECTIONS TO OCCUR WAS NOTED IN THE GROUP WEARING MASKS.**” (See Tunevall and Bessey, 1991; Taylor and Reidy, 1998). ***

TA FN01.38.00.03.36 REFERS to study suggesting some efficacy from masks as source control: “Another study suggested that surgical masks worn by potentially infectious individuals may effectively contain exhaled **aerosols**, offering protection to those around them (Fennelly, 1998; Siegel et al, 2007; Johnson et al, 2009). Aerosols???. If the top size range begins at 5 μm how far down does this efficacy go toward 40-140 nm?

INFO: CMD refers to Count Median Diameter. Apparently, it refers to the diameter of the aerosol in an expression of ejecta. Now, this is important, because here we are being told that the CMD (Count Median Diameter) was 224.9 nm, and that means half

the sample particles were above this measure, and half were below this measure — 224.9 nm is the MEDIAN. So, the NaCl aerosol had a CMD of 77.9, which puts half the sample below and half the sample above 77.9 median diameter.

Good, so we understand what we are talking about here.

CLAIM: “The penetration values of medical (surgical/dental) masks were over 40% and those of general masks exceeded 60%”

CE: Conclusion of author: “All of these masks seemed to have little protection function against test aerosols.” That seems like a white flag surrendering the premise, and indeed, a penetration that is >60% defeats mask efficacy handily. But consider:

These are the aerosols that had a CMD of 77.9, meaning half were larger and half smaller. All other studies I’ve examined set the bar at 300 nm, and even then they don’t get better than 50% filtration. The chances are therefore very good that the particles captured are in the upper range, those greater than 77.9 μm in diameter.

*** Nevertheless, anything over 20% penetration is considered unacceptable protection. According to Table 3 (See FN01.38.00.03.36a.TABLE THREE Image 7-27-22 at 2.57 PM.jpg), the surgical mask, the mask I'm particularly interested in measuring, had an inward penetration of 59.083, rounded, 59% penetration, and outward penetration of 57.667, rounded, 58% penetration.

Table 3. Initial penetration classified by several char

Mask classification		Variables	N	KFDA	
				Mean	± SD
Yellow sand	Children	Certified (KF80)	4	12.476	± 10.07
		No Certified	3	38.622	± 19.17
Quarantine ^a		Certified (KF94)	4	0.622	± 0.362
		Not Certified [§]	5	1.058	± 0.929
Quarantine ^b		Certified (KF94)	4	1.698	± 1.111
		Not Certified [§]	5	2.344	± 1.827
Medical	Surgical	Inward	2	58.783	± 36.21
		Outward		58.967	± 35.79
	Dental	Inward	3	31.933	± 12.60
		Outward		27.667	± 10.05
General	Nonwoven	-	4	52.717	± 10.42
	Cotton	-	5	70.073	± 28.30
Handkerchief	Cotton	One layer	1	98.000	± 0.346
		Two layers		95.267	± 0.666
		Three layers		91.233	± 1.002
		Four layers		87.067	± 0.737
	Gauze	One layer	1	99.567	± 0.404
		Two layers		99.033	± 1.002
		Three layers		98.200	± 0.500
		Four layers		97.200	± 0.265

^a KFSA test for quarantine masks using sodium chloride.

^b KFSA test for quarantine masks using paraffin oil.

* P value between mask types using KFSA method (except quarantine).

† P value between mask types using NIOSH method.

‡ P value between KFSA and NIOSH test methods (except quarantine).

§ Not certified by KFSA but certified by NIOSH (N95 grade respirator).

This means that if a measly hundred thousand microdroplets are challenging your surgical mask, only about 41%, or 41000 get through — no wonder this is considered inadequate protection.

CCav: *** On top of all this, the masks we buy in our local pharmacy are actually rated as General masks — the type you buy in the store. Those masks provide much less protection: 63% penetration. NONWOVEN (particularly uncomfortable for those who breathe) came in at 50% protection, and “masks made with cotton” displayed OVER 70% penetration. Handkerchiefs provided almost zero protection: 87-91% penetration when three and four layers were used. — See “ The penetration values of medical (surgical/dental) masks were over 40% and those of general masks exceeded 60%. All of these masks seemed to have little protection function against test aerosols. Handkerchiefs showed more than 98% initial penetration regardless of the material (cotton or gauze), and more than 87% for a folded status (Table 3 shows each value for one, two, three, and four layers), which means that handkerchiefs had no protection function against tested aerosols.”

CCav: Makes the next compromising caveat almost moot: “The penetration values of most medical masks

were over 20%. Medical masks show no significant differences in penetration and pressure drop between inward tests (which mimic inhalation) and outward tests (which mimic exhalation). General masks and handkerchiefs have no protection function in terms of the aerosol filtration efficiency.”

INFO: Pressure drop issues relate to inhaling and exhaling.

CCav: CONCLUSION: “The government needs to prepare exact guidelines for mask use by citizens to avoid the inhalation of external harmful substances.”

So, the claim of the author/s that the cited study establishes a penetration of 50-60% for surgical masks and nonwoven nonmedical masks is only very slightly deceptive. It is the nonwoven non medical mask that provides 50% protection, at 50% penetration, and the surgical mask that provides ~40% protection at ~60% penetration. Way over the 20% threshold established by OSHA.

He asserts that cotton, polyester, and polypropylene multilayered structures can “meet or even exceed the efficacy of materials used in some medical face masks.” But, the medical face mask allows

60% of particles in the range of 77.9 nm through, so we should be able to expect it to perform better against 125 nm particles — but it will not reach the threshold of 20% or below penetration.

FLAG THIS STUDY!!! ****

It certainly comes closer than any at establishing some efficacy for masks, but I am suspicious I'm missing something in this study that will flip it strongly against masks, or else it would seem to me, all maskers would be touting it as supportive RCT.

It's odd because they break out the Quarantine mask for a and b, a = sodium chloride (NaCl) which is 77.9 nm, and b = the paraffin oil which is 224. nm. **But for the others the challenge is not stipulated.** So, which did they use for the surgical masks? If they used the paraffin, that makes a whole lot more sense with everything else I've studied.

NOTE: I read over the doc carefully, again, and noticed that in every case where NaCl (Sodium Chloride) is mentioned in connection with any mask, it is with a respirator. The respirators were the Quarantine masks, and they are the only masks where the specific type of challenge is differentiated: *a* for the NaCl aerosols, and *b* for the Paraffin aerosols.

Nothing indicates which challenge was used for the rest of the masks, the yellow sand mask, adults/children, the medical masks, surgical/dental, the general mask or the Handkerchief. Only when discussing the quarantine masks do the authors speak of both NaC1 and Paraffin. So, why they did not specify what challenge they used to test the medical and other masks, is mysterious to me, unless it is something I'm missing, or it is information the researcher brings with him to this read. The results they achieved strongly suggest they used paraffin oil for the masks that were not Quarantine rated, that is, not the respirators. They might have used both for the respirators but only the paraffin for the others.

They do occasionally refer to “tested aerosols” plural in a manner suggesting both challenges were deployed: “General masks, regardless of their material, showed little protection against the tested aerosols ...” (plural) suggests the General masks were challenged by both NaC1 and Paraffin. But if so, why did they not break out the two in their tables as they did with the Quarantine masks???? So why, why, why, did they specify the challenge test for the quarantine masks and not the others. It must be that when it comes to displaying results of the tests, it made no sense to

present how the others performed against NaCl since the results were meaningless, so I assume when they did not specify the challenge used, it was the paraffin, or the 224+ nm particle test.

Apparently, three separate tests were conducted for each mask for pressure drop.

The reason this is important is that, on one hand, if the medical masks were challenged with the NaCl test, it means the masks actually did block a significant number of particles smaller than my sample, 77.9 nm versus 125 nm. This would mean that while the surgical mask blocked ~40% of virions at a size 77.9 nm, they would be expected to block considerably more virions at a size of 125 nm. **Everything I've read up to now contradicts that expectation, since surgical masks have a mesh pore size of 0.3 μm .** On the other hand, if they used the paraffin challenge to test the surgical masks, the opposite implications arise. In that case, if the masks blocked only ~40% of the particles coming at it at sizes of 224 nm, it means we would expect a considerable greater number of particles at my sample size (125 nm) would penetrate these masks—something that would be within expectations that arise from all that I have studied thus far.

Nevertheless, even if this study challenged the medical mask with NaCl, at a CMD of 77.+ nm, according to the researchers of this work, this falls below the threshold of what is expected to give these masks a passing grade because it means it performed below the 20% standard expected, and the researchers concluded these masks do “little” (their word) to protect from virus spread or contagion. For them to conclude these masks do little to provide adequate protection, it must be either the case that the number of virions that escape these masks are sufficient to infect in either the case of their efficacy measured against an NaCl challenge, or a paraffin challenge.

SP: Reading more deeply, I notice a paragraph beginning “In this study, the penetration efficiency of medical masks ...” which tells us the penetration efficiency (I guess that means the efficiency of the particle to penetrate the mask???) “ranged from 10 - 90%, except for one product, (certified as a N95 class), which showed 1.82% penetration.” (It is important to remember you are reading numbers that indicate how many particles ESCAPED CAPTURE, not how many were blocked. It’s a measure of PENETRATION not BLOCKAGE. The size of particles is not stipulated in

the range indicated, the statement is SP for that reason. That's because the failure to clarify in what range any of these masks other than the respirators blocked 90% of particles versus the masks that blocked only 10% of the challenge particles leaves the reader with the absurd notion that some surgical masks might have blocked 90% of particles in the NaC1 size range.

Then they present a study that concluded penetration ranged from 10-47% in dental masks and 53-96% in surgical masks. Yikes! That's quite a range, to 96% means those masks were absolutely worthless.

This study showed that the “main determinant of the magnitude of protection was the type of mask.

So, I've read this carefully and cannot find any more clues to decipher the mystery of why, in the tables, the authors did not specify for us what challenge they used for any except the quarantine mask — which I learned is the respirator. This is a 2014 study. It's Asian dominated, and so if there is any bias, it would be toward masks.

Now, for the WHO advice on use of masks:

87. World Health Organization , “Advice on the use

of masks in the context of COVID-19: Interim guidance, 5 June 2020” (Tech. Rep. WHO/2019-nCoV/IPC_Masks/2020.4, World Health Organization, 2020). [[Ref list](#)]

Very tricky trying to access this doc.

FN01.38.00.03.37-

<https://apps.who.int/iris/handle/10665/332293>.

PDF: FN01.38.00.03.37.WHO-2019-nCov-IPC_Masks-2020.5-eng.pdf

ECDC rated this article LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: June 2020

CCP: WHO / **ORIGIN:** WHO / **REF:** WHO (11); Nakamura, Nakaya, Hanibuchi, Takamiya; Liu, Liao, Qian, Yuan, Wang, Liu; Chan, Yuan, Chu, Yang; Huang, Wang, Li, Zhao, Hu; Cheng, Wong, Chen J., Yip, Chuang, Tsang; Ong, Tan, Chia, Lee, Ng, Wong; Wei, Li; Fan; US CDC; Yu, Zhu, Zhang, Han; Ke, Lau, Wu, Deng, Wang, Hao; Hu, Song, Xu, Jin, Chen, Xu; Huang, Xia, Chen, Shan,

Wu; Pan, Chen, Xia, Wu, Li, Ou; Wang, Tong, Qin, Xie; WEi, Chiew, Yong, Toh, Lee; Bae, Shin, Koo, Lee, Yang, Yon; Qiu, Nergiz, Low; NIOSH; Long, Hu, Liu, Chen, Guo, Yang; Chu, Duda, Solo; Chan, Islam; Davies; Wang, Zhou; Kwon, Liang; Foo, Goon, Leow, Goh; MacIntyre, Wang, Dwyer, Yang; MacIntyre, Seale, Dung, Hien, Nga, Chughtai; US CDC; Chou, Dana; Wang, Tian, Zhang, Zhang M., Guo, Wu; Chen, He Cheng; Chiang, Chiang, Chen; Cheng, Wong, Chuang, Chen; Bo, Guo, Lin; Lyu, Wehby; Lan; Lu, Shigeoka, Chen; Lan, Iliaki, Yan; Long; Barasheed, Alfelali, Mushta; Barasheed, Almasri, Badahdah; Cowling, Chan, Fang, Cheng, Fung, Wai; Lau, Tsui, Lau, Yang; Wu, Xu, Zhou, Lin, He; Aiello (2); Chen, Qin, Chen J., Xu, Feng, Wu; Cowling, Ali, Ng, Tsang; Kyung, Kim, Hwang, Park, Jeong; Lee, Wang; Wong, Ling, So, Lee; Li, Tokura, Guo, Wong, Wong T., Chung; Yang; Jang, Kim; Jung, Kim, Lee, Lee, Kim, Tsai; Zhao, Liao, Xiao, Yu, Wang, Wang Q.; Fu; Kim, Xu, Li; Taminato, Mizusaki-Imoto; Bae, Kim, Kim J., Cha, Lim, Jung; Ma, Shan, Zhang; Daviees; Konda, Prakash; Sharma; Shakya; Jung, Lee, Lee J., Kim, Tsai; van der Sande, Teunis, Sabel; Chughtai, Seale, Dung, MacIntyre; US CDC; Lee, Hwang, Li, Tsai, Chen, Chen J. (77 of 171) / **FUNDING:** WHO, and US CDC but not clearly stated.

RCT: No. Advice from WHO

CONTENT: CLAIM: “Outside of medical facilities, in addition to droplet and fomite transmission, aerosol transmission can occur in specific settings and circumstances, particularly in indoor, crowded and inadequately ventilated spaces, where infected persons spend long periods of time with others. Studies have suggested these can include restaurants, choir practices, fitness classes, nightclubs, offices and places of worship (12).

High quality research is required to address the knowledge gaps related to modes of transmission, infectious dose and settings in which transmission can be amplified. Currently, studies are underway to better understand the conditions in which aerosol transmission or superspreading events may occur.”

CCP: WHO wants everyone in masks, and there is no surprise there. Under 5, no mask for source control. Children 6-11, a risk-based approach is recommended. 12 years and older same as adults.

NOTE: WHO: “SPECIAL CONSIDERATIONS ARE REQUIRED FOR IMMUNOCOMPROMISED CHILDREN OR FOR PAEDIATRIC PATIENTS WITH CYSTIC FIBROSIS OR CERTAIN OTHER DISEASES (E.G., CANCER), DEVELOPMENTAL DISORDERS, DISABILITIES OR OTHER SPECIFIC HEALTH

CONDITIONS THAT MIGHT INTERFERE WITH MASK WEARING.” —

CCav: IMPORTANT *** It is perhaps instructive that masks are NOT recommended for patients suffering from any immunocompromised conditions? Why! If masks work would not these be the priority case for masks use? **Apparently, MASKS REDUCE IMMUNITY** — perhaps by some very little bit, but ENOUGH TO WARRANT CONCERN THAT IMMUNODEFICIENT PERSONS SHOULD NOT WEAR THEM!!!!

NOTE: *** For homemade masks, they want three layers. The layer closest to the mouth is to be hydrophilic — that is, absorbing of water, or dissolving in water. **[This is terrible! It collects moisture, and is a fabric that is dissolved in water—these masks can't last very long and in some cases, they will be spoiled after a single cough, or sneeze, and depending on humidity, and how much moisture is emitted, they will be compromised in a short time, within an hour or so.** Besides this is recommended on the idea that this moisture is going to trap other ejecta that will sit there in the mask until loosened by evaporation and then reintroduced into the body. Mercy!

NOTE: *** The outermost layer is to be hydrophobic — resistant to moisture, water resistant — so this will keep the moisture in and might reduce the speed of evaporation — it's got to be a miserably uncomfortable thing to have strapped to your face, and **a veritable petri dish for bacteria collection and growth.**

NOTE: *** The middle layer is to be hydrophobic also, but something “which has been shown to enhance filtration or **RETAIN DROPLETS.**” Of course, the **SIZE** of the droplet is the thing, and so at best particles larger than 0.5 μm will be blocked but likely penetrate the outer layer when it shrinks due to evaporation, and if it meets the standard for surgical masks, anything smaller than 0.3 μm (300 nm) will likely escape capture by the mask.

While the study I examined above says valves made no difference in filtration, WHO says “**valves are discouraged because they bypass the filtration function of the fabric mask rendering it unserviceable for source control.**”

CCav: “However, the use of a mask alone, even when correctly used (see below), **is INSUFFICIENT TO**

PROVIDE AN ADEQUATE LEVEL OF PROTECTION FOR AN UNINFECTED INDIVIDUAL OR PREVENT ONWARD TRANSMISSION FROM AN INFECTED INDIVIDUAL (SOURCE CONTROL)." So they add "hand hygiene, and distancing of a min. of 1 metre, respiratory etiquette, ventilation, testing, tracing, quarantine, isolation and **OTHER INFECTION PREVENTION AND CONTROL (IPC) measures are CRITICAL to prevent human-to-human transmission of SARS-CoV-2, WHETHER OR NOT MASKS ARE USED."**

NOTE: It appears masks are expected to be resisted, and so even if you don't use a mask, do the rest???

*** Let's look at the guidelines for masks use:

Hand hygiene before putting on the mask. (Okay. so I never see anyone doing this. People touch their masks constantly, or at least routinely, walking along, pulling it from their pocket, placing it — I never see anyone go to a RR, wash their hands for, what was that, 2 minutes in hot water with soap, dry their hands carefully and then place the mask. And then do this every time they touch the mask, or remove it to eat and then replace it to move from their table along the COVID corridor of any restaurant etc. etc. ?????)

Really??? It's NONSENSE. Notice, later WHO says if you touch the mask, perform hand hygiene — right!

Here you go, given what was said above about the type of mask including a hydrophilic layer, **“Replace the mask AS SOON it becomes damp with a new clean, dry mask.”** Right!

Do not store the mask around the arm or wrist or pull it down to rest around the chin or neck. [THIS IS NOT DOABLE. IT'S RIDICULOUS!]

*** *“DO NOT REMOVE THE MASK TO SPEAK.”* No wonder none of these WOULD BE masters don't follow their own protocols. These are the lawyers who lay on others burdens grievous to be born and refuse to lift any one of them with their own little finger.

HERE YOU GO —

Wash fabric masks in soap etc. once every day. “If it is not possible to wash the masks in hot water, then wash the mask in soap/detergent and room temperature water, FOLLOWED BY BOILING THE MASK FOR 1 MINUTE.”

You have got to be kidding me!

SCIENTIFIC EVIDENCE:

FIRST: The PRIMARY mode of transmission is “AN INFECTED PERSON IN CLOSE CONTACT WITH ANOTHER PERSON.”

ACK: Opinions about aerosol transmission are mixed: some studies found virus RNA in ambient air when no aerosol generating procedure (AGP) was happening, and others did not.

The PRESENCE of viral RNA is NOT THE SAME AS REPLICATION- AND INFECTION-COMPETENT (VIABLE) VIRUS ...” A limited number of studies have isolated viable SARS-CoV-2 from air samples in the vicinity of COVID-19 patients.” (Offers two references: 20, 21).

“They” seem to be targeting “places of worship”? Maybe! (Using *they* as pronoun identifying the WHO community.)

CCav: *** They push the asymptomatic spread theory, with a caveat: **“However, data from viral shedding studies suggest that infected individuals have HIGHEST VIRAL LOADS JUST BEFORE OR AROUND THE TIME THEY DEVELOP SYMPTOMS**

AND DURING THE FIRST 5-7 DAYS OF ILLNESS.”

Footnote 12.

*** CCav: [They’ve already told us that the “presence of viral RNA” does not mean it is infectious. Now they change their tune to suggest the presence of viral RNA can trigger infection even before the person is symptomatic. You can test positive for the presence of SARS-CoV-2 virus without having COVID-19 at all. That’s been established. The PCR test, according to the guy who invented it, is inadequate to diagnose disease because not only is it true that the presence of viral RNA does not indicate the presence of infectious particles, neither does the discovery of SARS-CoV-2 in the human body by this PCR system, especially if set at a threshold above 30, mean anyone is sick with anything.]

*** 20% of people remained asymptomatic throughout the course of “infection.” [These are people who “tested” positive, and who never developed symptoms because they never got COVID-19 — the presence of SARS-CoV-2 discovered by an overpowered RT-PCR test does not provide a proper basis for diagnosing someone as being sick with COVID-19.]

NOTE: Okay, here is a finding I should look at:
“Viable virus has been isolated from specimens of pre-symptomatic and asymptomatic individuals, suggesting that people who do not have symptoms may be able to transmit the virus to others. (25, 29-37).”

Here we go!

CCav: But, before I look at the docs offered in support of the above allegation, notice that the very next paragraph offers a CCav: “Studies suggest that asymptotically infected individuals are **LESS LIKELY TO TRANSMIT THE VIRUS THAN THOSE WHO DEVELOP SYMPTOMS** (29).” See also (38). And doc no. 30 tells us there is a **43% LOWER RELATIVE RISK OF ASYMPTOMATIC TRANSMISSION COMPARED TO SYMPTOMATIC TRANSMISSION.**”

REGARDING FACEMASKS: I skipped the health care settings issue since that is not the specific area of my concern. However, I will say plenty of studies have raised questions about the efficacy of “universal mask use” in health care settings. Perhaps it’s a thing I can return to later.

I went to Evidence on the protective effect of mask

use in community settings: p. 8-

CCav: “At present there is ONLY LIMITED and INCONSISTENT scientific evidence to support the effectiveness of masking of healthy people in the community to prevent infection with respiratory viruses, including SARS-CoV-2 (75).”

In fact, the opening paragraph of this section qualifies as a huge CCav: here it is, in full:

“At present there is only limited and inconsistent scientific evidence to support the effectiveness of masking of healthy people in the community to prevent infection with respiratory viruses, including SARS-CoV-2 (75). A large randomized community-based trial in which 4862 healthy participants were divided into a group wearing medical/surgical masks and a control group found no difference in infection with SARS-CoV-2 (76). A recent systematic review found nine trials (of which eight were cluster-randomized controlled trials in which clusters of people, versus individuals, were randomized) comparing medical/surgical masks versus no masks to prevent the spread of viral respiratory illness. Two trials were with healthcare workers and seven in the community. **The review concluded that wearing a**

mask may make little or no difference to the prevention of influenza-like illness (ILI) (RR 0.99, 95%CI 0.82 to 1.18) or laboratory confirmed illness (LCI) (RR 0.91, 95%CI 0.66-1.26) (44); the certainty of the evidence was low for ILI, moderate for LCI.”

SP: This is followed with, “By contrast, a **SMALL** retrospective cohort study from **BEIJING** found that masks use by entire families before the first family developed COVID-19 symptoms was 79% effective in reducing transmission (OR 0.21, 0.06-0.79) (77).” I should take a look at what studies WHO appealed to for this paragraph. Footnotes: 77, 78, 8, 79-81.

CCav: Other studies appealed to in an effort to recover the major fumble represented by the CCav of the first paragraph are 87-104, 105, — **AND THESE ARE FOLLOWED BY CCav: concerns about these studies reflected in 106, namely a lack of information about actual exposure risk among individuals, adherence to mask wearing and the enforcement of other preventative measures.”** 107, 108.

SS: “Studies of influenza, influenza-like illness and human coronaviruses (not including COVID-19) provide evidence that the use of a medical mask can

prevent the spread of **infectious droplets** from a symptomatic infected person to someone else and potential contamination of the environment by these droplets (75).”

CCav: And then the CCav: “**There is limited evidence that wearing a medical mask may be beneficial for preventing transmission between healthy individuals sharing households with a sick person or among attendees of mass gatherings (44, 109-114).**”

NOTE: *** [They are really trying HARD to recover from the opening paragraph, and apparently, the effort is to overwhelm us with a barrage of studies that purport to support masks but don’t actually support masks, with the idea that they will be heard for their *much speaking*. The volume of studies seems to be the argument they depend on through this passage.]

AME: To recover, somewhat, integrity for supposing mask efficacy (AME), the WHO offered a reference to footnote 46, a meta-analysis of **OBSERVATIONAL STUDIES, “WITH THE INTRINSIC BIASES OF OBSERVATIONAL DATA ...”** admitted, nevertheless, it is asserted that this analysis “could be considered **INDIRECT EVIDENCE** for the use of masks

(medical or other) by healthy individuals in the wider community; HOWEVER, THESE STUDIES SUGGEST THAT SUCH INDIVIDUALS WOULD NEED TO BE IN CLOSE PROXIMITY TO AN INFECTED PERSON IN A HOUSEHOLD OR AT A MASS GATHERING WHERE PHYSICAL DISTANCING CANNOT BE ACHIEVED TO BECOME INFECTED WITH THE VIRUS.”

NOTE NC/OS: Here is a reference to another weak study: “Results from cluster randomized controlled trials on the use of masks among young adults living in university residences in the United States of America indicate that face masks may reduce the rate of influenza-like illness but showed no impact on risk of laboratory-confirmed influenza (115, 116).”

So, let’s look at the “science” depended upon for these assertions, even though the *howevers* presented actually dismiss them all as inconclusive, and weak arguments to support their guidance.

The studies I’ll examine are as follows:

Footnote 8 — Liu J, Liao X, Qian S, Yuan J, Wang F, Liu Y, et al. Community Transmission of Severe Acute Respiratory Syndrome Coronavirus 2, Shenzhen, China, 2020. *Emerg Infect Dis.* 2020;26(6):1320-3.

CLAIM: “By contrast, a SMALL retrospective cohort study from BEIJING found that masks use by entire families before the first family developed COVID-19 symptoms was 79% effective in reducing transmission (OR 0.21, 0.06-0.79) (77).” I should take a look at what studies WHO appealed to for this paragraph. Footnotes: 77, 78, 8, 79-81.

No link, search by title: found at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7258448/>. Cannot find this link in these notes, try the title: cannot find in these notes.

FN01.38.00.03.37a-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7258448/>. PDF: FN01.38.00.03.37a.Community Transmission of Severe Acute Respiratory Syndrome Coronavirus 2, Shenzhen, China, 2020 - PMC

PC: June 2020

CCP: Liu, Liao, Qian, Yuan, Wang, Liu Y., Wagn Z., Wang FS., Liu, Zhang (All authors) /**ORIGIN:** CHINA-Shenzhen; Beijing **NOTE:** “This is a publication of the U.S. Government.” US CDC / **REF:** Li, Guan, Wu, Wang, Zhou, Tong; Huang — quick glance ALL CCP: (7 of 7) /

FUNDING: nd Assumed Beijing CDC.

Riddled with propaganda protective of CCP interests.

RCT: No. Totally OS.

CONTENT: CLAIM: “By contrast, a SMALL retrospective cohort study from BEIJING found that masks use by entire families before the first family developed COVID-19 symptoms was 79% effective in reducing transmission (OR 0.21, 0.06-0.79) (77).” I should take a look at what studies WHO appealed to for this paragraph. Footnotes: 77, 78, 8, 79-81.

IR: Okay, so nothing in this study even talks about masks. It talks about the early spread dynamics, but offers no conclusions or observations regarding mask us. Search: *mask, face, covering* with results NULL.

Footnote 8 evaluation ENDED

Footnote 44: Jefferson T DMC, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database of Systematic Reviews 2020;(11):CD006207.

doi:10.1002/14651858.CD006207.pub5. 2020.

No link. Try title: Found:

Already vetted in these notes: See

FN01.38.00.08.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>. PDF: FN01.38.00.08.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC

First noted at **FN01.10.03.00.00-Physical interventions to interrupt or reduce the spread of respiratory viruses.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>

PDF: FN01.10.03.00.00.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC

[NOTE: *** Which is odd, since the WHO doc here considered listed this with evidence suggesting masks are not sufficiently efficacious, whereas the compiler of those docs included in FN01.38.00.08.00 included it with articles that supported mask use~]

I notice that while the first named author in the doc I have in these notes by this title corresponds to

the footnoted doc with an article by the same name, some of the authors presented in the footnoted reference do not line up with the article in these notes.

I searched the title and found several hits:

The first is the article I have already included in my research folder, and indicated in these notes.

I also noticed that this study is effectively reproduced and republished under the same title with minor variations in format, and author line-up.

Okay, I found the article cited in the WHO report, and I think I've figured this out. Apparently, the study referenced earlier FN01.10.03 was published July, 2011 and the one cited by WHO is an updated version of the same article published Nov. 2020. So, let's look at the updated article:

FN01.38.00.03.37b-

<https://europepmc.org/article/MED/33215698#free-full-text> PDF: FN01.38.00.03.37b.Physical Interventions to interrupt ... ptpmcrender.fcgi.pdf

PC: Nov. 2020

CCP: Authors ? / **ORIGIN:** UK-Oxford: Centre for Evidence Based Medicine; Australia-Gold Coast: Institute for Evidence-Based Healthcare, Bond U.; Southport: GCUH Library; Brisbane: U. of Queensland; Italy-Padova: Epidemiological System of the Veneto Region; Saudi Arabia-Riyadh: King Saud U; Canada-Calgary: Cumming School of Medicine / **REF:** Aiello (3); Alzaher; Barasheed; Biswas; Cowling (3); Loeb; MacIntyre (6); Yeung; Abou El Hassan; US CDC (2); Chai; Chau (2); Chen; Cheng; Chia; Davies; Fung; Gupta; Han; Hens; Ho; Jiang; Wong, Tam, Lee; Lam, Lee, Lau; Lange; Lin; Lin; Lau, Yang, Tsui, Pang; Lau, Leung, Wong, Fong, Cheng, Zhang; Lee, Chen, Yap; Ma, Wang, Fang, Jiang, Wei, Liu; Nishiura; Ooi, Lim, Chew; Pang, Liu, Gong, Liu Z., Zhang; Seale, Dwyer, MacIntyre; van der Sande, Teunis, Sabel; Wang, Feng, Liu, Zhang, Shan, Zhu; Wang, He, Zhang, Tang, Wang T., Luan; Wen, Lu, LI, Li N., Zhao, Wang; Wong Tam; Yen, Lu, Huang, Chen, Chen Y, Lin; Yu, Li, Wong, Tam, Chan, Lee; Zhai, Liu, Yan; Zhao, Zhang, Xu, Huang, Zhong, Cai; Wang, Barasheed; US CDC (2); Chan, Yuan, Kok, To, Chu, Yang; Chu, Akl, Duda, Solo; Fong; Fung; Greehalgh; Huang, Li, Tufekci; Huis; Jefferson (3); Long, Liu, Chen, Guo, Yang; Mbakaya, Lee P., Lee R.; Young, Tunis, Zhao; Ong, Tan, Chia, Lee, Ng, Wong; Tan; WHO (7); Wong, Cowling, Aiello; Wu, Wang, Jin, Tian, Liu, Mao; Xiao, Shiu, Gao, Wong, Fong; Zhu, Lee Wang, Lee; Jefferson

(5). (86 of 327) / **FUNDING:** UK National Institute for Health Research (NIHR) and National Health and Research Council (NIHMRC) of Australia, and WHO. **CURIOUS:** Anon (5)???

RCT: No, this is a review of lit. However, they “included 44 new RCTs and cluster-RCTs in this update.” This brings the total RCTs examined to a total of 67.

CONTENT: CLAIM: “There is limited evidence that wearing a medical mask may be beneficial for preventing transmission between healthy individuals sharing households with a sick person or among attendees of mass gatherings (44, 109-114).” **“The review concluded that wearing a mask may make little or no difference to the prevention of influenza-like illness (ILI) (RR 0.99, 95%CI 0.82 to 1.18) or laboratory confirmed illness (LCI) (RR 0.91, 95%CI 0.66-1.26) (44)”** *This is a huge study, and so the conclusion must be very disappointing to any researcher trying to find a scientific basis for recommended universal masking!!!*

NOTE: As I pointed out, the compiler of articles supporting mask use included this earlier version of the article. I’m not inclined to take the time necessary

to compare them for differences, but note that in 2020 it seemed VERY unlikely they moved from masks recommended to masks not recommended.

So, it is an update, and they did include examination of RCTs.

INFO: NO INCLUDED STUDIES CONDUCTED DURING THE COVID-19 PANDEMIC. This can argue for an unbiased look at the data.

CCav: CONCLUSION: The author's conclusions: **"The high risk of bias in the trials, variation in outcome measurement, and relatively low compliance with the interventions during the studies hamper drawing firm conclusions and generalising the findings to the current COVID-19 pandemic. There is uncertainty about the effects of face masks. The low-moderate certainty of the evidence means our confidence in the effect estimate is limited, and that the true effect may be different from the observed estimate of the effect. The pooled results of randomised trials did not show a clear reduction in respiratory viral infection with the use of medical/surgical masks during seasonal influenza.** There were no clear differences between the use of medical/surgical masks

compared with N95/P2 respirators in healthcare workers when used in routine care to reduce respiratory viral infection. **Hand hygiene is likely to modestly reduce the burden of respiratory illness. Harms associated with physical interventions were under-investigated.** There is a need for large, well-designed RCTs addressing the effectiveness of many of these interventions in multiple settings and populations, especially in those most at risk of ARIs.”

NOTE: My assessment: it appears the authors of this updated study do not want to stomp all over masker’s toes and so lay out a pretty fluffy cushion of caveats which might or might not be justifiable, that is, they might or might not actually meaningfully mitigate against their conclusions. But if that were the case, it seems unlikely they would not say so, and offer a more moderated statement of their conclusions.

Notwithstanding, thye CONCLUDED: “THE POOLED RESULTS OF RANDOMIZED TRIALS **DID NOT SHOW A CLEAR REDUCTION IN RESPIRATORY VIRAL INFECTION WITH THE USE OF MEDICAL/SURGICAL MASKS DURING SEASONAL INFLUENZA.** THERE WERE NO CLEAR DIFFERENCES BETWEEN THE USE OF MEDICAL/SURGICAL MASKS COMPARED WITH N95/P2 RESPIRATORS IN HEALTHCARE WORKERS WHEN USED IN ROUTINE CARE TO REDUCE

RESPIRATORY ILLNESS. HARMS ASSOCIATED WITH PHYSICAL INTERVENTIONS WERE UNDER-INVESTIGATED.” And this followed by a call for more study!

I mean, that knocks it out! This is the most comprehensive study I’ve come across, with over 300 citations, and presented by the *top dogs* in the fields relative to this research. And it’s totally NC with a bias toward *masks don’t work*.

Let’s go back and look at the conclusion from the FN01.10.03.00.00—DUPLICATE—FN01.38.00.08.00 doc because this sounds very similar and would be important in that no NEW studies changed the assessment:

SEE FN01.38.00.08.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>. PDF: FN01.38.00.08.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC

**** Well, this is interesting. It appears there is a change, and it is from a greater openness to masks to a reduced enthusiasm for them. At least that is what appears in the Main Results and Author’s Conclusions

segments of this edition, given below:

NOTE: *** From the FN01.38.00.08.00 version:
Main results: “We included 67 studies including randomised controlled trials and observational studies with a mixed risk of bias. A total number of participants is not included as the total would be made up of a heterogenous set of observations (participant people, observations on participants and countries(object of some studies)). **The risk of bias for five RCTs and most cluster-RCTs was high. Observational studies were of mixed quality.** Only case-control data were sufficiently homogeneous to allow meta-analysis. The highest quality cluster-RCTs suggest respiratory virus spread can be prevented by hygienic measures, such as handwashing, especially around younger children. Benefit from reduced transmission from children to household members is broadly supported also in other study designs **where the potential for confounding is greater.** **Nine case-control studies suggested implementing transmission barriers,** isolation and hygienic measures are effective at containing respiratory virus epidemics. **Surgical masks or N95 respirators were the most consistent and comprehensive supportive measures. N95 respirators were non-inferior to simple surgical masks but more**

expensive, uncomfortable and irritating to skin. Adding virucidals or antiseptics to normal handwashing to decrease respiratory disease transmission remains uncertain. Global measures, such as screening at entry ports, led to a non-significant marginal delay in spread. There was limited evidence that social distancing was effective, especially if related to the risk of exposure.”

**** While the above does not enthusiastically support masks, it is not the more robust statement given in the updated version. Nevertheless, the essence of their later conclusion is suggested by their earlier statement. Only 9 of the 67 RCTs “suggested” implementation of “transmission barriers” — **curious that masks are not named here.** And when speaking of masks directly, the N95 is clearly the only one that provided actual protection, but it is virtually dismissed as having any value for a general use application. **On top of that, they did not find any peculiar benefit provided by the N95 over the standard surgical mask in health care settings.** That truly does pretty much put the kibosh on masks, even in the first, more agreeable study.

CCav: CONCLUSIONS: as represented in the earlier

version: Author's conclusions: "Simple and low-cost interventions would be useful for reducing transmission of epidemic respiratory viruses. Routine long-term implementation of some measures assessed might be difficult without the threat of an epidemic." **Now this is a very significantly different tone from the updated version.**

**** This might be a more important study than I realized. The 2011 conclusion certainly does not come right out with an endorsement for masks, but it must be assumed masks were included in the generalized statement that "**simple and low-cost interventions would be useful for reducing transmission ...**" But for some reason, in the updated 2020 version, the authors were very clear that there was found **no benefit from wearing masks**. Did they discover some were using their study to advocate for mask mandates and reexamined the data in that light to come to the conclusion indicated in their republished, updated study? I don't know.

One thing to keep in mind is that in 2011, the general consensus was against universal masking as a community spread prevention strategy and in 2020, certainly by Nov., universal masking was vogue. These authors went "against the grain," in their conclusions

on both ends of this pandemic. Their caveats notwithstanding, WHO recognized the significance of their findings as being against supporting mask mandates.

Reference 44 evaluation ENDED

—> Back to **FN01.38.00.03.37** — WHO - 2019 ...

CLAIM: [To recover, somewhat integrity for supposing mask efficacy (AME), the WHO offered a reference to **footnote 46**, a meta-analysis of OBSERVATIONAL STUDIES,] “WITH THE INTRINSIC BIASES OF OBSERVATIONAL DATA ...” admitted, nevertheless, it is asserted that this analysis “could be considered INDIRECT EVIDENCE for the use of masks (medical or other) by healthy individuals in the wider community; HOWEVER, THESE STUDIES SUGGEST THAT SUCH INDIVIDUALS WOULD NEED TO BE IN CLOSE PROXIMITY TO AN INFECTED PERSON IN A HOUSEHOLD OR AT A MASS GATHERING WHERE PHYSICAL DISTANCING CANNOT BE ACHIEVED TO BECOME INFECTED WITH THE VIRUS.”]

The other article TA FN01.38.00.03.37 cited that I want to look at is Footnote 46.

46. Chu DK, Akl EA, Duda S, Solo K, Yaacoub S, Schunemann HJ, et al. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *Lancet*. 2020;395(10242):1973-87.

No link. Title search: Found the title.

Already vetted in these notes: see
FN01.38.00.04.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/>. PDF: FN01.38.00.04.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_a systematic review and meta-analysis - PMC

Next article cited by TA FN01.38.00.03.37 is footnote no. 75.

75. Chou R, Dana T, Jungbauer R, Weeks C, McDonagh MS. Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings: A Living Rapid Review. *Ann Intern Med*. 2020;173(7):542-555. doi:10.7326/M20-3213

No link. Title search: not found in these notes.

ONLINE:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7322812/>

FN01.38.00.03.37c—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7322812/>. PDF: FN01.38.00.03.37c.Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings - PMC (FOR Sup: see FN01.38.00.03.37c.SUP M20-3213_Supplement FOR Disclaimers: See FN01.38.00.03.37c.DISCLAIMERS_authors_conflictFormServlet_M20-3213_ICMJE_M20-3213-Conflicts)

PC: June 2020

CCP: Chou (1 of 5) / **ORIGIN:** USA-Oregon, Portland: Pacific Northwest Evidence-based Practice Center and Oregon Health & Science U.; WHO / **REF:** Young; CDC (3); WHO (2); Chou; Chou; US Preventive Services Task Force; Bristol U., Centre for Research Synthesis and Decision Analysis; Aiello (2); Barasheed; Alraddadi, Al-Salmi; Brasheed, Badahdah, Hajj Research Team; Chen, Ling, Lu; Chughtai, Seale, Dung; Cowling, Chan, Fang; Cowling, Fung, Cheng; Gerng,

Wong; Lau, Lau M., Kim; Lau, Fung, Wong; Jia, Feng, Fang; Loeb (2); Ma, Want, Fang; MacIntyre, Dwyer; MacIntyre (2), Seale, Dung, Wang; MacIntyre, Wang, Seale; MacIntyre, Zhang, Chughtai; Nishiura, Kuratsuji, Quy; Nishiyama, Wakasugi, Kirikae; Pei, Gao, Yang; Seto, Tsang, Yung; Heng; Tuan, WHO SARS Investigation Team in Vietnam; Wang, Pan, Cheng; Heng; Wu, Xu, Zhou; Yin, Gao, Lin; Chan; MacIntyre, Chughtai; Long, Hu, Liu; Ansari, Jefferson (46 of 66) / **FUNDING:** AHRQ (Agency for Healthcare Research and Quality, US Dept. Health and Human Services; WHO grant;

RCT: No. RL that included 18 RCTs and 21 OS. Evidence on SARS-CoV-2 was “**limited to 2 observational studies with serious limitations**” (CCav). NC: Community mask use was POSSIBLY associated with decreased risk for SARS-CoV-1 infection in observational studies.”

CONTENT:

CCav: Essentially, the only studies that provided possible advantages for masks were OS.

CCav: RCTs, on the other hand, “**in community settings found possibly no difference between N95**

versus surgical masks and probably NO DIFFERENT BETWEEN SURGICAL VERSUS NO MASK IN RISK FOR INFLUENZA OR INFLUENZA-LIKE ILLNESS...” but they add, “compliance was low.” So, you see, that’s almost certainly something Chou observed. :)

INFO: *** This study also spoke to the resistance factor against masks: “Bothersome symptoms were common.”

NC: *** Their conclusions were not enthusiastic in favor of masks, but clearly there is an effort to not conclude too hard against them: “Evidence on mask effectiveness for respiratory infection prevention is stronger in health care than community settings. N95 respirators might reduce SARS-CoV-1 risk versus surgical masks in health care settings, but applicability to SARS-CoV-2 is uncertain.” Interpreting this statement is not too difficult: there was found little evidence supporting surgical masks for providing adequate protection.

NOTE: *** Probably, WHO included this study in its finding that the science does not in general support their conclusion regarding masks because it includes repeated statements like the following: “**One trial**

(1868 participants) of HCWs in higher-risk settings found a surgical mask to be associated with decreased risk for clinical respiratory illness, influenza-like illness, and laboratory-confirmed viral infections versus cloth masks, **BUT ESTIMATES WERE IMPRECISE AND NOT STATISTICALLY SIGNIFIANT** (38).”

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 76.

76. Bundgaard H, J. B, Raaschou-Pedersen D, von Buchwald C, Todsén T, Norsk J. Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers. *Ann Intern Med.* 2020. doi: 10.7326/M20-6817.

FN01.38.00.03.37c.01.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7707213/#_ffn_sectitle PDF: FN01.38.00.03.37c.01.Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers (For DISCLOSURES see **FN01.38.00.03.37c.01.DISCLOSURES** Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in

Danish Mask Wearers_ A Randomized Controlled Trial_ Annals of Internal Medicine_ Vol 174, No 3; for SUPP: see FN01.38.00.03.37c.01.SUPP aim-olf-M206817-M20-6817_Supplement)

THIS STUDY was RATED BY ECDC as Low to Moderate confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>, 5

PC: Nov. 2020

CCP: Authors ? / **ORIGIN:** Denmark-Copenhagen: The Heart Center, Copenhagen U.; Copenhagen U. Hospital; National Influenza Center; Herlev: Herlev & Gentofte Hospital; Aalborg: Nordsjaellands Hospital; Lyngby: Centre for Diagnostics, Tech. U.; Tech. U. of Denmark; Amager & Hvidovre: Center of Research & Disruption of Infectious Diseases. / **REF:** Liu, Ning, Chen; Kwok; Chen, Qin, Chen; Wang; Wang X., Zhou; Chu, Akl, Duda; Leung, Chu, Shiu; Lyu, Wehby; US CDC; WHO; Xaio, Shiu, Gao; Qaseem; Danish Health Authority (2); Tu; Pan, Zhang, Yang; Long, Hu, Liu (17 of 45) / **FUNDING:** Under DISCLOSURES: Thomas Benfield disclosed relevant conflicts of interest in the form of grants, and personal fees. Of note to our

interest is a financial relationship with Pfizer. Christian Torp-Pedersen disclosed relevant conflicts of interest in the form of grants from Bayer and Novo Nordisk.

RCT: Yes. Asserted in title: “A Randomized Controlled Trial.”

CONTENT: This study has stirred a lot of controversy. Reading it, I find TA actually intended to find in favor of mask efficacy, but ended up **compelled by the evidence to conclude the science did not support it, and so remarked that because of limitations stipulated, their study should not be taken to that conclusion.** However, so many reading this DID take it in that way, the study has been summarily dismissed and detracted by WHO, CDC, and etc. [I don't have time to examine the study beyond the focus of this research, but it occurs to me there must be something in this study that deeply troubles the govt. medical establishment.]

CCav. *** “The recommendation to wear surgical masks to supplement other public health measures did not reduce the SARS-CoV-2 infection rate among wearers by more than 50% in a community with modest infection rates, some degree of social distancing, and uncommon general mask use. The data

were compatible with lesser degrees of self-protection.”

NOTE/OS: Under Background, I find “**Observational evidence** suggest that mask wearing mitigates transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It is uncertain if this observed association arises through protection of uninfected wearers (protective effect), via reduced transmission from infected mask wearers (source control), or both.” *The only place TA found support for masks is in “observational evidence,” no support was found in RCT.* But it was weak, as TA follows this with ...

CCav: “Although the difference observed was not statistically significant ...” Under limitations: “Inconclusive results, missing data, variable adherence, patient-reported findings on home tests, no blinding, and no assessment of whether masks could decrease disease transmission from mask wearers to others.” ??? Yikes, but it goes to earlier observations that this seems to be AME with a study on the issue of the impact of adherence rather than the efficacy of the masks.

CCav: They found their own findings comparable

to “lesser degrees of self-protection.”

CE: The bottom line is often stated most clearly in the DISCUSSION: “In this community-based, randomized controlled trial conducted in a setting where mask wearing was uncommon and was not among other recommended public health measures related to COVID-19, a recommendation to wear a surgical mask when outside the home among others **did not reduce, at conventional levels of statistical significance**, incident SARS-CoV-2 infection compared with no mask recommendation.”

NOTE: The caveat provided by TA to the overwhelming pressure to go all in for masks is to advise against using their study to argue masks are ineffective because they did not take source control into consideration: “Study participants exposure was overwhelmingly to persons not wearing masks” because the study was done in a setting where mask use was rare in community settings.

Like I said at outset, the study appears to be one to show that mask use is not particularly effective as PPE in an environment where only a few people are wearing them. However, in the unstated reasoning of the researchers, it might be effective as source control,

but they did not attempt to discover whether or not over-all, or general population cases were impacted by their study. Something that would be very difficult to do.

This was pretty much a waste of time.

**** One thing helpful arises from this examination. The kxan author who lists this study as DISPUTED exposes a standard for evaluation I think very helpful in dismissing about 90% of the studies he listed as supporting masks: “However, the interpretation of its findings has been disputed by many who say it ultimately rules “more information needed” and is “inconclusive.” Amen! One should not rest important policy decisions upon studies that are INCONCLUSIVE and admit that MORE INFORMATION IS NEEDED. And so the criteria used by TA of the root article “Do face masks work? ...” to disqualify this article actually disqualifies the majority of the studies this fellow gathered to make his list of 49 scientific studies that say masks work!!!

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 77.

77 Wang Y, Tian H, Zhang L, Zhang M, Guo D, Wu

W, et al. Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing: a cohort study in Beijing, China. *BMJ Glob Health*. 2020; 5(5): e002794.

No link. Title search: Found.

Already vetted in these notes: see
FN01.30.00.00.00-
<https://gh.bmj.com/content/5/5/e002794> PDF:
FN01.30.00.00.00.Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing_ a cohort study in Beijing, China

VETTED: totally CCP, and OS, PC: 2020 and conclusions questionable.

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 78

78. Doung-ngern P, Suphanchaimat R, Panjangampatthana A, Janekrongtham C, Ruampoom D, Daochaeng N. Associations between mask-wearing, handwashing, and social distancing practices and risk of COVID-19 infection in public: a case-control study in Thailand. *Emerg Infect Dis*. 2020;26(11):2607-2616.

No link. Title search: not found in these notes:
ONLINE:

FN01.38.00.03.37d-

https://www.researchgate.net/publication/342136098_Associations_between_wearing_masks_washing_hands_and_social_distancing_practices_and_risk_of_COVID-19_infection_in_public_a_cohort-based_case-control_study_in_Thailand/link/5ee42464a6fdcc73be77fecf/download PDF:

FN01.38.00.03.37d.Associations between wearing masks washing hands_a. (There is a related article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7668763/> which is also not in these notes. So, I'll have to depend on my PDF copy.

FN01.38.00.03.37d.Associations between wearing masks, washing hands, and social distancing practices, and risk of COVID-19 infection in public ...)

PC: June 2020

CCP: Doung-ngern, Repeepong, Pangangampatthana — etc. All authors appear to be of Asian descent (20 of 20) / **ORIGIN:** Thailand-Nonthaburi: Dept. of Disease Control, Ministry of Public Health; International Health Policy Program

(IHPP); Mahidol: Oxford Tropical Medicine Research Unit; Bangkok U.; Dept. of Tropical Hygiene, Faculty of Tropical Medicine, U. of Rajvithi; UK-Cambridge: Oxford U. Centre for Tropical Medicine and Global Health / **REF**: Greenhalgh; WHO (2); Cheng, Lam, Leung; Long, Hu, Liu; Cowling, Zhou, Ip; Jefferson; Feng, SHen, Xia; US CDC (2); Okada, Buathong, Phuygun; Chunsuttiwat; Putthasri, Chompook; Bangkok Post (3); WHO Thailand (2); Thai PBS; Thailand Dept. of Disease Control, Ministry of Public Health (3); Shi, Han, Jiang; Asimi, Khalili; MacIntyre, Dwyer; Wu, Xu, Zhou; Lau, Tsui, Lau M.; Chu, Akl, Duda; Huynh; Jefferson; Bi, Wu, Mei; Jing, Liu, Yuan (32 of 45) / **FUNDING**: “The study was supported by the DDC, MoPH, Thailand. DL is supported by the Wellcome Trust — the Wellcome Trust partners with the Bill & Melinda Gates Foundation (See <https://wellcome.org/press-release/bill-melinda-gates-foundation-wellcome-and-mastercard-launch-initiative-speed>; see also <https://science.slashdot.org/story/18/11/05/2019233/bill-and-melinda-gates-foundation-and-wellcome-trust-two-of-the-worlds-largest-biomedical-research-funders-back-europes-ambitious-open-access-plan>)

RCT: No. It’s a retrospective cohort-based case-control study. It’s almost a survey of what people did

and what results did they experience. The survey, the “retrospectively asked” questions, was about wearing masks, washing hands, and social distancing practices during the period. This might be the weakest study I’ve looked at so far.

CONTENT:

NOTE: This might be the reason the study was not peer-reviewed. Why would WHO include such a study?

*** But, wow, hit some pay-dirt anyway. Here is a bit of insight into the transition of CDC from advising AGAINST wearing masks to advocating for their use:

CCav: “During the early stages of the outbreak of COVID-19, the World Health Organization (WHO) announced on 27 February 2020 that, **“For asymptomatic individuals, wearing a mask of any type is not recommended”** (3) The rationale, at that time, was to avoid unnecessary cost, procurement burden, and a **false sense of security.**(3, 4) **A number of systematic reviews also found no conclusive evidence to support the widespread use of masks in public against respiratory infectious diseases such as influenza, SARS and COVID-19.**(5, 8) However, China and many countries in Asia including

South Korea, Japan and Thailand have recommended the use of face mask among the general public since early in the outbreak.(9) There is also increasing evidence that COVID-19 patients can have a “pre-symptomatic” period, during which infected persons can be contagious and, therefore, transmit the virus to others symptoms develop.(2) **This led to the change of the recommendation of the US Centers for Disease Control and Prevention, updated on 4 April 2020, from warning the public against wearing face masks to advising everyone to wear a cloth face covering when in public.**(10) **On 6 April and 5 June 2020, WHO updated their advice on the use of masks for the general public, and encouraged countries that issue the recommendations to conduct research on this topic.**(2)”

NOTE: *** So Thailand is biased toward masks, and the above statement suggests our CDC and the WHO were influenced by the countries biased in this way to adopt masks. **The explanation given is that it was discovered that COVID could be transmitted pre-symptomatic and asymptomatic,** but this is something that has been true of influenza for a very long time and SARS-2, like influenza, is only questionably INFECTIOUS during those times, with

the peak of infectiousness occurring in conjunction with symptom onset. You see, the trick here is that persons can pick up the virus in quantities and in a state where they are not infectious, or their natural immune system is holding the infection at bay — but to push their agenda, they decided to go whole hog with this by saying since someone **can** transmit the virus they are necessarily infectious — however, this is the natural system for inoculation against the disease caused by the virus. People are exposed to small doses, or to inert doses, and their body responds with antibodies that prepare it against a viral attack from the infectious particles.

NOTE: I just don't see what results from what amounts to a *survey* can prove to us about any of the questions targeted by this study.

NOTE: *** It's psyops: Let's go to **RESULTS:** It appears the mask wearers were also those who practiced other prevention protocols more faithfully and assiduously such as distancing and hand hygiene, and it is thought this suggests that [although masks do not prevent particle transmission] **they do provide a psychological benefit REMINDING PEOPLE TO WASH THEIR HANDS AND MAINTAIN SOCIAL DISTANCING.**

SP: TA used their survey to predict what would happen if every one wore masks, maintained social distance to a maximum of 1 meter, kept social close contact to ≤ 15 minutes, CASES WOULD HAVE DROPPED BY 84%.

They lose credibility at the word *everyone* and these estimates are premised upon conjecture.

CCav: LIMITATIONS: Under limitations their frank admissions undermine the entire study. For example, their study is premised on the **assumption** that contact with index (infected) patients occurred. They premised their findings on the PCR test, and we know it is unreliable now, and it was particularly unreliable at the time of this study (they were using a cycle threshold that was far in excess of what was recommended by CDC before COVID). Some of those that did become ill might have had multiple contacts with infected persons. **All the bias factors present in the study compromise the integrity of their conclusions significantly:** considering it's premised on data collected by survey we know that memory bias, observer bias, and information bias are heavy factors. To reduce these, they used "structured interviews." Right! So because they reduced bias by

asking everyone the same questions? Not hardly. It would at least standardize one more bias that comes from the framing of the question, although one must see the questions to discern whether any such bias is discernible, the questioner bias can factor into this through tone of voice or elaboration on the questions asked, etc. etc.

ACK/NC: The researchers rightly recommend RCTs be done on the question of mask efficacy because “RCTs will give a higher level of evidence to the public and policy makers.”

End of evaluation of 78

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 79

79. Chen J, He H, Cheng W. Potential transmission of SARS-CoV-2 on a flight from Singapore to Hangzhou, China: An epidemiological investigation. *Travel Med Infect Dis.* 2020; 36: 101816.

Again, no link. Title search: not found in these notes. ONLINE:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7336905/> — cannot find in these notes:

FN01.38.00.03.37e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7336905/>. PDF: FN01.38.00.03.37e.Potential transmission of SARS-CoV-2 on a flight from Singapore to Hangzhou, China_ An epidemiological investigation - PMC

PC: Jul. 2020

CCP: Chen, He, Cheng, Liu ... etc. All names suggest Asian descent (14 of 14) / **ORIGIN:** CHINA-Hangzhou: CCP CDC. / **REF:** Li, Guan, Wu; National Health Commission of the People's Republic of China (CCP) (2); WHO; Kim, Kim S., Kim SM.; Gupta, Lin, Chen; Lei, Tang, Li; Chang, Cheung; Liu; Guan, Ni, Hu; Tong, Tang, Li; Wu; Barasheed, Alfelali, Mushta (13 of 23) / **FUNDING:** all CCP.

RCT: No. This is a total OS. A case study.

CONTENT:

NOTE: *** The question they have is how did 16 passengers come up with COVID from this one flight; and **my question is how did only 16 people get sick of all the 335 passengers on this flight.** This is the in

the height of the pandemic and the chances that 16 passengers of a flight of over 300 riders might have gotten sick on the plane is very HIGH!

CCav/CE: And more remarkably, only one passenger was “without an epidemiological history of exposure before boarding...” and he was seated near “four infected passengers from Wuhan for approximately an hour and did not wear his facemask correctly.”

NOTE: Oh, so, he had one, and wore it, but “not correctly.” Tell me about all the other passengers who did not wear their mask “correctly.” Also, what does that mean? Did he wear it down under his chin, hanging on his ear, or without pressing the nose band snugly for a better fit, or, or, or???

CCav/NC: **“COVID-19 transmission MAY HAVE OCCURRED DURING THE FLIGHT. However, the majority of the cases in the flight-associated outbreak **COULD NOT BE ATTRIBUTED TO TRANSMISSION ON THE FLIGHT BUT WERE ASSOCIATED WITH EXPOSURE TO THE VIRUS IN WUHAN OR TO INFECTED MEMBERS IN A SINGLE TOUR GROUP.**”**

CCP: Bias is evident. How does such a study even

receive serious consideration in a WHO document. This goes to my suspicion the author of the WHO doc was just backfilling filler material to create an impression of volume — sort of like when a preacher has a weak point but to give it force, shouts louder when delivering it.

Evaluation of Footnote no. 79 ENDED

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 80

80. Hendrix MJ, Walde C, Findley K, Trotman R. Absence of Apparent Transmission of SARS-CoV-2 from Two Stylists After Exposure at a Hair Salon with a Universal Face Covering Policy - Springfield, Missouri, May 2020.

No link. Title search: Not found in these notes.
ONLINE: found at
<https://www.cdc.gov/mmwr/volumes/69/wr/mm6928e2.htm>.

FN01.38.00.03.37f-
<https://www.cdc.gov/mmwr/volumes/69/wr/mm6928e2.htm>. PDF: FB01.38.00.03.37f.Absence of Apparent Transmission of SARS-CoV-2 from Two

Stylists After Exposure at a Hair Salon with a Universal Face Covering Policy — Springfield, Missouri, May 2020 _ MMWR

PC: July 2020

CCP: Authors ? / **ORIGIN:** USA-MO: WA U. School of Medicine; Springfield-Greene County Health Dept.; CoxHealth Infection Prevention Services; KS: U of Kansas Medical Center; CDC published article in 2020. / **REF:** US CDC; He, Lau, Wu; Konda, Prakash; MacIntyre, Seale, Dung; Lau, Tsui, Lau, Yang; Aiello, Davis; MacIntyre, Chughtai (6 of 8) / **FUNDING:** nd, unless the acknowledgement of Ainyette, Megan, and Jodi is for funding support. One author received personal fees from Merck outside the published work.

RCT: No, it's totally OS. Two stylists were "symptomatic" with confirmed COVID-19 but continued working [???? — so, I'm already suspicious. I've had the COVID, and if your are "symptomatic" you are going to be seriously sick. You see, this goes to the whole problem of "false positives" and cases where the hyped RT-PCR is finding remnants of dead virus, virtually indistinguishable from a cold, or a mild flu, in the case of people symptomatic and able to cut your hair — ?????? — really?

CONTENT:

NOTE: So these stylists spent at least 15 minutes with a total of 139 clients and none of the clients were “known to be infected.”

CCav: Further exacerbating the **confounders** for this “study” Stylist A showed “symptoms” and continued working with clients until day 8 when she was tested and gave a positive result. How many tests were done before day 8?

She tested positive for the virus but was not diagnosed with the disease? Even when she had symptoms? Something is really goofy here. Maybe my lack of respect for this “study” has caused me to read it more superficially than I would otherwise. But I’m done with this OS.

Evaluation of footnote 80 ENDED

81. Schwartz KL, Murti M, Finkelstein M, Leis JA, Fitzgerald-Husek A, Bourns L, et al. Lack of COVID- 19 transmission on an international flight. CMAJ. 2020;192(15):E410.

No link: Title search: not found in these notes.
ONLINE: <https://www.cmaj.ca/content/192/15/E410>
FOUND IN THESE NOTES: FN01.05.
<https://www.cmaj.ca/content/192/15/E410>

Summary: PURELY A — anecdotal. The title: “Lack of COVID-19 transmission on an international flight.”

This is so NOT SCIENCE — it’s close to pure superstition. This incident can prove so many things it proves nothing. For example, such a story could be used to say COVID transmission is limited to droplet communication and NOT AEROSOL or AIRBORNE routes of transmission. Oh, that’s right! That IS what this study was used to suggest. In that case, it has nothing to do with the efficacy of masks against aerosol transmission. IR

Evaluation of 81 ENDED.

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 87

Next set of studies cited by WHO are 87-116, and that’s 30 articles, and I’m going crazy with this nonsense. I’m giving this particular doc extraordinary attention because, after, it’s published by the World

Health Organization — the agency that will very likely be RULING THE WORLD one not too distant day, if Biden has his way, and it's the MOST SHODDY bunch of nonsense I've seen yet!

Here they are:

87. Rader B, White LF, Burns MR, Chen J, Brilliant J, Cohen J, et al. Mask Wearing and Control of SARS-CoV-2 Transmission in the United States. MedRxiv. 2020. doi: 10.1101/2020.08.23.20078964.

No link. Title search: Not found in these notes.

ONLINE:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7457618/>

FN01.38.00.03.37g-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7457618/>. PDF: FN01.38.00.03.37g.Mask Wearing and Control of SARS-CoV-2 Transmission in the United States - PMC. FOR Sup: FN01.38.00.03.37g.SUP NIHPP2020.08.23.20078964-supplement-1.pdf

PC: 2020, August/ revised September — dates found in citations record. 8/23/2020 found at doi:

CCP: Chen (1 of 13) / **ORIGIN:** USA-MA: Boston, Computational Epidemiology Lab; Boston U.: Dept. of Epidemiology, School of Public Health; Dept. of Biostatistics; Harvard U, Medical School; Northeastern U, Network Science Institute; Children’s Hospital, Division of Endocrinology; Cambridge, Broad Institute of Harvard and MIT; San Mateo, SurveyMonkey [?]; SFO: Pandefense Advisors; Santa Fe: Santa Fe Institute; NY: Dept. of Environmental Health Sciences, Mailman School of Public Health, Columbia U.; UK-Oxford: Oxford U. Dept. of Zoology / **REF:** Zhu, Zhang, Wang; Xu; Tian, Liu, Li; Kaiser Family Foundation; Yong; US CDC; US FDA; Hou, Okuda; Cowling, Zhou, Ip, Leung, Aiello; Wang X., Zhou, Hashimoto, Bhatt; Chan; Facebook Data for Good; Sy; Sy; Sy; #Masks4All; Zhang; Zheng, Ung, Lee, Azman; Bax CE., Bax A, Anfinrud (19 of 39) / **FUNDING:** Google.org and the Tides Foundation (A Bill & Melinda Gates Foundation extension: see <https://www.gatesfoundation.org/about/committed-grants/2019/07/opp1214510>); NIH; National Science Foundation; Morris-Singer Foundation; European H2020 program called MOOD and a Branco Weiss Fellowship.

RCT: No. It’s another *survey* study. Under **METHODS:** “Serial cross-sectional surveys were

administered June 3 through July 27, 2020 via a web platform. Surveys queried individuals' likelihood to wear a face mask to the grocery store or with family and friends.” This is another survey approach. They used mathematical models (MM) to ascertain the association between mask wearing and community transmission control.

CONTENT:

AME/NC: Rationale of the study is premised on AME with a qualification: “While **evidence suggests** masks help curb the spread of respiratory pathogens, population level, **empirical research remains limited.**” The purpose is to investigate “the association between self-reported mask wearing, social distancing and community SARS-CoV-2 transmission in the United States ...”

CLAIM: Their study found a “10% increase in mask wearing was associated with an over three-fold increase in odds of transmission control.”

SP: But this is not premised upon any empirical evidence; it's based on the assumption that masks work x well, and guided by that assumption, and extrapolated out over the population, an increase in

mask use will produce y results.

NOTE: Bias indicated: They are encouraged to see a trend toward increased acceptance of mask use.

SS: “Widespread utilization of face masks combined with social distancing increases the odds of SARS-CoV-2 transmission control.”

[One of the first problems with this survey approach is who decides they want to participate in a mask wearing survey in an environment where they are being mandated by the state? Right, those willing to comply with mask wearing, with a few who like having an opportunity to anonymously declare themselves non compliant.]

CCav/IR: Here is an important CCav: “Our evidence supports the role of mask wearing in controlling SARS-CoV-2 transmission; **HOWEVER, THIS ECOLOGICAL STUDY CANNOT INFORM QUESTIONS OF CAUSALITY.**” In other words, they don’t really prove anything here about masks **CAUSING** the observed results. **In other words, this study cannot tell you whether masks work**, they can only show what appears to be a correlation between areas where masks were used more than in

others and remark on the observation that it appears COVID cases decreased or were less frequent in the mask wearing areas or among the mask wearing demographic.

NOTE/CE: However, this is **confounded** by the fact that in states where there was no mask mandate imposed, there was found no significant difference in the rise and fall of COVID cases.

IR: So, anyway, this study admits it does not address the question, but only provides another anecdotal approach to addressing the question. It seems more like an effort to find out what sort of adherence the government was getting from their mask mandates than it was a study to establish mask efficacy.

Evaluation of 87 is ENDED

Next article cited by the TA of FN01.38.00.03.37 is footnote no. 88

88. Matzinger P, Skinner J. Strong impact of closing schools, closing bars and wearing masks during the Covid-19 pandemic: results from a simple and revealing analysis. MedRxiv. 2020. doi:

10.1101/2020.09.26.20202457.

FN01.38.00.03.37g1-

<https://www.medrxiv.org/content/10.1101/2020.09.26.20202457v1.full-text>. PDF:

FN01.38.00.03.37g1.Strong impact of closing schools, closing bars and wearing masks during the COVID-19 pandemic_ results from a simple and revealing analysis _ medRxiv (I had to sandwich this in because at this point, realizing a full vetting of all the remaining articles cited by WHO in their extensive examination was unnecessary and unfeasible, I skipped this to Footnote 89. Upon review of these notes, I caught this error and correct it here.)

PC: Sep. 2020

CCP: Authors ? / **ORIGIN:** NIH / **REF:** NIAID (skinnerj@niaid.nih.gov); IHME [GATES] (2); MDH [?]; NYTimes; Apple; Google; Cuebiq [?]; Yang, Centre for the Mathematical Modelling of Infectious Diseases COVID-10 working group; Lai, Ruktanonchai, Liangcai, Wei, Zhang, Xiangjun, Hongjie; Ruktanonchai, Lai, Ruktanonchai A.; Juanjuan, Liang, Wang, Wei, Shanlu, Qianhui; Hsiang, Phan, Lau, Lee, Tseng, Wu; Shah; Chung; Cheung, Keung, Liu, Chung, Chu, Ng, Lo, Chan, Tam, Shum, Chan, Wu, Sin, Leung, Law, Lung, Sin (15 of

32) / **FUNDING:** “This work was entirely funded by the Division of Internal Research, National Institute of Infectious Diseases, NIH.”

RCT: No. It’s MM based on govt. reported data.

CONTENT:

IR/AME: TA does not address question of mask efficacy except from an AME anecdotal premise

CE: Since time this was compiled, much data has become available totally undermining the premise and conclusions of these authors.

Next articles cited by the TA of FN01.38.00.03.37 are footnotes 89 and following:

I have to make a decision here. IT’S just not feasible for me to examine all these studies and it is unnecessary since the WHO document I’m vetting has categorized all of them taken together as not providing substantial support for their claims. TA stipulated this up front. In the beginning of their document on this section, TA admitted there is no hard science supporting masks. I’m finding that to be consistently true as I proceed through these studies. Therefore ...

Henceforth, Im going to take a look only at the following: PC, CCP (providing only a summary), RCT, then examine the conclusion.

89. Kenyon C. Widespread use of face masks in public may slow the spread of SARS CoV-2: 1 an ecological study. MedRxiv. 2020. doi: 10.1101/2020.03.31.20048652.

No link. Title search: not found in these notes.
ONLINE:

FN01.38.00.03.37h-

<https://www.medrxiv.org/content/10.1101/2020.03.31.20048652v1.full-text>

FN01.38.00.03.37h.Widespread use of face masks in public may slow the spread of SARS CoV-2_ an ecological study _ medRxiv

Rated by ECDC as LOW to MODERATE

confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: March 2020 (I probably should indicate peer

reviewed or pre-printed status also, but I've not been doing that. This is pre-print, so it is not peer-reviewed.)

CCP: Kenyan / **ORIGIN:** BELGIUM-Antwerp: Institute of Tropical Medicine, HIV/STI Unit. SOUTH AFRICA-Cape Town: University of Cape Town, Anzio Road, Observatory,
2Division of Infectious Diseases and HIV Medicine / **REF:** ECDC; WHO (3); Feng, Shen, Xia, Song, Fan, Cowling; Leung, Lam, Cheng; Cohen (Not wearing masks ... 'big mistake,' to Chinese scientist says: Science Magazine; Leung, Lam, Cheng; Yu, Qiu, Tse, Wong; Li, Yu, Wong; Liu, Ning, Chen, Guo, Liuy Y., Gali; Cowling, Zhou, Ip, Leung, Aiello; Offeddu, Yung, Low, Tam; Nishiura, Kobayashi, Miyama, Suzuki, Jung, Hayashi; Li, Pei Chen, Song, Zhang, Yang; Science Magazine (16 of 21) / **FUNDING:** Statement: "**Funding Nil.**"

RCT: No, this is styled an "ecological study."
Similar to the no. 88 above.

CONTENT:

SP: The problem with this sort of study, the results or conclusions are totally interpretive and subject to

researcher bias.

90. Leffler CT, Ing E, Lykins JD, Hogan MC, McKeown CA, Grzybowski A. Association of Country-wide Coronavirus Mortality with Demographics, Testing, Lockdowns, and Public Wearing of Masks. *Am J Trop Med Hyg.* 2020. doi: 10.4269/ajtmh.20-1015.

No link. Title search: not found in these notes.
ONLINE:

FN01.38.00.03.37i-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7695060/>. PDF: FN01.38.00.03.37i.Association of Country-wide Coronavirus Mortality with Demographics, Testing, Lockdowns, and Public Wearing of Masks - PMC

PC: Dec. 2020

CCP: Leffler, Ing, Lykins, Hogan, McKeown, Grzybowski / **ORIGIN:** USA-VA Richmond: Va. Commonwealth U., Dept. of Ophthalmology; Dept. of Internal Med.; Dept. of Emergency Med.; School of Med.; Hunter Holmes McGuire VA Med. Ctr, Dept. of Ophthalmology; FL Miami: U. of Miami, Miller School of Med., Bascom Palmer Eye Institute. CANADA-

Toronto: U. of Toronto, Dept. of Ophthalmology and Vision Sciences. POLAND-Posnan: Institute for Research in Ophthalmology. / **REF:** Ing; Cheng; Zhu, Xie; Syed; ECDC (2); Wang, Cho; Feng, Shen, Xia, Song, Fan, Cowling; Kamata, Obmagari, Tokuda; UN Population Div.; International Monetary Fund [?]; World Bank (3); American Cancer Society; WHO; **CIA - Central Intelligence Agency** [?]; Fu; Ramachandran, Snehalatha; Atallah; WHO; Soyibo; UN; Zheng; Ing; Tam VC., Tam SY., Poon, Law, Lee; Nguyen, Hoang, Tran, Vu, Siewe; Chiu, Wu; Chiang; Zeng, Li, Ng, Chen, Zhou; Han, Zhou; Rahman; Doung-ngern; US Embassy in Gabon; Mousa, Saad, Abdelghafor; Mya, Aye, Hlaing, Hlaing Su., Thida; Adhikari; Abaluck [GATES]; Chin, Wang; Wong SH., Teoh, Leung, Wu, Yip, Wong MC., Hui; Zxiao, Shiu, Gao, Wong, Fong, Ryu, Cowling; Aiello, Davis, Uddin; Cowling; MacIntyre; Chan; Akouminakis, Filippatos; Qian, Miah, Liu, Zheng, Luo; Islam, Kawachi; Ma; Center for Systems Science and Engineering (CSSE) Johns Hopkins (50 of 96) / **FUNDING:** Statement: “Publication charges for this article were waived due to the ongoing pandemic of COVID-19.”

RCT: No.

CONTENT: Evaluated mortality correlates with demographics, testing, lockdowns, and masks.

CLAIM: They find a correlation between mask wearing and lower mortality. “In summary, older age of the population, urbanization, obesity, and longer duration of the outbreak in a country were independently associated with higher country-wide per-capita coronavirus mortality. International travel restrictions were associated with lower per-capita mortality. However, other containment measures, testing and tracing polices, and the amount of viral testing were not statistically significant predictors of country-wide coronavirus mortality, after controlling for other variables. By contrast, societal norms and government policies supporting mask-wearing by the public were independently associated with lower per-capita mortality from COVID-19. [SS:] **The use of masks in public is an important and readily modifiable public health measure.**”

CE: Again, the problem is there is no way to prove the masks caused the result they found. Usually, I would take the time to scour the study and find the holes in their logic and research, but as I pointed out above, it’s simply not feasible to take the time for that relative the circumstance of this study—given that the **WHO document citing these studies dismisses their relative significance by admitting they do not**

PROVE anything.

Evaluation of no. 90 ENDED

91. Lan F-Y, Christophi C, Buley J, Lliaki E, Bruno-Murtha L, Sayah A, et al. Effects of universal masking on Massachusetts healthcare workers' COVID-19 incidence. MedRxiv. 2020. doi: 10.1101/2020.08.09.20171173.

No link. Title search: not found in these notes.

ONLINE:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665621/>

FN01.38.00.03.37j-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665621/>. PDF: FN01.38.00.03.37j.Effects of universal masking on Massachusetts healthcare workers' COVID-19 incidence - PMC

PC: Oct. 2020

CCP: Lan, Christophi, Duley, Iliaki, Murtha, Sayah, Kales (3 of 6) / **ORIGIN:** USA-MA Boston: Harvard U., TH Chan School of Public Health, Dept. of Environmental Health; Cambridge: Harvard Medical

School, Cambridge Health Alliance, Occupational Medicine; Infection Prevention, Infectious Diseases; Emergency Med.. TAIWAN-Tainan: Ntl., Cheng Kung U., Ntl., Cheng Kung U. Hospital, College of Medicine, Dept. of Occupational and Environ., Med. / **REF:** Lan, Wei, Hsu; Liu, Cheng, Xu; Wang, Zhou, Hashimoto, Bhatt; Mass. Dept. of PUB. Health; Lan (2); Wang, Pan, Cheng; Bi (8 of 11) / **FUNDING:** Statement: “None of the authors receives funding towards the present study.”

RCT: No. Another OS — comparing 7-day average indices between a MA healthcare system and MA residents statewide.

CONTENT:

CONCLUSION: CCav/SS: “Universal masking was associated with a decreasing COVID-19 incidence trend among HCWs, **while the infection rate continued to rise in the surrounding community.**” — figure that one out.

Eval. of no. 91 ENDED

92. Aravindakshan A, Boehnke J, Gholami E, Nayak A. Mask-Wearing During the COVID-19 Pandemic. MedRxiv. 2020. doi: 10.1101/2020.09.11.20192971.

No link. Title search: not found in these notes.

ONLINE:

<https://www.medrxiv.org/content/10.1101/2020.09.11.20192971v1>

FN01.38.00.03.37k-

<https://www.medrxiv.org/content/10.1101/2020.09.11.20192971v1>. PDF: FN01.38.00.03.37k.Mask-Wearing During the COVID-19 Pandemic _ medRxiv

PC: 2020 (Pre-print)

CCP: Aravindakshan, Boehnke, Gholami, Nayak / **ORIGIN:** USA-CA, UCDavis. This is a Chan Zuckerberg Initiative, and this is FB Zuckerberg / **REF:** Cheng; Pan, Liu, Wang, Guo, Hao, Wang Q., Huang, He, Yu, Lin, Wei; Hsiang, Phan, Chong, Huang, Lau, Lee, Tseng, Wu; Govt. sources (4); Feng, Shen, Xia, Song, Fan, Cowling; Lyu, Wehby; Chu, Akl, Duda, Sola; Huang, Li, Tufekci, Tang V., Taang H., Bax, Shaikh, Chu; Dong, Du; G=Davies; Bahl, Chughtai, MacIntyre; Tsai; Chang; Greenhalgh; Science News; Wall Street Journal (19 of 26) / **FUNDING:** Statement: “No Funding”

RCT: No

CONTENT:

CONCLUSION: Inconclusive: NC/CCav: “The population-wide usage of face masks as a preventative measure against the transmission of COVID-19 varies widely across countries. **Using data from 24 countries, this study finds that reported face mask usage associates with a decline in the growth rate of COVID-19. Even though we control for multiple variables that could affect spread and include multiple robustness checks, it remains possible that some of the decline associated with face masks may be related with other confounding variables not included in our model.”**

Evaluation of 92 ENDED

93. Pletz M, Steiner A, Kesselmeier M, Loeffler B, Trommer S, Weis S, et al. Impact of universal masking in health care and community on SARS-CoV-2 spread. MedRxiv. 2020. doi: 10.1101/2020.09.02.20187021.

No link. Title search: not found in these notes.

ONLINE:

<https://europepmc.org/article/PPR/PPR210314>

FN01.38.00.03.37k-

<https://europepmc.org/article/PPR/PPR210314> PDF:
FN01.38.00.03.37L.Impact of universal masking in
health care and community on SARS-CoV-2 spread

PC: Sep. 2020 (Preprint)

CCP: Pletz, Steiner, Kesselmeier, Trommer, Weis,
Maschmann, Stallmach / **ORIGIN:** GERMANY-Jena:
Universitätsklinikum Jena / **REF:** Leung; Feng, Shen,
Xia, Song, Fan, Cowling; Leung, Chu, Shiu, Chan, Yen, Li,
Ip, Seto; McIntyre (whom I've seen repeatedly
associated with CCP related authors), Seale, Dung,
Hien, Nga, Chughtai, Rahman, Dwyer, Wang /
FUNDING: Statement: "MP was supported by a grant
from the German Ministry of Education and Research
(BMBF No. KI1501). MK was supported by the
Integrated Research and Treatment Center – Center
for Sepsis Control and Care (CSCC) at the Jena
University Hospital, funded by the German Ministry of
Education and Research (BMBF No. 01E01502)."

RCT: No

CONTENT:

CONCLUSION: CCav: **"We are aware that mere
association is not causation and that our**

conclusions are limited by the observational nature of the data. However, it is uncertain whether an ethically sound trial on the controversial issue of mandatory community-wide masking will ever be performed. Therefore, our observations support the notion to implement universal masking in both health care as well as community settings as considering the ensuing reduced infection-rates. Given the risk-benefit ratio, we consider universal masking combined with social distancing as a suitable measure to contain the spread of SARS-CoV-2.”

Evaluation of 93 is ENDED

94. Fortaleza C, et al. Impact of nonpharmaceutical governmental strategies for prevention and control of COVID-19 in São Paulo State, Brazil. MedRxiv. 2020. doi: 10.1101/2020.08.23.20180273.

No link. Title search: not found in these notes.

ONLINE:

<https://www.medrxiv.org/content/medrxiv/early/2020/08/25/2020.08.23.20180273.full.pdf>

FN01.38.00.03.37k2-

<https://www.medrxiv.org/content/medrxiv/early/2020/08/25/2020.08.23.20180273.full.pdf>. PDF:

FN01.38.00.03.37k2.Impact of nonpharmaceutical governmental strategies for prevention and control of COVID-19 in São Paulo State, Brazil

PC: August 2020

CCP: All Brazilian / **ORIGIN:** Brazil-Sao Paulo: U. Dept. Infectious Disease; Dept. Biostatistics; Molecular biology lab.; Dept. of Geography, Faculty of Sciences and Tech. / **REF:** Zhang; Chu; Liang (3 of 11) / **FUNDING:** Statement: “The authors received no funding.”

RCT: Not asserted. Something called Interrupted time series analyses (ITSA). See TECH40.Interrupted Time Series Analysis. Interrupted time series analysis... _ by Shravan Adulapuram _ Analytics Vidhya _ Medium.pdf. <https://medium.com/analytics-vidhya/interrupted-time-series-analysis-10d73659c6af>. Sometimes called *quasi-experimental time series analysis*. Used to analyze “a single time series of data known to be affected by interventions (controlled external influences).” Often used for marketing research, economics, political science and medicine.

CONTENT:

SP: PROBLEM: As will all such studies, it is impossible to anticipate and factor in all possible confounders. For example, simply observing that people were getting sick at x rate for y days, then masks were mandated, and then people were getting sick at z rate actually proves only one thing. From this period to this period people were getting sick at some calculated rate, and then from that period to that period they were getting sick at another calculated rate—the fact that masks were introduced at any time during the events does not PROVE CAUSATION. Too many other factors might have contributed to the uptick in cases that are unrelated to the intervention artificially introduced. The problem becomes increasingly significant when attempting to create a model from such observations and upon such limited data start making predictions.

CLAIM: It is worth noting that a recent systematic review with meta-analysis or randomized clinical trials found general protective impact of face masks [11].” This was followed with caveats: “However, protection was greater in healthcare settings than in the community. Also, the included studies assessed influenza and other respiratory viruses, and most of them tested surgical masks. Therefore, inferences have

been largely based on analogy, and the benefits of cloth masks are far from straightforward.”

TA refers to Liang M, et al. (2020) Efficacy of face mask in preventing respiratory virus transmission: A systematic review and meta-analysis. *Travel Medicine and Infectious Diseases* [published online ahead of print, 2020 May 28], 101751. doi: 10.1016/j.tmaid.2020.101751

Already vetted in these notes: see **FN01.38.00.01.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7253999/pdf/main.pdf> PDF: FN01.38.00.01.00.Efficacy of face mask in preventing respiratory virus transmission

To summarize my vetting of this article consider these excerpts from vetting: TA [Of FN01.38.00.01.00] stipulate[s] the size range of submicron to be dp (particle diameter) between 0.25 and 1.0 μm . That's 250-1000 nm. The SARS-CoV-2 virion is between 40-140 nm. TA offers footnote 39 to support the claim: surgical masks can filter submicron droplets between 0.25 and 1.0 μm . See Liu Y, Ning Z, Chen Y, Guo M, Liu YL, Gail NK, et al. Aerodynamic analysis of SARSCoV-2 in two Wuhan hospitals. *Nature* 2020.

<https://doi.org/10.1038/s41586-020-2271-3>.

<https://www.nature.com/articles/s41586-020-2271-3>. There is no need to vet this article since the size range stipulated by TA is outside the region of our interest.

95. Karaivanov A, Lu SE, Shigeoka H, Chen C, Pamplona S. Face Masks, Public Policies and Slowing the Spread of COVID-19: Evidence from Canada. MedRxiv. 2020. doi: 10.1101/2020.09.24.20201178.

No link. Title search: not found in these notes.
ONLINE: Another one not vetted:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8172278/>

FN01.38.00.03.37L-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8172278/>. PDF: FN01.38.00.03.37k2.Face masks, public policies and slowing the spread of COVID-19_ Evidence from Canada

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: June 2021

CCP: Lu, Shigeoka, Chen (3 of 5) / **ORIGIN:** Canada-Simon Fraser U., Dept. of Economics; USA-NBER: National Bureau of Economic Research. [This study is not medical, but economic?] / **REF:** Significant dependence on CCP or Asian mask culture sources. / **FUNDING:** nd

RCT: No. Under **EMPIRICAL METHOD:** “We follow the approach of Chernozhukov et al. (2021), but modify and adapt it to the Canadian context. The empirical strategy uses the panel structure of the outcome, policy and behavioural proxy variables, and includes lags of outcomes, as information or following the causal paths suggested by the epidemiological SIR model (Kermack and McKendrick, 1927). Specifically, we estimate the effect of policy interventions on COVID-19 outcomes while controlling for information and behaviour. In contrast to Chernozhukov et al. (2021) and Hsiang et al. (2020), who study variation in NPIs across U.S. states or across countries, our identification strategy exploits policy variation at the sub-provincial level (Ontario’s PHUs) in addition to cross-province variation, and our data captures both the closing down and re-opening stages of the epidemic.”

For “The approach of Chernozhukov” see Chernozhukov V., Kasahara H., Schrimpf P. Causal impact of masks, policies, behavior on early COVID-19 pandemic in the U.S. *J. Econom.* 2021;220(1):23–62. [PMC free article] [PubMed] [Google Scholar] ONLINE: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7568194/>

Already vetted in these notes: see **FN01.34.00.00.00-** <https://www.sciencedirect.com/science/article/pii/S0304407620303468>. PDF: FN01.34.00.00.00.Causal impact of masks, policies, behavior on early covid-19 pandemic in the U.S. - ScienceDirect.pdf

A few excerpts will suffice to show reason it was dismissed:

RCT: No. This appears to be MM, with an obvious bias toward masking. It “evaluates the dynamic impact of various policies adopted by US states on the growth rates of confirmed Covid-19 cases and deaths as well as social distancing behavior ...”

CCav: “Reviewing evidence, Greenhalgh et al. (2020) recognize that there is no randomized

controlled trial evidence for the effectiveness of face masks, but they state ‘indirect evidence exists to support the argument for the public wearing masks in the Covid-19 pandemic.’” Indirect evidence is no more adequate basis for encroaching upon the entire population with an onerous imposition of their natural rights, than the masks are efficacious to block virions from 40-140 nanometers in diameter, or otherwise protect anyone from contagion.

Dismissing this undermines the entire premise of referenced, or cited study because TA asserted their approach was premised upon it.

96. Miyazawa D, Kaneko G. Face mask wearing rate predicts country's COVID-19 death rates: with supplementary state-by-state data in the United States. MedRxiv. 2020. doi: 10.1101/2020.06.22.20137745.

No link. Title search: not found in these notes.

ONLINE:

<https://www.medrxiv.org/content/10.1101/2020.08.23.20180273v1.full-text>

FN01.38.00.03.37m-

<https://www.medrxiv.org/content/10.1101/2020.08.23.20180273v1.full-text> PDF:

FN01.38.00.03.37m.Impact of nonpharmaceutical governmental strategies for prevention and control of COVID-19 in São Paulo State, Brazil _ medRxiv (DUP: see FN01.38.00.03.37k2)

PC: 2020 (Preprint)

CCP: All authors Brazil / **ORIGIN:** BRAZIL-Sao Paulo Botucatu: São Paulo State University, Botucatu School of Medicine, Department of Infectious Diseases; Institute of Biosciences, Dept. of Biostatistics; Dept. of Infectious Diseases; Faculty of Agronomical Sciences, Molecular Biology Lab.; Faculty of Sciences and Tech., Dept. of Geography / **REF:** Zhang; Chu; Liang / **FUNDING:** Statement: “The authors received no funding.”

references: only Chu and Liang strike me as having a possible CCP influence.

RCT: No.

CONTENT:

CONCLUSIONS: CCav/NC: “In conclusion, we found that governmental strategies based on nonpharmaceutical intervention were generally effective in slowing the evolution of pandemics in São

Paulo State, Brazil. **The effectiveness was greater for the first intervention (social distancing), with SOME incremental impact of mandatory use of face masks. Those findings may reflect either a small impact of face masking or the loosening of social distancing after mandatory use of masks.** Either way, they contribute for directing public policies against COVID-19 in Brazil and other countries, in a period when the world is still far from achieving control of the current pandemics.”

Evaluation of 96 ENDED

97. Mitze T, Kosfeld R, Rode J, Walde K. Face Masks Considerably Reduce Covid-19 Cases in Germany. MedRxiv. 2020. doi: 10.1101/2020.06.21.20128181.

No link. Title search: not found in these notes.

ONLINE:

<https://pubmed.ncbi.nlm.nih.gov/33273115/> — Full text version:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7768737/>

FN01.38.00.03.37n-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7768737/>

8737/ PDF: FN01.38.00.03.37n.Face masks considerably reduce COVID-19 cases in Germany - PMC. For SUP see FN01.38.00.03.37n.SUP pnas.2015954117.sapp.pdf

Rated by ECDC as LOW to MODERATE confidence:

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Dec. 2020

CCP: All authors Germany, Denmark / **ORIGIN:** GERMANY-Kassel: U. of Kassel, Institute of Economics; Darmstadt: Technische U. of Darmstadt, Dept. of Law and Economics; Mainz: Johannes-Gutenberg-U. of Mainz, Gutenberg School of Management and Economics; Bonn: IZA Institute of Labor Economics. DENMARK-Odense: U. of Southern Denmark, Dept. of Business and Economics. US: Proceedings of the National Academy of Sciences, National Academy of Sciences / **REF:** Wang C.; Tang; Chu; Leung; Zhang R., Zhang A., Wang; Liu (6 of 23) / **FUNDING:** nd Assumed the IZA Institute of Labor Economics

RCT: No. This is stated to be a “quasi-experimental

control group approach” — means it appears like a scientific study but it is NOT a scientific study.

CONTENT:

SP: Here is an example of extreme presumption that is active in this sort of approach: “The introduction of face masks in 6 April reduced the number of newly registered COVID-19 cases over the next 20 d by 75% relative to the synthetic control group.” So we have a quasi-experimental approach” and uses a “synthetic control group.”

NOTE: *** Something begins to emerge here of interest to us. “Ref. 19 reports that compliance for distancing rules rises when masks are worn.” And the interest is in the repeated appeal to masks as a control mechanism. Masks increasingly appear to be, as I think the LORD impressed on me some months ago, a critical point of battle for our liberties from the medical tyrants. They see mask compliance as the key to GENERAL COMPLIANCE WITH EVERYTHING ELSE. And the data do seem to support that conclusion.

*** Why compliance to mask mandates is so important to the health medical tyrants — it is the KEY to compliance in all other social prevention schemes.

Consistently, I read stuff like mask compliance is connected with social distancing and hand hygiene compliance, etc, etc. and I think they see a connection here to taking the jab compliance also. There is less resistance to masks than to jabs, and masks seem to be linked to compliance, remembering, awareness, of the “need” for social distancing and hand hygiene. Increasingly, I see the need to include a chapter on the down side of masks physically, as well as socially, and SPIRITUALLY.

Evaluation of 97 ENDED

98. Maloney M, Rhodes N, Yarnold P. Mask mandates can limit COVID spread: Quantitative assessment of month-over-month effectiveness of governmental policies in reducing the number of new COVID-19 cases in 37 US States and the District of Columbia. MedRxiv. 2020. doi: 10.1101/2020.10.06.20208033.

No link. Title search: not found in these notes.
ONLINE:
<https://www.medrxiv.org/content/10.1101/2020.10.06.20208033v1.full.pdf>

FN01.38.00.03.37n1-

<https://www.medrxiv.org/content/10.1101/2020.10.06.20208033v1.full.pdf> PDF:
FN01.38.00.03.37n1.Mask mandates can limit COVID spread_ Quantitative assessment of month-over-month effectiveness of governmental policies in reducing the number of new COVID-19 cases in 37 US States and the District of Columbia

ECDC rated this article VERY LOW confidence:

see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>. — I'll accept this as adequate vetting for the present.

PC: Oct. 2020

CCP: Maloney, Rhodes, Yarnold / **ORIGIN:** USA-SFO: Proof School [?]; IL Chicago: Northwestern Memorial Hosp., Dept. of Pharmacy; Optimal Data Analysis; Downers Grove: Midwestern U. Chicago College of Pharmacy, Dept. of Pharmacy Practice; Parmacometrics Center of Excellence / **REF:** Zhang, Li, Zhang AL, Wang; Shin, Koo, Lee, Yang; US CDC (3); Leung, Chu, Shiu, Chan; Wang, Zhou, Hashimoto, Bhatt; Fu; Gandhi; Anfinrud, Bax CE., Bax A.; Gao; Lyu, Wehby; Iboi, Phan; Institute for Health Metrics; The

NYT; The Atlantic Monthly; US Census (2); Bureau of Economic Activity; Kaiser Family Foundation (3); Bureau of Labor Statistics; Dept. fo Housing and Urban Develop. (2); Bureau of Justice Statistics; US Congress Joint Economic Committee; Center for American Women in Politics; Yan (29 of 58) (On ANON) / **FUNDING:** Statement: “The author(s) received no specific funding for this work.”

RCT: No. OS and MM

CONTENT: I did not vet this when working this doc (doc1) and I don't know why exactly. However, here I notice this is too broad and does not focus specifically on the issue of mask mandates.

IR: since it does not touch on the issue of particle size and mask efficacy beyond AME based on OS and SS.

SS/NC: Mask mandates can limit COVID spread...

SS: “Wearing a facemask is expected to reduce inhalation of aerosolized virus.” (4)

SS/NC: “Thus, there is consensus in the scientific, clinical, and business communities that appropriate

wearing of facemasks is a “best-practice” personal behavior, which can reduce the chances of being infected by, or of infecting others with, SARS-CoV-2 and other airborne disease-causing microbes.”

DONE.

99. Sruthi C, Biswal M, Saraswat B, Joshi H, Prakash M. How Policies on Restaurants, Bars, Nightclubs, Masks, Schools, and Travel Influenced Swiss COVID-19 Reproduction Ratios. MedRxiv. 2020. doi: 10.1101/2020.10.11.20210641.

No link. Title search: not found in these notes.

ONLINE:

<https://www.medrxiv.org/content/10.1101/2020.10.06.20208033v1.full-text>

FN01.38.00.03.37o-

<https://www.medrxiv.org/content/10.1101/2020.10.06.20208033v1.full-text> PDF:

FN01.38.00.03.37o.Mask mandates can limit COVID spread_ Quantitative assessment of month-over-month effectiveness of governmental policies in reducing the number of new COVID-19 cases in 37 US States and the District of Columbia _ medRxiv (DUP: See FN01.38.00.03.37n1)

ECDC rated this article VERY LOW confidence:

see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>. — I'll accept this as adequate vetting for the present.

PC: 2020 (Preprint—these latest studies have been around a while and none of them have been picked up for peer-review.)

CCP: SEE DUP. FN01.38.00.03.37n1

RCT: No.

CONTENT:

SP/AME: Assumption that general decline in cases correlates to implementation of mask mandates.

CCav: “We utilized a non-parametric machine-learning algorithm to test the *a priori* hypothesis that *MM* [Mask-mandates] were associated with reductions in new COVID-19 cases.” This is later followed with **“No statistically significant difference in the daily number of new COVID-19 infections was**

discernible in the All-States analysis. ... Only the Social Capital Index predicted *MM* success ...” Unreal! They are letting an algorithm inform them whether their data Predicts mask mandate success. Much like those used by social media tech tyrants to control what users see and share, or like the Dominion algorithms that “predict” outcomes of our elections, these algorithms are susceptible to manipulation.

CONCLUSION: CCav: “Results obtained when studying the impact of MM on COVID-19 cases varies as a function of the heterogeneity of the sample being considered, providing **clear evidence of Simpson’s Paradox and thus of confounded findings.** As such, studies of MM effectiveness should be conducted on disaggregated data. **Since transmissions occur at the individual rather than at the collective level,** additional work is needed to identify optimal social, psychological, environmental, and educational factors which will reduce the spread of SARS-CoV-2 and facilitate MM effectiveness across diverse settings.”

AME: The entire study hinges on the assumption that any reduction in cases following the imposition of mask mandates is correlated to the mandate and not confounded by any number of other factors. It’s a really bad approach, and I don’t wonder that no one

has picked this up for peer-review.

Evaluation of 99 is ENDED.

100. Lan F, Christophi C, Buley J, Iliaki E, Bruno-Murtha L, Sayah A, et al. Effects of universal masking on Massachusetts healthcare workers' COVID-19 incidence. MedRxiv. 2020. doi: 10.1101/2020.08.09.20171173.

No link. Title search: Found.

Already vetted in these notes: see **FN01.38.00.03.37j-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665621/>. PDF: FN01.38.00.03.37j.Effects of universal masking on Massachusetts healthcare workers' COVID-19 incidence - PMC.

Vetted: Eval. of 100 ENDED

101. Shacham e, Scroggins S, Ellis M, Garza A. Association of County-Wide Mask Ordinances with Reductions in Daily CoVID-19 Incident Case Growth in a Midwestern Region Over 12 Weeks. MedRxiv. 2020. doi: 10.1101/2020.10.28.20221705.

No link. Title search: not found in these notes.

ONLINE:

<https://www.medrxiv.org/content/10.1101/2020.10.28.20221705v2.full-text>

FN01.38.00.03.37p-

<https://www.medrxiv.org/content/10.1101/2020.10.28.20221705v2.full-text>. PDF:

FN01.38.00.03.37p.Association of County-Wide Mask Ordinances with Reductions in Daily CoVID-19 Incident Case Growth in a Midwestern Region Over 12 Weeks _ medRxiv

PC: 2020 (Preprint)

CCP: Shacham, Scroggins, Ellis / **ORIGIN:** USA: MO, St Luis: St. Luis U., College For Health and Social Justice; Sinquefield Center for Applied Economic Research; This is a Chan Zuckerberg Initiative (Facebook Zuckerberg) / **REF:** Lyu, Wehby; government SCLaC; Okonkwo, Aguwa, Jang; Gao, Rao, Kang (4 of 7) / **FUNDING:** nd Assumed Chan Zuckerberg Initiative

some possible CCP influence in sources referenced.

RCT: No. An ecological study evaluating the effects

of public mask mandate on case growth.

CONTENT:

Admits to being a “quasi-experimental longitudinal study...” And this simply means it is NOT A SCIENTIFIC enquiry.

CONCLUSION: “These data demonstrate that county-level mask mandates were associated with significantly lower incident COVID-19 case growth over time, compared to neighboring counties that did not implement a mask mandate. The results highlight the swiftness of how a mask ordinance can impact the trajectory of infection rate growth. Another notable finding was that following implementation of mask mandates, the disparity of infection rate by race and population density was no longer significant, suggesting that regional-level policies can not only slow the spread of COVID-19, but simultaneously create more equal environment.” Another of those studies that is premised on AME and the assumption that an observed reduction in cases after implementation of mask mandates correlates to the implementation of those mandates.

Evaluation of 101 is ENDED

102. Chernozhukov V, Kasahara H, Schrimpf P. Causal Impact of Masks, Policies, Behavior on Early Covid-19 Pandemic in the U.S. J Econom. 2020. doi: 10.1016/j.jeconom.2020.09.003.

Already vetted in these notes: see
FN01.34.00.00.00-
<https://www.sciencedirect.com/science/article/pii/S0304407620303468>. PDF: FN01.34.00.00.00.Causal impact of masks, policies, behavior on early covid-19 pandemic in the U.S. - ScienceDirect.pdf

Evaluation of 102 is ENDED

103. Research GS. Face Masks and GDP. 2020. (<https://www.goldmansachs.com/insights/pages/face-masks-and-gdp.html> accessed 21 November 2020).

No link. Title search: not found in these notes.
ONLINE:
<https://www.goldmansachs.com/insights/pages/face-masks-and-gdp.html>

FN01.38.00.03.37q-
<https://www.goldmansachs.com/insights/pages/face-masks-and-gdp.html>. PDF:

FN01.38.00.03.37q.Goldman Sachs _ Insights - Face Masks and GDP

PC: June 2020

CCP: Hatzius, Struyvben, Rosenberg (Research for Goldman Sachs) / **ORIGIN:** None noted. John Hatzius is head of Goldman Sachs Research and the firm's chief economist. The bias in this article is toward use of masks as substitute for further interruption of the market place. / **REF:** None. / **FUNDING:** Goldman Sachs.

RCT: No. (This is a Goldman Sachs Research report, and addresses the impact of Masks on the GDP???? Okay, I'm a bit bemused by this!)

CONTENT:

IR/AME: Unrelated to criteria of my query. Does not examine mask efficacy by assumes it.

ARGUMENT: The argument is that a "national face mask mandate could partially substitute for renewed lockdowns. We start by showing that a national mandate would likely increase face mask usage meaningfully, especially in states such as Florida and

Texas where masks remain largely voluntary to date.”

Then they investigate “the link between face masks and coronavirus outcomes.” Uh, don’t think there is any bias here, right???

So, this is NOT a scientific study; it’s an apologetic for masking motivated by a desire to avoid further lockdowns.

I’ll skip down to Face Masks and Virus Outcomes—

SP: The appeal to statistical approaches. They use these methods to construct ESTIMATES on mask mandate transmission control outcomes. TOTALLY NOT SCIENCE.

SP: They are presenting what they regard to be an “estimate of the impact of face masks mandates on virus outcomes...” so, happily, they are not even trying to pretend this is SCIENCE.

[**** But, once again, they swerve into thesis 2 supporting comments [I have not identified anything called *thesis 2* so I’ll do that here. Thesis 1 would be that masks are not effective to block or significantly

reduce the penetration of virions either way, as a source control or as PPE. *Thesis 2* has to do with the reason so many otherwise reasonable people are working so hard to support mask mandates—and that theory is that it is seen as a control mechanism. It serves as a visible way to identify compliance for all other concerns, such as hand hygiene and distancing, and vaccinations, etc. I would extend this to masks being symbolic of A VICTORY BY THE STATE OVER THE SOULS OF CITIZENS.] (For additional insight into this question, see **FN01.38.00.03.37r1-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8590132/> PDF: FN01.38.00.03.37r1.Face masks increase compliance with physical distancing recommendations during the COVID-19 pandemic - not vetted but provided in archives as an article of interest relative to findings of this vetting.)

Evaluation of 103 is ENDED

104. Scott N, Saul A, Spelman T, Stoove M, Pedrana A, Saeri A. The introduction of a mandatory mask policy was associated with significantly reduced COVID-19 cases in a major metropolitan city. 2020. (Available at SSRN:<http://dx.doi.org/10.2139/ssrn.3714648> accessed 29 November 2020).

No link. Title search: Found.

Already vetted in these notes: see

FN01.35.00.00.00-

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0253510>. PDF: FN01.35.00.00.00. The introduction of a mandatory mask policy was associated with significantly reduced COVID-19 cases in a major metropolitan city _ PLOS ONE. I see no need to bring excerpts here. See FN01.35.00.00.00 for comments.

Evaluation of 104 is ENDED

105. Yan Y, Bayham J, Fenichel E, Richter A. Do Face Masks Create a False Sense of Security? A COVID-19 Dilemma. MedRxiv. 2020. doi: 10.1101/2020.05.23.20111302.

No link. Title search: not found in these notes.

ONLINE:

<https://www.medrxiv.org/content/10.1101/2020.05.23.20111302v2.full.pdf>

FN01.38.00.03.37r-

<https://www.medrxiv.org/content/10.1101/2020.05.23.20111302v2.full.pdf>

23.20111302v2.full.pdf PDF:
FN01.38.00.03.37r.<https://www.medrxiv.org/content/10.1101/2020.05.23.20111302v2.full.pdf> A FULL
TEXT VERSION the is ONLINE ACCESSIBLE:
<https://www.medrxiv.org/content/10.1101/2020.05.23.20111302v2.full-text> TITLE: Do Face Masks Create
a False Sense of Security? A COVID-19 Dilemma.

PC: May, 2020 (Preprint)

CCP: Yan, Bayham, Fenichel, Richter / **ORIGIN:**
USA:-CT New Haven: (YALE), CO Fort Collins: Col.
State U. / **REF:** Nim-Chul Kim, Yeun, Hye-Hee Cha, Joon,
Jiwon, Min-Jae; Chen; Feng, Shuo, Chen, Nan, Wei, Fan,
Cowling; Huang, Zhiyuan, Tufekci; JunJie Wu; Chu, Shiu,
Kwok-Hung; Yan (7 of 24) / **FUNDING:** Statement:
“Funding: YY [Youpei Yan] and EPF [Eli P. Fenichel]
are supported by the Knobloch Family Foundation.”

RCT: No

CONTENT:

CCav: “This substitution behavior [referring to
observations that mask use emboldens people to
travel more freely, spending 20-30 minutes less time
at home each day, etc.] **IS CONCERNING GIVEN THE**

LIMITED INFORMATION ON THE PROTECTIVE VALUE OF CASUAL FACE COVERINGS.”

Not sure how this fits into the claim given in the WHO doc that this would, or should be included in documentation supporting mask use. ???

DISCUSSION:

CCav: “Our results suggest that mask orders provide a sense of protection, leading people to substitute face mask wearing for other non-pharmaceutical interventions like avoiding time in public. **The net effect of these behaviors on public health outcomes depends on the relative effectiveness of masks** and other behaviors in reducing transmission.” **“Yet, the evidence of the effectiveness of face mask use by the general public on disease transmission is less conclusive.”**

[*** Of course, these yahoos would have us prisoners in our homes—which raises an entirely separate set of issues and questions — the fact that BEING OUTSIDE IN FRESH AIR WHERE THE VIRIONS HAVE THE GREATEST CHANCE OF BEING DILUTED AND PEOPLE HAVE THE GREATEST OPPORTUNITY TO BE EXPOSED AT LEVELS THEIR BODY CAN

CREATE SUFFICIENT ANTIBODIES TO DEFEAT —]

[*** Again, stumbled into thesis 2 support docs:
Face masks increase compliance with physical distancing recommendations during the COVID-19 pandemic (See FN01.38.00.03.37r1.Face masks increase compliance with physical distancing recommendations during the COVID-19 pandemic, and <https://link.springer.com/content/pdf/10.1007/s40881-021-00108-6.pdf>)]

Evaluation of 105 is ENDED

106. Piantadosi S, Byar DP, Green SB. The ecological fallacy. *Am J Epidemiol.* 1988;127(5):893-904.

No link. Title search: not found in these notes.
ONLINE: <https://academic.oup.com/aje/article-abstract/127/5/893/61799?redirectedFrom=fulltext&login=false> (This is one I have to purchase for \$39.00 and I don't think it is sufficiently critical to my study to justify that expense. There is access to the study at <https://academic.oup.com/aje/article-abstract/127/5/893/61799?redirectedFrom=fulltext&login=false> and I'll excerpt what I consider pertinent quotes from the one page available below.

FN01.38.00.03.37s-

<https://academic.oup.com/aje/article-abstract/127/5/893/61799?redirectedFrom=fulltext&login=false>. PDF: FN01.38.00.03.37s.THE ECOLOGICAL FALLACY _ American Journal of Epidemiology _ Oxford Academic

PC: May of 1988

CCP: Piantadosi, Byar, Green / **ORIGIN:** American Journal of Epidemiology / **REF:** Limited access, one page only. References not available / **FUNDING:** nd Limited access. No CCP cultural or professional influences anticipated.

RCT: No

CONTENT:

CONCLUSION: not provided.

IR: This paper does not address the question of masks at all, but does provide some insight regarding the use of group versus individual studies, and the danger of so-called ecological studies:

**** Very important statement: The first page provides an important observation re “ecological” studies — I’ve evaluated a few of these, see above. This author says, “The purpose of this paper is to emphasize for epidemiologists the possibility of **SERIOUS ERROR RESULTING FROM INFERENCES BASED ON ECOLOGICAL ANALYSES.**” He contests the idea of studies that are premised on groups rather than on individuals: “Variables that describe groups of individuals, rather than the individuals themselves, are termed ‘ecological’ and are often used when the analysis of individuals’ data is not possible. ...” After explaining the value of so-called ecological studies, in situations where individual studies are either impossible or impractical, he goes on to warn, **“Serious errors can result when an investigator makes the seemingly natural assumption that the inferences from an ecological analysis must pertain either to the individuals within the groups or to individuals across groups.”** He points out what I did when addressing one of these earlier, that what might be shown to be true in terms of trends, or general observations might not accurately either predict future developments, or individual actions or behaviors.

Evaluation of 106 is ENDED

107. Clifford GD, Long WJ, Moody GB, Szolovits P. Robust parameter extraction for decision support using multimodal intensive care data. *Philos Trans A Math Phys Eng Sci.* 2009 Jan 28; 367(1887): 411–429.

No link. Title search: not found in these notes.

ONLINE:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2617714/>

FN01.38.00.03.37t-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2617714/>. PDF: FN01.38.00.03.37t. Robust parameter extraction for decision support using multimodal intensive care data - PMC

PC: 2009 published online Oct. 2008.

CCP: Clifford, Long, Moody, Szolovits / **ORIGIN:** USA-MA Cambridge: Harvard-MIT, MA Institute of Tech, Division of Health Sciences and Tech; Computer Science and Artificial Intelligence. / **REF:** Abdala, Saeed; Aboukhalil, Saeed; Alsafadi, Sheng; Gu, Perl, Geller, Liu; He, Tarassenko; Husoy; Li; Makivirta, Kiski, Kari, Sukuvaara; Neamatullah; Pueyo; Rajan; Saeed, Lieu; Shu; Sun; Trassenko (2); Tsien; Yarita, Kobayashi,

Takeda, Tamura; Zhang Y (3); Zhang L.; Zong (23 of ~73) / **FUNDING:** National Library of Medicine, Ntl. Institute of Biomedical Imaging and Bioengineering, and NIH (GRANT), the NIH Research Resource for Complex Physiologic Signals (GRANT), Philips Medical Systems, and the Information and Communication University of Korea. See Acknowledgements.

RCT: No.

CONTENT:

IR: does not address issue of masks, or mask efficacy or mandates, etc.

So why does it appear here, in this WHO doc, asserted to be supportive of mask use? Looks like more filler, to me.

I don't find a conclusion, but a SUMMARY:

This is about data analysis in the ICU??

Evaluation of 107 is ENDED

108. Dufault B, Klar N. The quality of modern

cross-sectional ecologic studies: a bibliometric review.
Am J Epidemiol. 2011;174(10):1101-7.

No link. Title search: not found in these notes.

ONLINE:

<https://academic.oup.com/aje/article/174/10/1101/105347?login=false> No link.

FN01.38.00.03.37u-

<https://academic.oup.com/aje/article/174/10/1101/105347?login=false> PDF: FN01.38.00.03.37u.Quality of Modern Cross-Sectional Ecologic Studies_ A Bibliometric Review _ American Journal of Epidemiology _ Oxford Academic

PC: Sept. 2011; in American Journal of Epidemiology - Nov. 2011

CCP: Dufault, Klar / **ORIGIN:** CANADA-Manitoba-Winnipeg: U of Manitoba, Medical Services; Statement from article: "Author affiliations: Department of Community Health Sciences, Faculty of Medicine, University of Manitoba, Winnipeg, Manitoba, Canada (Brenden Dufault); and Department of Epidemiology and Biostatistics, Schulich School of Medicine and Dentistry, University of Western Ontario, London, Ontario, Canada (Neil Klar)." / **REF:** Tu; Yu; Cho (3 of

21). / **FUNDING:** Statement: “The authors’ work was partially supported by grants from the Natural Sciences and Engineering Council of Canada.”

RCT: No. Characterized as a “bibliometric review” — “In a bibliometric review or sometimes called a bibliometric analysis, the researcher collects many relevant papers (typically from a few hundred to a few thousand) in a research area of interest and conducts a bibliometric analysis using data from a citation source such as Scopus or Web of Science.” [See TECH41.Bibliometric reviews in business, management & accounting and the tools used _ Singapore Management University (SMU). <https://library.smu.edu.sg/topics-insights/bibliometric-reviews-business-management-accounting-and-tools-used>] It’s a species of RL.

CONTENT:

IR: Not directly related to any question regarding masks, and no discernible relevance to my research. Searched: *particle, filtration, filter, mask, penetration, micro, nano* with results NULL.

This is a follow up on an earlier examined study that warned about the possible pitfalls of ecological

research. This article seems to support that approach: “Ecologic research in epidemiology is extremely diverse in its applications and sophistication.

HOWEVER, IT APPEARS THAT A COMBINATION OF METHODOLOGICAL LIMITATIONS, APPARENT DEPENDENCE ON PREEXISTING DATA, AND INSUFFICIENT REPORTING HAS COMPROMISED THE QUALITY AND CLARITY OF SOME ARTICLES.”

Actually, upon closer reflection, this is reflective of the 1988 authors’ conclusions and concerns.

Evaluation of 108 is ENDED

109. Barasheed O, Alfelali M, Mushta S, Bokhary H, Alshehri J, Attar AA, et al. Uptake and effectiveness of facemask against respiratory infections at mass gatherings: a systematic review. *Int J Infect Dis.* 2016;47:105-11.

No link. Title search: Found.

Already vetted in these notes: See
FN01.32.01.00.00
[https://www.ijidonline.com/article/S1201-9712\(16\)31010-4/fulltext](https://www.ijidonline.com/article/S1201-9712(16)31010-4/fulltext) PDF: FN01.32.01.Uptake and effectiveness of facemask against respiratory

infections at mass gatherings_ a systematic review -
International Journal of Infectious Disease. (See also
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110449/>)

Evaluation of 109 is ENDED

110. Barasheed O, Almasri N, Badahdah AM, Heron L, Taylor J, McPhee K, et al. Pilot Randomised Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011. *Infect Disord Drug Targets*. 2014;14(2):110-6.

No link. Title search: not found in these notes.
ONLINE:
<https://pubmed.ncbi.nlm.nih.gov/25336079/>

FN01.38.00.03.37v-
<https://pubmed.ncbi.nlm.nih.gov/25336079/>. PDF:
FN01.38.00.03.37v.PURCHASE BLOCKED ABSTRACT
ONLY Pilot Randomised Controlled Trial to Test
Effectiveness of Facemasks in Preventing Influenza-
like Illness Transmission among Australian Hajj
Pilgrims in 2011 - PubMed (Limited access, abstract
only.)

PC: 2011

CCP: Barasheed O, Almasri N, Badahdah AM, et al.;
The Hajj Research Team (All Arabic) / **ORIGIN:**
AUSTRALIA-NSW Westmead: The Children's Hospital
at Westmead, Ntl. Centre for Immunisation Research
and Surveillance / **REF:** Nt accessible. / **FUNDING:** nd
in the limited access available.

RCT: No

CONTENT:

ACK: "Studies to determine the effectiveness of facemasks in preventing influenza have been inconclusive, largely due to small sample size. The Hajj pilgrimage, where the incidence of influenza and other respiratory infections is high, provides an excellent opportunity to test the effectiveness of facemasks against syndromic and laboratory-confirmed infections. Hence, a pilot study was conducted among Australian pilgrims to assess the feasibility of such a large-scale trial in the coming years. At the 2011 Hajj, tents were randomised to 'supervised mask use' versus 'no supervised mask use'. Pilgrims with ILI symptoms for ≤ 3 days were recruited as 'cases' and those who slept within 2 meters of them

as ‘contacts’. Surgical facemasks were provided to cases and contacts in the ‘mask’ tents, but not in the ‘control’ tents. Pilgrims in both groups were given diaries to record their respiratory symptoms. Nasal or pharyngeal swabs were collected from the cases and contacts with ILI for point-of-care and nucleic acid tests. A total of 22 tents were randomised to ‘mask’ (n=12) or ‘control’ (n=10). There were 164 pilgrims recruited; 75 in ‘mask’ and 89 in ‘control’ group. Mask use compliance was 76% in the ‘mask’ group and 12% in the ‘control’ group. Based on developing syndromic ILI, less contacts became symptomatic in the ‘mask’ tents compared to the ‘control’ tents (31% versus 53%, $p= 0.04$). **However, laboratory results did not show any difference between the two groups.** This pilot study shows that a large trial to assess the effectiveness of facemasks use at Hajj is feasible.”

CCav, see bold above.

IR: The study, failing to present any conclusive evidence regarding the question, *do masks prevent the spread of influenza or ILI*, was turned to another purpose: to show that a large scale study of mask efficacy like that done at Haji is feasible.

Evaluation of 110 is ENDED

111. Cowling BJ, Chan KH, Fang VJ, Cheng CK, Fung RO, Wai W, et al. Facemasks and hand hygiene to prevent influenza transmission in households: a cluster randomized trial. *Ann Intern Med*. 2009;151(7):437-46. See also 22. Cowling B. J., et al., Facemasks and hand hygiene to prevent influenza transmission in households: A cluster randomized trial. *Ann. Intern. Med.* 151, 437–446 (2009). [PubMed] [Google Scholar]

Already vetted in these notes: see 22. Cowling B. J., et al., Facemasks and hand hygiene to prevent influenza transmission in households: A cluster randomized trial. *Ann. Intern. Med.* 151, 437–446 (2009). [PubMed] [Google Scholar]

Already vetted in these notes: see
FN01.38.00.11.00-
https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org (FULL TEXT)
PDF: FN01.38.00.11.00.Facemasks and Hand Hygiene to Prevent Influenza Transmission in Households_ A Cluster Randomized Trial_ *Annals of Internal Medicine*_ Vol 151, No 7.

ECDC rated this article LOW to MODERATE confidence: see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Evaluation of 111 is ENDED

112. Lau JT, Tsui H, Lau M, Yang X. SARS transmission, risk factors, and prevention in Hong Kong. *Emerg Infect Dis.* 2004;10(4):587-92.

No link. Title search: Found:

Already vetted in these notes: see
FN01.37.04.01.00-
https://wwwnc.cdc.gov/eid/article/10/4/03-0628_article. PDF: FN01.37.04.01.SARS Transmission, Risk Factors, and Prevention in Hong Kong - Volume 10, Number 4—April 2004 - Emerging Infectious Diseases journal - CDC

Evaluation of 112 is ENDED

113. Suess T, Remschmidt C, Schink SB, Schweiger B, Nitsche A, Schroeder K, et al. The role of facemasks

and hand hygiene in the prevention of influenza transmission in households: results from a cluster randomised trial; Berlin, Germany, 2009-2011. *BMC Infect Dis.* 2012;12:26.

No link. Title search: Found:

Already vetted in these notes: **FN01.08.07.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/> PDF: FN01.08.07.00.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC.

Evaluation of 112 is ENDED

114. Wu J, Xu F, Zhou W, Feikin DR, Lin CY, He X, et al. Risk factors for SARS among persons without known contact with SARS patients, Beijing, China. *Emerg Infect Dis.* 2004;10(2):210-6. See also Wu J., et al., Risk factors for SARS among persons without known contact with SARS patients, Beijing, China. *Emerg. Infect. Dis.* **10**, 210–216 (2004). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see
FN01.38.00.06.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3322931/>. PDF: FN01.38.00.06.00.Risk Factors for SARS among Persons without Known Contact with SARS Patients, Beijing, China - PMC

Evaluation of 114 is ENDED

115. Aiello AE, Murray GF, Perez V, Coulborn RM, Davis BM, Uddin M, et al. Mask use, hand hygiene, and seasonal influenza-like illness among young adults: a randomized intervention trial. *J Infect Dis.* 2010;201(4):491-8. See also 23. Aiello A. E., et al., Mask use, hand hygiene, and seasonal influenza-like illness among young adults: A randomized intervention trial. *J. Infect. Dis.* **201**, 491–498 (2010). [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see
FN01.38.00.12.00-
<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12.00.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic.

Evaluation of 115 is ENDED

116. Aiello AE, Perez V, Coulborn RM, Davis BM, Uddin M, Monto AS. Facemasks, hand hygiene, and influenza among young adults: a randomized intervention trial. PLoS One. 2012;7(1):e29744.

No link. Title search: Found in these notes but not vetted. ONLINE:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266257/>

FN01.38.00.03.37w-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266257/> PDF: FN01.38.00.03.37w.Facemasks, Hand Hygiene, and Influenza among Young Adults_ A Randomized Intervention Trial - PMC (Several supplemental files that are the charts used in the doc.)

Already vetted in these notes: see

FN.01.08.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3266257/> PDF: FN01.08.01.00.00.Facemasks, Hand Hygiene, and Influenza among Young Adults_ A Randomized Intervention Trial - PMC.pdf

Evaluation of 116 is ENDED.

This concludes examination of supporting

documentation used for the WHO document.

—> Back to **FN01.38.00.03.37-**

<https://apps.who.int/iris/handle/10665/332293>.

PDF: FN01.38.00.03.37.WHO-2019-nCov-IPC_Masks-2020.5-eng.pdf

ECDC rated this article LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

INFO: One more section of the WHO doc that might be useful:

DISADVANTAGES of MASK USE: From WHO doc, page 10.

The potential disadvantages of mask use by healthy people in the general public include:

***** GENERAL:**

- headache and/or breathing difficulties, depending on type of mask used (55);
- development of facial skin lesions, irritant dermatitis or worsening acne, when used frequently for long

hours (58, 59, 127);

- difficulty with communicating clearly, especially for persons who are deaf or have poor hearing or use lip reading (128, 129);
- discomfort (44, 55, 59)
- a false sense of security leading to potentially lower adherence to other critical preventive measures such as physical distancing and hand hygiene (105);
- poor compliance with mask wearing, in particular by young children (111, 130-132);
- waste management issues; improper mask disposal leading to increased litter in public places and environmental hazards (133);
- disadvantages for or difficulty wearing masks, especially for children, developmentally challenged persons, those with mental illness, persons with cognitive impairment, those with asthma or chronic respiratory or breathing problems, those who have had facial trauma or recent oral maxillofacial surgery and those living in hot and humid environments (55, 130).

During Exercise:

“There are limited studies on the benefits and harms of wearing medical masks, respirators and non-medical masks while exercising. Several studies have demonstrated statistically significant deleterious

effects on various cardiopulmonary physiologic parameters during mild to moderate exercise in healthy subjects and in those with underlying respiratory diseases (134-140). The most significant impacts have been consistently associated with the use of respirators and in persons with underlying obstructive airway pulmonary diseases such as asthma and chronic obstructive pulmonary disease (COPD), especially when the condition is moderate to severe (136). Facial microclimate changes with increased temperature, humidity and perceptions of dyspnoea were also reported in some studies on the use of masks during exercise (134, 141). A recent review found negligible evidence of negative effects of mask use during exercise but noted concern for individuals with severe cardiopulmonary disease (142).”

ALL DONE WITH THE WHO DOC!!!

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>

CLAIM: — wait, I already looked at this study involving 78 nm particles used as basis for a table in WHO’s “advice on the use of masks ...” Footnotes No.

86, 87. — but let's check it out just in case:

86. Jung H., et al., Comparison of filtration efficiency and pressure drop in anti-yellow sand masks, quarantine masks, medical masks, general masks, and handkerchiefs. *Aerosol. Air. Qual. Res.* **14**, 991–1002 (2013). [[Google Scholar](#)] [[Ref list](#)]

As I thought:

Already vetted in these notes: see **FN01.38.00.03.36**—<https://aaqr.org/articles/aaqr-13-06-0a-0201.pdf> PDF: FN01.38.00.03.36.Microsoft Word - 36_AAQR-13-06-OA-0201_

And I was looking at the WHO doc referenced here immediately above.

Pretty sure I already vetted: 88. Zhao M., et al., Household materials selection for homemade cloth face coverings and their filtration efficiency enhancement with triboelectric charging. *Nano Lett.* **20**, 5544–5552 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

But, I can't find it by title; so!

No link. Title search:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7294826/> But this looks way too familiar. Try abbreviated search — apparently I have not vetted this article.

FN01.38.00.03.38-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7294826/>. PFD: FN01.38.00.03.38.Household Materials Selection for Homemade Cloth Face Coverings and Their Filtration Efficiency Enhancement with Triboelectric Charging - PMC

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> (For SUPP1: see FN01.38.00.03.38.SUPP1nl0c02211_si_001 (https://pubs.acs.org/doi/suppl/10.1021/acs.nanolett.0c02211/suppl_file/nl0c02211_si_001.pdf)); For SUPP2: see FN01.38.00.03.38.SUPP2nl0c02211_si_002)

PC: June 2020

CCP: Zhao, Liao, Xiao, Yu, Wang, Wang Q., Lin, Chu, Chu M., Cui (10 of 13) / **ORIGIN:** US-CA: Sunnyvale, 4C Air, Inc; Stanford, Stanford U. School of Medicine;

Stanford Anesthesia Informatics and Media Lab; Dept. of Physics; Dept. of Materials Science and Engineering; Dept. of Molecular and Cellular Physiology; Menlo Park: Stanford Institute for Materials and Energy Sciences; WaDC: CDC, NIOSH; CO: Auroa, Co School of Public Health, U of CO; ; Switzerland— WHO, and CDC. / **REF:** Dong, Du; Wong, Low; Yan, Liu; Huang, Fan, Li, Nie, Wang F., Wang H., Wang R., Xia, Zheng, Zuo, Huang J.; Davis, Gao; US CDC (3); Matsuyama, Nao, Shirato, Saito, Takayama, Nagata, Katoh, Kato, Sakata, Tahara, Kutsuna, Suzuki, Takeda; Loeb, Webby, Chong; Balazy; WHO; Sinha-Ray, Yarin; Angadjivand (2); Davis; Xu, Zi, Wang A., Zou, Dai, He, Wang P., Wang Y., Feng, Li, Wang Z.; Lee, Orr; Zou, Zhang, Guo, Wang P., He, Dai, Zheng, Chen, Wang A., Xu, Wang Z. (17 of 39) / **FUNDING:** nd

RCT: ? — the set up appears to be like a legitimate physical experiment supporting conclusions that can be replicated. In the introductory comments, TA offers a description of method: “We evaluated the filtration efficiency and pressure drop of common household materials of natural and synthetic origin using a modified version of the NIOSH standard test procedure with $0.075 \pm 0.02 \mu\text{m}$ (count median diameter) NaCl aerosols (fabric samples were not preconditioned in any way and the flow rate was

substantially reduced). The testing here did not account for real-world scenarios where the leakage around the edges of the face cover may significantly impact the actual effectiveness of these coverings. Hence, having a tight seal of the cloth around the face is imperative for these results to align with real usage conditions. All tests were conducted on an Automated Filter Tester 8130A (TSI, Inc.) with a flow rate of 32 L/min (unless otherwise specified). While FFR testing uses a flow of 85 L/min to simulate high intensity, a flow rate of 32 L/min was chosen which is similar to that in typical human breathing.²² The filtration efficiency is the percentage of NaCl particles filtered by the material and the pressure drop is the air resistance across the filter material. Lower pressures indicate higher breathability. Additional information may be found in the Methods of the Supporting Information.”

CONTENT:

INFO: This article explores the benefits of triboelectric charging on various materials to enhance mask efficacy.

SP: In view of the shortages and chain supply issues re face coverings, “The U.S. CDC has

recommended use of household cloth by the general public to make cloth face coverings as a method of source control.”

CLAIM: FINDINGS: “Common fabric of cotton, polyester, nylon, and silk had filtration efficiency of 5-25%, polypropylene spunbond had filtration efficiency 6-10% and paper based products had filtration efficiency of 10-20%. An advantage of polypropylene spunbond is that it can be simply triboelectrically charged to enhance the filtration efficiency (from 6 to >10%) without any increase in pressure...”.

IR: Right out of the gate, as they say, these numbers are wholly inadequate for our comparison purposes. If 75-90% of particles are penetrating these masks, the amount of filtration provided is meaningless with regard to a virion.

INFO: Pertinent reinforcement for established facts:

Virus spreads via viral droplets that might begin as larger droplets (>5 μ m) but that shrink due to evaporation and aerosolize to sizes <5 μ m: “The virus appears to be highly infectious and a major mode of transmission is thought to be spread from an infected

person releasing virus-filled fluid droplets that may shrink due to evaporation and thereby aerosolize.”

- 1 Christian M. D.; Loutfy M.; McDonald L. C.; Martinez K. F.; Ofner M.; Wong T.; Wallington T.; Gold W. L.; Mederski B.; Green K.; Low D. E. Possible SARS Coronavirus Transmission during Cardiopulmonary Resuscitation. *Emerging Infect. Dis.* 2004, 10, 287–293. 10.3201/eid1002.030700. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]
- 2 Yan J.; Grantham M.; Pantelic J.; De Mesquita P. J. B.; Albert B.; Liu F.; Ehrman S.; Milton D. K. Infectious Virus in Exhaled Breath of Symptomatic Seasonal Influenza Cases from a College Community. *Proc. Natl. Acad. Sci. U. S. A.* 2018, 115, 1081–1086. 10.1073/pnas.1716561115. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]
- 3 Tellier R. Review of Aerosol Transmission of Influenza A Virus. *Emerging Infect. Dis.* 2006, 12, 1657–1662. 10.3201/eid1211.060426. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]
- 4 Huang H.; Fan C.; Li M.; Nie H. L.; Wang F. B.; Wang

H.; Wang R.; Xia J.; Zheng X.; Zuo X.; Huang J. COVID-19: A Call for Physical Scientists and Engineers. *ACS Nano* 2020, 14, 3747–3754. 10.1021/acsnano.0c02618. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]

1. IR: and presents no need for vetting in these notes.

2. Already vetted in these notes: see **FN01.38.00.26d-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5798362/>. PDF: FN01.38.00.03.26d.From the Cover_ Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community - PMC For SUP see FN01.38.00.03.26d.SUP [pnas.201716561SI.pdf](https://pubs.pnas.org/doi/pdf/10.1073/pnas.201716561SI)

3. This one might be useful:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3372341/> Let's take a look.

FN01.38.00.03.38a-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3372341/>. PDF: FN01.38.00.03.38a.Review of Aerosol Transmission of Influenza A Virus - PMC

PC: Nov. 2006

CCP: Raymond Tellier ?—Microbiologist for the

Hospital for Sick Children, senior associate scientist, Research Institute, and associate prof. Dept. of Lab. Medicine and Pathobiology, U. of Toronto / **ORIGIN:** Canada-Ontario: Hospital for Sick Children; U of Toronto / **REF:** WHO Writing Group; Canada: Public Health Agency; US: Dept. of Health and Human Services; Qian; SHinya, Yamada, Ono, Kasai, Kawaoka; US CDC; WHO; Health Protection Agency [?] The CCP compromise was not so complete in 2006 as it is now. / **FUNDING:** ND

RCT: No.

CONTENT:

CCav: “For example, the Canadian Pandemic Influenza Plan and the US Department of Health and Human Services Pandemic Influenza Plan (4,5) recommend surgical masks, not N95 respirators, as part of personal protective equipment (PPE) for routine patient care. **This position contradicts the knowledge on influenza virus transmission accumulated in the past several decades.** Indeed, the relevant chapters of many reference books, written by recognized authorities, refer to aerosols as an important mode of transmission for influenza (6–9).” Several decades behind the research? The

research is that influenza is transmitted by much smaller particles than were thought.

INFO: Planning for a pandemic sounds like a *plandemic* : In 2006, they were saying: “Concerns about the likely occurrence of an influenza pandemic in the near future are increasing.” Anticipation of a present crisis style pandemic were percolating in this period.

At this time, “large-droplet transmission [was] the predominant mode by which influenza virus infection is acquired.” — 1. Bridges CB, Kuehnert MJ, Hall CB. Transmission of influenza: implications for control in health care settings. *Clin Infect Dis*. 2003;37:1094–101. 10.1086/378292 [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]. 3. Garner JS. Guideline for isolation precautions in hospitals. The Hospital Infection Control Practices Advisory Committee. *Infect Control Hosp Epidemiol*. 1996;17:53–80. 10.1086/647190 [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)] (Stipulated)

SE: Evidence supporting my thesis: as a consequence of the belief that transmission was pretty much limited to large droplets, “protection against infectious aerosols is often ignored for influenza,

including in the context of influenza pandemic preparedness. For example, the Canadian Pandemic Influenza Plan and the US Department of Health and Human Services Pandemic Influenza Plan (4,5) **recommend surgical masks, not N95 respirators**, as part of personal protective equipment (PPE) for routine patient care. This position contradicts the knowledge on influenza virus transmission accumulated in the past several decades. Indeed, the relevant chapters of many reference books, written by recognized authorities, refer to aerosols as an important mode of transmission for influenza (6-9).”

6. Cox NJ, Ziegler T. Influenza viruses. In: Murray PR, Baron EJ, Jorgensen JH, Pfaller MA, Tenover FC, Tenover FC, editors. Manual of clinical microbiology. 8th ed. Washington: ASM Press; 2003. p. 1360–7. [[Google Scholar](#)] [[Ref list](#)],

9. Treanor JJ. Influenza virus. In: Mandell GL, Bennett JE, Dolin R, editors. Mandell, Douglas and Bennett's principles and practice of infectious diseases. 6th ed. New York: Elsevier Churchill Livingstone; 2005. p. 2060–85. [[Google Scholar](#)] [[Ref list](#)] — stipulated.

CE: * Clearly, the science did not support the use of surgical masks for protection against an aerosolized virus.**

No further need for vetting, clearly this article

supports my thesis. However, I think I'll pick up a few observations that can prove helpful.

IMFO: “For spherical particles of unit density, settling times (for a 3-m fall) for specific diameters are 10 s for 100 μm , 4 min for 20 μm , 17 min for 10 μm , and 62 min for 5 μm ; particles with a diameter $<3 \mu\text{m}$ essentially do not settle. Settling times can be further affected by air turbulence ([10,11](#)).”

*** Interesting: a particle that is 100 μm (100,000 nm) takes roughly 10 seconds to settle. 4 minutes for a 20 μm particle, 17 minutes for a 10 μm particle, and a little over 1 hour for a 5 μm particle. Particles that are $<3 \mu\text{m}$ “essentially DO NOT SETTLE.”

The median diameters of particles correspond to sizes that penetrate into the lower respiratory tract. In other words, the smaller particles ARE THE MORE DANGEROUS TO HUMAN HEALTH.

INFO: Mostly, particles $\geq 6 \mu\text{m}$ are trapped in upper respiratory tract and “no substantial deposition in the lower respiratory tract occurs at [particles sizes] $\geq 20 \mu\text{m}$.” 11. Knight V. Viruses as agents of airborne contagion. *Ann N Y Acad Sci.* 1980;353:147–56. [10.1111/j.1749-6632.1980.tb18917.x](https://pubmed.ncbi.nlm.nih.gov/10.1111/j.1749-6632.1980.tb18917.x) [[PubMed](#)]

[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)], 12. Knight V. Airborne transmission and pulmonary deposition of respiratory viruses. In: Hers JF, Winkles KC, editors. Airborne transmission and airborne infections. Vith International Symposium on Aerobiology. New York: Wiley; 1973. p. 175–82. [[Google Scholar](#)] [[Ref list](#)] — stipulated.

NOTE: Today, the cut-off for aerosols is $<5 \mu\text{m}$. “This convenient convention is, however, somewhat arbitrary, because the long settling time of the efficient deposition in the lower respiratory tract are properties that do not appear abruptly at a specific diameter value.” The concluding sentence is badly written, however, I think the authors are telling us particles $>10\text{-}20 \mu\text{m}$ will settle rapidly and will not deposit in the lower respiratory tract, and these are referred to as large droplets. 10. Nicas M, Nazaroff WW, Hubbard A. Toward understanding the risk of secondary airborne infection: emission of respirable pathogens. *J Occup Environ Hyg*. 2005;2:143–54. 10.1080/15459620590918466 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)], 12. Knight V. Airborne transmission and pulmonary deposition of respiratory viruses. In: Hers JF, Winkles KC, editors. Airborne transmission and airborne infections. Vith International Symposium on

Aerobiology. New York: Wiley; 1973. p. 175–82. [[Google Scholar](#)] [[Ref list](#)] — stipulated.

INFO: Coughing or sneezing generates a substantial quantity of particles, A LARGE NUMBER OF WHICH ARE <5-10 μm in diameter ...” 10. Nicas M, Nazaroff WW, Hubbard A. Toward understanding the risk of secondary airborne infection: emission of respirable pathogens. *J Occup Environ Hyg.* 2005;2:143–54. 10.1080/15459620590918466 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)] - stipulated.

INFO: *** “In addition, particles expelled by coughing or sneezing rapidly shrink in size by evaporation, thereby increasing the number of particles that behave as aerosols. Particles shrunken by evaporation are referred to as droplet nuclei ([10–12](#)). This phenomenon affects particles with a diameter at emission of <20 μm , and complete desiccation would decrease the diameter to a little less than half the initial diameter ([10](#)). Droplet nuclei are hygroscopic. When exposed to humid air (as in the lungs), they will swell back. One would expect that inhaled hygroscopic particles would be retained in the lower respiratory tract with greater efficiency, and this hypothesis has been confirmed experimentally

([11](#),[12](#))” 11. Knight V. Viruses as agents of airborne contagion. *Ann N Y Acad Sci.* 1980;353:147–56. 10.1111/j.1749-6632.1980.tb18917.x [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)], and 12. Knight V. Airborne transmission and pulmonary deposition of respiratory viruses. In: Hers JF, Winkles KC, editors. Airborne transmission and airborne infections. Vith International Symposium on Aerobiology. New York: Wiley; 1973. p. 175–82. [[Google Scholar](#)] [[Ref list](#)], stipulated.

***This means the droplets evaporate to a nuclei sized aerosol, are inhaled into the lower respiratory tract, and then swell again to a large particle.

***It also means that in high humid environments, the evaporation phenomenon is similar and will make the droplets actually swell at first —

INFO: Essentially, this study argues contrary to the assumption that the primary mode of transmission is LARGE DROPLETS, and argues for the recognition that the primary mode might be aerosols.

NOTE: Something to look for in these studies appears here. “Many infection control practitioners have argued that the introduction of large-droplets

precautions in institutions has proven sufficient to interrupt influenza outbreaks and therefore that aerosol transmission appears negligible. This evidence is, unfortunately, inconclusive because of several confounding or mitigating factors. First, unless precise laboratory diagnosis is obtained, respiratory syncytial virus outbreaks can be mistaken for influenza outbreaks (9), which would artificially increase the perceived "effectiveness" of large-droplets precautions against influenza." 9. Treanor JJ. Influenza virus. In: Mandell GL, Bennett JE, Dolin R, editors. Mandell, Douglas and Bennett's principles and practice of infectious diseases. 6th ed. New York: Elsevier Churchill Livingstone; 2005. p. 2060–85. [[Google Scholar](#)] [[Ref list](#)] - stipulated.

***This means we should be wary of studies that do not confirm "cases" with lab-confirmation. Any study that does not, is liable to this **CONFOUNDER**. See 9. Treanor JJ. Influenza virus. In: Mandell GL, Bennett JE, Dolin R, editors. Mandell, Douglas and Bennett's principles and practice of infectious diseases. 6th ed. New York: Elsevier Churchill Livingstone; 2005. p. 2060–85. [[Google Scholar](#)] [[Ref list](#)]. — a quick look:

NOTE: I can't find this as a PDF article online. Apparently, the reference is to a section included in a

book, 6th ed. Douglas and Bennett's principles and practice of infectious diseases, a chapter, or a section titled Influenza Virus. The book costs from 71-192 dollars. The 9th edition is \$449.99 for the print + ebook, and for ebook only, it is \$358.99 at this site: <https://www.us.elsevierhealth.com/mandell-douglas-and-bennetts-principles-and-practice-of-infectious-diseases-9780323482554.html>. So, I'll pass on this and if needed, I'll check it from a library.

IT IS KNOWN THAT VIRUSES LONG IN CIRCULATION UNDERGO ATTENUATION — the gradual reduction of force until benign. 32. de la Barrera CA, Reyes-Teran G. Influenza: forecast for a pandemic. *Arch Med Res*. 2005;36:628–36. 10.1016/j.arcmed.2005.05.002 [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

CE: FLAT OUT CONTRADICTION of the masks work thesis: **“Finally, surgical masks (used in large-droplets precautions) do not offer reliable protection against aerosols, but they nevertheless have a partially protective effect, which further confuses the issue (29,30).”** 29. Qian Y, Willeke K, Grinshpun SA, Donnelly J, Coffey CC. Performance of N95 respirators: filtration efficiency for airborne microbial and inert particles. *Am Ind Hyg Assoc J*.

1998;59:128–32.

10.1080/15428119891010389 [[PubMed](#)]

[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)],

—> **FN01.38.00.03.38-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3372341/#!po=65.3846> — Review of Aerosol ...

30. Weber A, Willeke K, Marchioni R, Myojo T, McKay R, Donnelly J, et al. Aerosol penetration and leakage characteristics of masks used in the health care industry. *Am J Infect Control*. 1993;21:167–73.

10.1016/0196-6553(93)90027-2 [[PubMed](#)]

[[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)].

COULD BE HELPFUL:

FN01.38.00.03.38b-

[https://www.ajicjournal.org/article/0196-6553\(93\)90027-2/pdf](https://www.ajicjournal.org/article/0196-6553(93)90027-2/pdf) PDF:

FN01.38.00.03.38b.Aerosol Penetration and Leakage
PII_0196-6553(93)90027-2

PC: August 1993

CCP: Weber, Willeke, Marchiioni, Toshihlko,
McKay, Donnelly, Liebhaber (2 of 7) / **ORIGIN:** US-OH

Cincinnati: NIOSH. JAPAN-Kawasaki: Ntl. Institute of Industrial Health / **REF:** Ransjo; Samaranayake; Duguid; Uttamchandani (2); Chen, Willeke; Chen, Ruuskanen, Pilacinski, Willeke; Chen, Willeke; Willeki; Willeke; Willeke (11 of 40) / **FUNDING:** Statement: “Supported by grant number ... from National Institute for Occupational Safety and Health (NIOSH).” Angela Weber supported by a “stipend for graduate education awarded by the U. of Cincinnati.”

RCT: Not asserted. Experiment described as follows: “Methods: Eight surgical masks were tested for aerosol particle penetration through filter media and through induced face-seal leaks.”

CONTENT:

NOTE: I don’t use the CCav for compromising caveat here because the statements noted do not compromise the thesis, or finding of TA. Therefore, I’m using CE, but not in the sense that the TA has contradicted himself or his thesis. Here is the CE statement:

CE: “Results: The percentage of filter penetration ranged from 20% to nearly 100% for submicrometer-sized particles. In comparison, a dust-mist-fume

respirator used in industrial settings had significantly less penetration through its filter medium. When the surgical masks had artificially induced face-seal leaks, the concentration of submicrometer-sized particles inside the mask increased slightly; in contrast, the more protective dust-mist-fume respirator showed a fourfold increase in aerosol penetration into the mask with an artificial leak 4 mm in diameter. **Conclusion: We conclude that the protection provided by surgical masks may be insufficient in environments containing potentially hazardous submicrometer-sized aerosols.** (AJIC AM J INFECT CONTROL 1993;2 1: 167-73)”

So, what is submicrometer sizes: obviously, any particle that is $< 1\mu\text{m}$. But let's see if TA stipulates this for us.

INFO: He does. Here it is. “... submicrometer-sized aerosol particles. For example, particles present in the laser plume generated during laser surgery have been found to have a median aerodynamic diameter of about $0.3\ \mu\text{m}$, with a range of 0.1 to $0.8\ \mu\text{m}$.(7)” He very directly states the range a little later in the study: “Particles smaller than $1\ \mu\text{m}$ are considered to be in the submicrometer size range; those between 1 and $10\ \mu\text{m}$ in size are considered to be in the micrometer size

range. 28”

NOTE: *** It’s important to notice that when an artificial compromise of the seal for the surgical mask was introduced, it DID NOT INCREASE PENETRATION DRAMATICALLY — this is important because it means *most* of the penetration if occurring through the main body of the mask material.

NOTE: Clarification of what appears to be a notation anomaly in my notes. Apparently, what I thought was the article from footnote 30 cited in REVIEW OF AEROSOL TRANSMISSION ... is not! It’s a separate article, titled: PERFORMANCE OF N95 RESPIRATORS: FILTRATION EFFICIENCY FOR AIRBORNE MICROBIAL AND INERT PARTICLES. It is not accessible online, except for the abstract, from which I obtained the following quotation:
(https://www.researchgate.net/publication/13743342_Performance_of_N95_Respirators_Filtration_Efficiency_for_Airborne_Microbial_and_Inert_Particles)

“In 1995 the National Institute for Occupational Safety and Health issued new regulations for nonpowered particulate respirators (42 CFR Part 84). A new filter certification system also was created. Among the new particulate respirators that have

entered the market, the N95 respirator is the most commonly used in industrial and health care environments. The filtration efficiencies of unloaded N95 particulate respirators have been compared with those of dust/mist (DM) and dust/fume/mist (DFM) respirators certified under the former regulations (30 CFR Part 11). Through laboratory tests with NaCl certification aerosols and measurements with particle-size spectrometers, N95 respirators were found to have higher filtration efficiencies than DM and DFM respirators and **noncertified surgical masks**. N95 respirators made by different companies were found to have different filtration efficiencies for **the most penetrating particle size (0.1 to 0.3 micron)**, [100 to 300 nm] but all were at least 95% efficient at that size for NaCl particles. **Above the most penetrating particle size the filtration efficiency increases with size; it reaches approximately 99.5% or higher at about 0.75 micron.** Tests with bacteria of size and shape similar to *Mycobacterium tuberculosis* also showed filtration efficiencies of 99.5% or higher. Experimental data were used to calculate the aerosol mass concentrations inside the respirator when worn in representative work environments. **The penetrated mass fractions, in the absence of face leakage, ranged from 0.02% for large particle distributions to 1.8% for submicrometer-size**

welding fumes. Thus, N95 respirators provide excellent protection against airborne particles when there is a good face seal.”

—> Back to **FN01.38.00.03.38-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7294826/#ref5>

NOTE: Larger particles succumb to gravity and settle to surfaces, and if inhaled, usually reach only the upper respiratory tract. But smaller, or fine particles <5 μ m can reach the lower respiratory tract and become critical: “Larger particles >5 μ m in diameter typically settle due to gravity and usually reach only the upper respiratory tract if inhaled. Meanwhile, fine particles with diameter <5 μ m can critically reach the lower respiratory tract.”

Meanwhile, medical face masks are used by healthcare workers during medical procedures to protect both the patient and the healthcare workers from the transfer of infectious microorganisms, body fluids, and particulate material. These masks are not recommended by the World Health Organization or the CDC for aerosol generating procedures.[9,14](#)

SP: CDC . *Healthcare Infection Prevention and*

Control FAQs for COVID-

19. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-faq.html> (accessed May 24, 2020). [[Ref list](#)], (Page Not Found: **PDF:**

FN01.38.00.03.38c.CDC - Page Not Found —

Interesting because this is a May 2020 article published by CDC that, according to the

FN01.38.00.03.38 article supports: These masks are not recommended by the World Health Organization or the CDC for aerosol generating procedures.[9,14](#). In reference to surgical masks used to protect against virus. So, did CDC scrub this article? Let's look for the WHO article that also supports this claim:

World Health Organization . *Advice on the Use of Masks in the Context of COVID-19 (Interim Guidance)*;

2020. [[Google Scholar](#)] [[Ref list](#)] (This link takes me to an excerpt that only lightly supports the claim, and then the article is in Arabic.

(-) **FN01.38.00.03.38d.WHOara** — So, why would these guys link a study that is presented in Arabic and not in English. This certainly gives the appearance of purposed censorship.

—> Back to **FN01.38.00.03.38-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7294826/#ref5>

CCav: “While previous reports show that surgical mask filtration efficiency can vary from 10 to 96% (85 L/min air flow), (24) WE WERE ONLY ABLE TO OBTAIN TWO MEDICAL FACE MASK BRANDS, BOTH OF WHICH HAD A FILTRATION EFFICIENCY OF ~20-30% ($Q \sim 5 \text{ kPa}^{-1}$).” FOCUS: “we were only able to obtain two medical face mask brands, both of which had a filtration efficiency of ~20–30% ($Q \sim 5 \text{ kPa}^{-1}$).”

CE:*** CLAIM: surgical face masks that provide 96% efficacy blocking 78 nm particles: BUSTED: So where are these surgical face masks that provide 96% efficiency blocking 78 nm particles? They don't exist. I don't have access to the studies referenced by these authors, and I've not seen any such, but I have seen some that are written in such a way that unless they are examined carefully, it would be easy to miss the differentiation between surgical masks and N95s in their discussion.

Here is great information on alternate masks made from household materials:

INFO: “Previous reports show that cloth face coverings had 10–60% instantaneous penetration levels when challenged with polydisperse NaCl

aerosols.[25,26](#) ... Microscopically, we see that Cotton 1 has a finer fiber diameter ($\sim 10\ \mu\text{m}$) compared to Cottons 2–3 ($\sim 20\ \mu\text{m}$). All the fibers are bundled into yarns of similar size, $\sim 150\ \mu\text{m}$. However, in Cotton 1 ([Figure 1d](#)) **clear pores of $\sim 100\ \mu\text{m}$ can be observed**, whereas in Cotton 2 and 3 ([Figure 1e,f](#)) there are no such clear pores and yarn-to-yarn gaps are not as apparent. The clear pores in Cotton 1 can leak both particles and air through, which explains why it has much lower filtration efficiency of $\sim 5\%$ and lower pressure drop of $\sim 2.5\ \text{Pa}$, compared to Cotton 2 and 3 (20–26% filtration efficiency, 14–17 Pa pressure drop). Based on the data in [Table 1](#), the basis weight and density are not clearly related to the efficiency, as Cotton 3 has nearly double the basis weight of Cotton 2, but the filtration efficiency increase is only moderate. We note that the Cotton 2 and 3 filtration properties were comparable to some grades of medical face masks. As cotton is a very common material for clothing, it would be beneficial to the public to select cotton construction with the highest filtration quality factor. The cotton should be woven/knit at a high density such that there are no visible pores under light. If a lower density cotton is used, it may be best to use multilayers.”

CCav: Even the better barrier materials only

provided 20-26% filtration efficiency, 14-17 Pa pressure drop).”

CCav: Silk has gaps between the yarns of $\sim 50 \mu\text{m}$, or 50,000 nm.

CCav: Even the filtration material this study recommends do not provide what I would consider adequate filtration. The best they found provides $\sim 24\%$ filtration. And the kicker is that these researchers boast [my word] that these polypropylene spunbound material masks perform equal to or slightly better than “some medical face masks.”

Not surprising, since most medical face masks include the above mentioned material in their construction.

*** Finally, the idea of charged fabric increasing efficacy does not change the dynamics of filtration that challenges any of my findings. In order for face masks to be worth the trouble of wearing, they would have to filtrate on a level of the N95, and even with the charging of fabrics that are not compromised by the process, the increase is very minimal, and even when it increases the efficacy to 50%, a 40-50% penetration defeats the point of wearing a mask to protect against

transmission by a virion.

Continuing **FN01.38.00.03.38-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7294826/> — Household Materials ... and the fourth reference:

4. Huang H.; Fan C.; Li M.; Nie H. L.; Wang F. B.; Wang H.; Wang R.; Xia J.; Zheng X.; Zuo X.; Huang J. COVID-19: A Call for Physical Scientists and Engineers. ACS Nano 2020, 14, 3747–3754. 10.1021/acsnano.0c02618. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.38.00.03.38e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7144807/>. PDF: FN01.38.00.03.38e.COVID-19_ A Call for Physical Scientists and Engineers - PMC

PC: Apr. 2020

CCP: Huang, Fan, Nie, Wang, Xia, Zheng, Zuo, Huang (all authors: 11 of 11). **ORIGINS:** CHNA-Shanghai, **Wuhan, Hubei**, USA-IL / **REF:** WHO; Lu, Zhao, Li, Niu, Yang, Wu, Wang, Song, Huang, Zhu, Bi, Ma, Zhan, Wang, Hu, Zhou, Hu, Zhou W., Zhao, Chen; Zhu, Zhang, Wang, Li, Yang, Song, Zhao, Huang, Shi, Lu,

Niu, Zhan, Ma, Wang, Xu, Wu, Gao, Tan; Wang, Hsieh; Yezli; Bai, Yao, Wei, Tian, Jin, Chen, Wang; Hu, Song, Xu, Jin, Chen, Xu, Ma, Chen, Lin, Zheng, Wang, Hu, Yi, Shen; Li; Li X., Niu, Gao; Zhou, Yang, Wang, Hu, Zhang, Zhang L. Zhang W., Si, Zhu, Li, Huang, Chen H., Chen J., Luo, Guo, Jiang, Liu, Chen, Shen, Wang, Zheng; Liu, Wei, Li, Ooi; Li, BAo, Liu, Zhuang, Liu Y., Zhang, Jiang; Luo, Jang, Sun, Xiao; Choi; Leung, Lam, Cheng; Imai, Ogawa, Bui, Inoue, Fukuda, Ohba, Yamamoto, Nakamura; Rai, Gupta; Kang; Honda, Iwata; Han, Feng, Guo, Niu; Si, Zhang, Wu, Fu, Huang, Nitin, Ding, Sun (21 of 35) / **FUNDING:** National Science Foundation.

RCT: No. It reads more like a RL. Or, better, like a “state of the science” on questions re infection.

CONTENT: CLAIM: The study is cited as support for the finding that follows: “Virus spreads via viral droplets that might begin as larger droplets ($>5\mu\text{m}$) but that shrink due to evaporation and aerosolize to sizes $<5\mu\text{m}$: ‘The virus appears to be highly infectious and a major mode of transmission is thought to be spread from an infected person releasing virus-filled fluid droplets that may shrink due to evaporation and thereby aerosolize.’”

INFO: Infectious respiratory diseases start from

“virion-laden respiratory fluid droplets (from <1 to 2000 μm in diameter) released by an infected person through coughing, sneezing, and potentially even talking. **THESE DROPLETS IMMEDIATELY START TO EVAPORATE AND TO SHRINK.**” Most settle on surfaces but “some may even become airborne for a period of time.”

CCav: Comment on facial masks: N95: “For facial masks such as N95 aspirators, **they usually need to be tightly fit to one’s face (e.g., with strong rubber bands) and can cause a great deal of discomfort or allergic reactions.**³² In practice, **the one-size-fits-all aspirators sometimes do not match the diverse facial profiles of different users, leading to potential safety issues due to leakage or skin damage.** Therefore, more adaptive, skin-friendly materials and interface design are needed to ensure good seal over extended periods of time and changing skin conditions due to perspiration.”

AME: In recommendations re surgical and other disposable masks where this is discussed without any comment on efficacy. So, the efficacy of masks is assumed.

IR: This study appears mostly to be about offering

suggestions toward improving PPE.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> (Alternate address:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#!po=84.2857>) — An Evidence Review ...

Here is a study that looked at aerosol filtration of common fabrics used in respiratory cloth masks and found efficacy ranging from 12-99% “At flow rates LOWER THAN AT-REST RESPIRATION.” Here is the study:

89. Konda A., et al., Aerosol filtration efficiency of common fabrics used in respiratory cloth masks. *ACS Nano* **14**, 6339–6347 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)].

FN01.38.00.03.39 -

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/>. PDF: FN01.38.00.03.39.Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks - PMC. (For SUPP: see FN01.38.00.03.39.SUPP nn0c03252_si_001)

Rated by ECDC as VERY LOW confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Apr. 2020

CCP: Konda, Prakash, Guha (3 of 6) / **ORIGIN:** USA-IL: Lemont, Center for Nanoscale Materials, Argonne National Lab; Chicago, Pritzker School of Molecular Engineering, U. of Chicago / **REF:** Ma; US CDC; Balazy; Cowling; Ntl Acad. of Sciences (3); MacIntyre, Seale, Dung, Hien, Nga, Chughtai, Dwyer, Wang; Davies; van der Sande, Teunis, Sabel; Morawska, Cao; Wang, Du; Zhang, Li, Xie, Xiao; WHO; Morawska; Ching, Leiung, Leing D., Li, Yuen; Lai, Poon, Cheung; Leung, Chu, Shiu, Chan, Hau, Yen, Li, Ip, Seto, Leung G., Cowling; Jung, Kim, Lee, Lee J., Kim J., Tsai, Yoon; Zhuang; Lee; Grinshpun, Haruta; Huang, Fan, Li, Nie, Wang F., Wang H., Wang R., Xia, Zheng, Zuo, Huang J.; Balazy (2) (25 of 42) / **FUNDING:** US Dept. of Engery (material); Vannevar Bush Fellowship under the program sponsored by the Office of the Undersecretary of Defense for Research and Engineering [OUSD (R&E) and the Office of Naval Research.

RCT: Not asserted. See Materials and Methods: “A

polydisperse, nontoxic NaCl aerosol was generated using a particle generator and introduced into the mixing chamber along with an inlet for air. The aerosol is then mixed in the mixing chamber with the help of a portable fan. The particle generator produces particles sizes in the ranges of 10 nm to 10 μm .” Certainly 10 nm to 300 nm is of interest, so that criteria is met. Let’s see if they actually examine for particles in this size range re mask penetration.

CONTENT:

CCav: “Importantly, there is a need to evaluate filtration efficiencies as a function of aerosol particulate sizes in the 10 nm to 10 μm range, which is particularly relevant for respiratory virus transmission.” This is an important admission: there is INDEED a need to eval filtration materials for protection against particles in the size range 10 nm to 10 μm . But the question is will these researchers actually look at sizes from 300 nm and above?

ACK: It is hopeful they did: “We have carried out these studies for several common fabrics including cotton, silk, chiffon, flannel, various synthetics, and their combinations. Although the filtration efficiencies for various fabrics when a single layer was used

ranged from 5 to 80% and 5 to 95% for particle sizes of <300 nm and >300 nm, respectively, the efficiencies improved when multiple layers were used and when using a specific combination of different fabrics.”

Our interest is in any disposable mask that filtered anything like 70-80% of particles <300 nm. So, we are looking at a study that answers our particular parameter of interest. However, in order to reach the efficacy level we require for protection from transmission, it needs to be down in the range of 40-140 nm, less than half of the 300 nm mentioned here. Nevertheless it’s really interesting if these researchers found a surgical mask with the level of efficacy they suggest.

CLAIM: These guys assert filtration efficiencies at a range of >80% for particles <300 nm for combinations of cotton-silk, cotton-chiffon, cotton-flannel. — This is very suspicious since there are NO STUDIES anywhere that support this assertion.

CCav: These researchers, apparently, recognized the surprising results and so offered this, “We speculate that the enhanced performance of the hybrids is likely due to the combined effect of mechanical and electrostatic-based filtration.”

Furthermore, I should add, the test was done with, or assumes, perfectly fitted and sealed masks and mask materials: “Our studies also imply [?] that gaps (as caused by an improper fit of the mask) can result in **OVER A 60% DECREASE IN THE FILTRATION EFFICIENCY**, implying [?—how about *obviating*] the need for future cloth mask design studies to take into account issues of ‘fit’ and leakage, while **ALLOWING THE EXHALED AIR TO VENT EFFICIENTLY.**” **Yep, that pretty well sums it up; indeed, that is the CCav for this study.**

NC: The CCav noted above presses the researchers into a less than enthusiastic endorsement of masks: “Overall, we find that combinations of various commonly available fabrics used in cloth masks **CAN POTENTIALLY** provide significant protection against the transmission of aerosol particles.”

NOTE: You can see here that the problem is transmission via aerosol particles. And what these researchers effectively admit is that unless they are fitted and sealed, and treated with an electrical charge, that we know does not last, and discharges, and so has to be reestablished, and that for cotton, and cotton is used for all the hybrids, to be charged requires activity that compromises its filtration efficiency, etc. etc.

There are so many things WRONG with this study it's difficult to know where to begin.

CCav: “However, there is limited data available today on the performance of common cloth materials used in such cloth masks ...” and references 7-12, or six studies that I’ll look at below. [My own research shows a plethora of studies all concluding surgical masks out perform homemade cloth masks. But these guys are putting together some “hybrids,” and electro charging them, and stuff, and base their claims on these that they filtrate 80% of particles <300 nm.].

Here are the studies in references 7-12:

7 National Academies of Sciences . Medicine. Rapid Expert Consultation on the Effectiveness of Fabric Masks for the COVID-19 Pandemic; The National Academies Press: Washington, DC, 2020; p 8. [Google Scholar]

No link. Title search: Found, need to vet.

FN01.38.00.03.39a-

[https://www.ncbi.nlm.nih.gov/books/NBK556964/PDF: FN01.38.00.03.39a.Rapid Expert Consultation on the Effectiveness of Fabric Masks for the COVID-19](https://www.ncbi.nlm.nih.gov/books/NBK556964/PDF:FN01.38.00.03.39a.Rapid%20Expert%20Consultation%20on%20the%20Effectiveness%20of%20Fabric%20Masks%20for%20the%20COVID-19)

Pandemic (April 8, 2020) - Rapid Expert Consultations on the COVID-19 Pandemic - NCBI Bookshelf (For some bizarre reason, the search address mysteriously changes from what is indicated above to another address that presents the same article, at least title, but that does not contain the quotations I gleaned from it earlier???)

PC: April 2020

CCP: Authors: Prepared by staff of the National Academies of Sciences, Engineering, and Medicine, and members of the National Academies' Standing Committee on Emerging Infectious Diseases: Kristian Andersen (Scripps Research Institute); David Relman (Stanford U.), and David Walt (Brigham and Women's Hospital and Harvard Medical School). Prepared FOR: Kelvin Droegemeier, PhD [government] office of science and technology policy, EO of the "PRESIDENT" — WaDC so, yeah, definitely CCP bias to be expected. / **ORIGIN:** Also CDC dependent research: Centers for Disease Control and Prevention (CDC) Recommendation Regarding the Use of Cloth Face Coverings, Especially in Areas of Significant Community-Based Transmission in response to COVID-19. <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html> /

REF: Chin; Qi; Wang; Islam; Sajadi; Luo (6 of 13) /
FUNDING: nd. Assumed: National Academies of Sciences, Engineering, and Medicine, for the Office of Science and Technology Policy: Executive Office of the President, Wa DC.

RCT: No. It's an opinion piece from a CCP asset in DC to advise the President

CONTENT:

CCav: [INFO:] “Current research supports the possibility that, in addition to being spread by respiratory droplets that one can see and feel, SARS-CoV-2 can also be spread by invisible droplets, as small as 5 microns (or micrometers), and BY EVEN SMALLER BIOAEROSOL PARTICLES.”

He offers the following footnote:

INFO: “Gralton et al. (2011) noted the following in regard to particulate size and the importance of airborne precautions whenever there is a risk of both droplet and aerosol transmission: ‘Regardless of the complexities and limitations of sizing particles and the contention of size cut-offs, it remains that particles have been observed to occupy a size range between

0.05 and 500 microns [50 nm to 500,000 nm]. Even using the conservative cut-off of 10 microns, rather than the 5 micron to define between airborne and droplet transmission, this size range indicates that particles do not exclusively disperse by airborne transmission or via droplet transmission but rather avail of both methods simultaneously. This suggestion is further supported by the simultaneous detection of both large and small particles. In line with these observations and logic, current dichotomous infection control precautions should be updated to include measures to contain both modes of aerosolised transmission. **This may require airborne precautions to be used when at risk of any aerosolized infection, as airborne precautions are considered as a step-up from droplet precautions.**' Gralton et al. 2011. The role of particle size in aerosolised pathogen transmission: A review. *Journal of Infection* 62(1):1-13. DOI: 10.1016/j.jinf.2010.11.010."

OKAY, I found the quotation above in this article in the Appendix, FOOTNOTES: number 2.

INFO: **** VERY IMPORTANT TO QUESTION ABOUT WHAT SIZE PARTICLES ARE INFECTIOUS? Within the text, where the note is referenced, we find:

“Gralton et al. (2011) found particles generated from respiratory activities range from 0.01 up to 500 microns, with a particle size range of 0.05 to 500 microns associated with infection. They stress the need for airborne precautions to be used when at risk of any aerosolized infection, as airborne precautions are considered as a step-up from droplet precautions.”
IMPORTANT: particles from 0.05 to 500 microns are associated with infection. Those below 0.05 are not? That means infectious particles range from 50-500,000 nm.

ACK: “There is limited research on the efficacy of fabric masks for influenza and specifically for SARS-CoV-2. As we describe below, **the few available experimental studies have important limitations in their relevance and methods.** Any type of mask will have its own capacity to arrest particles of different sizes.”

CCav: “Even if the filtering capacity of a mask were well understood, however, the DEGREE TO WHICH IT COULD IN PRACTICE REDUCE DISEASE SPREAD DEPENDS ON THE UNKNOWN ROLE OF **EACH PARTICLE SIZE IN TRANSMISSION.**”

IR: The “unknown role of each particle size in

transmission” confuses me since only a few paragraphs earlier, TA stipulated to the size of infectious particles: 0.05 - 500 microns and I think it is reasonable to assert if the virion is infectious it can effect transmission. But perhaps there are nuances in this matter with which I am yet unfamiliar. Maybe infectious does not necessarily equate to sufficiency to transmit.

CLAIM: Remember, we are examining the claim that the mask blocks 80% of virions <300 nm, how does the particle size of a virion that is 250 nm differ, in this regard, to one that is <300, **unless this is a sneaky way to admit the 80% is for particles that are 299 nm, or 285, or even 200 and above.** This admission makes me wonder if when they say <300 they mean to say a range of 200-299 nm (which is likely), and if that is the case, their admission here is significant, since the particle size we are concerned about is 125 nm, actually, from 40-140 nm. So now I get it!!!!

*** I’ve addressed this repeatedly, but it’s important to drill down on this stipulating the lower end of a range thing so that no one will become confused into thinking <300 nm includes nanosizes in the 50-199 nm range. In other words, as i’ve pointed

out, the researcher's interest is served by stipulating to the lowest size reasonable and supportable in his claim. So if he says <300, if in fact his range included nanoparticles that were <200, it is obvious he would stipulate the lower range as <200 nm and not <300. If he is using 300 nm as a sort of dividing line between particles caught by masks and those typically not captured by masks, then <300 would inform the reader the masks he speaks of are very good, they catch particles in a size range including those below the standard used. Nevertheless, if in fact the mask caught particles smaller than 200 nm, and this was a certainty, there is no way any researcher does not bring this out. If for some impossible to understand reason the researcher wanted to address the common line of demarcation for particles sizes, that is, with regard to masks, the size virtually all researchers settle on as the "standard" (even NIOSH and OSHA reference this threshold very often), it could be argued <300 nm can take in every particle smaller, even those that are 1 nm, getting close to the atomic sizes — but everyone knows that is absurd. Since particle size is determinative to issues re penetration, the researcher would be motivated to establish the lower range as low as reasonably possible. Therefore, when a researcher sets the bottom ranger at an ambiguous *less than x* it is unreasonable to assume he includes

every particle below that number. <300 nm refers to particles in a range somewhere between 200 and 300 nm, and nothing below 200 nm, else he would say, <200 nm.

NOTE: The authors refer to a study, Jayaraman et al. (4). Footnote 4. Pandemic Flu—Textile Solutions Pilot: Design and Development of Innovative Medical Masks, Final Technical Report, Georgia Institute of Technology, Atlanta, Georgia, submitted to CDC, February 14, 2012. — the study:

The tests were conducted according to ASTM F2299-3 test method using poly-dispersed sodium chloride aerosol particles with an airflow rate of 30L/min and airflow velocity of 11 cm/s. Aerosol sizes measured: 0.1, 0.2, 0.3, 0.4, 0.5, 0.7, 1, and 2 microns. They considered filtration efficacy over against breathing efficiency. The study found as follows: “The study found wide variation in filtration efficiency. A mask made from a four-layer woven handkerchief fabric, of a sort that might be found in many homes, **had 0.7% filtration efficiency for 0.3 micron size particles and a Delta-P of 0.1**”. The *Delta-P of 0.1* refers to pressure drop, and relates to breathability of the fabric. Higher pressure drop means greater resistance to air flow through the mask — making it

more resistant to breathing comfort.

IR: Remember, $0.3\ \mu\text{m}$ is 300 nm and the size of particle we are concerned with is 40-140 nm. A mask that only filters 7% of particles this size is letting particles in the range of 40-140 flow through the mask virtually unhindered. Careful about going to droplets and arguing 40-140 nm sized particles are carried in 300 and greater nm droplets. Remember, these droplets evaporate, and as they do so they shrink, and when they become fully desiccated, they release the virion which is sucked deep into the lower respiratory region of your lungs or in expiration it's shot out into the atmosphere as an aerosol riding the air currents hunting for some other "sucker" to draw it in.

CLAIM: "Much higher filtration efficiency was observed with filters created specifically for the research from a five-layer woven brushed fabric (35.3% of the particles were trapped) and from four layers of polyester knitted cut-pile fabric (50% of the particles were trapped with a Delta-P of 0.2")."

CCav: So this is also an important CCav: apparently, I was right about the claim that this study found masks made from found-at-home fabrics blocking particles that are $<300\ \text{nm}$ leaves out a lot of

very important “**confounding**” information. For example, here is a study that tells us there was found a “wide variation in filtration efficiency.” And tells of a mask made from a four-layer handkerchief fabric that had 0.7% (.007) filtration for 0.3 μm particles. Now we read that “Much higher filtration efficiency was observed with filters created specifically for the research from a five-layer woven brushed fabric..., and from four layers of polyester knitted cut-pile fabric. These showed a filtration efficiency of 35.3% and 50% respectively. AND THIS IS THE COMPROMISING CAVEAT: It should be noted:

IR: FIRST, 35-50% filtration is totally inadequate for anything like real protection from transmission. NIOSH standards reject anything with a 20% PENETRATION rating. It’s tricky, but you must be careful to be nimble and switch your thinking from filtration and penetration numbers. The higher the filtration the MORE particles the masks CAPTURE. But the higher the penetration number, the MORE particles are getting through the mask. A 50% filtration means a 50% penetration — NIOSH requires penetration to be BELOW 20%. They require an 80% filtration of particles <300 nm, which tests for particles in the size ranges of 200-300 nm, and so is IR for our study since we are looking for efficacy against

particles that are 40-140, or, in droplets, that are 70-200 nm in diameter.

IMPORTANT: *** SECOND, note that the breathing efficiency, or air flow, was twice as restricted by the more efficacious mask: from 0.1 to 0.2 pressure drop. **(THESE MASKS DO RESTRICT BREATHING.): “The greater a mask's breathing resistance, which is reflected in a higher Delta-P, the more difficult it is for users to wear it consistently, and the more likely they are to experience breathing difficulties when they do.”** [3M™ Health Care Particulate Respirator and Surgical Masks, Healthcare Respirator Brochure, 3M Company, Minnesota.]

CCav: Almost all the masks used for the Jayaraman et al. study “would be expected to have breathing resistance within the range of commercial N95 respirators.” One of their studies involved a 16-layered handkerchief mask that reduced breathing even more than an N95 respirator — **but only provided 63% filtration efficiency.**

This, our researchers admitted, might cause some to “pass out.”

CCav: THIRD: Then there is the question of fit:

“Even with the best material, if a mask does not fit, virus-containing particles can escape through creases and gaps ... and ... Leakage can occur if the holding mechanism (e.g., straps, Velcro®) is weak.” [Davies et al. (2013) noted that, “Although any material may provide a physical barrier to an infection, **if as a mask it does not fit well around the nose and mouth, or the material freely allows infectious aerosols to pass through it, then it will be of no benefit.**” See Davies et al. 2013. Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? Disaster Medicine and Public Health Preparedness 7(4):413-418. DOI: 10.1017/dmp.2013.43.]

Already vetted in these notes: see
FN01.38.00.03.31—
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

SP: For TA to assert “Although any material may provide a physical barrier to an infection ...” is disingenuous and specious. In the context of all we are seeing here admitted, suggesting that “any material may provide a physical barrier to infection” is almost

as close to an outright LIE as one could get and leave them room to maneuver around the accusation by parsing their language. First, lean heavily on *may provide* and accept the criticism that they might have better used *might*. Indeed, that is clearly what is meant, but that word compromises too stringently their propaganda objective. The correct word here is *might* not *may*. They certainly did not intend to imply they were granting the masks *permission* to “provide a physical barrier to infection.”

Second, *any material*? Really? Okay, how about a mask made of a loosely knitted sweater with 3 inch pores. Would they argue that though remote, it is, after all, within the realm of extraordinary *possibility* that in 1 of 2 million passes, a virion the size of 5 μm will get trapped in the fibers of such material — it’s just irresponsible and disingenuous. The honest researcher might have said “Even with materials that can provide at least some barrier to infection ...”

CE: Now get this, “**We found no studies of non-expert individuals’ ability to produce properly fitting masks.**” Well, so much for Fauci’s DIY method of making masks at home.

CE: “**Nor did we find any studies of the**

effectiveness of masks produced by professionals, when following instructions available to the general public (e.g., online)."

YIKES! Did Fauci ever read this study prepared for the "office of the President"?

CCav: Another CCav: "Given the current Centers for Disease Control and Prevention (CDC) recommendation to wear cloth face coverings in public settings in areas of significant community-based transmission, **additional research should examine the ability of the general public to produce properly fitted fabric masks when following communications and instructions.**"

CE: I think what you need to be saying is that the recommendations of Fauci et al. are nonsense and the he should be fired immediately.

CE: It's just piling on! Next you have the wearer behavior factor. Breathing difficulty, moisture from wearer's mask, these are issues that affect wearer behavior. "Moisture saturation is inevitable with fabrics available in most homes."

CCav: *** "Moisture can trap the virus and become

a potential contamination source for others after a mask is removed.”

CE: Add to this, that the trapped virions are also going to allow the wearer to reintroduce the ejecta into their lungs, and the pressure drop, or resistance of air flow will force the wearer to suck more deeply, and draw the virion more deeply into their own lungs. Also, in periods when the moisture dries, for example, when the mask is removed for eating, or etc., the virions remain active, and when mask is first returned to use, those virions will be exploded into the atmosphere and/or drawn deeply into the hosts lungs. **The MASKS are a BAD IDEA.**

CCav: Here is a CCav for you: Anfinrud et al.⁸ shared via email that they used sensitive laser light-scattering procedures to detect droplet emission while people were speaking. The authors found that “**a damp homemade cloth facemask**” reduced droplet emission to background levels (when users said “Stay Healthy” three times).

However, when a fabric is dampened, the yarns can swell over time, potentially altering its filtering performance. That swelling will depend on the fabric: cotton swells readily, synthetics less so. In an

unpublished follow-up experiment, Anfinrud et al. repeated their study with a variety of dry (not moistened) cloths, including a standard workers dust mask (not certified N95) and a mask rigged from an airline eye covering. They found that all of these masks reduced droplet emission generated by speech to background level.⁹ I saw the Anfinrud study [Anfinrud et al. In Press. Could SARS-CoV-2 be transmitted via speech droplets? New England Journal of Medicine. <https://doi.org/10.1101/2020.04.02.20051177>. See <https://www.medrxiv.org/content/10.1101/2020.04.02.20051177v1.full.pdf> for full text: Well, I can't find this study in these notes. So, let's add it.

**** **FN01.38.00.03.39b-**

<https://www.medrxiv.org/content/10.1101/2020.04.02.20051177v1.full.pdf> PDF:
FN01.38.00.03.39b.Could SARS-CoV-2 be transmitted via speech droplets_ (**** This is an example of how extreme bias and animus against real science is active in this issue.)

PC: April, 2020

CCP: Anfinrud, Bax B., Bax A. (3 of 4) / **ORIGIN:**

USA—MD: Lab of Chemical Physics, NIDDK [?]; National Institutes of Health; PA: Perelman School of Medicine at U of PN. Anfinrud is senior investigator for NIH which makes him someone susceptible to CCP bias influence. Adrian Bax is “NIH Distinguished investigator” and Stadnytskyi is connected with the FDA as a physicist. / **REF:** To, Tsang, Leung; Zou, Ruan, Huang; Chan, Yip, To; Wen; Chao, Wan, Morawska; To, Tsang, Chik-Yan (6 of 8). / **FUNDING:** nd Assumed Author’s affiliates.

RCT: No. Experiment involving subject speaking with Laser light used to examine emitted particles.

CONTENT: CLAIM: the virus is transmissible via normal speech through the emission of fine particles.

NOTE: I went to the link [PubMed] and found a notice that this article has been **RETRACTED:** see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7273461/>. I am noticing increasingly that articles tending to undermine the govt. narrative are being retracted. Here might be another example. So, let’s look at the retraction and the original article.

FIRST: the Retraction: [NOTE: I had addressed this article at FN01.37.00.00.00 before but did not

properly vet it. Later, at FN01.38.00.03.39b, I offered a proper vet. Later, when reworking the formatting of these notes, I found the retraction when looking at the earlier reference to this article. I decided to move that material here where the study was fully vetted. Renumbering the FN notation did not seem necessary.]

(-) FN01.37.00.00.02-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7273461/>. PDF: FN01.37.00.00.02 .Notice of Retraction_ Effectiveness of Surgical and Cotton Masks in Blocking SARS-CoV-2

INFO: The issue of concern was the ct (Cycle Threshold) levels used to ascertain viral volume was, in the view of detractors, too low. This is very suspicious. Here is the retraction statement: “We had not fully recognized the concept of limit of detection (LOD) of the in-house reverse transcriptase polymerase chain reaction used in the study (2.63 log copies/mL), and we regret our failure to express the values below LOD as “<LOD (value).” The LOD is a statistical measure of the lowest quantity of the analyte that can be distinguished from the absence of that analyte. Therefore, values below the LOD are unreliable and our findings are uninterpretable.

Reader comments raised this issue after publication. We proposed correcting the reported data with new experimental data from additional patients, but the editors requested retraction.”

NOTE: What was odd to me was that the researchers specified an interest in emending the study by increasing the number of patients and the editors refused. I did not see any reference to the number of patients being at issue in the retraction statement. I might have missed it. But the source TA referencing this study (See FN01.37.00.00.00) did mention this issue: “This paper has since been retracted due to a low number of patients being used.” TA does not mention the concern about LOD — limits of detection. ????

NOTE: This is curious. First, nowhere either in the original article or in this retraction are we told what ct level was used in their PCR tests. It seems reasonable they would have used a standard, such as CDC recommendation of 25-30 or the practiced levels of 40-45, which by all accounts is far too high a ct for diagnosis; and by the account of the inventor of PCR testing, the system is not useful for diagnosis at any practical setting. Second, if the researchers included in their data discoveries of rna count BELOW THE

LIMITS OF DETECTION (<LOD) by the PRC settings they used, wouldn't this mean their detection numbers were more likely to be lower than higher, and relatively speaking, make no substantial difference in the finding? This might be the reason researchers in this S. Korea produced study stipulated they did indeed fail to identify their load numbers as <LOD, and, I think, likely did so because either it was an oversight, or they did not deem it necessary, which later would contribute to the former condition. **It is revealing that the researchers asked to extend their study to include more patients in which they would, no doubt, have stipulated the LOD threshold or adjusted their PCR test to a cycle threshold that would encompass their scope of findings, but the "editors" of this Fauci friendly publication, tainted by CCP bias, refused and opted for retraction.** Apparently, not only did they deny request to emend the study, but refused to allow a new study premised upon the same *scientific* approach. I smell a rat here. Think about it. They used PCR, the setting is not revealed. A different setting might change the totals represented in their study, but would NOT LIKELY CHANGE THE RATIOS. The researchers, apparently, thought an emendation to their research, expanding the number of patients included and certifying the LOD of their tests, would yield results unsubstantially

different from what they reported in the original study.
In the current milieu, it seems reasonable to suspect this study was dismissed for political rather than for scientific reasons.

SECOND, the original article:

****** FN01.37.00.00.03-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7153751/>. PDF: FN01.37.00.00.03.Effectiveness of Surgical and Cotton Masks in Blocking SARS-CoV-2_ A Controlled Comparison in 4 Patients (The red RETRACTED stamp indicates this is the original article that was retracted.)

PC: June 2020

CCP: Seongman, Kim, Sung-Han, Cha, Joon, Jung, Kim, Kyu, Lee, Choi, Sung, Hong, Chung, Kim (14 of 14) / **ORIGIN**: S. Korea-Seoul: Asan Medical Center, U. of Ulsan College of Medicine; Chung-Ang U. Hospital; Clinical Research Center, Asan Institute for Life Sciences; Sejong U. / **REF**: Johnson; Feng, Shen, Xia; Lee (2 of 5) / **FUNDING**: A grant from the government-wide R&D Fund Project for Infectious Disease Research, Republic of Korea (S. Korea).

RCT: No. But it was a scientific approach: see description of method: “After providing informed consent, patients were admitted to negative pressure isolation rooms. We compared disposable surgical masks (180 mm × 90 mm, 3 layers [inner surface mixed with polypropylene and polyethylene, polypropylene filter, and polypropylene outer surface], pleated, bulk packaged in cardboard; KM Dental Mask, KM Healthcare Corp) with reusable 100% cotton masks (160 mm × 135 mm, 2layers, individually packaged in plastic; Seoulsa). A petri dish (90 mm × 15 mm) containing 1 mL of viral transport media (sterile phosphate-buffered saline with bovine serum albumin, 0.1%;penicillin, 10 000 U/mL; streptomycin, 10 mg; and amphotericin B, 25 µg) was placed approximately 20 cm from the patients' mouths. Patients were instructed to cough 5 times each onto a petri dish while wearing the following sequence of masks: no mask, surgical mask, cotton mask, and again with no mask. A separate petri dish was used for each of the 5 coughing episodes. Mask surfaces were swabbed with aseptic Dacron swabs in the following sequence: outer surface of surgical mask, inner surface of surgical mask, outer surface of cotton mask, and inner surface of cotton mask.

The median viral loads of nasopharyngeal and saliva samples from the 4 participants were 5.66 log

copies/mL and 4.00 log copies/mL, respectively. The median viral loads after coughs without a mask, with a surgical mask, and with a cotton mask were 2.56 log copies/mL, 2.42 log copies/mL, and 1.85 log copies/mL, respectively. All swabs from the outer mask surfaces of the masks were positive for SARS-CoV-2, whereas most swabs from the inner mask surfaces were negative (Table).”

CONTENT: CLAIM: Here is the statement referenced by the citing TA: “A damp homemade cloth face mask dramatically reduced droplet excretion, with none of the spoken words causing a droplet rise above the background (Fig. 1A).”

•••• CCav: Major CCav and major vindication of all my own research. (Used here not to say TA compromised their own thesis, but that this information compromises that of the govt. medical establishment): *Here is why they dislike this study:* **“Neither surgical nor cotton masks effectively filtered SARS-CoV-2 during coughs by infected patients.** Prior evidence that surgical masks effectively filtered influenza virus (1) informed recommendations that patients with confirmed or suspected COVID-19 should wear face masks to prevent transmission (2). However, the size and

concentrations of SARS-CoV-2 in aerosols generated during coughing are unknown. **Oberg and Brousseau (3) demonstrated that surgical masks did not exhibit adequate filter performance against aerosols measuring 0.9, 2.0, and 3.1 μm in diameter. Lee and colleagues (4) showed that particles 0.04 to 0.2 μm can penetrate surgical masks. The size of the SARS-CoV particle from the 2002–2004 outbreak was estimated as 0.08 to 0.14 μm (5); assuming that SARS-CoV-2 has a similar size, surgical masks are unlikely to effectively filter this virus.”**

See Oberg T, Brosseau LM. Surgical mask filter and fit performance. *Am J Infect Control.* 2008;36:276-282. [PMID: 18455048]
doi:10.1016/j.ajic.2007.07.008. [PMC free article] [PubMed]

SEO07.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7115281/> PDF: SEO07.00.00.00.Surgical mask filter and fit performance

—> **Back to FN01.38.00.03.39b-**

<https://www.medrxiv.org/content/10.1101/2020.04.02.20051177v1.full.pdf> PDF:

FN01.38.00.03.39b. Could SARS-CoV-2 be transmitted via speech droplets_ Go

NOTE: It totally confirms my own hypothesis! Especially, note the confirmation that particles from 40-200 nm can penetrate surgical masks. **My guess is that this, above anything else, provoked the establishment with some serious irritation.**

NOTE: It should be noted that this study is **limited to surgical masks**, and to **dispersal effects of coughing**. It should also be noted that the petri disc was placed 20 cm from the subject's mouth which would effectively narrow the field of observation to the material and not take into account the full spectrum of spread via leakage, although this factor was acknowledged and addressed in some measure. These *limitations* actually serve to enhance the significance of this study showing the utter inadequacy of surgical masks to protect against a virus.

CCav: *** “Considering that reports of asymptomatic transmission account for 50-80% of COVID-19 cases, droplet emission while speaking could be a significant factor driving transmission.” Here, TA turns a talking point by the maskers on its head and asserts that given the consensus regarding

asymptomatic transmission, there should be heightened concern re droplet emission during speaking. Taking this with the science proving particles in the size range of 40-200 nm are present in speaking plumes, and that masks are wholly inadequate to protect against particles of this size, universal masking is a cruel imposition upon the public. [From here, one may go into the explanation what whatever surgical masks provide is provided for with much greater effect by natural filtration; and also, what exposure remains is actually helpful to generate community immunity (aka *herd immunity*). While dangerous for the weak and highly susceptible, this is true of any disease running a course at any time. The more quickly community immunity is reached, the more safe is the environment for everyone, including the sickly.]

INFO: *** Important information: “Droplets emitted while speaking are much smaller than those emitted when coughing or sneezing.⁶ Nonetheless they are sufficiently large to carry a variety of respiratory pathogens, including the measles virus, influenza virus, and *Mycobacterium tuberculosis*.” This verifies some things I’ve seen consistently in my research: **it is the smaller particles that are of particular concern, the volume of these smaller**

particles far exceeds the larger ones, and that sufficient virions are present in even these smaller aerosol emissions to infect.

—> Back to **FN01.38.00.03.39a-**

<https://www.ncbi.nlm.nih.gov/books/NBK556964/>
Rapid Expert Consultation ...

CCav: Anfinrud shared via email that they “used sensitive laser light-scattering procedures to detect droplet emission while people were speaking. **THE AUTHORS FOUND THAT ‘A DAMP HOMEMADE CLOTH FACEMASK’** reduced droplet emission to background levels...” Apparently, however, they did not consider a “damp cloth” **worn on the face, or factor the drying time** — and this essentially made the study untenable for the purpose of policy guidance. Also, they discovered that dampened fabric causes the yarns to swell over time, “potentially altering its filtering performance.”

INFO: Anfinrud et al. repeated their study using a wide variety of dry cloths, including a standard workers dust mask (not certified N95) and a mask rigged from an airline eye covering [?]. **THEY FOUND THAT ALL OF THESE MASKS REDUCED DROPLET EMISSIONS GENERATED BY SPEECH TO**

BACKGROUND LEVEL.” No study was provided for this, but only a note: “Personal communication, Adriaan Bax, National Institutes of Health, April 4, 2020.”

SS: Very weak — I cannot vet the study since it is not available and we are left with the simple statement from the Anfinrud team, him or some other, without any stipulation regarding what size particles were considered within the statement????

INFO: Next these guys refer to another study: Bae et al. 2020. Effectiveness of surgical and cotton masks in blocking SARS-CoV-2: A controlled comparison in 4 patients. Annals of Internal Medicine. DOI: 10.7326/M20-1342.

CCav: *** The Bae et al. study found **surgical and cotton masks ineffective to provide sufficient protection from SARS-CoV-2 virus during a cough:** “Bae et al. (2020) evaluated the effectiveness of surgical and cotton masks in filtering SARS-CoV-2.10 They found that neither kind of mask reduced the dissemination of SARS-CoV-2 from the coughs of four symptomatic patients with COVID-19 to the environment and external mask surface. The study used disposable surgical masks (180 mm × 90 mm, 3

layers [inner surface mixed with polypropylene and polyethylene, polypropylene filter, and polypropylene outer surface], pleated, bulk packaged in cardboard; KM Dental Mask, KM Healthcare Corp) and reusable 100% cotton masks (160 mm × 135 mm, 2 layers, individually packaged in plastic; Seoulsa).”

Here is an important paragraph containing CCav and new information regarding the size of particles that can be infectious:

INFO/CCav: *** “Rengasamy et al. (2010)¹¹ tested the filtration performance of five common household fabric materials: sweatshirts, T-shirts, towels, scarves, and cloth masks (of unknown material) in a laboratory setting. These fabric materials were tested for sprays having both similar and diverse particle sizes (monodisperse and polydisperse). The range of sizes used in the study (0.02-1 micron) includes that of potential virus-containing droplets.¹² The study projected the particles at face velocities, typical of breathing at rest and during exertion (5.5 and 16.5 cm/s). The test also examined N95 respirator filter media. At the lower velocity, 0.12% of particles penetrated the N95 respirator material; at the higher velocity, penetration was less than 5%. For the five common household fabric materials, across the tests,

penetration ranged from about 40-90%, indicating a 10-60% reduction. **The authors concluded that common fabric materials may provide a low level of protection against nanoparticles, including those in the size ranges of virus-containing particles in exhaled breath (0.02-1 micron).** However, Gralton et al. (2011) found particles generated from respiratory activities range from 0.01 up to 500 microns, **with a particle size range of 0.05 to 500 microns associated with infection.** They stress the need for airborne precautions to be used when at risk of any aerosolized infection, as airborne precautions are considered as a step-up from droplet precautions.” [*** SP: It’s specious to suggest, and I’m taking the best case numbers, a “low level of protection against nanoparticles” when the science they premise this on says penetration was not lower than 40% in the best case scenario — meaning out of 10k particles assaulting a surgical mask, 4k penetrate, any one of which can trigger infection.]

INFO/SP: Household fabrics tested: Sweatshirts, T-shirts, towels, scarves, and cloth masks (of unknown material). The particle sizes tested were 0.02-1 μm . The study projected the particles at velocities typical of normal breathing at rest and then also during exertion. INTERESTING THAT AT THE LOWER

VELOCITY 0.12% OF PARTICLES PENETRATED THE N95 and at the higher velocities, the N95 blocked 95%. **For the household materials, the results ranged from 40-90% penetration (or a 10-60% filtering efficiency) with the researchers concluding, “Common fabric materials MAY PROVIDE a LOW LEVEL of protection against nanoparticles.”**

CCav: But Gralton et al. points out that particles as small as 0.1 up to 500 μm are generated by natural breathing, and that particle sizes ranging from 0.1-500 μm are associated with infection.

In other words, the minimum protection masks might provide are far inadequate to protect from infection, and the maximum can promise no better than 60% filtering capacity and as I've pointed out, if a barrage of 10000 bullets are flying straight at you, and your shield stops 60%, that leaves only a measly 4000 bullets hitting the target. Get my drift?

Then they examined the Davies study: Davies et al. 2013. Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? Disaster Medicine and Public Health Preparedness 7(4):413-418. DOI: 10.1017/dmp.2013.43.

I thought I recognized this study: see, in these notes: 77. Davies A., et al., Testing the efficacy of homemade masks: Would they protect in an influenza pandemic? *Disaster Med. Public Health Prep.* 7, 413–418 (2013). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see

FN01.38.00.03.31-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC (Concluded contrary to the authors. They reasoned that cloth masks provide little protection but better than no protection, and so recommended these as a last resort. My own notes show the fallacy of their conclusions based on their own research when other known facts about virions and transmission are taken into consideration.)

—> Back to **FN01.38.00.03.39a-**

<https://www.ncbi.nlm.nih.gov/books/NBK556964/>
— Rapid Expert ...

CCav: The researchers here concluded similarly to the Davies team and in their conclusion provide yet another CCav: “Still, the investigators reported that

both homemade and surgical masks reduced the number of large-sized microorganisms expelled by volunteers, with the surgical mask being more effective.” In other words, they are [minimally] effective in blocking **large-sized** microorganisms...”

TA cites van der Sande M., Teunis P., Sabel R., Professional and home-made face masks reduce exposure to respiratory infections among the general population. *PloS One* **3**, e2618 (2008). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] PLOS ONE 3(7):e2618. DOI: 10.1371/journal.pone.0002618. I recognized this study from earlier: see in these notes:

Already vetted in these notes. See **FN01.38.00.19.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC. (This is the troublesome tea-cloth mask experiment. See my notes that show the inadequacy of this study to assure us such masks have a filtration capacity sufficient to provide anything like real protection from virus infection.)

Continuing: **FN01.38.00.03.39a-**
<https://www.ncbi.nlm.nih.gov/books/NBK556964/>
— Rapid Expert ...

CCav: *** Confirming what is repeatedly found by researchers examining this question: “Although not directly germane to the question of protecting others [source control], the study found a MODEST DEGREE OF PROTECTION FOR THE WEARER FROM CLOTH MASKS, and INTERMEDIATE DEGREE FROM SURGICAL MASKS, and a MARKED DEGREE WITH THE EQUIVALENT OF N95 MASKS.”

DETAILS: CCav: The results: cloth masks reduced particle emissions by one-fifth, surgical masks by one-half, and N95 equivalent by two-thirds. Wait a minute! 2/3s only? The N95 equivalent masks only blocked 66.66 percent of the virions in the particle range size considered???? **That’s a poor performance and falls far below what others have demonstrated.** Does this mean they erred likewise on the cloth and surgical — and so we can expect those to perform, well, let’s see, the differential is 66-95 or about 29%, so will cloth masks protect at 50 and surgical masks at 80??? We know that will not hold up. So I don’t know how to explain the anomaly re the N95 in this study. Nevertheless, 80% penetration means 8000 of 10000

bullets aimed directly at your head get through, and 50% means 5000 of 10000 bullets hit target, and 66% means a measly 3400 bullets land on target — how many bullets does it take to kill you?

TA speculated that some users would be reminded of the importance of social distancing, and also by wearing the mask signal this importance to others, which would **STRENGTHEN THE NORM OF SOCIAL DISTANCING**. On the other hand, mask dependence might “crowd out” other precautionary measures, by giving them a feeling they’ve done enough to protect themselves by wearing the mask. [Admitting, of course, that the MASKS DO NOT PROTECT THEM. Also affirming a suspicion that the mask thing is more about psychological manipulation than it is about efficient protection.]

*** Further admission that it really is not the masking that effects any meaningful protection, but social distancing and hand hygiene, they say, “It is critically important that any discussion of homemade fabric masks reinforce the central importance of physical distancing and personal hygiene (frequent handwashing) in reducing spread of infection.”

They CONCLUDED:

CCav: The studies they considered [see above] “suggests that ... fabric masks MAY REDUCE the transmission of LARGER RESPIRATORY droplets.” This is followed: “THERE IS LITTLE EVIDENCE REGARDING THE TRANSMISSION OF SMALL AEROSOLIZED PARTICULATES OF THE SIZE POTENTIALLY EXHALED BY ASYMPTOMATIC OR PRESYMPTOMATIC INDIVIDUALS WITH COVID-19.”

The net result of their rapid study: INCONCLUSIVE.

—> Back to **FN01.38.00.03.39-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/>. PDF: FN01.38.00.03.39.Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks - PMC. For SUPP: see FN01.38.00.03.39.SUPP nn0c03252_si_001

INFO: The pressure issue relates to breathability of the masks — the pressure drop answers the question re restricted air flow in and out of the mask.

TA of FN01.38.00.03.39 cites the following re “use of cloth masks”:

8. MacIntyre C. R.; Seale H.; Dung T. C.; Hien N. T.;

Nga P. T.; Chughtai A. A.; Rahman B.; Dwyer D. E.; Wang Q. A Cluster Randomised Trial of Cloth Masks Compared With Medical Masks in Healthcare Workers. *BMJ. Open* 2015, 5, e006577
10.1136/bmjopen-2014-006577. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes. See
FN01.38.00.03.23-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC

9. Shakya K. M.; Noyes A.; Kallin R.; Peltier R. E. Evaluating the Efficacy of Cloth Facemasks in Reducing Particulate Matter Exposure. *J. Exposure Sci. Environ. Epidemiol.* 2017, 27, 352–357.
10.1038/jes.2016.42. [PubMed] [CrossRef] [Google Scholar]

Although I cannot access the article without laying out 32 bucks, I should include the abstract of this study in my folder:

(-) **FN01.38.00.03.39c-**
<https://www.nature.com/articles/jes201642>. PDF: FN01.38.00.03.39c.Evaluating the efficacy of cloth

facemasks in reducing particulate matter exposure _
Journal of Exposure Science & Environmental
Epidemiology

NOTE: Must purchase to view. \$32.00. The abstract follows:

“[ACK] Inexpensive cloth masks are widely used in developing countries to protect from particulate pollution **albeit limited data on their efficacy exists.** This study examined the efficiency of four types of masks (three types of cloth masks and one type of surgical mask) commonly worn in the developing world. [RELEVANCE] **Five monodispersed aerosol sphere size (30, 100, and 500 nm, and 1 and 2.5 μm)** and diluted whole diesel exhaust was used to assess facemask performance. [CCav:] Among the three cloth mask types, [1] **a cloth mask with an exhaust valve performed best with filtration efficiency of 80–90% for the measured polystyrene latex (PSL) particle sizes.** [2] **Two styles of commercially available fabric masks were the least effective** with a filtration efficiency of 39–65% for PSL particles, and **they performed better as the particle size increased.** [3] **When the cloth masks were tested against lab-generated whole diesel particles, the filtration efficiency for three particle**

sizes (30, 100, and 500 nm) ranged from 15% to 57%. Standard N95 mask performance was used as a control to compare the results with cloth masks, and our results suggest that cloth masks are only marginally beneficial in protecting individuals from particles < 2.5 µm. Compared with cloth masks, disposable surgical masks are more effective in reducing particulate exposure.”

[1] What are the particle sizes tested called PSL, or *polystyrene latex (PSL) particle size*? This reference provides information helpful: <https://polystyrene-latex-particles.com/> (See TECH42.Polystyrene Latex Beads, Particle Size Standards _ Applied Physics. <https://polystyrene-latex-particles.com/>)

“Polystyrene Latex Particles are used as size standards to produce Calibration Wafer Standards and used as **size calibration standards for laser particle counters**. Polystyrene latex spheres are available from **20 nanometers to 900 nanometers in a 1% concentration in 15 ml of deionized water and a drip tip bottle; and from 1 micron to 160 microns with typical < 1% concentration, also in 15 ml of deionized water and a drip tip bottle. ... 20 nm to 900 nm spheres** are used with any application that requires a NIST traceable size standard with a very

narrow size peak. ... The particle diameter is calibrated with a linear dimension referenced to National Institute of Science and Technology. **Nanospheres and micro-spheres are used instead of irregularly shaped particles to provide narrow size distributions.** The standards are packaged in aqueous deionized water solutions in 15 ml, dropper-tipped bottles. The solids concentrations are typically 1% or less, depending on particle size, with a density of 1.05 g/cm³ and an index of refraction at 1.59 @ 589 nm, which is measured at 25 degrees C. Visit our main link at Applied Physics for application discussion.” The Nanosphere solution provides particles in the range of 20-900 nm and can be obtained here: “20 to 900 nm, Polystyrene Latex, Particle Size Standards — Purchase Now.” From APm Applied Physics, Inc. 1.720.635.3931 or go to <https://polystyrene-latex-particles.com/>)

Another solution provides PSL particles in sizes from 47 nm to 3 μm (same source as above). Another provides PSL particles in the size range of 994 nm to 160 μm (same source). So, it depends on the solution used. Because TA named particle sizes tested beginning at 30 nm, one would assume the filtration percentages indicated WOULD be for nano particles in that size range. But, in fact, TA does not clarify, at least not in the ABSTRACT available, which size range was

used for each challenge. TA indicated challenges from two categories of particle sizes: nanospheres and microspheres. The nanosphere challenges were 30, 100, and 500 nm. The microsphere challenges were 1 and 2.5 μm . It is reasonable to assume the TA would indicate which challenges were used, and that the lower result would correspond to the smaller particles, and higher results to the larger particles.

However, TA does stipulate the specific particle sizes used to challenge “the cloth mask with an exhaust valve.” TA does stipulate the nanosphere sized particles were used to challenge “the cloth masks later, saying “when the cloth masks were tested against...” and stipulates this is when the masks were challenged with the nanosphere sized particles: 30, 100, 500 nm. There is a DRASTIC difference in the filtration of the “cloth mask” between the two challenges, and so we must assume the first challenge, indicating a filtration of 80-90% was NOT for the nanosphere particles, but for the microsphere particles, meaning the cloth mask with an exhaust valve provided 80-90% filtration for particles in the size range of 1000 to 2500 nm (1 μm to 2.5 μm).

IR: The cloth mask with an exhaust valve only blocked 80-90% of particles in sizes 1000 and 1250

nm — far below the protection level required for COVID transmission.

[2] **“Two styles of commercially available fabric masks were the least effective with a filtration efficiency of 39–65% for PSL particles, and they performed better as the particle size increased.”** Again, TA does not clarify which set of PSL challenges were used for the “commercially available fabric masks.” But, first, the commercially available fabric masks are clearly differentiated from the “cloth masks with an exhaust valve,” and from the statement that these commercially available masks were inferior, we must assume the valved cloth mask was superior in filtration — but probably significantly inferior re breathability and comfort.

IR: The commercially available, and therefore, the masks generally recommended by Fauci et al. and most widely available to the public, only filtrated 39-65% of the same sized particles used to challenge the “cloth mask with an exhaust valve.” As pointed out above, these results were obtained from a challenge with particles in the size range of 1 μm to 2.5 μm . This means these masks were penetrated by 40% of particles that were 1 μm in size, and as particle size increased, filtration increased until they were

penetrated by 35% of particles that were 2.5 μm in diameter. Wow! This is, of course, woefully below the filtration needed to protect against a virus that is transmitted by particles ranging from 40-140 nm.

[3] **“When the cloth masks were tested against lab-generated whole diesel particles, the filtration efficiency for three particle sizes (30, 100, and 500 nm) ranged from 15% to 57%”** Next, the cloth mask was challenged with the nanosphere particles, clearly stipulated by TA, that were 30, 100, and 500 nm. At least this challenge included sizes of interest to my query. However ...

IR: The best mask (outside an N95, which they used as a control) was their cloth mask with an exhaust valve, indicating it would present significant availability, cost, comfort and breathing issues, did not fare well at all against particles in the size range of our interest. The range of filtration results given is from 15-57%, which interprets into a penetration range of 43-85%. 20% penetration is considered the minimum necessary for any thing like meaningful protection. It means that 85% of the 30 nm and 100 nm particles, down to 43% of those that were closer to the range of 300-500 nm. This is outrageously inadequate against virions that will challenge the typical mask wearer

with hundreds of thousands of these particles over the course of two or three days wearing the masks in public.

CCav: The bottom line given in the underlined portion shows that with all the talk about testing for particles in the size range of 30,100, and 500 nm, all within the range of what are called aerosolized particles, the bottom line is that the best they can do is offer virtually NO CONFIDENCE that any of the masks, outside of the N95, offer anything like real protection against transmission.

The next FN01.38.00.03.39 TA cited article to provide support for claims re mask efficacy:

10. Rengasamy S.; Eimer B.; Shaffer R. E. Simple Respiratory Protection--Evaluation of the Filtration Performance of Cloth Masks and Common Fabric Materials Against 20–1000 nm Size Particles. *Ann. Occup. Hyg.* 2010, 54, 789–798.
10.1093/annhyg/meq044. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.38.00.03.39d-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7314261/>. PDF: FN01.38.00.03.39d.Simple Respiratory

Protection—Evaluation of the Filtration Performance of Cloth Masks and Common Fabric Materials Against 20–1000 nm Size Particles - PMC

PC: Oct. 2010

CCP: Rengasamy, Eimer, Shaffer [Authors ?] /
ORIGIN: USA-PA: Pittsburgh, OSHA Lab, Tech
Research Branch: NOTE: virtually anything produced by US government re masks etc., during this period is suspect for CCP bias influence. **REF:** CDC (5); Jefferson; Davis; NIOSH; Teunis, Sabel; Srinivasan; WHO (2); Yang, Lee, Chen (13 of 31). / **FUNDING:** “National Institute for Occupational Safety and Health (ODHA).

RCT: Not asserted. Test method described: Samples of common household materials were used for challenges of NaCl aerosols in a stipulated size range of 75 +/- 20 nm, or 55 to 95 nm. They used “polydisperse aerosols: “Polydisperse aerosol is commonly used for filtration performance testing and allows comparison to standard filters made (N95, P2, P3, high efficiency particulate air, etc.).”

CONTENT:

First, what are polydisperse aerosols? See

TECH43. Polydisperse aerosols - Big Chemical Encyclopedia. https://chempedia.info/info/aerosol_polydisperse/. It refers to aerosol dispersal that includes particles of various sizes. Technically: A polydispersed aerosol is defined as an “aerosol with a geometric standard deviation of size-distribution greater than 1.5.” Any particle less than 1 and 1/2 times smaller or larger than the mean is considered irrelevant. Only a set of particles in a range of sizes greater than this deviation qualify as a polydisperse aerosol. Otherwise, it's monodisperse, or considered to be a set of particles that are of the same size.

INFO: Stumbled upon a helpful article re sieve (relative to mesh?) size corresponding to nm and inches. See <https://www.cpm.net/downloads/Advantages%20and%20Disadvantages%20of%20Particle%20Size%20Reduction%20Techniques.pdf> (TECH44. Advantages and Disadvantages of Particle Size Reduction Techniques. <https://www.cpm.net/downloads/Advantages%20and%20Disadvantages%20of%20Particle%20Size%20Reduction%20Techniques.pdf>)

U.S. Standard Sieve	Nominal Opening	
	mm	inches
4	4.76	0.187
6	3.36	0.132
8	2.38	0.0937
12	1.68	0.0661
16	1.191	0.0469
20	0.841	0.0331
30	0.594	0.0234
40	0.420	0.0165
50	0.297	0.0117
70	0.212	0.0083
100	0.150	0.0059
140	0.103	0.0041
200	0.073	0.0029
270	0.053	0.0021

So, if the sieve is indicated as a 4 sieve, the openings in the sieve are 4.76 μm (4700 nm) which converts to 0.187 inches. If the sieve is 12, the openings are 1.68 μm , or 1680 nm, and 0.0661 inches. If the sieve size is indicated as 50 sieve, the openings are roughly equivalent to a surgical mask, 0.297 μm , or 297 nm, which converts to 0.0117 inches. This is very helpful with re to visualizing the size of nm and μm relative to inches

NOTE: Like other studies written at about this time (210-2020), it reads like a prep article for a coming pandemic: “A shortage of disposable filtering facepiece respirators can be expected during a pandemic respiratory infection such as influenza A.”

A suggestion that some might want to use
“common fabric materials for respiratory protection ...”

INFO: The study examined the following materials for filtration efficiency against particles ranging from 20-1000 nm. They compared these to the penetration levels of an N95 respirator.

INFO: TA challenged mask materials for polydispersed aerosols, monodispersed aerosols and “Penetration of NaCl particles as a function of particle size from 500 to 1000 nm.

CCav: RESULTS: “The results showed that cloth masks and other fabric materials tested in the study had **40–90% instantaneous penetration levels against polydisperse NaCl aerosols** employed in the National Institute for Occupational Safety and Health

particulate respirator test protocol at 5.5 cm s^{-1} . Similarly, **varying levels of penetrations (9–98%) were obtained for different size monodisperse NaCl aerosol particles in the 20–1000 nm range.**”

We should expect the 9% penetration was achieved against the larger sized particles, and the 98% PENETRATION was achieved against the smaller particles.

IR: Of course, none of these results indicate a satisfactory level of protection, but an additional concern is that when you dig deeper, you find out that the broad ranges here reflect the fact that on the higher end, say 80-95% protection, you are talking about masks that greatly interfere with ease of breathing, and in order to deliver this level must be worn properly fitted and sealed.

CCav/NC: It concludes like all the others: “Results obtained in the study show that common fabric materials MAY PROVIDE MARGINAL PROTECTION AGAINST nanoparticles including those in the size ranges of virus-containing particles in exhausted breath.”

CCav: FOR THE POLYDISPERSE AEROSOLS:

“Average **penetration** levels for the three different cloth masks were between 74 and 90%, while N95 filter media controls showed 0.12% at 5.5 cm s⁽⁻¹⁾ face velocity.” Essentially, the findings corroborate earlier examined studies. Obviously, 74% to 90% PENETRATION is totally unworkable.

SP: FOR THE MONODISPERSE AEROSOLS (20-400 nm) were COMBINED WITH THOSE FOR THE 500-1000 nm range. WHY?

Trying to read some of these is challenging. It appears they are written to hide negative information relating to mask efficacy. Here is an example:

“[1] Penetration levels for monodisperse aerosol particle (20–400 nm range) were combined with those for 500–1000 nm range particles measured as a function of particle size. [2] For the cloth masks, monodisperse aerosol penetration levels (35–68%) for 20 nm size particles increased steadily, [3] reached maximum (73–82%) at 100 nm range, [4] plateaued up to 400 nm, [5] and increased slightly up to 1000 nm at 5.5 cm s⁻¹ face velocity (Fig. 4a).” Let’s examine this statement.

[1] As mentioned, why combine these and then

differentiate them in description of results. Perhaps the idea is to underscore the relationship of particle size to penetration levels. ??? But it could also be in order to hide the drastic failure of the materials to provide protection against the smaller particles. Watch how this is worded:

[2] SP: The cloth masked challenged with monodispersed aerosols demonstrated a 35-68% penetration for 20 nm size particles, which increased steadily... From all the studies I've examined, it is truly a remarkable thing that TA found his cloth masks blocked 65% of 20 nm particles. That's why it is worded this way. It was at least 68% penetration at 20 nm, and this penetration lessened as the particle size increased from 20 nm. Notice the convoluted phrasing: "for 20 nm size particles increased steadily" — unless one is reading carefully one might not notice the range of 35-68% does not apply to 20 nm particles, but to 20 nm particles increasing in size —until the maximum PENETRATION level was reached which is 73-82% — watch these snakes carefully — looking closely, you'll see that gaping hole in their assertion. We don't know how many particles at 20 nm were blocked in the array of particles ranging in size from 20-100, when the low end of penetration 38% began, or when the high end of PENETRATION began. Got it? Clever devils.

The ONLY reason I can catch this nonsense is that I've done a huge amount of research and KNOW that cloth masks, except they are modified to the point they are unusable, are NOT GOING TO BLOCK 20 nm sized particles. Friend, it doesn't happen! So they combined the monodispersed aerosol penetrations with the larger particles, 500-1000 nm, in order to hide this. They can say they tested the cloth masks with particles as small as 20 nm (wow!!!) because these were included in the challenge of particles grouped together from 20nm to 1000 nm.

For example, explain how a cloth mask INCREASES penetration level as the particles get LARGER???? But that is exactly what TA says if his statement here is taken at face value. **If TA is actually telling us cloth masks achieved a 35-68% penetration level against 20 nm sized particles, why does PENETRATION INCREASE “steadily” to 73-82% when the particles are 100 nm????** Obviously, we cannot take TA seriously, or we have to conclude he is seriously guilty of subterfuge.

What these liars are likely revealing the data shows is that penetration decreased as particle size increased “steadily” from 20 nm - 1000 nm (1 μ m). The “steadily” applies to the gradually ascending sizes

of the particles being captured. Somewhere in that range of steadily increasing particle sizes, as the particles got LARGER, penetration plateaued at 82% when the particles were 400 nm, and then, on the high end of the particle size spread, 1000 nm, the penetration hits an all time low of 35%. Essentially, TA admits the masks were only moderately effective at a particle size of 400 nm, but did a pretty good job at 1000 nm.

[3] CCav: This steady increase continued till it “reached maximum (73-82%)” [penetration] at the 100 nm range...” I refer you to [2] for background for this, but what this yahoo is saying is that maximum PENETRATION occurred at some point between 20 and 100 nm but does not specify where. And then he really buries himself, assuming he desires to please his masters and show efficacy for masks, while tracking as closely as he can to the truth he used to love— when his next statement.

[4] SP/CCav/IR: And when this penetration level reached 82%, it plateaued, so that from 100 to 400 nm the particles breezed through the masks like water through a window screen, no, actually, faster and more freely than that. Read this! At 100 nm the particles are breezing through the mask at 82% penetration, and

here is plateaus — and continues at that rate through 400 nm — and, of course, for thinking people, this really does not make sense, one would expect some slowing to occur between 100 to 400 since we are talking about a size differential of 400% — but take TA at his word and say his experiment showed that particles of 400 nm blow through the mask as freely as those that are 100 nm, and you see what I mean.

[5] SP/CCav/IR: “and **INCREASED** slightly up to 1000 nm” — So this is remarkable indeed. Penetration increased **SLIGHTLY** as particles increased in size from 400 1000 nm — This might be the most damning study against mask use I’ve examined thus far.

*** As **PENETRATION** peaked at 72-82% beginning with particles at 100 nm peaking and plateauing at particles that were 400 nm, as the sizes moved to 1000 nm, **PENETRATION** rose only **SLIGHTLY**. Excuse me? Penetration is **STILL RISING**? TA does not tell us where this landed, perhaps it’s buried in the figure, and it’s not important to my query since what this study has succeeded to do is tell us masks are absolutely **WORTHLESS**. They are **PENETRATED** by particles from 100-400 nm at a level of 73-82%. Particles as large as 400 nm penetrate as easily as particles that are 100 nm. Even Particles that

are 1000 nm are not blocked—they penetrate the masks only slightly less frequently as those that are 100 nm in diameter.

CONCLUSION: “The use of fabric materials may provide only minimal levels of respiratory protection to a wearer against virus-size submicron aerosol particles (e.g. droplet nuclei).”

—> Back to **FN01.38.00.03.39-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/> Aerosol Filtration Efficiency ...

TA cites:

11. Davies A.; Thompson K. A.; Giri K.; Kafatos G.; Walker J.; Bennett A. Testing the Efficacy of Homemade Masks: Would They Protect in an Influenza Pandemic?. *Disaster Med. Public Health Prep.* 2013, 7, 413–418. 10.1017/dmp.2013.43. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes. See **FN01.38.00.03.31-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an

Influenza Pandemic_ - PMC

Vetted.

Next, FN01.38.00.03.39 cites:

12. van der Sande M.; Teunis P.; Sabel R. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections Among the General Population. PLoS One 2008, 3, e2618
10.1371/journal.pone.0002618. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See
FN01.38.00.19.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

Vetted.

—> Back to **FN01.38.00.03.39-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/>. PDF: FN01.38.00.03.39. Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks - PMC. For SUPP: see

FN01.38.00.03.39.SUPP nn0c03252_si_001

INFO: *** Five dynamics involved in aerosol transmission: gravity sedimentation, inertial impaction, interception, diffusion, and electrostatic attraction.

INFO: *** Virions in the range of $\sim 1\text{-}10\ \mu\text{m}$ (in the category of large exhaled droplets), gravity sedimentation and inertial impaction play a significant role: “For aerosols larger than $\sim 1\ \mu\text{m}$ to $10\ \mu\text{m}$, the first two mechanisms play a role, where ballistic energy or gravity forces are the primary influence on the large exhaled droplets.”

As the aerosol size reduces, diffusion and mechanical interception of particles are the primary mechanism for particles in the size range of $100\ \text{nm}$ to $1\ \mu\text{m}$: “As the aerosol size decreases, diffusion by Brownian motion and mechanical interception of particles by the filter fibers is a predominant mechanism in the $100\ \text{nm}$ to $1\ \mu\text{m}$ range.”

ACK: For nanometer-sized particles, which can easily slip between the openings in the network of filter fibers, ELECTROSTATIC attraction predominates the removal of low mass particles: “For nanometer-

sized particles, which can easily slip between the openings in the network of filter fibers, electrostatic attraction predominates the removal of low mass particles which are attracted to and bind to the fibers.”

INFO: Electrostatic filters are most efficient capturing particles at low velocities such those encountered when breathing through a face mask: “Electrostatic filters are generally most efficient at low velocities such as the velocity encountered by breathing through a face mask.²⁵”

25. Electrostatic Filters: Sanchez A. L.; Hubbard J. A.; Dellinger J. G.; Servantes B. L. Experimental Study of Electrostatic Aerosol Filtration at Moderate Filter Face Velocity. *Aerosol Sci. Technol.* 2013, 47, 606–615. 10.1080/02786826.2013.778384. [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.39e-
<https://www.tandfonline.com/doi/full/10.1080/02786826.2013.778384>. (pdf:
<https://www.tandfonline.com/doi/pdf/10.1080/02786826.2013.778384?needAccess=true>) PDF:
FN01.38.00.03.39e.Experimental Study of Electrostatic Aerosol Filtration at Moderate Filter Face Velocity

PC: Sept. 2012; published online Mar. 2013

CCP: Sanchez, Hubbard, Dellinger, Servantes / **ORIGIN:** USA-NM: Albuquerque, Sandia National Laboratories. / **REF:** Xiong, Fang, Li; Huang, Chen, Chang, Lai, Chen C.; Kim; Kim; Kuwabara; Lee, Otani, Maniki, Emi; Liu, Lee; Liu, Chae; Sae-Lim; Siag; Wang; Wei, Chun-Shun, Cheong, Chao (12 of 25). / **FUNDING:** nd

RCT: No. An experiment described at 3. EXPERIMENT, of interest: 3.3 Test Aerosols: “ARD and NaCl aerosols were sampled directly from filter test bed with isoaxial sampling probes.”

CONTENT:

IR: Does not treat subject in relation to the question of mask efficacy.

INFO: “Experiments performed with zero charged NaCl particles showed that a significant increase in filter performance is attributable to an induction effect, where electrostatic fiber charge polarizes aerosol particles without charge.” Stipulated: negatively charged particles are attracted to a positively charged surface, whether it be fiber or etc.

INFO: “As filter face velocity increased the electrostatic filtration efficiency decreased since aerosol particles had less time to drift toward electrostatically charged fibers. Finally, experimental data at 0.5 m/s were compared to theoretical predictions and good agreement was found for both electrostatic and nonelectrostatic effects.” Stipulated: particle can break through electrostatic attraction at certain velocities.

INFO: **“Electrostatically charged filter media had collection efficiencies as high as 70–85% at 30 nm.** Filter performance was reduced significantly (40–50% collection efficiency) when the electrostatic filtration component was eliminated.” This is significant. The study is not related to mask efficacy, and so the type of mask is not stipulated, but neither is the material. Need more information here. Nevertheless, it does not change the fact that the charged materials are easily discharged, and sometimes the charge wears off, and as it does, it’s efficiency decreases.

INFO: Charge Loss: “The cause of electrostatic charge loss is still subjected to debate. Kim et al. (2010) proposed several mechanisms by which charge

is lost: chemical reaction between the fiber and solvent, charge de-trapping by solvent molecules, and plasticization, which is an increase in chain and charge mobility in the polypropylene fibers.”

INFO: Here is an article that explains electret charged masks degrade with use and must be “recharged.” Recharging can be complicated, which is the reason Fauci and friends are not harping on wearing masks with electret fibers.

(<https://aip.scitation.org/doi/10.1063/5.0023940>: See...

TECH45.Recharging and rejuvenation of decontaminated N95 masks_ Physics of Fluids_ Vol 32, No 9. <https://aip.scitation.org/doi/10.1063/5.0023940>

“A major factor contributing to the filtration efficiency of N95 masks is the presence of an intermediate layer of charged polypropylene electret fibers that trap particles through electrostatic or electrophoretic effects. **This charge can degrade when the mask is used.** Moreover, simple decontamination procedures (e.g., use of alcohol) can degrade any remaining charge from the polypropylene, thus severely impacting the filtration efficiency post-

decontamination.” THIS CREATES A REAL PROBLEM FOR REUSING N95s — “Most of the literature has dealt with various proposals for decontamination procedures, including careful use of dry and wet heat or exposure to hydrogen peroxide vapor, ozone, UV radiation, or alcohol.^{5,7–14} While each of these methods likely deactivates viruses, **it seems to be common knowledge that such procedures adversely impact filtration efficiency and may even cause deterioration of the structural integrity of the mask.**”

CCav: *** “For filters based on fibrous materials and operating at filtration velocities similar to those encountered in human breathing, the **minimum filtration efficiency occurs for $\approx 0.3 \mu\text{m}$ sized particles.** At this scale, the filtration mechanism crosses over from a diffusion dominated regime to an inertia dominated regime.¹⁹”

Once again, confirmation that 0.3 is the standard recognized most penetrating size of particle.

CCav: *** The fragility of the electret charge: “Even then, **the charge on the polypropylene fibers undergoes significant degradation when open to the surroundings, which is exacerbated by the**

warm humid environment created by respiration during use. Additionally, most decontamination methods remove all the charges from the charged layer, with a concomitant reduction in mask efficiency.” In other words, when you wash the mask, it destroys its electret feature.

CCav: The complexity of recharging fibers is prohibitive: “The masks were recharged by sandwiching them between two metal plate electrodes, which were connected to the high and the low output terminals of a SRS PS370 power supply. The low output terminal was grounded, and a suitable voltage of positive or negative polarity was applied from the high output terminal of the source meter; Fig. 3(b) sketches the recharging setup.”

By the way, all of the work in this article was done to recharge an N95 mask.

CCav: But even after all of this is said and done — the filtration numbers remain at an unsatisfactory level for surgical masks or cloth masks. The very best you can hope for from your standard 3-ply surgical mask, like those you purchase from a Pharmacy, or those that are handed to you in Hospitals, etc., is something in the neighborhood of 79% +/- 1 with a

charge of 2.9. Are you beginning to understand? Masks DON'T work to protect you from virus. The Viroguard, or FFPI 3-ply with electret charge provides protection equivalent to the N95, but these are very expensive, and lose their charge efficacy with use. To use these daily for months at a time is untenable.

—> Back to **FN01.38.00.03.39e-**

<https://www.tandfonline.com/doi/full/10.1080/02786826.2013.778384?scroll=top&needAccess=true>.
Experimental Study of Electrostatic ...

CCav: Stipulated that electrostatic charge improves mask efficacy. But the compromising caveats are as follows: first, it does not change the ultimate efficacy ratings so much that it qualifies the common surgical, Fauci recommended, masks to provide protection from a virus; and second, the electret charge degrades with use by mere exposure to elements, moisture, etc., and three, to recharge is impractical for the average person.

—> Back to **FN01.38.00.03.39-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/#!po=16.6667> — Aerosol Filtration Efficiency ...

CCav: Here is a discovery: N95 underperformed in

this study (FN01.38.00.03.39) because it is designed to provide protection against >300 nm particles. The “cloth hybrids” were “slightly inferior” to the N95 for particles in that range, BUT OUTPERFORMED THE N95 FOR PARTICLES IN THE <300 NM RANGE?????? Here you go...

“All three hybrid combinations performed well, exceeding 80% efficiency in the <300 nm range, and >90% in the >300 nm range. These cloth hybrids are slightly inferior to the N95 mask above 300 nm, but superior for particles smaller than 300 nm. The N95 respirators are designed and engineered to capture more than 95% of the particles that are above 300 nm,^{39,40} and therefore, their underperformance in filtering particles below 300 nm is not surprising.”

CCav: Remember that the hybrid-cloth masks are not easily made, and with regard to electret facility, are susceptible to all the aforementioned problems.

CCav: Another big problem with the study is that it depends on eliminating gaps — these tests are for masks that are fitted and sealed.

CCav: The study did not fine tune findings showing penetration for values in the range of 40-200

nm, but used the generic and wholly unsatisfactory <300 nm.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ... (Alternate web address:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#!po=84.2857>)

Completed vet of Reference 89. in Aerosol Filtration Efficiency ... FN01.38.00.03.39.

CCav: After examining all the research we just completed, these authors concluded: “Many materials had $\geq 96\%$ filtration efficacy for particles $>0.3 \mu\text{m}$, including 600 threads per inch cotton, cotton quilt, and cotton layered with chiffon, silk, of flannel.”

These authors hat tip Wu Lien Teh and his finding that a silk face covering with a flannel added over the mouth and nose “was highly effective against pneumonic plague.” I looked at this study before:

4. Wu L. T., *A Treatise on Pneumonic Plague* (League of Nations, Health Organization, 1926), pp. 373–398. [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see

FN01.38.00.03.22-

<https://iiif.wellcomecollection.org/pdf/b19164415>.

PDF: FN01.38.22.A Treatise On Pneumonic Plague b19164415 [Here is the study: Wu L. T., *A Treatise on Pneumonic Plague* (League of Nations, Health Organization, 1926), pp. 373–398. [[Google Scholar](#)] [[Ref list](#)]]

TA **FN01.38.00.03.00** referred to a study concentrating on fit, and claimed “substantial protection from the challenge aerosol and showing good fit with minimal leakage”

90. Dato V. M., Hostler D., Hahn M. E., Simple respiratory mask. *Emerg. Infect. Dis.* **12**, 1033–1034 (2006). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]]

FN01.38.00.03.40-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3373043/>. PDF:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3373043/>

PC: Jun. 2006

CCP: Authors ? / **ORIGIN:** USA-PN: Pittsburgh, U of Pittsburgh; a “publication of the U.S., Government.” In 2006 the CCP influence was not so prevalent as it appears to be beginning in about 2010. / **REF:** OSHA (2); NIOSH; CDC; WHO — these references show no Asian or Arabic influence. (And yet, internal evidence points to CCP or Asian influence: “Quality commercial masks are not always accessible, but anecdotal evidence has showed that handmade masks of cotton gauze were protective in military barracks and in healthcare workers during the Manchurian epidemic (6,7).” / **FUNDED:** nd

RCT: No. Official recommendations from US Dept. of Labor for using respirators during the avian-influenza epidemic.

CONTENT:

What is the “substantial protection” afforded by masks?

Context: “The US Department of Labor recommends air-purifying respirators (N95, 99, or 100) for any working with avian influenza-infected birds or patients.”

ACK: “N95 respirators have 2 advantages over simple cloth or surgical masks; they are >95% efficient at filtering 0.3- μm particles (smaller than the 5- μm size of large droplets—created during talking, coughing, and sneezing—which usually transmit influenza) and are fit tested to ensure that infectious droplets and particles do not leak around the mask ([2–4](#)). Even if N95 filtration is unnecessary for avian influenza, N95 fit offers advantages over a loose-fitting surgical mask by eliminating leakage around the mask.”

IR: Our concern is with particles significantly smaller than the 0.3 μm particles indicated here as the standard of protection considered adequate.

OS: Depends on OS evidence: “Anecdotal evidence has showed that homemade masks of cotton gauze were protective in military barracks and in healthcare workers during the Manchurian epidemic.”

CLAIM: “A simple, locally made, washable mask may be a solution if commercial masks are not available. We describe the test results of 1 handmade, reusable, cotton mask.”

CCav: First of all, the original design did not work out too well because of fit problems: “For material, we

choose heavyweight T-shirts similar to the 2-ply battle dress uniform T-shirts used for protective masks against ricin and saxitoxin in mouse experiments (8). Designs and T-shirts were initially screened with a short version of a qualitative Bitrex fit test (9) (Allegro Industries, Garden Grove, CA, USA). The best were tested by using a standard quantitative fit test, the Portacount Plus Respirator Fit Tester with N95-Companion (TSI, Shoreview, MN, USA) (10). **Poor results from the initial quantitative fit testing on early prototypes resulted in the addition of 4 layers of material to the simplest mask design.** This mask is referred to as the prototype mask (Figure).”
YIKES — anybody stop to think about breathing????

NOTE: Unreal — these jokers ended up with one outer and 8 EIGHT inner layers of material for this homemade mask: “A scissor, marker, and ruler were used to cut out 1 outer layer ($\approx 37 \times 72$ cm) and 8 inner layers (< 18 cm²). The mask was assembled and fitted as shown in the Figure.”

CCav: The challenge aerosol is not described. We must conclude the challenge was in the size range stipulated earlier as indicating the standard used to establish the filtering efficiency of the N95: “N95 respirators have 2 advantages over simple cloth or

surgical masks; they are >95% efficient at filtering 0.3- μm particles (smaller than the 5- μm size of large droplets—created during talking ...) >0.3 μm is larger than 300 nm and outside our query limits.

CCav/IR: With a mask affording a fit factor of 67 (100 being perfectly sealed to the face) “although insufficient for the work place, this mask offered *substantial protection* from the challenge aerosol and showed good fit with minimal leakage.” What “substantial protection” means is not here defined.

NOTE: The number of problems with this recommendation are *legion*. First, only a very few would endure the process necessary to create this mask—when you read about how it was constructed, you’ll understand what I mean. Very involved. Second, it was not tested over long periods of use — it was strapped on, and tested for a period of one hour only, then removed. The researchers agreed, however, that **“wearers may find the mask uncomfortable.”** They also expressed doubts about a “naive user” being sufficiently mindful of the material preparation or type of material needed, their assembly might not provide the proper fit needed to achieve the protection they claim the mask affords, and finally, they don’t specify what protection is provided, only that it is

“measurable.”

NOTE: If this mask allows sufficient facility to breath it most certainly does not provide sufficient efficacy for protection. Remember, if 10000 bullets are coming at you, and you succeed to eliminate even 80%, you’ve got 2000 bullets hitting target. How many bullets does it take to kill you?

—> Back to **FN01.38.00.03-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ... (Alternate web address:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#_ffn_sectitle)

Another study that focuses on the importance of proper fit asserting it improves the efficacy of the mask:

91. Runde D. P., et al., The "double eights mask brace" improves the fit and protection of a basic surgical mask amidst COVID-19 pandemic. *J. Am. Coll. Emerg. Physicians Open*, 10.1002/emp2.12335 (2020). [[Ref list](#)]

The authors of FN01.38.00.03 refer us back to the

Teh [hypothesis]

4. Wu L. T., *A Treatise on Pneumonic Plague* (League of Nations, Health Organization, 1926), pp. 373–398. [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see
FN01.38.00.03.22-
<https://iiif.wellcomecollection.org/pdf/b19164415>.
PDF: FN01.38.22.A Treatise On Pneumonic Plague
b19164415.

While in the context of Teh’s experiment, what follows does not seem so bizarre as it seems in our context, I think it is telling of just what would need to be done to actually provide protection against aerosolized virions: “Wu Lien Teh noted that a rubber support could provide good fit, although he recommended that a silk covering for the whole head (and flannel sewed over nose and mouth areas), with holes for the eyes, tucked into the shirt, is a more comfortable approach that can provide good protection for a whole day”

—> Back to **FN01.38.00.03.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ...

Next, TA refers us to van der Sande, et al.

van der Sande M., Teunis P., Sabel R., Professional and home-made face masks reduce exposure to respiratory infections among the general population. *PloS One* **3**, e2618 (2008). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see

FN01.38.00.19.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>. PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC 78.

I noted in the vetting of that article: Another misleading characterization: “All types of masks are at least somewhat effective at protecting the wearers.” Followed by a reference to this study (78. van der Sande M. etc.) —**which does NOT provide any evidence cloth masks or surgical masks protect against particles smaller than 300 nm.**

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71>

*** SP: The following irresponsible statements are the sort that trigger concern these people are giving the general public a kind of placebo—something that does not work, which, in this case, serves to allay fears and encourage a false confidence: **“all types of masks reduced aerosol exposure, relatively stable over time, unaffected by duration of wear or type of activity,”** concluding with, **“any type of general mask is likely to decrease viral exposure and infection risk of a population level, despite imperfect fit and imperfect adherence.”**

*** SS: That last SS is outrageous. TA van der Sande, et al, just blew a hole through literally hundreds of studies that contradict almost every point they make. I cannot recall any study supporting the idea that any mask is **“unaffected by duration of wear,”** and not one study supports the ridiculous notion that they are unaffected by **“type of activity.”** What nonsense! And to say **“any type of general mask use”** is **“likely to decrease viral exposure and infection risk on a population level, DESPITE IMPERFECT FIT AND IMPERFECT ADHERENCE.”** Of course, it’s true that “any type” of mask provides *some* filtration! But that does not mean they will provide any protection from infection. Again, 10000 bullets are

coming at your head, and you stop 20% of them, meaning only 8000 bullets hit the target. How many bullets does it take to kill you?

TA He brings up the Chu review:

11. Chu D. K., et al., Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: A systematic review and meta-analysis. *Lancet* **395**, P1973–P1987 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see
FN01.38.00.04.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/>. PDF: FN01.38.00.04.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - PMC.

CCav: CONCLUSION: This study depended on observational studies, which usually run very favorably for maskers, that face masks for SARS-2 in health care environments provided only 0.03 to 0.04 protection.

TA complains these studies were given lower weight in the review than those targeting MERS and SARS, “and the overall risk ratio for mask use in health care was estimated at 0.30.”

The rr (risk ratio) is explained in a CDC pub placed in research folder at FN01.38.00.03.41 [See FN01.38.00.03.41.Principles of Epidemiology _ Lesson 3 - Section 5] Not vetted because it’s a TECH article. ADD this article to the TECH articles, but keep it here for notation consistency concerns. TECH46.Principles of Epidemiology _ Lesson 3 - Section 5.pdf

Essentially, the rr (risk ratio) is a number that represents how many persons in a group may be expected to become ill when the group is equally exposed to a pathogen.

Three OS (anecdotal studies) included in CHU’s review came up with a very low SARS-CoV-2 risk ratio for health workers wearing masks — 0.03 to 0.04. But the researchers in our study [FN01.38.00.03.00] found a much higher risk ratio estimated at 0.30 when MERS or SARS are in consideration.

TA considers the MacIntyre study misinterpreted.

25. MacIntyre C. R., et al., A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. *BMJ Open* 5, e006577 (2015). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see
FN01.38.00.03.23-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC

AME: FN01.38.00.03.23 is AME: There was not a “no mask” control group, or comparison group because it was deemed unethical.

IR: Of course, this was a hospital setting, and so other concerns might have legitimized the concern about a no mask group.

I noticed that many of these have already been vetted, so I’m going to skip over those and find for only those that have not been vetted in these notes.

CLAIM: Wilkes et al. found “that filtration performance of pleated hydrophobic membrane filters

was demonstrated to be markedly greater than that of electrostatic filters.” [NOTE: This is interesting.]

92. Wilkes A. R., Benbough J. E., Speight S. E., Harmer M., The bacterial and viral filtration performance of breathing system filters. *Anaesthesia* **55**, 458–465 (2000).
[[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)], full text:
<https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2044.2000.01327.x?sid=nlm%3Apubmed>

FN01.38.00.03.42-

<https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2044.2000.01327.x?sid=nlm%3Apubmed>
PDF: FN01.38.00.03.42.The bacterial and viral filtration performance of breathing system filters_ - Wilkes - 2000 - Anaesthesia - Wiley Online Library

PC: December 2001, research dating back to 1998 and 1999

CCP: Wilkes, Benbough, Speight, Harmer (Authors ?) / **ORIGIN**: UK, at this date, CCP bias is expected to have been negligible. / **REF**: Duguid; Ibrahim; Wilkes (3 of 28) — I have noticed that the

farther back we go the fewer Asian culture and CCP connected references are found. / **FUNDING:** Association of Anesthetists of Great Britain and Ireland.

RCT: Not asserted. Statement of Method: “The bacterial and viral filtration performance of 12 breathing system filters was determined using test methods specified in the draft European standard for breathing system filters, BSEN 13328-1. All the filters were of two types, either pleated hydrophobic or electrostatic, and these two types differed in their filtration performance. The filtration performance is expressed in terms of the microbial penetration value, defined as the number of microbes passing through the filter per 10 million microbes in the challenge. The geometric mean(95% confidence limits) microbial penetration value was 1.0 (0.5, 3.5) and 2390 (617, 10 000) for the pleated hydrophobic and electrostatic filters, respectively, for the bacterial challenge, and 87 (48, 212) and 32 600 (10 900, 84 900), respectively, for the viral challenge. In general, there was little change in the microbial penetration values following 24 h simulated use. It is concluded that results from the tests specified in the draft standard will allow comparisons to be made between different manufacturers’ products enabling an informed choice

to be made”

CONTENT: CLAIM: hydrophobic membrane filters produced markedly superior protection than electrostatic filters.

[INFO: *** Understanding *mean* and *median*. The mean of set of numbers, say ages, is the total of those numbers divided by the number of ages indicated in the range. So, if we have an array of ages, such as 75, 55, 30, and 20, we have four numbers representing age groups in the array. Add these together and divide them by 4 and you have the *mean* age for the array: 45. The *median* identifies the number that is at the midpoint of the array. In a case like this, where we have an even number, we would take the two numbers at the middle of the array (arranged in numerical order by value), add them and divide by 2. In other words, our *median* for the array given above would be $55+30 / 2$ or 42.5. If there were five numbers in the array, we would identify the mean as the middle number, or the number that has an equal number on either side. You can see how *mean* is virtually identical to *average*.]

IR: The smallest particle size of the challenge was <2.1 μm in diameter. As I've pointed out before, <2.1

always refers to a range not to exceed 1.1-2.0 — and this means the particle sizes used in the challenge were greater than 999 nm.

IR: Another reference to droplet size stipulates a range from 1-8 μm . Again, outside the range of our concern.

RELEVANT: Some size references are found in Table 2. *Bacillus subtilis* var. *niger* at 0.96-1.25 μm , which is way outside the parameters of our interest (960-1250 nm versus 40-140 nm). The *Pseudomonas aeruginosa* is 0.3, Tubercle bacilli is 0.4, staphylococci is 1, streptococcus pneumoniae is 0.5, MS-2 is 0.023 d (diameter), Hepatitis B is 0.042 d, Hepatitis C is 0.03-0.06 d, and HIV is 0.08-0.1 d. All outside the criteria of this investigation.

RESULTS:

CCav: The mask trapped 80% or more particles in the range of $<2.1 \mu\text{m}$. This was the standard they sought, but it is well above our standard for comparison, which is $\leq 0.125 \mu\text{m}$. Again, although the researchers reference particles in a size range of my interest, consistently, they do not actually test for particles in that range????

IR: As already clarified, when a researcher stipulate $<2.1 \mu\text{m}$ they do not mean to include every particle size below that threshold. In other words, to make the point, this does not mean a particle size of $0.000001 \mu\text{m}$ was trapped by the mask. It means however, that the smallest particle size trapped was under $2.1 \mu\text{m}$ without stipulating the bottom of that range below the number. Given that the idea is to establish the smallest particle size trapped, if particles smaller than $1 \mu\text{m}$ were trapped, the notation would certainly have been $<1 \mu\text{m}$ and not $<2.1 \mu\text{m}$. So we can safely assume the range of particles trapped is $>1 \mu\text{m}$ and $\leq 2 \mu\text{m}$. While the researchers challenged for pathogenic microbes well within the range of our concern, they FOUND for efficacy that is outside our parameters of concern. Therefore, I rule this study as outside our concern, or IR.

I did not take the time to read this study beyond the observations offered above.

NOTE: It's appropriate to pause and reflect on my evaluation categories: there are three levels of examination: 1, 2 and 3. 1 means I scanned the study looking for specific information, this was accompanied by searches for key words, such as diameter, virus, μm ,

nm, 5 μ m, or other words related to the “claim” I was researching. Level 2 means I identified sections of the article pertinent to my interest and read them carefully, running down all relevant references in that section. Level 3 means I studied the entire article very closely, running down every reference.

FN01.38.00.03.00 is an example of a level 3 examination. Usually, the references I chase down in a level 3 examination are given a level 1, or 2, look. This was given level 1 consideration.

—> Back to **FN01.38.00.03.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7848583/#r71> — An Evidence Review ...

Next TA references footnote 93.

93. Long Y., et al., Effectiveness of N95 respirators versus surgical masks against influenza: A systematic review and meta-analysis. *J. Evid. Base Med.* **13**, 93–101 (2020). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

FN01.10.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7228345/> PDF: FN01.10.01.Effectiveness of N95

respirators versus surgical masks against influenza_ A systematic review and meta-analysis - PMC

Next he references 94.

94. Radonovich L. J., et al., N95 respirators vs medical masks for preventing influenza among health care personnel: A randomized clinical trial. *J. Am. Med. Assoc.* 322, 824–833 (2019). [PMC free article] [PubMed] [Google Scholar] [Ref list], a study not yet vetted. Let's do that here.

**** **FN01.38.00.03.43-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724169/>. PFD: FN01.38.00.03.43.N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel - PMC (Shows consensus re masks before COVID, or just before the outbreak in Wuhan. It's important also because by this time CCP had established their tentacles deep into the US medical infrastructure, but apparently, up to this time had not set their assets in operational mode.)

PC: Sep. 2019 (just prior the break of the Wuhan (CCP) virus.

CCP: Trish Perl (1 of 15) / **ORIGIN: USA-PA:**

Pittsburgh, National Personal Protective Tech Lab, NIOSH, and CDC; NY: NY U School of Medicine, Weill Cornell Medicine; CO: Denver, Veterans Affairs Eastern Co. Healthcare System; Aurora, U of CO School of Medicine, Children's Hospital, Denver: Health Medical Center; MA: Amherst, U of Mas.; FL: Gainesville, U of FL; MD: Baltimore, Johns Hopkins School of Medicine; WA DC: Veterans Affairs Medical Center, George Washington U School of Medical and Health Science; MO: St. Louis, Veterans Affairs St. Louis Healthcare System, St. Louis U School of Medicine; TX: Houston, Michel E. DeBakey Vet. Affairs Med. Center, Baylor College of Medicine, Dallas, U of Texas Southwestern Medical Ctr. NOTE: I would say with the known compromise of our CDC this article is suspicious for CCP bias influence. Furthermore, several of the contributors to this study declared conflicts of interest, receiving grants from CDC, VA, NIH, Biodefense Advanced Research and Development Agency (DARPA), and NIOSH. Perl was receiving grant money from CDC in the course and conduct of this study. **REF:** MacIntyre, Wang; MacIntyre, Wang, Seale; Loeb; MacIntyre, Chughtai, Rahman; WHO website; US Dept. of Labor; US CDC; Tang; Offeddu, Yung, Low, Tam; Chiu, Yue (10 of 30). / **FUNDING:** The study was funded by US CDC, VHA, and BARDA.

RCT: Asserted: “Pragmatic, cluster randomized clinical trial.”

CONTENT: CLAIM or PURPOSE: The question actually places the study in the IR category: “Is the use of N95 respirators or medical masks more effective in preventing influenza infection among outpatient health care personnel in close contact with patients with suspected respiratory illness?”

IR: The reason this sets the study outside our particular interest is that we are concerned with public use of the masks. Nevertheless, information here might contribute to our thesis positively or negatively, so let’s take a look.

CE: FINDINGS: “In this pragmatic, cluster randomized clinical trial involving 2862 health care personnel, there was **no significant difference in the incidence of laboratory-confirmed influenza among health care personnel with the use of N95 respirators (8.2%) vs medical masks (7.2%).**”

[NOTE: not using CE in sense that TA contradicted themselves. Rather it is used to signify TA concluded contrary to the contemporary consensus re mask efficacy. This is important as it demonstrates the observation elsewhere noted that before COVID all

Western science agreed masks are ineffective to protect against a virus. Exactly as Fauce said.]

CE: This is contrary to all studies before and after COVID. The research is suggesting the medical mask is more efficacious than the N95. Indeed, according to this trial, apparently medical masks produced a slightly higher protection value than the N95. And with all else I've studied, this throws the N95 under the bus as virtually meaningless in terms of providing real protection from infection from a virus. NOTE: Could this be an early run at providing basis for turning attention from the N95 to the medical masks anticipating the outbreak???

CCav: This is in the “outpatient” setting, and so many **confounders** are possible it's hard to think how to list them. There are so many other reasons professionals following up on patients after being released did or did not become ill, although, perhaps they did employ, or deploy a no mask group for control????

ACK: “Clinical studies have been inconclusive about the effectiveness of N95 respirators and medical masks in preventing health care personnel (HCP) from acquiring workplace viral respiratory infections.”

INCONCLUSIVE.

RCT/OS Hybrid: After examining this study more closely, it is what I call a hybrid RCT/OS. It is considered randomized because of the randomization of assignment of mask types to groups. Then it was ascertained from the number infected in the N95 group as opposed to the surgical, or medical mask (MM) group to establish relative mask efficacy.

CCav: CONFOUNDERS: Here are some of the confounders: first, no control was in place for assuring each group came into contact with equally infected, and/or infectious patients. Second, and following the first, the amount of exposure each group experienced was not controlled. We don't know if, for example, the N95 group had greater or lesser actual exposure—there seems to be no control for how much time each group, or members of the groups, spent in close contact with patients. So we don't know if the exposure was equivalent in terms of time, or intensity. And more importantly, we don't know what would have occurred if they had a group that did not wear a mask.

NOTE: They did control for actual cases: the

criteria was lab-confirmed influenza, or lab-detected respiratory infections, and lab-confirmed respiratory illness, and ili. Also, they controlled for adherence.

RESULTS: As stipulated above, the N95 group, they found 8.2% of the participants contracted infection, specifically, influenza. 7.2% in the MM group. With a difference of 1%, it was understandably concluded there is no appreciable benefit of the N95 over the MM in this context.

One difference was that fewer in the N95 group testified to having worn the masks ALWAYS or SOMETIMES, and 90.2% of the MM group said ALWAYS or SOMETIMES.

But *always* and *sometimes* are very dramatic differentials. Why did they not stipulate more precisely how many said ALWAYS versus SOMETIMES in each group? Why did they include SOMETIMES with ALWAYS, since the distinction is the raised question, what does *sometimes* mean? Now we have another confounder: did group N95 report more honestly than MM? Did N95ers have a much larger percentage of SOMETIMES than ALWAYS as opposed to the MMers, or vice versa?

Maybe these questions are revealed in the body of the study.

Adherence by HCP medical workers varies from 10-84% — woah! That’s a huge spread. Articles cited to support this:

2. Institute of Medicine *Preparing for an Influenza Pandemic: Personal Protective Equipment for Healthcare Workers*. Washington, DC: National Academies Press; 2008. [[Google Scholar](#)] [[Ref list](#)], [eBook \$49.99]
<https://nap.nationalacademies.org/read/11980/chapter/4>). I’m going to pass on vetting this.

3. MacIntyre CR, Wang Q, Cauchemez S, et al.. A cluster randomized clinical trial comparing fit-tested and non-fit-tested N95 respirators to medical masks to prevent respiratory virus infection in health care workers. *Influenza Other Respir Viruses*. 2011;5(3):170-179. doi: 10.1111/j.1750-2659.2011.00198.x [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)],

Already vetted in these notes: see doc.2
FN01.42.03.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC494>

1587/#_ffn_sectitle PDF: FN01.42.03.00.00.A cluster randomized clinical trial comparing fit-tested and non-fit-tested N95 respirators to medical masks to prevent respiratory virus infection in health care workers

The last reference: 4. MacIntyre CR, Wang Q, Seale H, et al.. A randomized clinical trial of three options for N95 respirators and medical masks in health workers. *Am J Respir Crit Care Med*. 2013;187(9):960-966. doi: 10.1164/rccm.201207-11640C [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)] — [https://www.atsjournals.org/doi/10.1164/rccm.201207-11640C?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed], should be given a look.

**** **FN01.38.00.03.43a-**
https://www.atsjournals.org/doi/10.1164/rccm.201207-11640C?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed PDF: FN01.38.00.03.43a.A Randomized Clinical Trial of Three Options for N95 Respirators and Medical Masks in Health Workers _ American Journal of Respiratory and Critical Care Medicine.

PC: July, 2012, accepted Jan. 2013

CCP: MacIntyre (an ardent supporter of masks and repeatedly shows up in suspected CCP bias studies), Wang, Yang, Shi, Gao, Zhang. Dwyer / **ORIGIN:** AU-Sydney: School of Public Health and Com Med., UNSW Med, and U of NSW, Institute for Clinical Pathology and Medical Research, Westmead Hospital; CHINA-Beijing: CCP CDC. / **REF:** Balazy; Myojo; Orr; Suntarattiwong; Ferng, Wong-McLoughlin, Wang; Aiello, Davis; MacIntyre, Dwyer, Seale, Cheung, Gao; Cowling, Chan, Fang, Cheng, Fung, Wai, Sin, Seto, Yung, Chu; Cowling, Fung, Cheng, Fang, Chan, Seto, Yung, Chiu, Lee, Uyeki; Loeb; MacIntyre, Wang, Seale, Dwyer, Yang, Shi, Gao, Yang, Zhang; Shou; Chien; Wang, Lim, Wang S., Lee, Deng, Mo, Ma; Davus; Yang, Qian, Peng, Liang, Huang, Wang;l Ferng, Wong-McLoughlin; Seale, Dwyer, MacIntyre; Kao, Huang, Huang Y., Tsai, Hsieh, Wu (17 of 41). / **FUNDING:** “Supported by the National Health and Medical Research Council of Australia”

RCT: Asserted. A cluster randomized clinical trial — Beijing, China, in winter of 09-2010.

CONTENT:

CCav: *** “Masks in community settings have **NO CLEARLY PROVED EFFICACY** (9-14). In three trials, participants were randomized either to hand washing

or to hand washing plus surgical masks (9,11,13),
with no clear additional benefit of masks.”

Here are the studies reference for the above
paragraph:

—> Back to **FN01.38.00.03.43-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724169/> —N95 Respirators ...

9.

Simmerman JM, Suntarattiwong P, Levy J, Jarman RG, Kaewchana, Gibbons RV, Cowling BJ, Sanasuttipun W, Maloney SA, Uyeki TM, et al. Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand. *Influenza Other Respir Viruses* 2011;5:256–267.
Crossref, Medline, Google Scholar

Already vetted in these notes: see

FN01.01.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>. PDF: FN01.01.01.00.00.Findings from a household randomized controlled trial of hand washing and face masks to reduce influenza transmission in Bangkok, Thailand - PMC

CCav: *** CONCLUSIONS: “Influenza transmission WAS NOT REDUCED BY INTERVENTIONS TO PROMOTE HAND WASHING AND FACE MASK USE.”

10. Larson E, Ferng Y, Wong, McLoughlin J, Wang S, Haber M, Morse S. Impact of non-pharmaceutical interventions on URIs and influenza in crowded, urban households. Public Health Rep 2010;125:178–191. Crossref, Medline, Google Scholar

Already vetted in these notes: See **FN01.08.03.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821845/>. PDF: FN01.08.03.00.00.Impact of Non-Pharmaceutical Interventions on URIs and Influenza in Crowded, Urban Households - PMC (It’s another like the above (FN01.08.02.00.00), a sophisticated OS (observational study). The CRITICAL ISSUE with this study: Finally, THERE WAS NO INCLUSION OF A CONTROL GROUP, AND “NO INTERVENTION” GROUP. This is explained as because “a ‘no intervention’ group was not possible.” This is very important: “The study did not include a ‘no intervention’ group.” See FN01.08.03.00.00 for more comprehensive notes.)
Rated by ECDC as LOW to MODERATE confidence.

See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

11.

Aiello AE, Murray GF, Perez V, Coulborn RM, Davis BM, Uddin M, Shay DK, Waterman SH, Monto AS. Mask use, hand hygiene, and seasonal influenza-like illness among young adults: a randomized intervention trial. *J Infect Dis* 2010;201:491–498.
Crossref, Medline, Google Scholar

Already vetted in these notes: **FN01.38.00.12.00-**
<https://academic.oup.com/jid/article/201/4/491/861190?login=false>. PDF: FN01.38.00.12..00.Mask use, hand hygiene, and seasonal influenza-like illness among young adults_ A randomized intervention trial _ The Journal of Infectious Diseases _ Oxford Academic

12.

MacIntyre CR, Cauchemez S, Dwyer DE, Seale H, Cheung P, Browne G, Fasher M, Wood J, Gao Z, Booy R, et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009;15:233–241.
Crossref, Medline, Google Scholar

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

(This is called a “cluster randomized trial” not an RCT. So, one problem I have with NIH is their attempt to deceive. They stated their study, FN01.08 was premised upon RCTs. But none of these are properly speaking, RCTs. ESSENTIALLY, this study concludes: “We concluded that household use of face masks is associated with low adherence and is ineffective for controlling seasonal respiratory disease. However, during a severe pandemic when use of face masks might be greater, PANDEMIC TRANSMISSION IN HOUSEHOLDS **COULD** BE REDUCED.” — NC)

13. Cowling BJ, Chan K-H, Fang VJ, Cheng CKY, Fung ROP, Wai W, Sin J, Seto WH, Yung R, Chu DW, et al. Facemasks and hand hygiene to prevent influenza transmission in

households: a randomized trial. *Ann Intern Med* 2009;151:437–446.

Crossref, Medline, Google Scholar

Already vetted in these notes: See

FN01.08.08.00.00 & FN01.38.00.11.00-

[https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-](https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org)

[00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org](https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org) (FULL TEXT)

PDF: FN01.38.00.11.00.Facemasks and Hand Hygiene to Prevent Influenza Transmission in Households_ A Cluster Randomized Trial_ *Annals of Internal Medicine*_ Vol 151, No 7

14.

Cowling BJ, Fung ROP, Cheng CKY, Fang VJ, Chan KH, Seto WH, Yung R, Chiu B, Lee P, Uyeki TM, et al. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. *PLoS ONE* 2008;3:e2101. Crossref, Medline, Google Scholar

Already vetted in these notes: See

FN01.08.06.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/>. PDF: FN01.08.06.00.00.Preliminary Findings of

a Randomized Trial of Non-Pharmaceutical Interventions to Prevent Influenza Transmission in Households - PMC

—,> Back to **FN01.38.00.03.43a-**
<https://www.atsjournals.org/doi/full/10.1164/rccm.201207-11640C> — A Randomized Clinical Trial ...

Their admissions to the contrary, nevertheless, TA argue for efficacy in **household settings**: (12) —

The footnote 12 of the above referenced study has been vetted in these notes:

Already vetted in these notes: see
FN01.08.05.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf **Rated by ECDC as LOW to MODERATE confidence.** See
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

TA refers to two RCTs of medical masks compared with N95: “There have also been two randomized

controlled trials of medical masks compared with N95 respirators in HCWs (15, 16). **The first found no difference between the arms, but was a small study, lacked a control arm, and was based predominantly on serologic diagnosis of influenza (15). We previously found that all infection outcomes were consistently lower for the N95 arm compared with medical masks, and that N95 respirators were significantly more protective than medical masks against clinical respiratory infection (16)."**

15. Loeb M, Dafoe N, Mahony J, John M, Sarabia A, Glavin V, Webby R, Smieja M, Earn DJD, Chong S, et al. Surgical mask vs N95 respirator for preventing influenza among health care workers: a randomized trial. JAMA 2009;302:1865–1871.

Already vetted in these notes: See
FN01.38.00.09.00-
<https://jamanetwork.com/journals/jama/fullarticle/184819>. PDF: FN01.38.00.09.00.Loebb 2009
joc90119_1865_1871

16. MacIntyre CR, Wang Q, Cauchemez S, Seale H, Dwyer DE, Yang P, Shi WX, Gao ZH, Pang XH, Zhang Y, et al. A cluster randomized clinical trial comparing fit-tested and non-fit-tested N95 respirators to medical

masks to prevent respiratory virus infection in health care workers. *Influenza Other Respir Viruses* 2011;5:170–179.

This is the article being vetted here: see **FN01.38.00.03.43a-**
https://www.atsjournals.org/doi/10.1164/rccm.201207-1164OC?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed PDF: FN01.38.00.03.43a.A Randomized Clinical Trial of Three Options for N95 Respirators and Medical Masks in Health Workers _ American Journal of Respiratory and Critical Care Medicine. (That’s odd. I don’t think I’ve ever seen an author reference the book within the same book????)]

—> Back to **FN01.38.00.03.43a-**
https://www.atsjournals.org/doi/10.1164/rccm.201207-1164OC?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed#_i21 PDF: FN01.38.00.03.43a.A Randomized Clinical Trial of Three Options for N95 Respirators and Medical Masks in Health Workers _ American Journal of Respiratory and Critical Care Medicine

INFO: *** The following is relevant: “**We previously found that all infection outcomes were**

consistently lower for the N95 arm compared with the medical mask, and that N95 respirators were SIGNIFICANTLY MORE PROTECTIVE THAN MEDICAL MASKS AGAINST CLINICAL RESPIRATORY INFECTION.”

[NOTE: MacIntyre will live to regret this statement.]

IR: So, this is essentially an IR study since it does not address my criteria of interest.

INFO: But let's examine if it contains any information pertinent to our interests:

NOTE: This is a 2012 study, characterized as a cluster randomized control trial originating in Australia and Beijing, China. The problem with “cluster” randomization is it approaches the issue with studies that set up certain control arms, and then observes how many get sick in the respective arms then draw conclusions from whether more got sick in the x arm as opposed to the y arm — and the problem is the multitude of confounders possible in such studies. It's the reason group studies are suspect. It's almost impossible to create a study of groups that is not fraught with confounders.

This study certainly makes an effort to address potential confounders, but it's just not possible, from this study, to be sure other factors were not active in skewing the results.

CONCLUSION: * “Our study found significantly higher reported adverse effects and discomfort of N95 respirators compared with the other two arms, consistent with other studies (16, 41). However, despite lower adherence in the N95 arm, the efficacy by intention-to-treat analysis was still higher than medical masks.** A research question arising from this study is the cost-effectiveness of various mask policies, which was beyond the scope of this trial, but which we hope to address in future research. Our trial provides efficacy estimates, which are a required data input for cost-effectiveness analyses. **In summary, this study adds evidence in favor of N95 respirators as respiratory protection for HCWs, and describes for the first time a differential rate of bacterial detection in the respiratory tract depending on level of respiratory protection.** We are unaware of this being previously studied, and believe this warrants further research to understand the clinical significance of bacterial colonization in HCWs, and association with HCW

symptomatology or transmission. The risks, benefits, and occupational health and safety implications of current guidelines on respiratory protection for HCWs, particularly during outbreaks of emerging infections for which other protective measures are unavailable, should be reviewed in light of our findings.”

IR: So, in conclusion with reference to this study, FN01.38.00.03.43a lacks relevance to our concerns. We are not concerned with whether the N95 is more efficacious than the MM, except that when a study purports to show they are equivalent, that insinuates either that the N95 is not as protective as reported by most other studies, or that the MM is more protective than reported by most other studies. In this case, it washes out to what virtually all other studies purport — the N95 provides some relevant protection against something so small as a virus, and the MM does not!

—> Back to **FN01.38.00.03.43-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724169/>. PFD: FN01.38.00.03.43.N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel - PMC

So I’m looking for anything in this study that might contribute to my thesis, + or -. I’ll scan —

CE: CONCLUSION: The conclusion, under Results: “This supports the finding that neither N95 respirators nor medical masks were more effective in preventing laboratory-confirmed influenza or other viral respiratory infection or illness among participants when worn in a fashion consistent with current US clinical practice.” **Actually, the reference just examined says the opposite.**

NOTE: Interesting that at this time, 2012, CDC et al. were laying out studies that argued the N95 was NOT more efficacious than MM. And making that argument while citing references that contradict it. But so far as protection is concerned, neither afforded protection above 7.5% of participants, and with all the confounders mentioned above, the results are **inconclusive.**

NOTE: *** The limitations seem to be relevant to the question of the study, which is appropriate, but limiting to our purpose. They were concerned about the failure of the N95 to make a better showing of protection versus the MM. (Or were they? I think it's the other way around. Excuse my suspicion of these characters, but with all that has transpired, and the knowledge that “they” were planning all of this well in

advance, and preparing for implementation beginning in 2010, it would not surprise me if “they” began creating these studies to support an anticipated general mask mandate to avoid a panic rush on N95s.)

CCav: As for limitations for this study, one confounding limitation stipulated is as follows: “First, the criteria for viral polymerase chain reaction testing may have missed participants who were infected but asymptomatic. Unrecognized infections may have increased the probability of finding no difference between interventions, even if a difference existed.”

The reason this is confounding to me is that it suggests the PCR testing “may have missed participants who were infected but asymptomatic,” however, the PCR does not examine for symptoms, it examines for the presence of viral RNA in the cells, not distinguishing between inert, or active. It seems to me, and other studies confirm, the expectation would be rather on the other side — the “finding” of persons “infected” who were not, but had remnants of exposure to the virus. They refer to the “criteria” used, and so perhaps the PCR was set at a threshold that would miss some graveyard remnants of inert virus RNA and set there on purpose to avoid false positives as much as possible???

NOTE: How the PCR could miss asymptomatic infected persons is something I'll have to look into more closely, because that does not make sense to me at all.

CCav: The second limitation: *dependance on self reporting*.

CCav: And the third, lack of adherence and no effective way to track it —

NOTE: *** We all know the N95 is difficult to wear, irritating and respiration inhibiting — so people tend not to wear them, or tend not to wear them correctly. It's one of the **confounders** I mentioned earlier—with such a loose control for adherence, a self reported *ALWAYS* or *SOMETIMES* without differentiation of these disparate testimonies — we can't know with any certainty at all what *sometimes* means, and whether it meant the same thing from both groups, or from each respondent. VERY DISAPPOINTING in a study of this kind from researchers of this level and it **STRONGLY IMPLICATES THE STUDY AS SUSPECT FOR ADVANCING AN AGENDA** — some CCP bias, or AGENDA bias is almost certainly at work here. Too bad!

So let's do some search word investigation of this study: did they discuss particle size? Did they address aerosols? etc. Let's see: the study is not focused on this concern. Search: *particle, droplet, aerosol*, all words found but without any definition or stipulation as to size beyond the vague term *large* with reference to droplets and sprays, without specifying what is meant by *large*. I searched *nano*, and *micro*. Found reference to *microorganism transmission* but no reference to size range.

I did find reference to two studies of interest:

9. Janssen L, Ettinger H, Graham S, Shaffer R, Zhuang Z. The use of respirators to reduce inhalation of airborne biological agents. *J Occup Environ Hyg*. 2013;10(8):D97-D103. doi: 10.1080/15459624.2013.799964 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.38.00.03.43b-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4670234/>. PDF: FN01.38.00.03.43b.The Use of Respirators to Reduce Inhalation of Airborne Biological Agents - PMC

PC: 2013

CCP: Zhuang (1 of 5) / **ORIGIN:** US-MN: Stillwater, Larry Janssen Consulting; NM: Los Alamos, Harry Ettinger and Associates; MD: US Army Institute of Public Health; PA: NIOSH / **REF:** Loeb; Seto, Tsang, Yung; US DHHS (Department of Health and Human Services), FDA, and CDRH (Center for Devices and Radiological Health); Chen; Qian, Willeke; Willeke, Qian; Zhili; OSHA; Cowling Chan, Fang; MacIntyre, Dwyer; MacIntyre, Wang; Aiello; Yang; Han, Zhu, He; Cho; Cho; van der Sande, Teunis, Sabel; Ang, Poh, Win, Chow; Jefferson; Danyluk, Hon (20 of 56) / **FUNDING:** American Industrial Hygiene Association's Respiratory Protection Committee.

RCT: Not asserted

CONTENT:

*** INFO: "However, FFRs' primary function is to reduce the wearer's exposure to particles with aerodynamic diameters in the inhalable ($\leq 100 \mu\text{m}$) size fraction, including those in the respirable size range ($\leq 10 \mu\text{m}$). (6) Numerous studies have demonstrated that biological and non-biological particles are filtered in the same manner, with

equivalent efficiency.(,7–13) Filtration efficiency criteria for N95 FFR are set by NIOSH and are measured under rigorous test conditions.(,14) Any certified particulate respirator must be at least 95% efficient when tested according to NIOSH criteria. In addition, FFR must be capable of forming a seal to the user's face in order to be worn in an occupational setting. The Occupational Safety and Health Administration (OSHA) has specific test criteria for demonstrating acceptable respirator fit on each individual user.(,15) OSHA also regulates FFR selection, use, and care in workplaces, including health care facilities.(,15,16)”

IR: We notice the particle size range is outside our criteria: ($\leq 100 \mu\text{m}$ — even if we set the bottom of the intended range below $100 \mu\text{m}$ to say 1- $100 \mu\text{m}$, we are way outside our range of concern).

INFO: However, note that aerodynamic particles (particles that may be carried along air currents) are inhalable as large as $100 \mu\text{m}$ — that’s actually surprising, but now I think about it, it does make sense. Nevertheless, that a particle the size of $100,000 \text{ nm}$, easily trapped by almost any mask, can be inhaled does not mean stopping such a particle in a mask protects one from the hundreds of thousands, if not

millions of particles that are much smaller, in the range of our concern, 40-125 nm. [Later I learned the consensus for the virion particle size range for SARS-2 is 40-140 nm native or naked particle and 70-200 nm in microdroplets.]

The respirable size range begins at $\leq 10 \mu\text{m}$.

6. ACGIH : Threshold limit Values for Chemical Substances and Physical Agents. Cincinnati, Ohio: ACGIH, 2011. [Google Scholar] [Ref list] — STIPULATED (Which in this place means I do not recognize any need to vet the article.)

Studies referenced:

7. Chen S.K., Vesley D., Brosseau L.M., and Vincent J.H.: Evaluation of single-use masks and respirators for protection of health care workers against mycobacterial aerosols. *Am. J. Infect. Control* 22: 65–74 (1994). [PubMed] [Google Scholar]

Subscription required to read. A 1994 study they wont release for general public viewing? That's odd. No need to vet.

8. Brosseau L.M., McCullough N.V., and Vesley

D.: Mycobacterial aerosol collection efficiency of respirator and surgical mask filters under varying conditions of flow and humidity. *Appl. Occup. Environ. Hyg.* 12: 435–445 (1997). [PubMed] [Google Scholar]

No access beyond the abstract, but there is no need to vet this article. I'll stipulate to the claim.

9. McCullough N.V., Brosseau L.M., and Vesley D.: Collection of three bacterial aerosols by respirator and surgical mask filters under varying conditions of flow and relative humidity. *Ann. Occup. Hyg.* 41(6): 677–690 [PubMed] [Google Scholar]

This one I should at least do an abbreviated vetting.

(-) **FN01.38.00.03.43c-**
<https://pubmed.ncbi.nlm.nih.gov/9375526/>. PDF:
FN01.38.00.03.43c.Collection of three bacterial aerosols by respirator and surgical mask filters under varying conditions of flow and relative humidity - PubMed

Too bad — the article has been removed from public access.

Here is the abstract: “A variety of respirator filters and surgical masks were challenged with three aerosolized bacteria: *Mycobacterium abscessus* (M.a.) (a rod), *Staphylococcus epidermidis* (S.e.) (a sphere), and *Bacillus subtilis* (B.s.) (a rod). Tests were conducted at two flow rates (45 and 85 l./min) and two humidity levels (30 and 70%). Aerosols were measured with a total-particle, direct-reading, spectrometer and a viable particle cascade impactor. Measurements up- and downstream of the filter or mask were used in determining aerosol penetration; **respirator or surgical mask fit was not evaluated.** Bioaerosol penetration measured with two aerosol sampling instruments was found to correlate. Additionally, bioaerosol test parameters were evaluated with respect to their effect on penetration. Increasing flow resulted in increased penetration of all organisms while an increase in relative humidity did not exert a consistent effect on all organisms. Of the respirators approved by the National Institute for Occupational Safety and Health (NIOSH), filter efficiency was as expected with dust/mist respirators having the lowest and HEPA filters the highest efficiency. **Surgical masks were the least efficient of all filters tested; these are not certified by NIOSH.** Bioaerosol penetration was compared to that of a polystyrene latex sphere (PSL) aerosol. Penetration

of the test aerosols was predicted on the basis of particle aerodynamic diameter and was expected to be in this order: PSL > M.a. > S.e. = B.s. The PSL aerosol was the most penetrating, as predicted. However, results showed that B.s. [a rod] was more penetrating than S.e [a sphere]. **The aerodynamic diameter may not be the best parameter for predicting aerosol penetration of non-spherical particles in these filters.”**

NOTE: *** This is interesting! Like these researchers, I would have expected the rod (Bs - with diameter and length) to be less penetrating than a simple sphere (Se). But the reverse is true???? The reason this is interesting is that I predicted a longer virus particle might double up or fold in such a way that would give it a presentation larger than it's diameter. But the results of this test suggest: “The aerodynamic diameter may not be the best parameter for predicting aerosol penetration of non-spherical particles in these filters.”

However, see below, no. 11, where the opposite result is reported: rod shaped penetrated less than spherical.

10. Qian Y., Willeke K., Grinshpun S.A., Donnelly J.,

and Coffey C.C.: Performance of N95 respirators: Filtration efficiency for airborne microbial and inert particles. AIHA J. 59: 128–132 (1998).
[PubMed] [Google Scholar]

Another article inaccessible: Here is the abstract:

(-) FN01.38.00.03.43d-

<https://www.tandfonline.com/doi/abs/10.1080/15428119891010389> PDF:

FN01.38.00.03.43d.Performance of N95 Respirators_ Filtration Efficiency for Airborne Microbial and Inert Particles_ American Industrial Hygiene Association Journal_ Vol 59, No 2

*** “In 1995 the National Institute for Occupational Safety and Health issued new regulations for nonpowered particulate respirators (42 CFR Part 84). A new filter certification system also was created. Among the new particulate respirators that have entered the market, the N95 respirator is the most commonly used in industrial and health care environments. The filtration efficiencies of unloaded N95 particulate respirators have been compared with those of dust/mist (DM) and dust/fume/mist (DFM) respirators certified under the former regulations (30 CFR Part 11). Through laboratory tests with NaCl

certification aerosols and measurements with particle-size spectrometers, **N95 respirators were found to have higher filtration efficiencies than DM and DFM respirators and noncertified surgical masks.** N95 respirators made by different companies were found to have different filtration efficiencies for the most **penetrating particle size (0.1 to 0.3 μm), [100-300 nm] but all were at least 95% efficient at that size for NaCl particles.** Above the most penetrating particle size the **filtration efficiency increases with size; it reaches approximately 99.5% or higher at about 0.75 μm [750 nm].** Tests with bacteria of size and shape similar to *Mycobacterium tuberculosis* also showed filtration efficiencies of 99.5% or higher. Experimental data were used to calculate the aerosol mass concentrations inside the respirator when worn in representative work environments. The penetrated mass fractions, in the absence of face leakage, ranged from 0.02% for large particle distributions to 1.8% for submicrometer-size welding fumes. **Thus, N95 respirators provide excellent protection against airborne particles when there is a good face seal.”**

Lets include it, even though it is redundant at this point, it does provide additional support for all conclusions made thus far: For reference only:

11. Willeke K., Qian Y., Donnelly J., Grinshpun S.A., and Ulevicius V.: Penetration of airborne microorganisms through a surgical mask and a dust/mist respirator. *AIHA J.* 57: 348–355 (1996).
[PubMed] [Google Scholar]

It appears the older articles are the least accessible: this one Apr. 1996 is inaccessible.

Let's include this study in an abbreviated vetting:

(-) FN01.38.00.03.43e-
<https://pubmed.ncbi.nlm.nih.gov/8901236/>. PDF:
FN01.38.00.03.43e.Penetration of airborne microorganisms through a surgical mask and a dust_mist respirator - PubMed

*** Here is the abstract: “This study investigated bacterial penetration of different bacterial shapes, aerodynamic sizes, and flow rates through a surgical mask and a dust/mist respirator. The bacterial penetrations were compared with those of spherical corn oil particles of the same aerodynamic diameter tested under the same conditions. The tests were performed at different levels of aerosol penetration. Bacteria, ranging from spherical to rod-shaped with a

high aspect (length to width) ratio, were selected as test agents. Among these, *Pseudomonas fluorescens* physically simulates *Mycobacterium tuberculosis* by shape and size. The concentrations of bacteria upstream and downstream of the test devices were measured with an aerodynamic size spectrometer. **This instrument was found to measure the total viable and nonviable bacterial concentration effectively and dynamically over the entire bacterial size range down to 0.5 microns in aerodynamic size.** The results indicate that the **spherical corn oil particles and the spherical *Streptococcus salivarius* bacteria have the same penetration in the size range from 0.9 to 1.7 microns.** It has been found that rod-shaped bacteria penetrate less. The penetration difference between the spherical and rod-shaped bacteria depends on the aspect ratio of the bacteria. For an aspect ratio of 4, the penetration of rod-shaped bacteria is about half that of spherical ones. **Thus, it is projected that a respirator with 90% efficiency against spherical microorganisms or test particles (10% penetration) will be 95% efficient against rod-shaped microorganisms of the same aerodynamic equivalent diameter with an aspect ratio of 3 to 4, such as *Mycobacterium tuberculosis* (5% penetration)."**

This one supports the more intuitive expectation regarding rod versus spherical particles: rod shaped are less penetrating than spherical.

IR: All the size ranges are outside my interest, smallest is 500 nm.

12. Zhili Z., Kuehn T.H., and Pui D.Y.H.: Performance evaluation of filtering facepiece respirators using virus aerosols. *Am. J. Infect. Control* 41(1): 80–82 (2013). [PubMed] [Google Scholar]

No access. Quick vet (Abbreviated vetting): PC: April 6, 2012. CCP: Zuo, and Pui. **ORIGIN:** US-MN: Dept. of Mechanical Engineering, U of MN.

FN01.38.00.03.43f-
<https://pubmed.ncbi.nlm.nih.gov/22483237/> PDF:
FN01.38.00.03.43f.Performance evaluation of filtering facepiece respirators using virus aerosols - PubMed

Paid access.

Here is the abstract: very limited — “Physical penetration and infectivity penetration of adenovirus

and influenza virus aerosols through respirators were measured to better characterize the effectiveness of filtering facepiece respirators against airborne virus. A physical penetration of 2%-5% was found. However, large sample-to-sample variation made it difficult to quantify the difference in physical penetration caused by the different virus aerosols. Infectivity penetration of adenovirus was much lower than physical penetration, indicating that the latter provides a conservative estimate for respirator performance.”

CCav: Apparently, virions causing infections CAN penetrate the N95, and presumably, if so, much more so penetrate the MM. Filtration at 98% to 95% is a standard expectation and threshold required for these masks. This study confirmed this filtration threshold for N95.

INFO: However, what is new, at least to me, is that “Infectivity penetration of adenovirus was MUCH LOWER THAN PHYSICAL PENETRATION, indicating that the latter provides a conservative estimate for respiratory performance.” **It does better than the study indicates because a significant number of the virions are not infectious.**

13. Noti J.D., Lindsley W.G., Blachere F.M., et

al.: Detection of infectious influenza virus in cough aerosols generated in a simulated patient examination room. Clin. Infect. Dis. 54(11): 1569–1577 (2012). [PMC free article] [PubMed] [Google Scholar]

Finally, a FREE ARTICLE. Let's see if I already have it: NOPE.

FN01.38.00.03.43g-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4680957/> PDF: FN01.38.00.03.43g.Detection of Infectious Influenza Virus in Cough Aerosols Generated in a Simulated Patient Examination Room - PMC

PC: Dec. 2015

CCP: Cao (1 of 10) / **ORIGIN:** US-W. VA: NIOSH, CDC; W. VA U; PA: Pittsburgh, Policy and Standards Development Branch, Ntl Personal Protective Tech Lab, NIOSH/CDC; CHINA-Shen Zhen: U of Xi Li; so yes, CCP bias is expected. / **REF:** IOM (Institutes of Med.); Hirji; Wan, Song; Chen, Matsuoka; Huynh; Chen; Lee; Cao; Teunis; Cowling, Zhou, Ip, Leung, Aiello; MacIntyre, Wang (11 of 40) / **FUNDING:** Grants from: "PMCID ... NIHMSID ... and PMID ... "; Statement: "This work was supported by NIOSH and the [US] Centers for Disease Control and Prevention."

RCT: Not asserted. Looks like an RCT to me. But not asserted. It appears to be an elaborately laid out experiment, see Materials and Methods.

CONTENT:

IR: Results: **“Infectious influenza was recovered in all aerosol fractions (5.0% in >4 μm aerodynamic diameter, 75.5% in 1–4 μm , and 19.5% in <1 μm ; n = 5). Tightly sealing a mask to the face blocked entry of 94.5% of total virus and 94.8% of infectious virus (n = 3). A tightly sealed respirator blocked 99.8% of total virus and 99.6% of infectious virus (n = 3). A poorly fitted respirator blocked 64.5% of total virus and 66.5% of infectious virus (n = 3). A mask documented to be loosely fitting by a PortaCount fit tester, to simulate how masks are worn by healthcare workers, blocked entry of 68.5% of total virus and 56.6% of infectious virus (n = 2).”**

If the poorly fitted N95 masks provided filtration in the levels indicated they are totally inadequate for protection in the general population, and certainly this betrays the woeful inadequacy of surgical masks as they are typically worn by the public. The analogy of the bullet barrage comes into play here.

IR: Particle size is outside our query criteria: ***
INFO: I have noticed that consistently the rule is protection increases with particle size. That holds true here. The mask blocked 75.5% of particles in the 1-4 μm range, but only 19.5% in the $\leq 1 \mu\text{m}$ range. Keeping in mind that <1 means somewhere between 0.5 μm and 1, or 500 nm to 1000 nm. Why? Because the point is to stipulate the smallest particles blocked, and if the mask blocked particles smaller than the 0.5 μm threshold it would certainly have been noted.

14. “Approval of Respiratory Protective Devices,” Code of Federal Regulations Title 42, Part 84. 2010. [Google Scholar] [Ref list]

No link. Title search: Found:

I’ll add this to my archives but do not see a need to vet it. (-) **FN01.38.00.03.43h-**
<https://www.ecfr.gov/current/title-42/chapter-I/subchapter-G/part-84> PDF: FN01.38.00.03.43.h.42
CFR Part 84 (up to date as of 6-06-2022)

I included this in the research folder but did not vet it. It’s a gov. regulation document last updated in April 2004. There is no claim that contests my thesis,

or contributes significantly to my study. I'll stipulate to the contents of this doc. without further examination at this time.

15. "Respiratory Protection," Code of Federal Regulations Title 29, Part 1910.134. 2005. pp. 419–444. [Google Scholar] [Ref list]

(-) **FN01.38.00.03.43i-**
<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>
PDF: FN01.38.00.03.43i.1910.134 - Respiratory protection. _ Occupational Safety and Health Administration.pdf

As per above, **stipulated** unless need to examine arises later.

16. "Occupational Safety and Health Act of 1970." Available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=2743&p_table=OSHACT. (accessed August 4, 2012). [Ref list]

(-) **FN01.38.00.03.43j-**
<https://www.osha.gov/laws-regs/oshact/completeoshact> PDF:

FN01.38.00.03.43j.OSH Act of 1970 _ Occupational Safety and Health Administration

As per above, **stipulated** unless need to examine arises later.

—> Back to **FN01.38.00.03.43-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6724169/>. PFD: FN01.38.00.03.43.N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel - PMC

So I'm looking for anything in this study that might contribute to my thesis, + or -. I'll scan —

10. Determination of particulate filter efficiency level of N95 series filters against solid particulates for non-powered, air-purifying respirators standard testing procedure. Pittsburgh, PA: National Institute for Occupational Safety and Health ; 2016 <https://www.cdc.gov/niosh/npptl/stps/pdfs/TEB-APR-STP-0059-508.pdf>. [Ref list]

(-) **FN01.38.00.03.43k-**

<https://www.cdc.gov/niosh/npptl/stps/pdfs/TEB-APR-STP-0059-508.pdf> PDF:

FN01.38.00.03.43k.National Institute for Occupational

Safety and Health

As per above, **stipulated** unless need to examine arises later.

—> Back to **FN01.38.00.03.43b-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4670234/> FN01.38.00.03.43b — The Use of Respirators ...

I think it's safe, reasonable, and appropriate to move on from article no. 38 in my next session. But look at this with fresh eyes tomorrow.

Actually, I just looked over what articles are remaining in no. 38 and nothing else in this article addresses anything within the sphere of my interest. So, here is the conclusion:

SS: “Overall, it appears that cloth face covers can provide good fit and filtration for PPE in some community contexts, but results will vary depending on material and design, the way they are used, and the setting in which they are used.”

NOTE: My conclusion, premised upon my extensive examination of this study and the documentation used to support the conclusions of its

authors, I would say no way does it appear face coverings provide anything like acceptable levels of protection from viral droplets and therefore they cannot be depended upon to offer adequate protection from infection.

Here is a CDC study pushing masks as efficacious to protect against the spread of virus:

**** **FN01.39.00.00.00-**

<https://jamanetwork.com/journals/jama/fullarticle/2776536> PDF: FN01.39.00.00.00-

Effectiveness of Mask Wearing...Jama_Brookspdf
(See “Community mask wearing ...” After examining only a few paragraphs of this article, I want to flag it as exemplary of everything that is WRONG with the pro-masking argument.)

PC: Feb. 10, 2021

CCP: Brooks, Butler / **ORIGIN:** CDC, CCP bias should be expected. **REF:** Kada; Ueki, Iwatsuki-Horimoto; Doung-Ngem; Wang, Tian, Zhang; Lyu, Wehby (5 of 10). **FUNDING:** nd Assumed US CDC

RCT: No. An RL

CONTENT: CLAIM: Global statistics prove masking worked: “When masks are worn and combined with other recommended mitigation measures, they protect not only the wearer but also the greater community.” Also they explain that as mutations emerge, “masking will be even more important.”

SS: Riddled with SS, “Community mask wearing substantially reduces transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in 2 ways.”

CCav: Found a **CORRECTION** noted under Article Information: “This article was corrected on February 22, 2021, to correct a typo indicating that there were solid relevant data to support community mask wearing to reduce the spread of respiratory infections before the pandemic. This typo has been corrected.” Passage corrected found in first paragraph, see SP below. I don’t have a copy of the earlier version, so I don’t know if the *typo* was the accidental omission of the word *no* or if to correct the problem required rephrasing the sentence from one that asserted there was such relevant data.

***** ACK:** “Prior to the coronavirus disease 2019 (COVID-19) pandemic, the efficacy of community mask

wearing to reduce the spread of respiratory infections was controversial because there were no solid relevant data to support their use. During the pandemic, the scientific evidence has increased.”

*** SP: I have read literally hundreds of articles written before COVID exploring the question of mask efficacy. TA suggest that before the pandemic there was nothing to drive interest in mask efficacy, and the current pandemic has awakened an interest in this subject. I think this is supposed to explain the LACK OF “SCIENTIFIC EVIDENCE” SUPPORTING MASKING. Here are four supporting observations:

First, COVID-19 is not only NOT the first pandemic to come along, but it’s far from being anything like the worst.

Second, the controversy over masks has a very long history, dating back to even before the 1918 Spanish Flu pandemic.

Third, the amount of studies on this question is a measure of what liars these guys are, and it’s huge. It is virtually endless. Hundreds of efforts have been made to examine the efficacy of masks, and the consensus in Western science is that they are of barely marginal

benefit. **What has NOT been studied as much are the noticeable negatives of mask wearing.** The dodge I expect from these fellows would be not so much attention has been given to “source control” versus PPE. First, adequate attention has been given to movement of particles from host into atmosphere and from atmosphere into host, and that **the attention on “source control” is relatively new because it is relatively irrelevant.** China has been attempting to establish the relevance of “source” control for decades, but the West has in the main drawn back from their efforts because the “science” used to support their conclusions is very weak.

Fourth, later **they express resentment** that they are **pressed to come up with definitive and unequivocal evidence** supporting their masking policies, **explaining that medical science is not like mathematics, where “proof” is possible.** That is a VERY DANGEROUS and SLIPPERY SLOPE — it lets “scientists” off the hook, so the burden of proof is greatly compromised and shifted to a fudgeable scale where all that is needed is **“reasonable argument,”** and **“preponderance of evidence”** rather than hard evidence. And the problem with “reasonable argument,” and “preponderance of evidence” is that **in science, the arguments are easily contrived and**

the evidence manufactured. All “they” have to do is gin up the “scientific papers” factory and produce a volume of papers repeating the same bias so they can point to a pile of “scientific” papers that all “agree” and pass that off as Scientific Proof. ***

So, right off the starting line, these guys show their intense bias.

SS: “Compelling data now demonstrate that community mask wearing is an effective ... intervention to reduce the spread ...” is an example of what I’m saying.

SP: *** Debate over size of aerosols: This article is about droplets in sizes $<10 \mu\text{m}$ diameter, “often referred to as aerosols.” [So, here we go — aerosols have traditionally been understood to begin at $5\mu\text{m}$, now it’s $10 \mu\text{m}$. The COVID “pandemic” has changed a lot of things in order to support mask efficacy. I use SP for specious argument, but also to indicate places where I find any species of dishonesty. In this case, the malleable definition of aerosol provides cover for these liars to make generalized statements like, “surgical masks show 80%+ efficacy at blocking aerosols” by expanding the category of aerosol particles from the traditional $\leq 5 \mu\text{m}$ to include particles from 5 to $10 \mu\text{m}$. This manipulation of

scientific definitions creates confusion and requires honest scientists to essentially give up on the language and specify the size range every time they use a term: e.g., “aerosol ($\leq 5 \mu\text{m}$)” or “aerosol ($< 10 \mu\text{m}$)” or else the reader cannot make an accurate assessment of the statement. It really creates a problem when reading older material where the consensus was well established and so authors could simply say *aerosol* and all knowledgeable readers would know the word referred to particles $\leq 5 \mu\text{m}$. **(Although, if you go back far enough, before that consensus was settled in, there are papers where the category of aerosol was still in question—at what size does a particles gravity and drag equal out leaving the particle in a free-floating state. The new criteria has to do with time, how much time will the particle remain suspended under x conditions of airflow, and etc. As I have pointed out, this is an unacceptable variable since in some conditions, tables might be arguably considered “aerosols” — as in a tornado, or hurricane. The criteria that examines the physical properties of the particle, and ascertains at what point gravity and drag are equal, is a better criteria. If it is felt necessary to create another category to include particles that are larger than aerosols but that do remain suspended for periods of time that are concerning re**

transmission, then do so — but don't confuse the science by manipulating the terms.)

NOTE: *** The science has consistently shown that surgical masks (and so most certainly homemade cloth masks) don't do well against aerosols, which have always been regarded as particles that are $\leq 5 \mu\text{m}$ in diameter. The PUSH is for masks to be worn by all, but up against this wall of contrary evidence that they perform poorly against aerosols, like all liars, these people are very sensitive to the nuance of rhetoric, they simply CHANGE THE MEANING OF THE WORD so that Masks can be said to effectively protect against "aerosols," since it can be shown that the surgical masks are effective to capture droplets in the $> 5 \mu\text{m}$ to the $10 \mu\text{m}$ range. By adjusting the range of what are considered aerosols, they allow for statements like masks can protect against aerosols.

Even so, at some point they have to address the particle size and admit that if they assert MM (sometimes SM) protect against aerosols this only applies to those that are $> 0.3 \mu\text{m}$, when the particles we are concerned with are $.125 \mu\text{m}$, or in the nanoparticle range. (Later I learned the range is 40-140 nm.)

CLAIM: These authors (TA) claim masks “especially” protect as source control, “but also as protection to reduce wearers’ exposure to infection.”

CCav: *** “The amount of small droplets and particles increases with the rate and force of airflow during exhalation (eg, shouting, vigorous exercise). Exposure is greater the closer a person is to the source of exhalations. Larger droplets fall out of the air rapidly, but small droplets and the dried particles formed from them (ie, droplet nuclei) can remain suspended in the air. In circumstances with poor ventilation, typically indoor enclosed spaces where an infected person is present for an extended period, the concentrations of these small droplets and particles can build sufficiently to transmit infection.”

Stipulated: the volume of infectious particles increases with the rate and force of airflow during exhalation, and so in the course of normal living activities, the volume of exhaled particles increases.

Stipulated: Larger droplets fall out of the air rapidly, but **SMALL DROPLETS AND THE DRIED PARTICLES FORMED FROM THEM (i.e., DROPLET NUCLEI) CAN REMAIN SUSPENDED IN THE AIR.**

INFO/CCav: ***This is helpful information. The “dried particle” is what is meant when we discuss droplet nuclei? The fully desiccated droplet releases droplet nuclei which in the case of SARS-2, would be .125 μm , or 125 nm (a range of from 40-140 nm). And the reason this stipulation amounts to a CCav is that everyone, including TA for this article, knows that **no surgical mask is going to effectively capture droplet nuclei**. If they pretend otherwise, they are outrageous liars, and will have exposed themselves to ridicule for their lack of scientific knowledge, or abrasive misuse of their offices—something approaching malfeasance.

Stipulated: in an enclosed space with poor ventilation where some infected person is present for an extended period of time, the volume of infectious particles will increase “sufficiently to transmit infection.”

*** CONFOUNDERS:

First, what if the room is properly ventilated?

Second, what if the infected person only passed through the room?

Third, what if the persons in the room are protected by natural immunity?

Fourth, what if the truth is some exposure allows healthy persons to establish immunity?

Fifth, what if some do get sick, and suffer some symptoms of COVID but survive, and what if that survival rate is in excess of 95% across all demographics, including those of advanced age (usually set at 65+). And ...

Sixth, what if some die, as occurs every flu season, particularly among those that are infirm, or who have what are called comorbidities?

What if people go on living their lives without the imposition of medical police *Nazis* intruding into our personal lives, like the Mayor of SFO said a while back, interfering with our personal choices and the living of our lives?

ESPECIALLY GIVEN the FACT that the exposure is NOT massively fatal, and in FACT, exposure in a circumstance like what is described here might even be BENEFICIAL allowing natural immunity to develop in the community — and finally, what if, in FACT,

These so called protective measures actually exacerbate natural weakness and inhibit natural resistance in order to EXPLOIT medical tyranny over our lives?

*** SS: *Community mask wearing* (speaking of people in terms of “communities” instead of as individuals is a socialists methodology and mindset. When individual susceptibility is extrapolated out and applied to the entire “group” all sorts of really bad things happen. Now everyone is presumed equally susceptible to disease. A great way to expose the fallacy is to ask these yahoos to do it in reverse. **Let’s extrapolate the characteristics of the healthy and apply that to the entire group, or “community.”** In FACT that would be the more reasonable assumption — **that most people in the community will NOT GET SICK but WILL develop natural antibodies to the virus**, and virtually all who do will RECOVER and have natural immunity, and **the more people in any community that has natural immunity the weaker the virus will become in that community** — THESE ARE THE SCIENTIFIC FACTS that are being ignored by these people, and they KNOW BETTER, so it’s about an AGENDA — **the maskers want to OPPRESS the people.**

CLAIM/SP: A claim that recent lab experiments show multilayer cloth masks were effective to block 50% to 70% of exhaled “small droplets and particles: “In recent laboratory experiments, multilayer cloth masks were more effective than single layer masks, blocking as much as 50% to 70% of exhaled small droplets and particles.^{2,3}” Really? Okay, I guess I’ll have to take a look at these articles referenced: 2,3.

*** But before we go there, remember the bullet barrage analogy: if 10000 bullets are coming straight at your head, and you block 70% of them, that means only 3000 bullets are going to hit their target. How safe do you feel? And the point is not that anyone should read this and become fearful they are going to DIE because hundreds of thousands of “small droplets and particles” are coming at you, and your mask only blocks 70%, leaving you exposed to tens of thousands of “small droplets and particles” — because, as I said above, **1. most never get sick and so develop antibodies from exposure, and 2. most of those, 95%, in fact, recover from the disease and so develop a strong immunity, and 3. of the 5%, almost all of these cases are our precious elderly who are already sickly, that die, and the FACT is virtually all of them would have died from some other ailment or in a**

normal flu season. Keeping this in mind, let's look at the supporting documentation for the statement that a multilayered cloth masks captures 50-70% of "small droplets and particles." I will assume that the distinction made between small droplets and particles indicates that by particles they are talking about droplet nuclei.

The two studies referred to as documenting support for the above claim are as follows: (CLAIM: "In recent laboratory experiments, multilayer cloth masks were more effective than single layer masks, blocking as much as 50% to 70% of exhaled small droplets and particles.^{2,3}")

2. Lindsley WG, Blachere FM, Law BF, Beezhold DH, Noti JD. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *Aerosol Sci Technol*. Published online January 7, 2021. doi:10.1080/02786826.2020.1862409 Google Scholar

FN01.39.01.00.00-

<https://www.tandfonline.com/doi/full/10.1080/02786826.2020.1862409> PDF: FN01.39.01.00.00.Full article_ Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-

generated aerosols

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Alternate source for this article: Lindsley W, Blachere F, Law B, Beezhold D, Noti J. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *Aerosol Science and Technology*. 2020;55:449–457.

https://www.researchgate.net/publication/345985829_Efficacy_of_face_masks_neck_gaiters_and_face_shields_for_reducing_the_expulsion_of_simulated_cough-generated_aerosols_Preprint_version_3 See PDF: FN01.36.01.2.Lindsley2020Facemasksandshields2020-11-14preprintv3

Already vetted in these notes: See **FN01.36.01.02.00-** https://www.researchgate.net/publication/345985829_Efficacy_of_face_masks_neck_gaiters_and_face_shields_for_reducing_the_expulsion_of_simulated_cough-generated_aerosols_Preprint_version_3. PDF: FN01.36.01.02.00.Efficacy Of

Facemasksandshields2020-11-14preprintv3Lindsley202.pdf

I'll include one citation from my notes on this article that shows why I dismissed it as relevant to my study: "Source control devices like face coverings and face shields collect respiratory particles larger than $0.3 \mu\text{m}$ primarily by impaction and interception of the aerosol particles against the fibers or solid surfaces of the device." NOTE: "*larger than $0.3 \mu\text{m}$* "

—> Back to **FN01.39.01.00.00-**
<https://www.tandfonline.com/doi/full/10.1080/02786826.2020.1862409> PDF: FN01.39.01.00.00.Full article_ Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols

The next supporting reference for the CLAIM: "In recent laboratory experiments, multilayer cloth masks were more effective than single layer masks, blocking as much as 50% to 70% of exhaled small droplets and particles. 2,3"

3. Ueki H, Furusawa Y, Iwatsuki-Horimoto K, et al. Effectiveness of face masks in preventing airborne transmission of SARS-CoV-2. mSphere.

2020;5(5):e00637-20. doi:10.1128/mSphere.00637-20 PubMed Google Scholar

Already vetted in these notes: see
FN01.36.01.06.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7580955/>. PDF: FN01.36.01.06.00.Effectiveness of face masks in preventing airborne transmission of SARS-CoV-2

—> Back to **FN01.39.00.00.00-**
<https://jamanetwork.com/journals/jama/fullarticle/2776536%C2%A0> — Effectiveness of Mask Wearing ...

ACK/INFO: “Larger droplets fall out of the air rapidly, but small droplets and the dried particles formed from them (ie, droplet nuclei) can remain suspended in the air.”

Here is a note telling us the “science summarized in this article” is reviewed in “greater detail” with a full set of references on the CDC website Scientific Brief: Community Use of Cloth Masks to Control the Spread of SARS-CoV-2 — I’ll post the link here:
<https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>

FN01.39.02.00.00-

<https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>. PDF: FN01.39.02.00.00.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC

Already vetted in these notes: See

FN01.36.01.00.00-

https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html
PDF: FN01.36.01.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC.
PDF: FN01.36.01.00.00.Of Masks and Methods _ Annals of Internal Medicine.

Apparently, this link takes me to an update of the Science Brief ... article which I vetted thoroughly. Nothing found in the update contributes new information altering conclusions from the earlier vetting of this article. Nevertheless, let's run down the articles cited to make certain I've vetted all that are pertinent:

—> Back to **FN01.39.00.00.00-**

https://jamanetwork.com/journals/jama/fullarticle/2776536%C2%A0PDF:FN01.39.00.00.00.jama_brooks_2021_it_210006_1631033869.97869.pdf

Remember that only 20% of particles $<3\mu\text{m}$ were captured, meaning 80% penetrated the masks. 80% of particles from $\geq 3\mu\text{m}$ to $8\mu\text{m}$ were trapped, 40% in each category, but only 20% of particles smaller than $3\mu\text{m}$ were trapped. I'm not sure the scientists had capacity to measure smaller than 200 nm, but my guess is they did not.

My Examination of the Falcon Articles/Studies “Proving” Masks work Continues:

This doc CONTINUES LMPB1-My Examination of Studies “Proving” Masks work (doc 1)

<https://www.kxan.com/news/coronavirus/do-face-masks-work-here-are-49-scientific-studies-that-explain-why-they-do/>

See LMPB0-My Examination of Studies “Proving” Masks work (doc 0) for introductory material. LMPB0 provides a great overview of this subject and offers important instruction to help you take full advantage of these notes.

See LMPB1-... for an examination of articles 01-39.

FN01.40.00.00.00-<https://wmjonline.org/wp-content/uploads/2020/119/4/229.pdf> PDF:
FN01.40.00.00.00.The Great Mask Debate ...Wisconsin
Medical Journal 114no5

PC: October 30, 2020

CCP: John R. Raymond, Sr. MD: president of the Medical College Wisconsin, and CEO. / **ORIGIN**: Became president in 2010. Here you go: MCW is “ranked in the top third of all medical schools nationwide FOR NATIONAL INSTITUTES OF HEALTH [NIH] research FUNDING AND GARNERS MORE THAN \$235 MILLION ANNUALLY IN EXTERNALLY FUNDED GRANTS AND OVER \$285 MILLION OF RESEARCH EXPENDITURES.” So, yeah, I’d say we have reason to be concerned about CCP bias influence. / **REF**: Indicate a dependency upon CCP related or connected sources: CDC, Zhang, Chu, Leung, Wang, Wu, Lee, Chien (Hsiung), Thongpan, Liu (Han, Liang, Shi, Wei), Dhanak, Cheng, Wang, (Zhou), Lyu, Chang, Chan, Chou, Xiao, (Shiu), Huang, Zha, Chen, Yan, Ong, Wang, CDC, Zeng, (Wang) — and without taking time to vet all 88 references, at least 80 of which appear to be studies of one or another sort, I cant’ tell how many others have some possible connection to CCP influence. Given the relationship of WMC and NIH, I might expect to find some CCP funding present in the organization. Also, I

recognized many of these studies as ones I have already vetted / **FUNDING**: “Funding/Support: None declared.” Financial Disclosures: None declared.” The assumption should be as Indicated above, includes NIH.

RCT: No, RL (not even what is called a systematic review).

CONTENT: Claim: “this December 2020 Wisconsin Medical Journal review used over 88 scholarly references to aggregate his ultimate conclusion that the bulk of mask wearing works to control community spread.” This author’s opinion is that “while a mask can ONLY PROTECT WEARERS FROM INFECTION TO A CERTAIN EXTENT, they can HELP CONTROL THE VIRAL LOAD THEY’RE EXPOSED TO AND THUS, THE SEVERITY OF THEIR INFECTION.” Wow!

RL: The doctor describes a study very like the one I am undertaking. “The author conducted a semi-structured literature review using search terms “COVID19” or “SARS-CoV-2” crossed with “mask/s” or “face covering/s.” Articles were evaluated through October 30, 2020 for inclusion, as were key references cited within the primary references and other references identified through traditional and social media outlets.” I did not jump on to the web and collect articles via search queries. I took Falcon’s article: *Do face masks work? Here are 49 scientific studies that explain why they do*” and examined each carefully. I

chased down virtually every relevant article cited by these authors, and very often followed citations used in those as well. Every question that arose, I sought out information to help offer clarification, and those articles thought to be particularly helpful, and expected to be needful for anyone following my research, I placed them in my TECH##. article archives.

SS/SP/CCav: TA in this article asserts “strong evidence” supporting community use of face coverings but admits that at the time of his research (OCTOBER 30, 2020) only ONE “high-quality published randomized controlled trial of this topic [was available] at the time of review.”

SS: He concludes the evidence favoring use of masks is STRONG. [I’ve read virtually all the source material he provides and come to an opposite conclusion.]

SP: *** TA admits minimal benefit as PPE but asserts “most of the benefit of wearing a face covering is conferred to the community and to bystanders.” I categorize these sorts of statements as SP because I consider it specious to switch the topic of debate in this way. If this MD knows the subject matter he is addressing, he must know that the droplet origins from source are not ALL in the low end of what is considered the large category of droplets ($>5 \mu\text{m}$), he must know that the efficiency rating for surgical masks, even at this size, allows multiple thousands of particles to

escape capture at source, he must know that these particles that escape capture quickly become aerosols, that float almost indefinitely and penetrate such masks used as PPE, he must know that the droplets that are captured begin evaporation, and soon become desiccated, releasing the virions to be drawn in or launched from the mask at sizes that penetrate the barrier provided by the recommended surgical and cloth masks, he must know that droplets contained in moisture create a petri dish for bacterial growth, irritation for the skin immediately around the mouth and nose, and become infectious in reuse — if this MD does know these things and makes these misleading statements, he is an agenda driven medical establishmentarian whose agenda is not the health of his patients but the advancement of his career and participation in the agenda of those driving the govt. medical establishment; if he does not know these things, he has no business using his influence as an MD to promote use of a medical preventive measure he does not understand.

NOTE: An interesting aside: I wonder if he wears one in public in accordance with the regulations imposed on the “community”?

(-) **FN01.40.01.00.00**-<https://spectator.org/ccp-american-universities-confucius-institutes/> PDF:
FN01.40.01.00.00.How the CCP Infiltrates American Universities - The American Spectator _ USA News and

Politics

The article was examined with interest in the question of CCP infiltration of our universities. But not vetted since it is only tangentially rel. to the query of this research.

On the question of CCP influence in WMC, we know CCP infiltrates our universities in the US. WMC is NOT NAMED in this report. We know that CCP has attempted to influence Wisconsin, but I cannot find any direct link between CCP and WMC.

—> Back to **FN01.40.00.00.00-**
<https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf> — The Great Mask Debate.

CCav/SP: Interestingly, while TA refers to “1 high-quality, randomized controlled study of the efficacy of masks to mitigate the spread of COVID-19 at the time of this review, ...” he did not footnote a reference to that study. See p. 230. He offers references 4, 5 as the however (opened sentence with Although) conclusion of the following sentence: Although there was only 1 high-quality, randomized controlled study of the efficacy of masks to mitigate the spread of COVID- 19 at the time of this review, there is strong evidence that wearing masks outside of the household slows the spread of COVID- 19, both for source control and for protecting the mask wearer.

The first evidence of the effectiveness of masks to slow the spread of respiratory pathogens in community settings came from the Spanish Flu epidemic of 1918.4,5”. Let’s see if he put it there.

“4. Crosby AW. America’s Forgotten Pandemic: The Influenza of 1918. Second edition. Cambridge University Press; 2003.

“5. Navarro JA, Markel H (Eds). Influenza Encyclopedia: The American influenza epidemic of 1918-1919 – a digital encyclopedia. University of Michigan Center for the History of Medicine. Ann Arbor, Michigan Publishing. <http://www.influenzaarchive.org/> Accessed July 3, 2020”

SP/CCav: Nope! Neither of these is a reference to any RCT. They are historical. This is a species of specious argument, used here as employed elsewhere to indicate I think betrays an effort to misdirect the reader.

Let’s see if he cites a study that is an RCT anywhere in his REFERENCES. Search: *random*.

CCav: TA references studies that provide reviews of multiple randomized controlled studies, but since he told us only 1 was high-quality, we must assume all of these were substandard.

CCav: I found one reference to an RCT that found no benefit from masking: “a single randomized controlled study of mask wearing did NOT FIND A STATISTICALLY SIGNIFICANT BENEFICIAL EFFECT OF COMMUNITY USE OF MASKS TO MITIGATE THE SPREAD OF COVID-19.” And he offers footnote 56. Is this the “1 high quality randomized controlled trial...” he mentioned earlier?

NOTE: Reference 56. Aggarwal N, Dwarakanathan V, Gautam N, Ray A. Facemasks for prevention of viral respiratory infections in community settings: a systemic review and meta-analysis.

Indian J Public Health. 2020;64(6):192-200.

doi:10.4103/ijph.IJPH_470_20 — this is not a RCT, it’s a “systemic review and meta-analysis.] Is this the “high-quality” trial he mentioned at the beginning? If it is, why didn’t he reference it there in the most natural place to do so? And if it is not, is that the reason he does not refer to it as an RCT, but rather as a randomized controlled *study* as opposed to *trial*?

CCav/SP: TA goes on to discuss “the DANMASK-19 study. And I think this might be the *study* he meant. He proceeds here, however, on p. 234, col. 2, paragraph beginning “Finally, a single randomized controlled study of mask wearing DID NOT FIND A STATISTICALLY SIGNIFICANT BENEFICIAL EFFECT OF COMMUNITY USE OF MASKS ...” and offer Footnote reference 56???

But, as pointed out above, that is not a randomized controlled study, or trial, but rather a systematic review and meta-analysis. He immediately refers to the DANMASK study that we have addressed a few times in these notes

as if to debunk the study as inadequate to find against the efficacy of masking for community protection because it fails to target source control, or ask whether masks protect the community at large, and/or bystanders. Was the DANMASK study the mysterious 1 study TA mentions but seems to be hiding from us?

NOTE: *** TA does not refer to this as a “trial,” and there is a difference. However, it’s confusing because it appears TA is using *study* and *trial* in this instance at least, interchangeably. See under ABSTRACT, Results: “Although there was only 1 high-quality randomized controlled trial of this topic at the time of review” and compare to p. 230, second column, under subheading: Evidence Supporting Masks to Slow the Community Spread of COVID-19 — “Although there was only 1 high-quality, randomized controlled study of the efficacy of masks to mitigate the spread ...” Unless TA is purposely parsing words to hide something, it seems clear he is using *randomized controlled trial* interchangeably with *randomized controlled study*.

So, while I cannot be certain he is talking about the same RCT he referenced in his introductory comments, it

is reasonable to assume that is what he is doing. In this paragraph (p. 230, col. 2, last paragraph) he appears to connect the DANMASK study to this mysteriously referenced “1 high-quality ...” RCT but footnotes 56, which is NOT A RCT.

SP: IN any event, TA dismisses the conclusion drawn by the researchers of the DANMASK study by pointing out it 1. did not consider the effectiveness of the masks for SOURCE CONTROL. NOTE: All studies that find masks are inadequate that do not specifically address the question of source control are dismissed by every current study, or I should say, post-COVID study. Now, let’s think about that.

FIRST/CCav: *** Attempting to prove efficacy for source control is almost impossible. You would have to find for how much viral droplet nuclei released from a source finds its way to a target — the closest we have to such a study is offered in FN01.39.00.00.00, see above, but after vetting that doc we found it does not prove anything like complete protection from any mask, including the revered N95, and nothing approximating adequate protection for cloth or surgical masks. Along with the many other problems evident in that study, it is at the very best inconclusive because it cannot find for how many people exposed to the virions hitting target would get sick. And then, beyond that, the whole problem I’ve presented regarding interfering with natural exposure triggering

natural antibody response.

Anyway, RIGHT THERE, he totally lost my respect. The fact is, I am not particularly impressed by the DANMASK-19 study, and I'm not entirely confident it is a proper RCT, nor am I confident this is the "high-quality" RCT TA mentions in his introduction. But let's look at footnote 56 and see what we find:

If his reference is accurate, and "56. Aggarwal N, Dwarakanathan V, Gautam N, Ray A. Facemasks for prevention of viral respiratory infections in community settings: a systemic review and meta-analysis. Indian J Public Health. 2020;64(6):192-200. doi:10:4103/ijph.IJPH_470_20" is in fact the RCT he mentions in the Abstract, it turns out this is not a RCT.

So, WHERE IS THE MYSTERIOUS "1 randomized controlled trial" that existed at the time Raymond completed his study?????

But wait, in his ABSTRACT he refers to the only "1 high-quality published randomized controlled trial" of this topic, then under METHODS, under Evidence Supporting Masks to Slow the Community Spread of COVID-19 (p. 230, Col. 2) we find "Although there was only 1 high-quality, randomized controlled study ..." which we must assume refers back to the 1 trial he mentioned, unless he is really being obscurantist, and annoying, and in that case

to be disregarded. If the former is the case, he has either made a mistake in his cross-reference and miss identified the footnote, because footnote 56 does not refer to a randomized anything. But, maybe I need to look more closely. Let's run down the footnote reference no. 56.

No link. Title search: Found:
<https://www.ijph.in/article.asp?issn=0019-557X;year=2020;volume=64;issue=6;spage=192;epage=200;aulast=Aggarwal>. The article is not vetted in these notes. Let's vet!

FN01.40.02.00.00-

<https://www.ijph.in/article.asp?issn=0019-557X;year=2020;volume=64;issue=6;spage=192;epage=200;aulast=Aggarwal> PDF: FN01.40.02.00.00.Facemasks for prevention of viral respiratory infections in community settings_ A systematic review and meta-analysis Aggarwal N, Dwarakanathan V, Gautam N, Ray A - Indian J Public Health
[NOTE: Found an anomaly. FN01.40.02.00.00 is also used for FN01.40.02.00.00.Pulmonary and heart rate responses to wearing N95 filtering facepiece respirators - American Journal of Infection Control????]

PC: June, 2020 — original date of submission: May 4, 2020.

CCP: Aggarwall, Dwarakanathan, Guatam, Ray (All

authors affiliated with a mask friendly culture) / **ORIGIN:** INDIA-New Delhi: All India Institute of Medical Sciences; Dept. of Community Medicine; Dept. of Medicine. / **REF:** Lo; US CDC; Nguyen, Mai, Hang, Hoa, Nadjm; Razuri; Fu, Pan, Sun, Zhu W., Zhu L., Ye; Ferng, Wong-McCloughlin, Wang; Aiello, Davis; Aiello, Davis; Cowling, Fung, Cheng, Fang, Chan, Seto; Cowling, Chan, Fang, Cheng, Fung, Wai; MacIntyre, Dwyer, Seale, Cheung; Suntarattiwong (12 of 24). / **FUNDING:** “Financial support and sponsorship: Nil.”

RCT: Not asserted. Represented by TA as “A systematic review and meta-analysis.

CONTENT:

CCav: **“There is paucity of evidence on the effectiveness of facemask use in COVID-19 in community settings.** Objectives: We aimed to estimate the effectiveness of facemask use alone or along with hand hygiene in community settings in reducing the transmission of viral respiratory illness. Methods: We searched PubMed and Embase for randomized controlled trials on facemask use in community settings to prevent viral respiratory illnesses published up to April 25, 2020. Two independent reviewers were involved in synthesis of data. Data extraction and risk-of-bias assessment were done in a standard format from the selected studies. Outcome data for clinically diagnosed or self-reported

influenza-like illness (ILI) was recorded from individual studies. Pooled effect size was estimated by random-effects model for “facemask only versus control” and “facemask plus hand hygiene versus control.” Results: Of the 465 studies from PubMed and 437 studies from Embase identified from our search, 9 studies were included in qualitative synthesis and 8 studies in quantitative synthesis. Risk of bias was assessed as low ($n = 4$), medium ($n = 3$), or high ($n = 1$) risk. Interventions included using a triple-layered mask alone or in combination with hand hygiene. Publication bias was not significant. **There was no significant reduction in ILI either with facemask alone ($n = 5$, pooled effect size: -0.17 ; 95% confidence interval [CI]: -0.43 – 0.10 ; $P = 0.23$; $I^2 = 10.9\%$) or facemask with handwash ($n = 6$, pooled effect size: ($n=6$, pooled effect size: -0.09 ; 95% CI: -0.58 to 0.40 ; $P = 0.71$, $I^2 = 69.4\%$).** Conclusion: **Existing data pooled from randomized controlled trials do not reveal a reduction in occurrence of ILI with the use of facemask alone in community settings.”**

There is a critical caveat contrary to the conclusion of TA on this study that Raymond, apparently, missed. Consider the following:

CCav: “The pooled estimate of the randomized control trials did not show any significant reduction of ILI by the use of facemasks with or without hand hygiene in

community settings. **However, sensitivity analysis showed [???] a significant protective role of facemasks and hand hygiene after the study by Simmerman et al. was excluded[23] due to the high risk of bias and probable contamination.** Thus, the use of facemasks along with proper hand hygiene methods, **but not facemasks alone**, showed statistically significant benefits vis-à-vis no interventions.” The problem, of course, is that this does not take into consideration the possibility the results would have been different if a test of hand washing only was undertaken. How much difference was there in that case. I’ll have to investigate this.

Major CCav: The conclusion: “**Available evidence does not confirm a protective effect of face mask usage alone in a community setting against influenza-like illnesses (and potentially, the COVID-19).** For maximum benefit, mask use should be combined with other essential non-pharmaceutical interventions like hand hygiene.”

Curious about the study that was thrown out?

Here is the study that was thrown out because it was considered susceptible to high bias and so skewed the results in the study considered here: Simmerman JM, Sutarattiwong P, Levy J, Jarman RG, Kaewchana S, Gibbons RV, et al. Findings from a household randomized controlled trial of hand washing and facemasks to reduce

influenza transmission

Already vetted in these notes: see **FN01.01.01.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4634545/>.
PDF: FN01.01.01.00.00. Findings from a household
randomized controlled trial of hand washing and face
masks to reduce influenza transmission in Bangkok,
Thailand - PMC (See also FN01.08.02.00.00 and
FN01.31.04.00.00 — this article appears multiple times) It
was rated by ECDC as LOW to MODERATE confidence:
See
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

If that study was set apart because of a “high risk of bias,” I wonder what gave it that status? I also wonder what about this study skewed the results of their study so much that removing this one study moves the conclusion from *masks don't work*, to *masks sort of work*??? From masks don't contribute anything meaningful to reduction re community spread to masks *with* hand hygiene. If you read the limitations of the study that considered Simmerman et al inadequate, you might raise an eyebrow and wonder if TA's present study was also inadequate, as per their criteria.

I studied all but one of the RCTs examined in this study that I can identify (TA has a lot of other footnotes that are not studies or trials and it's possible I missed

some; but I looked pretty close) and found them either inconclusive, irrelevant, or CE and actually contributing to my conclusion that masks are inadequate for protection against virus. (They are listed below with a ✓ by those I've examined previously: see †.)

† — the articles are noted below are those mentioned above.

15. ✓ — see **FN01.08.03.00.00** Larson EL, Ferng YH, Wong-McLoughlin J, Wan pharmaceutical interventions on URIs and influenza in crowded, urban households. *Public Health*
17. ✓ — see, 23. Aiello AE, Murray GF, Perez V, Coulborn RM, Davis BM, Uddin M, *et al.* **influenza-like illness among young adults: A randomized intervention trial. *J Infect Dis***
18. ✓ — see **FN01.38.00.03.37W** Aiello AE, Perez V, Coulborn RM, Davis BM, Uddin M influenza among young adults: A randomized intervention trial. *PLoS One* 2012;7:e29744.
19. ✓ — see **FN01.38.00.03.25b** Canini L, Andréoletti L, Ferrari P, D'Angelo R, Blan **prevent influenza transmission in households: A cluster randomized trial. *PLoS One* 20**
20. ✓ — see **FN01.08.06.00.00** Cowling BJ, Fung RO, Cheng CK, Fang VJ, Chan KH **randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households: A cluster randomized trial. *PLoS One* 2008;3:e2101.**
21. ✓ — see **FN01.38.00.11.00** Cowling BJ, Chan KH, Fang VJ, Cheng CK, Fung RO, **to prevent influenza transmission in households: A cluster randomized trial. *Ann Intern Med***
22. ✓ — see **FN01.08.5** MacIntyre CR, Cauchemez S, Dwyer DE, Seale H, Cheung P, Bro **respiratory virus transmission in households. *Emerg Infect Dis* 2009;15:233-41.**
23. ✓ — see **FN01.08.02.00.00** Simmerman JM, Suntarattiwong P, Levy J, Jarman RC **from a household randomized controlled trial of hand washing and facemasks to reduce**

Thailand. Influenza Other Respir Viruses 2011;5:256-67. SEE ALSO: FN01.01.01.00.00

24. ✓ — see **FN01.38.00.10** Suess T, Renschmidt C, Schink SB, Schweiger B, et al. **Facemasks and hand hygiene in the prevention of influenza transmission in household Berlin, Germany, 2009-2011. BMC Infect Dis 2012;12:26.**

Continuing with **FN01.40.02.00.00-**
<https://www.ijph.in/article.asp?issn=0019-557X;year=2020;volume=64;issue=6;spage=192;epage=200;aulast=Aggarwal> PDF: **FN01.40.02.00.00.Facemasks for prevention of viral respiratory infections in community settings_ A systematic review and meta-analysis Aggarwal N, Dwarkanathan V, Gautam N, Ray A - Indian J Public Health**

See Reference No. 5

5. Nguyen DNT, Mai LQ, Bryant JE, Hang NLK, Hoa LNM, Nadjm B, et al. Epidemiology and etiology of influenza-like-illness in households in Vietnam; it's not all about the kids! *J Clin Virol* 2016;82:126-32.

I'll add this one to my archives:

FN01.40.03.01.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4994428/>
PDF: **FN01.40.03.01.00.Epidemiology and etiology of influenza-like-illness in households in Vietnam; it's not all about the kids! - PMC For SUP: see FN01.40.03.01.00.SUP mmc1**

PC: July 26, 2016

CCP: Nguyen, Mai, Bryant, Hang, Hoa, Nadjm, Thai, Duong, Anh, Horby, van Doorn, Wertheim, Fox (8 of 13) / **ORIGIN:** VIETNAM: Wellcome Trust Major Overseas Programme [GATES]; Hanoi: Ntl Institute of Hygiene and Epidemiology. UK-Oxford U. Clinical Research Unit; Nuffield Dept. of Clinical Med., Center for Tropical Med.. AUSTRALIA-Victoria Parkville: U. of Melbourne, Peter Doherty Institute for Infection and Immunity, Dept. of Microbiology and Immunology. NETHERLANDS-Nijmegen Radboudumc: Dept. of Med. Microbiology. / **REF:** WHO; Huang P., Hunang C., Tsao; Leung, Cowling; Foy; Mai; Thai, Mai; Do, Nghiem; MacIntyre, Seale; Nadjm; Horby, Pham, Hens; Yang, Chan, Suen; Mai, Thanh (12 of 30) / **FUNDING:** Statement: “This work was supported by the Wellcome Trust UK (grants 081613/Z/06/Z; 077078/Z/05/Z). AF was supported by the European Union FP7 project “European Management Platform for Emerging and Re-emerging Infectious Disease Entities (EMPERIE)” (no. 223498).”

RCT: Actually, no! I don't see any reason to rank this an RCT. See Study design: “ILI was detected by active case finding amongst a cohort of 263 northern Vietnam households between 2008 and 2013. Health workers collected nose and throat swabs for virus detection by multi-plex real-time RT-PCR.”

CONTENT:

IR: This study has nothing to do with mask efficacy and in fact the word *mask* does not appear. Let's run through the footnotes that seem pertinent. A ✓ means I checked the article against my notes to query if it has been vetted. If it has been vetted, the FN01 notation follows. Bold indicates a study that includes randomization, but no necessarily a proper RCT.

So, anyway, if this is the study/trial Raymond was referencing in his article, it does not support his conclusion that masks are an effective barrier.

—> Back to **FN01.40.00.00.00-**
<https://wmjonline.org/wp-content/uploads/2020/11/4/229.pdf> — The Great Mask Debate ...Wisconsin Medical Journal 114no5

He talked about the DANMASK-19 study in connection with his reference to the “single randomized controlled study.” Here is the statement including mention of the DANMASK study: The DANMASK-19 study randomized community-dwelling adults in 5 regions of Denmark without symptoms or diagnosis of COVID- 19 to wear masks (or not) for a month between April 3 and June 2, 2020.” However, beyond mentioning it, he provides no reference to it; it is nowhere in his references and does not

appear at footnote 56 — but let's find it by title search.
Found:

Here is the link:

<https://www.thebottomline.org.uk/summaries/danmask-19/>

FN01.40.04.00.00-

<https://www.thebottomline.org.uk/summaries/danmask-19/>
PDF: FN01.40.04.00.00.DANMASK-19 – The Bottom Line
(The infamous DANMASK-19 study; see below. “Already
vetted ...”)

**THIS STUDY was RATED BY ECDC as Low to
Moderate confidence:** see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>, 5

Already vetted in these notes: See

FN01.38.00.03.37c.01.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7707213/#__fn_sectitle PDF:

FN01.38.00.03.37c.01.Effectiveness of Adding a Mask
Recommendation to Other Public Health Measures to
Prevent SARS-CoV-2 Infection in Danish Mask Wearers
(For DISCLOSURES see

FN01.38.00.03.37c.01.DISCLOSURES Effectiveness of
Adding a Mask Recommendation to Other Public Health
Measures to Prevent SARS-CoV-2 Infection in Danish
Mask Wearers_ A Randomized Controlled Trial_ Annals of
Internal Medicine_ Vol 174, No 3; for SUPP: see

FN01.38.00.03.37c.01.SUPP aim-olf-M206817-M20-6817_Supplement)

However, this article, from The Bottom Line, examines the so-called DANMASK-19 study and offers some helpful additional insight.

PC: Annals of Internal Medicine: Nov. 2020; pub. The Bottom Line: December 2020

CCP: Henning Bundgaard et al. Article: Fraser Magee / **ORIGIN**: Denmark, so CCP influence is questionable; Annals of Internal Medicine, November 2020 / **REF**: na / **FUNDING**: nd Assumed the magazine publisher: The Bottom Line.

RCT: Asserted

CONTENT:

I have examined this trial, and it did not test for source control because it did not go about the population testing people who did or did not wear masks during that period who came into contact with the maskers to see if any significant number did or did not contract COVID. Which presents the difficulty of conducting such a study: contact tracing would be an enormous effort and very costly, and it is questionable one could expect sufficient numbers of those tracked down would be willing to endure the testing

necessary to confirm.

Nonetheless, this examination did provide significant data on the question of whether wearing a mask protects the wearer.

Author's conclusions were fairly represented by the TA of the article in review:

- Our results suggest that the recommendation to wear a surgical mask when outside the home among others did not reduce, at conventional levels of statistical significance, the incidence of SARS-CoV-2 infection in mask wearers in a setting where social distancing and other public health measures were in effect
 - The findings were inconclusive and cannot definitively exclude a 46% reduction to a 23% increase in infection of mask wearers in such a setting
 - The findings, however, should not be used to conclude that a recommendation for everyone to wear masks in the community would not be effective in reducing SARS-CoV-2 infections, because the trial did not test the role of masks in source control of SARS-CoV-2 infection

The BOTTOM LINE:

- **This randomised unblinded trial of mask wearing in a society without a mask mandate did not demonstrate a protective effect of masks against SARS-CoV-2 infection**

- **The multiple methodological flaws in this study mean that it should not guide public health policy**
- **No interpretation can be made about the public health impact of face masks on source control of SARS-CoV-2 infection, which is the main justification for their use**

So, this study concludes as a positive for wearing masks even though the data suggest they are inadequate for PPE. This is typical for PC: 2019+. However, it does not provide any data that contradicts my findings; rather it serves toward confirming them.

My assertions are supported by this study because it shows, with strength, that wearing a mask or not wearing a mask make little or no difference with regard to protecting the wearer. The fact that it does not speak to the question of source control is actually beside the point, since IT SAYS NOTHING ABOUT THAT QUESTION.

So, the question it DOES ADDRESS supports my thesis, and the fact that it says nothing about source control says nothing to that question and so cannot be used to SUPPORT MASKS USE FOR SOURCE CONTROL.

—> Back to **FN01.40.00.00.00-**
<https://wmjonline.org/wp->

content/uploads/2020/11/9/4/229.pdf — The Great Mask Debate ...

Overviewing the argument:

First, the fact that historically masks were thought to be helpful is stipulated, and it should be noted this fact contributes nothing to answering the question whether masks are efficacious to protect from the spread of virus.

Second, the arguments presented to support masks:

OS: Because there was only 1 RCT examining the question, which TA mentions but does not provide reference to any document, he depended entirely upon OS. Based on my criteria, this is basis for dismissing TAs conclusion as INCONCLUSIVE at best, and a major effort to deceive at worst.

SS/NC: It's riddled with SS, and NC statements, something to be expected when there is so much dependency on observational studies.

Examples of SS: "There is strong evidence that wearing masks outside of the household slows the spread of COVID-19, both for source control and for protecting the mask wearer."

*** [That is entirely a matter of opinion and in this

case, an opinion shaped by a bias in favor of masks rather than objective consideration of the studies he used to support it. Of course, my own conclusions might be considered shaped by my bias against masks, with one exception—all the best RCT studies actually support my conclusions and do not support TAs.]

It's amazing that he refers to the mask experience of the Spanish Flu (p. 230) when virtually all serious Western scientists up until COVID dismissed that as a failed, or at the very least, inconclusive experiment. He refers to footnotes 4,5. Let's take a look:

4. Crosby AW. America's Forgotten Pandemic: The Influenza of 1918. Second edition. Cambridge University Press; 2003.

IR: not relevant to specific query and not deemed to be of sufficient value to justify vetting fully.

I found access at
https://books.google.com/books?id=4cILAQAAQBAJ&pg=PT61&source=gbs_selected_pages&cad=3#v=onepage&q&f=false

This has a small amount of the book accessible but not downloadable. The TOC shows zero interest in the question of masks: JAMA provides an ABSTRACT at <https://jamanetwork.com/journals/jama/article->

abstract/384784

From the ABSTRACT: “Worldwide, between 21 and 50 million people died of influenza during the 1918 pandemic, and within the United States, Crosby figures the total number of deaths at about 650,000. These are substantial numbers, greater than the casualties of World War I. Yet, as the title of this book suggests, the affair has been almost forgotten.

“Crosby wrote this book 15 years ago, and its reissue, with a new preface, presumably reflects how the ravages of the acquired immunodeficiency syndrome (AIDS) have sensitized us to the reality of lethal epidemics once again. Yet the flu of 1918 and 1919 was utterly different from AIDS, spreading rapidly and laying low a large portion of the entire population in a given locality at once. Recovery followed for most of the victims, and with recovery came forgetfulness, even among families where deaths had occurred.”

[I have read many excerpts from this book in the course of this research. A few things that should be noted: **First, it does not pretend to be about proving the efficacy of masks during the pandemic;** and **Second, it leaves the question of mask efficacy open.** In other words, this book was not written to examine the efficacy of masks during a pandemic; it offers no “study” with that question in view; **finally, it does not even assert with**

any certainty the conclusion TA is using the book to support.]

5. Navarro JA, Markel H (Eds). Influenza Encyclopedia: The American influenza epidemic of 1918-1919 – a digital encyclopedia. University of Michigan Center for the History of Medicine. Ann Arbor, Michigan Publishing. <http://www.influenzaarchive.org/> Accessed July 3, 2020.

I accessed www.influenzaarchive.org on June 11, 2022 searched the archive for “masks”:
<https://quod.lib.umich.edu/cgi/t/text/text-idx?type=simple&rgn=full+text&c=flu&cc=flu&q1=Masks>

FN01.40.05.00.00-
<https://quod.lib.umich.edu/cgi/t/text/text-idx?type=simple&rgn=full+text&c=flu&cc=flu&q1=Masks>.
PDF: FN01.40.05.00.00.The American Influenza Epidemic of 1918_ A Digital Encyclopedia - Search Results

PC: 1918 history written in 1976

CCP: None likely. This is a table of articles posted by the University of Michigan Center for the History of Medicine, from the U. of MI Library and the articles are authored by various researchers. The authorship, etc. of these articles will be vetted as needed for each article referenced in this research. It is not expected to be much

needed.

RCT: No. It's a historical account, not a scientific study.

CONTENT: This presents a table of links to other articles all related to the 1918 Pandemic (The Spanish Flu)

To vet this resource, I'll comment and then offer the link included in this resource supporting that comment, provide the article in the archive but see no reason to provide a full vetting of these articles. Reasons are that first I stipulate to their contents and second these are for historical reference only. These sections are separated by — — — -

NOTE: It is interesting to consider the parallels between the 1918 and the 2020 pandemics. **Masks were mandated then** (e.g., see <https://quod.lib.umich.edu/f/flu/0060flu.0010.600/1/--compulsory-masking-adopted-with-opening-of-l-d-s-university?rgn=full+text;view=image;q1=Masks>; and <https://quod.lib.umich.edu/f/flu/0170flu.0004.710/1/--flu-masks-for-everyone-in-public-places-lockes-plan?rgn=full+text;view=image;q1=Masks>), **and fights broke out between citizens over the issue** — in fact, here is an article published in the SFO Chronicle in 1918 titled: “Three Shot In Struggle With Mask Slacker.” See

(-) **FN01.40.05.01.00-**

<https://quod.lib.umich.edu/f/flu/0030flu.0009.300/1/--three-shot-in-struggle-with-mask-slacker?rgn=full+text;view=image;q1=Masks>, PDF:
FN01.40.05.01.00.Three Shot In Struggle With Mask Slacker.

— — — —

NOTE: Masks were much used and regulated:

<https://quod.lib.umich.edu/f/flu/0090flu.0003.900/1/--regulation-anti-influenza-mask-and-the-proper-way-to-adjust?rgn=full+text;view=image;q1=Masks>. **But also, masks were debated, and controversial:** See <https://quod.lib.umich.edu/f/flu/0120flu.0009.210/1/--no-mask-law-for-sf-supervisors-decide-flu-ordinance-defeated?rgn=full+text;view=image;q1=Masks> — I read this article, and it appears those in the medical profession were generally in favor of masks with only a very few doctors opposing. Nevertheless, no “science” is mentioned in this article, and the retrospective analysis from this pandemic to the time before this current one has been there is no proof, no substantial evidence provided by that quasi experiment establishing mask efficacy. It was all AME.

The only thing available here that approximates a possible argument for mask efficacy is the Manual on War Diseases (Hot To Keep Well) by Dr. W. A. Evans, published in the Chicago Tribune, Oct. 20, 1918. Find it

here:

(-) **FN01.40.05.02.00-**

<https://quod.lib.umich.edu/f/flu/0030flu.0012.300/1/--manual-on-war-diseases-how-to-keep-well?rgn=full+text;view=image;q1=Masks> PDF:
FN01.40.05.02.00.Manual on War Diseases (How To Keep Well)

I read through the article as best I could in the time frame available. First, scanned it for any mention of masks, and found none. Second, sped read through the article and found no reference to facial coverings. Keeping in mind that these facsimiles are difficult to see clearly, and that this was an article summarizing what the military had learned about keeping well with a primary concern for war time diseases, it's possible the full manual might have a complete chapter on masks and how to wear them. It is doubtful, however, that anything in this manual, or in this article, even approximates a scientific study of the issue.

Nothing in these reference to the history of the influenza pandemic of 1918 offers anything like a scientific consideration of our subject. No one presents the experiment with masks in this pandemic as proof of mask efficacy except TA.

— — — —

—> Back to **FN01.40.00.00.00-**

<https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf> — The Great Masks Debate ...

If TA presents the 1918 history with the Spanish Flu as his best shot at providing documentation of the “strong evidence” he said exists in favor of masks, this is going to be a waste of my time. I will assume he begins here only because chronologically, this is where public masking became an issue. So, let’s continue.

NC/SS: “Masks COULD reduce the spread by trapping the infectious exhalations from the source or by blocking inhalations from bystanders.”

[Unreal! It’s a total SS and NC statement — and it fails to take a boatload of SCIENCE into consideration: microdroplets, fact that aerosols penetrate surgical masks in a number sufficient to transmit, the fact that even if a mask traps a droplet, that droplet quickly evaporates and the free particle is released to pass through the mask easily, etc. etc. THERE IS NO SCIENCE in these sorts of statements.]

OS: He refers to the Chu study, that includes NOT ONE RCT — all observational and comparative — this is disturbing! I’ve vetted the Chu study earlier.

CLAIM: p. 231 — Footnote 9 — US NAVY determines

masks reduced transmission from as high as 80% to a low of 55.8% on the USS Theodore Roosevelt. Let's take a look:

9. Payne DC, Smith-Jeffcoat SE, Nowak G, et al. SARS-CoV-2 infections and serological responses from a sample of U.S. Navy service members — USS Theodore Roosevelt, April 2020. MMWR Morb Mortal Wkly Rep. 2020;69:714–721. Doi:10.15585/mmwr.mm6923e4

It seems I've seen this study before, but cannot find it in these (doc 1 and doc 2) notes.

FN01.40.06.00.00-

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7315794/PDF:FN01.40.06.00.00.SARS-CoV-2 Infections and Serologic Responses from a Sample of U.S. Navy Service Members — USS Theodore Roosevelt, April 2020 - PMC.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7315794/PDF:FN01.40.06.00.00.SARS-CoV-2%20Infections%20and%20Serologic%20Responses%20from%20a%20Sample%20of%20U.S.%20Navy%20Service%20Members%20%E2%80%93%20USS%20Theodore%20Roosevelt,%20April%202020%20-%20PMC.pdf)

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: April, 2020; published online June 2020

CCP: Uzo (1 of 15) / **ORIGIN:** Ten of the 15 authors employed by US CDC / The US CDC COVID-19 Surge

Laboratory Group, and US Navy, which we know is “Woke”! See also in DISCUSSION, reference to a Chinese study which seems to bear little to no relevance here. What does the fact, or fiction, that adolescents and young adults with mild COVID-19 illness in China found rapid propagation of transmission by asymptomatic persons have to do with this? Do the researchers intend by this to establish asymptomatic transmission! / **REF**: Kakimoto, Kamiya, Yamagishi, Matsui, Suzuki, Wakita; US CDC; Huang, Zhang X., Zhang X.; Lee, Lee, Kim; Zhao, Yuan, Wang H. (5 of 10). As an aside, how ironic that the last author cited is MORIARTY. :) / **FUNDING**: nd. Most likely the US Navy.

RCT: No. It amounts to an OS structured report on what happened aboard the USS Theodore Roosevelt when an outbreak of COVID required docking the aircraft carrier in Guam to attend the sick.

CONTENT: **CLAIM**: A note on TAs reference to the “lower” infectious rate of those wearing masks. He asserts the study claims a mask efficacy in protecting against transmission of from 80.8% to 55.8%.

OS: As with all OS this one can be defeated by so many confounders the study is rendered virtually meaningless.

NOTE: **OS**: 382 service personnel are isolated on the

USS Theodore Roosevelt and arrived in Guam with “numerous U.S. service members” infected with COVID. The outbreak was investigated by the trusted CDC (NOT), with the US NAVY (with ? leadership reliability in social/political issues these days), and they conducted ZERO randomized trials implementing ZERO controls.

In other words, they surveyed crew to ascertain how many wore masks, practiced social distancing, as opposed to how many did not, and came up with some numbers that prove NOTHING!

CCav:*** The **confounders** are as follows: (partial list) we don’t know if the self-reporting was sufficiently reliable to support conclusions made from them; the differential is vague, “lower” can mean significant difference or insignificant difference. CCav: the special circumstances of living aboard a ship versus living in general community setting makes any finding for the ship community almost impossible to have any relevance to the general community. In fact, in the ship example, proximity drove transmission more than any other factor.

Compounding factors are not sorted out, persons with previous infection, with prior exposure, groups coming aboard with infection might totally skew the percentages, I mean this goes on and on and it’s the REASON OS are not considered legitimate “science” —

CE: IF anything, **this study is an argument for**

NATURAL IMMUNITY: “Approximately one half of the participants with positive ELISA results also had neutralizing antibodies, which indicate functional antibodies that would be expected to inhibit SARS-CoV-2 infection. This is a promising indicator of immunity, and in several participants, neutralizing antibodies were still detectable >40 days after symptom onset.”

CCav: The LIMITATIONS of this study are admitted by the researchers and, in my view, properly contextualize the stated conclusions rendering them at best INCONCLUSIVE and at worst a contrived, bias motivated support for nonpharmaceutical interventions. **There is nothing in this study supporting masks beyond the observation that the researchers noticed a lower incidence of lab-confirmed COVID among those who in greater or lesser measure than reported practiced a collection of interventions, without ever telling us what is the DIFFERENCE.** It IS curious that this paper never stipulates what “lower” means — and when this happens, among persons who may be reasonably suspected of having a CCP bias, it raises significantly the suspicion this was done because the differential was MINOR — what is commonly referred to as NO STATISTICAL DIFFERENCE.

SS: So, the statement that “The findings reinforce the importance of nonpharmaceutical interventions such as wearing a face covering, avoiding common areas, and

observing social distancing to lower risk for infection in similar congregate living settings” is specious.

CLAIM: NOTE: TAs reference to the “lower” infectious rate of those wearing masks. He asserts the study claims a mask efficacy in protecting against transmission of from 80.8% to 55.8%. Here is the section of the study upon which this claim is premised: “Service members who reported taking preventive measures had a lower infection rate than did those who did not report taking these measures (e.g., **wearing a face covering, 55.8% versus 80.8%**; avoiding common areas, 53.8% versus 67.5%; and observing social distancing, 54.7% versus 70.0%, respectively).”

It appears this is the range established by the researchers: see “Lower odds of infection were independently associated with self-report of wearing a face covering (55.8% versus 80.8%...).” The fact that this association was independently ascertained means it was not considered within the context of factors, like contact with persons known to have COVID, which was 64.2% of the total, compared with those who did not, which was 41.7% — and the problem here is that if those who reported using masks ALSO avoided contact with persons known to be infected, it would skew and confound the results: which thing contributed to the differential, avoiding contact with infected persons or wearing the mask? Also, we do not know how many, total, were in the group that

ONLY WORE A MASK and did not practice distancing— and someone could report as having not practiced distancing who nevertheless did avoid contact with known infected persons —

I read through this study, and what they did was survey sailors as they were being tested. They provided a check list of nonpharmaceutical interventions they might have practiced without indicating whether they practiced these interventions ALWAYS, SOMETIMES, or NEVER. It was they did, or they did not.

Also, the self-reporting can be skewed by bias of the interviewer, and is affected by the personality of the responder; compliant versus independent, fearful of reprisals for “wrong” answers, or careless of such concerns, etc., etc..

NOTE: *** Also, this is a differential of about 25%, which in other studies I’ve examined, with all the other factors considered, such as bias and other confounding issues, reduce it by an x factor — making it meaningless; I mean, in so far as anything like a *scientific* basis for supporting any conclusion.

CCav: I can’t find in this study any data indicating how many of the crew members practiced only mask wearing, as opposed to mask wearing and distancing, etc. Also, I can’t find in this study any indication that hand hygiene

was factored into their study— ??? This is really surprising since it's a staple in nonpharmaceutical intervention strategies; and so, considering the anticipated bias in favor of supporting masking particularly, I wonder if this would have thrown too much weight on hand hygiene because, as I suspect, all maskers were also high on the hand hygiene protocols, and, as I suspect, maskers also carefully avoided contact with known infected crew members.

NOTE: **INCONCLUSIVE**, premised entirely on OS, riddled with confounders with gaps in their methods.

—> Back to **FN01.40.00.00.00-**
<https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf> — The Great Mask Debate ...

The rest of the “studies” TA mentions have been vetted.

CLAIM: NC/SS: “[NC] Other evidence that masks **CAN PREVENT** the community spread of respiratory pathogens comes from the observation that [SS] mask wearing and other interventions early in the COVID-19 pandemic **DRAMATICALLY REDUCED THE INCIDENCE OF INFLUENZA AND OTHER RESPIRATORY ILLNESSES IN SINGAPORE, TAIWAN, THAILAND, AND IN THE SHANXI PROVINCE OF CHINA WHEN**

COMPARED WITH PREVIOUS YEARS, AND WHEN COMPARING BEFORE AND AFTER MASK INTERVENTIONS IN 2020.”

TA references 13, 14, 15, 16 — I vetted 15, see above. Let's look at 13,14, and 16.

13. Soo RJJ, Chiew CJ, Ma S, Pung R, Lee V. Decreased influenza incidence under COVID-19 control measures, Singapore. *Emerg Infect Dis.* 2020;26(8):1933-1935. doi:10.3201/eid2608.201229

FN01.40.07.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7392467/>.
PDF: FN01.40.07.00.00.Decreased Influenza Incidence under COVID-19 Control Measures, Singapore - PMC

PC: August 2020

CCP: Soo, Chiew, Ma, Pung, Lee / **ORIGIN:** Singapore-Saw Swee Hock School of Public Health.
NOTE: “This is a publication of the U.S. Government” [2020] — so, yes, definite concerns about CCP bias. /
REF: Lee, Chen, Yap, Ong, Lim, Lin; Singapore Govt.; WHO; Li, Guan, Wu, Wang, Zhou, Tong; Chow, Ma, Ling, Chew (5 of 5). Also a note indicating “Articles from Emerging Infectious Diseases are provided here courtesy of Centers for Disease Control and Prevention” (US CDC). / **FUNDING:** nd Likely the Ministry of Health, Singapore

and U.S. Govt.

RCT: No. OS: No methods are stipulated. In Abstract: “We compared indicators of influenza activity in 2020 before and after public health measures were taken to reduce coronavirus disease (COVID-19) with the corresponding indicators from 3 preceding years. Influenza activity declined substantially, suggesting that the measures taken for COVID-19 were effective in reducing spread of other viral respiratory diseases.”

CONTENT:

OS: The correspondence between the numbers of illnesses before the interventions used in 2020 are IR for many reasons, especially re masks, the first being mask use has always been culturally embraced in Singapore.

CCav: *** This study can offer no reasonable certainty what measures affected the results reported, or if the results reported would have been significantly altered if only some or none of these measures had been taken. **The impossibility of conducting this sort of massive public experiment is understood, but rather than premise life altering and potentially dangerous mandates upon such studies, we should let them inspire us to further SCIENTIFIC inquiry — mandates interrupt personal liberty and should not be done upon such flimsy speculative studies.**

NOTE: In other words, here is what happened, Singapore understandably, and I think rightly, left the people alone, but when an outbreak began, they implemented mask mandates, and began to interrupt social contact and so forth. Then they compared the results in terms of ILI cases to past years, but did so without taking into consideration what measures were taken in those years, and without, well, maybe they cover this in their LIMITATIONS. Let's see!

CCav: LIMITATIONS: First, a decrease in influenza transmission is expected in February–March, given the yearly bimodal pattern of influenza incidence in Singapore (5). However, the decrease in 2020 is marked compared to previous years. Second, there could be fewer ILI visits to government clinics because of altered health-seeking behavior, or cases may be referred to hospitals and therefore not captured as ILI cases in clinics. However, these missed ILI cases would not affect the proportion positive for influenza. Third, we can infer similar effects on COVID-19 only if the transmission dynamics are similar to influenza.”

I would add further limitations. First, a myriad of confounders are not addressed: e.g., 1. what happens in one year as compared to another presents so many possible alternative explanations for results compared it's nearly impossible to account for them; 2. without controls

in place to account for relative health of the groups compared, changes in living conditions from one year, or season, to the next; 3. changes in social awareness of cleanliness protocols over the period in question; etc. etc. etc.. The few noted are dismissed, I think superficially. To say a decrease in influenza transmission is expected in Feb-March anyway, and then to dismiss this by saying however the amount of decrease was *more* in 2020 than it was in the prior years of comparison is almost as superficial a basis for making any sort of firm conclusion as I have ever confronted. I find no serious effort to recognize or address many other confounders. This leaves the declaration that masks are responsible for the differences noted nothing more than SS.

The next reference used by TA of FN01.40.00.00.00 to support CLAIM: Other evidence that masks can prevent the community spread of respiratory pathogens comes from the observation that mask wearing and other interventions early in the COVID-19 pandemic **DRAMATICALLY REDUCED THE INCIDENCE OF INFLUENZA AND OTHER RESPIRATORY ILLNESSES IN SINGAPORE, TAIWAN, THAILAND, AND IN THE SHANXI PROVINCE OF CHINA WHEN COMPARED WITH PREVIOUS YEARS, AND WHEN COMPARING BEFORE AND AFTER MASK INTERVENTIONS IN 2020.**”

14. Kuo SC, Shih SM, Chien LH, Hsiung CA.
Collateral benefit of COVID-19 control measures on

influenza activity, Taiwan. *Emerg Infect Dis.*
2020;26(8):1928-1930. doi:10.3201/eid2608.201192

FN01.40.08.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7392415/>.
PDF: FN01.40.08.00.00.Collateral Benefit of COVID-19
Control Measures on Influenza Activity, Taiwan - PMC

PC: August 2020

CCP: Kuo, Shih, Chien, Hsiung / **ORIGIN:** Taiwan-Zhunan: National Health Research Institutes. “This is a publication of the U.S. Government.” “Articles from Emerging Infectious Diseases are provided here courtesy of Centers for Disease Control and Prevention.” US CDC. / **REF:** Wang, Ng; Jian, Chen, Lee, Liu. / **FUNDING:** “This project was supported by an intramural grant from the National Health Research Institutes” (NIHRI), under the supervision of the Taiwan Ministry of Health and Welfare.

RCT: No. OS.

CONTENT:

IR: There is such a confluence of measures taken it's impossible to sort out what contribution, if any, masks might have made. Indeed, it's as possible to argue that masks interfered with even better results. Therefore, I rate this article IR.

ACK/CCav: TA admit: “Healthcare AVOIDANCE during COVID-19 pandemic may be an important CONFOUNDER for the results we reported.” This is so like the FN01.40.07.00.00 Singapore study vetted above that you can simply repeat all said there to this case.

The next reference used by TA **FN01.40.00.00.00** to support CLAIM, see “CLAIM: Other evidence that masks can prevent the community spread of respiratory pathogens...”

16. Liu B, Han QF, Liang WP, Shi XY, Wei JJ. Decrease of respiratory diseases in one social children welfare institute in Shanxi Province during COVID-19. *J Public Health (Oxf)*. 2020;Sep 2:fdaa150. Published online September 2, 2020. doi:10.1093/pubmed/ fdaa150

FN01.40.09.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7499666/>.
PDF: FN01.40.09.00.00.Decrease of respiratory diseases in one social children welfare institute in Shanxi Province during COVID-19 - PMC

PC: Sep 2020

CCP: Han, Liang, Xy and Wei. / **ORIGIN:** The origin of the study is CHINA-Taiyuan: Shanxi Medical University. Published by Oxford U. on behalf of Faculty of Public

Health. / **REF:** Singh, Singh R., Sarma; Xu, Shi, Want; Ntl Hlth Council of the People's Republic of CHINA, 2020; Health Commission of Shanxi Province, CHINA; Ijzendoorn, Sonuga; Ministry of Civil Affairs of the People's Republic of China; MacIntyre, Dwyer; Cowling, Zhou, Ip; Wong, Cowling, Aiello; Aiello; Xiao, Shiu, Gao; Wang; US CDC; Sikora; Ntl Hlth Com. People's Republic of CHINA; Jakubiak-Lasocka, Lasocki J., Badyda; Guan, Zhen, Chung; Sadat, Rawtani, Hussain (18 of 30) / **FUNDING:** "The authors received no financial support for the research, authorship and/or publication of this article."

RCT: No. OS with RL: Statement re Methods: "This study surveyed and analyzed common diseases among children under the age of 14 in one social children welfare institute in Shanxi Province from January to May in 2018–2020 by the year-on-year method."

CONTENT: CLAIM: "The prevalence rate of respiratory diseases in 2020 was a significantly negative growth compared with 2018 and 2019. There was no obvious pattern of changes in digestive diseases group."

IR: Does not address in any scientific way the question of mask efficacy. Search: *particle, aerosol, droplet, nano, experiment, μ m, micro* with results NULL. *Trial* produced two hits, one reference to an RCT that demonstrated disinfection of toys reduced presence of various viruses, and a cluster-randomized trial in

References related to hand hygiene.

NC/SS: “On the one hand, the use of masks **can** protect us from transmission by preventing the inhalation of respiratory pathogens and reducing the hand-to-face contact,⁹ on the other hand, mask-wearing when sick **may** reduce the transmission of influenza virus to protect others.^{10,11}”

Three claims here re mask efficacy: Facemask as PPE, facemask as SOURCE CONTROL, and facemask as reducing severity of disease.

First: On facemask efficacy as PPE, TA offer references 9-11.

9. MacIntyre CR, Cauchemez S, Dwyer DE et al.. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009;15(2):233–41. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] for PPE — as study already VETTED!

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>.
PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf
Rated by ECDC as LOW to MODERATE confidence.
See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> (See also:

See **FN01.31.03.00.00** —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>.
PDF: FN01.31.03.Face Mask Use and Control of
Respiratory Virus Transmission in Households - PMC)

Second: on facemask efficacy as SOURCE
CONTROL, TA refers us to References 10 and 11.

10. Cowling BJ, Zhou Y, Ip DK et al.. Face masks to prevent transmission of influenza virus: a systematic review. *Epidemiol Infect* 2010;138(4):449–56.

[[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)] and

Already vetted in these notes: See **FN01.32.03.00.00**-
<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05> PDF:
FN01.32.03.00.00.Face masks to prevent transmission of influenza virus_ a systematic review _ Epidemiology & Infection _ Cambridge Core — In these notes.

11. Verma S, Dhanak M, Frankenfield J. Visualizing the effectiveness of face masks in obstructing respiratory jets. *Phys Fluids* (1994) 2020;32(6):061708. [[PMC free](#)

[article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

FN01.36.01.04.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7327717/>.

PDF: FN01.36.01.04.00.Visualizing the effectiveness of face masks in obstructing respiratory jets - PMC.

Since my concern is with facemasks, I'll conclude my vetting here.

—> Back to **FN01.40.00.00.00-**

[https://wmjonline.org/wp-](https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf)

[content/uploads/2020/11/9/4/229.pdf](https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf) — The Great Mask Debate ...

CLAIM: p. 231 — The Lyu and Wehby OS: "... concluded that mandatory masks resulted in declining COVID-19 growth rates that were more pronounced the longer the mandates were in force, by 0.9% if the mandates were in force for 1 to 5 days, by 1.1% for 6 to 10 days, by 1.4% for 11 to 15 days, by 1.7% for 16 to 20 days, and by 2.0% for 21+ days." SS: because the authors assumed mask mandate was solely responsible or even significantly responsible for the observed result. Let's look at the study.

26. Lyu W, Wehby GL. Community use of face masks and COVID-19: evidence from a natural experiment of

state mandates in the US. Health Aff (Millwood). 2020;39(8);1419- 1425. doi:10.1377/hlthaff.2020.0081823.

Already vetted in these notes: see **FN01.04.00.00.00-**
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00818>. PDF: FN01.04.00.00.00.Community Use Of Face Masks And COVID-19_ Evidence From A Natural Experiment Of State Mandates In The US _ Health Affairs

Third, on the question of whether masks reduce severity, I'm not inclined to give any time. Perhaps I'll come back to that issue. But the idea is that they will effectively lesson exposure so a person wearing one might not get enough to make them fully sick — **the problem here is that MOST people don't get severely sick from this any way, and the real question I have is what contribution do masks make to increase susceptibility to ili in the first place.**

The next study of interest to us cited by TA of FN01.40.00.00.00:

CCav: Here is another study worthy of a closer look: “A recent rapid systematic review of facemasks to prevent respiratory illnesses concluded that **“the evidence is not sufficiently strong to support widespread use of facemasks as a protective measure against COVID-19.”** However, the review included evidence suggesting that wearing a facemask **“can be very slightly protective**

against primary infection from casual community contact” and modestly protective against intrahousehold spread when both infected and noninfected members wear facemasks. The authors highlighted key weaknesses of the review they hope mitigate their negative findings—**poor compliance among mask wearers and mask use among controls could obscure the benefits of wearing a mask.** In that regard, it is important to consider that even a small effect can be beneficial during the exponential growth phase of a pandemic.⁵⁵ [Study cited: Brainard J, Jones N, Lake I, Hooper L, Hunter PR. Facemasks and similar barriers to prevent respiratory illnesses such as COVID-19: a rapid systemic review. medRxiv. Preprint posted online April 6, 2020. Accessed July 3, 2020. https://www.medrxiv.org/content/10.1101/2020.04.01.20049528v1?ijkey=70541201fc517d1bc72e3f30e58d0ae7a8719e10&keytype2=tf_ipsecsha. doi:10.1101/2020.04.01.20049528]

CCav/CE: See also: “A small meta-analysis of 9 randomized controlled trials of masks to prevent the community spread of viral respiratory illnesses found no benefit for facemasks or facemasks plus handwashing.⁵⁶” [Reference cited: Aggarwal N, Dwarakanathan V, Gautam N, Ray A. Facemasks for prevention of viral respiratory infections in community settings: a systemic review and meta-analysis. *Indian J Public Health*. 2020;64(6):192-200. doi:10:4103/ijph.IJPH_470_20]

*** It's odd that the studies this TA references that are likely of sufficient power to provide meaningful results are only alluded to—I don't find them cited: “Interestingly, the 2 largest randomized clinical trials in the meta-analysis showed that a combination of handwashing and masks significantly reduced transmission of influenza and that **masks alone had a beneficial effect that was not statistically significant.**”

SP: *** TA explains basis for moving away from RCTs to OS: “Unfortunately, although randomized clinical trials are considered the ‘gold standard’ for clinical intervention trials, they are difficult to perform in community settings due to the complexities of human behavior, ethical issues, and questionable adherence to the intervention.” Statement is rated SP because it is premised on the assumption that what RCTs consistently reveal about mask efficacy is summarily rejected simply because they do not support OS premised conclusions. In other words, the scientific gold standard for research consistently shows masks are not adequate to protect from transmission either as PPE or source control, and rather than take that firm science based evidence and allow it to instruct and guide them in interpreting observational studies, they decide to throw out the science and go with the foundational basis of all SUPERSTITION — observational so-called “science.”

SP: Serious integrity issue: Also curious how under the subheading: What About Evidence That Does Not Support the Utility of Masks? (p. 233, Col. 1, bottom) TA selects studies that are underpowered, which leaves loopholes to escape the force of the many RCTs that compromise his bias. Curiously, TA does not provide a link, or reference to the studies he mentions that would be difficult for him to dismiss, but spends almost all of the time under this heading providing sources he claims contradict or greatly compromise those findings. I notice these are studies I've already vetted. But, in the interest of thoroughness, I'll take a look for any I have not.

SP: He commits 7 paragraphs to this subheading, and only four (1-3 and sort of 5) to what can be said to be an examination of the contrary evidence. In fact, he uses this space to argue a stronger case for masks when he goes after the study reported in the Federalist — see footnote 55

I've already vetted the DANMASK-19 study earlier.

Next TA **FN01.40.00.00.00** tackles concerns about **NEGATIVE EFFECTS OF WEARING MASKS:**

INCREASED FACE TOUCHING: cites studies contradicting this concern: 64-65 — I'll stipulate to the point.

THE VIRUS PARTICLE SIZE ARGUMENT: p. 235, Col. 1, see Concerns About Negative Effects of Wearing Masks.

SP: It seems to me an odd place to interject this issue because it does not address any EFFECT arising from wearing masks. Instead, it addresses a very powerful argument against wearing them for PPE or source control. Perhaps conscience got the better of TA and rather than address this or these studies earlier, when addressing arguments against wearing masks, they decided to sneak it in here. I rate this as SP.

Here is the section cited and TA's response to it in whole:

**** FLAG THIS STUDY: **** **FN01.40.00.00.00.**

THE RELATIVE SIZE OF PARTICLES TO MASK PORES ARGUMENT: This is an argument I use and so Hallelujah here is the first effort I've seen to actually ANSWER that argument:

“[1] Another idea promoted for not wearing masks is that they cannot effectively filter COVID-19 because the virus is 100 times smaller than the pore size of masks (60-140 nm vs 100 μm). Indeed, a similar view was raised in 1919 by neurologist and psychiatrist James Crichton Browne about the effectiveness of

gauze masks against the Spanish flu. Crichton-Browne stated, [2] **‘The fact that the influenza organism is so infinitely minute that it can make its way through porcelain throws doubt on the value of the mask.** Its use in the streets with the addition of goggles as has been proposed would, I believe, be futile, and would probably, if resorted to on a large scale, produce panic, which has always contributed to the spread of epidemic disease.’⁶⁶ [3] **However, this persistent concern is not valid in that we do not exhale “naked virus,” rather COVID- 19 is expelled within large respiratory droplets when talking, singing, or shouting and, to a lesser extent, in smaller aerosolized particles that can be captured efficiently by masks worn by the infected individual (source control) or by uninfected bystanders. [4] Additionally, droplets do not move in straight lines, and their Brownian motion and electrostatic charges can increase the likelihood of being trapped by masks.”**

See TECH49.Brownian Motion - Meaning, Causes, Effects, Examples and Significance. <https://www.vedantu.com/chemistry/brownian-motion.pdf>

—> Back to **FN01.40.00.00.00-**
<https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf> — The Great Mask Debate ...

[1] STIPULATED: except no one I know is recommending the 1918 gauze fabricated masks with pores that are $100\ \mu\text{m}$. The masks I compare have a pore size of $\sim 300\ \text{nm}$. or $0.3\ \mu\text{m}$. But the argument remains; the infinitely small particle size makes the recommended surgical masks IR. ALSO...

[2] *** INFO: I did not know a virus particles can “make its way through porcelain...” It provides a very compelling visual! The thickness of the porcelain is not given, nevertheless, that is a visual image that very effectively communicates the power of virus particles to penetrate masks.

[3] Now comes the argument TA uses to defeat this scientifically proven FACT. And note first, there is no objection to the fact that the virions pass through mask pores easily. Here is how it is explained, and it goes to something I pointed out before about the disingenuousness of those attempting to justify masks.

First, TA simply lies, or he is misinformed. He claims the problem with this argument is that we do not exhale “naked virus” — rather we exhale virions within “large respiratory droplets.” After making this blanket statement, he immediately begins walking it back: he admits that aerosolized droplets are also exhaled but to “**a lesser extent.**” And he argues that these droplets, including the aerosolized particulate matter [???] “**can be captured**

efficiently by masks worn by the infected individual (source control) or by uninfected bystanders.” What a liar! It’s that or he is miserably ignorant of the science in this matter. Shall we take a quick overview of all the science we have gathered in the course of our research that totally debunks TA’s effort to dismiss the argument of Chrichton-Browne (see above):

1. In the plume of ejecta from speaking, coughing and sneezing, the number of aerosols (what TA refers to as “smaller aerosolized particles”) emitted from source are **NOT INSIGNIFICANT**. While it is true that at source the droplets are generally larger upon emission, they are not all large, as admitted, and while it varies from person to person, and from moment to moment in the course of speaking, for example, there are literally thousands of small droplets, called micro-droplets, emitted in sufficient numbers over a period of only a few minutes to fill ambient space with aerosolized particles. These microdroplets move through the mask easily into atmosphere riding air currents and can travel significant distance and easily pass through the mask at target in sufficient quantities to transmit infection.

2. Evaporation begins immediately. If a large droplet ($>5 \mu\text{m}$) is captured in the mask, depending on the material, and the force by which the particles impact the mask, the droplet will immediately be broken down into smaller sized droplets. Some of the virions will be released

in sizes small enough to be drawn back into the lungs, deep into the lower respiratory tract, and/or launched into aerosols upon the next or successive exhales. If the mask is made of hydrophobic material, it will bead on the surface embedded in the fibers of the mask. As respiration continues, as it must, the air passing over the droplet in inspiration and expiration increases evaporation which shortens the time to desiccation when the virions WILL BE RELEASED as microdroplets or droplet nuclei, that is, naked virions.

3. With masks come problems, like moisture collection, which creates an environment conducive to bacterial growth, because virions are not the only things present in exhaled ejecta. Exhaled breath contains a large number of various bacteria, virions, and other stuff the body wants to remove. Collecting this material in a moist environment literally pressed up against the mouth and nose, or trapped in an environment of atmosphere in the immediate vicinity of the mouth and nose, is horrible. It creates a toxic micro-environment immediately around subjects mouth and nose. So, the fact is, with masks, capturing the larger droplets actually exacerbates infectivity. As SOURCE CONTROL for the reasons described in this point. As PPE because the mask actually serves to capture large droplets, allowing them to desiccate and become aerosols whereas, without the mask barrier, these large droplets would fall to the ground in a fraction of a second. In other words, the masks

actually facilitate aerosolization.

4. Without masks, the larger droplets fall quickly to the surface and become fomites, presenting other concerns but quickly removing them from the atmosphere so they don't float about indefinitely looking for a host.

[4] *** Finally, and this is something virtually ignored in the discussion: “[a] Additionally, droplets do not move in straight lines, and their Brownian motion and [b] electrostatic charges can increase the likelihood of being trapped by masks.”

[a] SP: The Brownian motion effect has a neutral impact on penetration. The fact that the particles tend to change direction randomly as they encounter other microscopic matter (Brownian motion) can facilitate penetration equally to linear motion, and arguably even more efficiently. Inertia is a principle that says an object in motion resists forces upon it to change its trajectory, and while this principle is virtually absent in particles in the sizes we are discussing, the principle remains the same. An object in motion continues in that motion until some other force impacting on it interferes with its motion and either redirects it or stops it. In nature, the “purpose” of a virion is to find a host. Nature in its efficiency organizes systems to facilitate the purpose of design. The Brownian motion of particles can as easily facilitate penetration, that is, overcome the barrier to its designed function, as it can

interfere with it. The mask is only effective against the droplets that actually encounter it; the fact that Brownian movement, or motion, makes the trajectory of these virions unpredictable can result in more of them penetrating during one assault and fewer the next, and so on — Brownian motion can be expected to have a neutral effect on particle penetration of a mask.

[b] As for the electret effect, I've spoken to this several times. First, the electrostatic charge of particles affects only the droplet not the "naked virion." Second, it is easily overcome by velocity, and third, the charge is not stable, rather it is easily neutralized by many factors, like time, exposure, and discharging incidents that occur in nature. The studies that show significant efficacy enhancement for electret masks do so when the mask electrostatic charge is fresh, or optimum. This wears away very quickly in real use, they are expensive and reestablishing the charge is complicated. Even after all of that, however, the sheer volume of virions attacking a surgical mask in a typical environmental assault overcomes the protection of these masks in numbers sufficient to defeat their purpose: protect against infection.

NOTE: TA is not to be taken seriously! Droplets begin evaporation immediately and most become aerosolized within milliseconds of ejection. Any droplet captured by a mask will likewise desiccate quickly and release its "naked virus." The volume of ejected aerosolized particles is very

high.

SP: His argument is essentially this, *nothing is more obvious than that some larger particles are captured by the mask ergo it's obvious that those particles, at least, will not infect a host*. But this is a specious argument. The problem with his argument is seen in the barrage of bullets analogy I use often: a thousand bullets coming at your head — you are not protected if you only block 80% of them.

The next issue raised against wearing masks that TA **FN01.40.00.00.00** address is ...

THE HEARING LOSS ISSUE, UNABLE TO SEE
FACES IMPEDE HEARING:

Answer: Use a clear face mask. Of course, this is unacceptable even to Fauci and friends — faceshields are utterly worthless re protection against aerosolized particles. One would have to wear a hood, and even Fauci won't go that far with this nonsense panic over a “pandemic” that has turned out to be, in terms of real life and death numbers, not counting those killed by the jab, to be nothing more remarkable than a bad flu season.

Next concern about negative effects of masking TA **FN01.40.00.00.00** address is ...

“MASKS CAN CAUSE A SUBJECTIVE IMPRESSION OF INCREASED WORK OF INSPIRATION.”

*** I think he is saying the masks can trigger phobias, exaggerated claims of “increased work” to breathe. What a convoluted way to express this thought. But the FACT is, it DOES increase the effort needed to inhale and less but noticeable effort to exhale as well; depending, of course, on how well the mask is sealed.

One reason, no doubt, that TA sees this interference as nothing more than a subjective, psychological thing is that he wears one of those loose fitted surgical masks that allow a vortex to develop around the unsealed sections of the mask, either side of the mouth, down the shafts opened on either side of the nose, and the openings under the chin, drawing every microbe swirling about in ambient space in the vicinity of the mask deep into the lungs of the unsuspecting *carbon-unit breather*.

A “vortex” is created when air drawn or blown through an opening creates a swirling of the air around that opening, and, sort of like a tornado, creates a vacuum that sucks everything in its immediate vicinity toward the center of the circling air flow. In the case of a mask opening, air drawn in through the opening tends to draw the ambient air around it into a circular motion, creating a vortex, drawing everything within its influence toward the center of that swirl, which draws it all into the mask wearer’s mouth

or nose.

Whether an actual vortex is created is beside the point. The pressure differential created by the mask actually does increase the flow of air through mask openings specifically because of the interference of direct respiration that is caused by the imposition of the material barrier over the passages the body uses to respire. To overcome to interference, the body automatically compensates and draws harder to bring air into the lungs. This totally defeats masks of every kind, even the N95, so some are attempting to create self sealing, or masks made of material that clings tight to the contours of the face. Some of these are called “Vortex Masks.” These masks facilitate sealing off openings around the mouth and nose. Most are very uncomfortable to wear for any length of time. And yet, on a site selling these masks, for 10.99 each, we read the same disclaimer found on boxes of surgical masks: “Masks are not designed or intended to prevent, mitigate, treat, diagnose or cure any disease or health condition, including COVID-19/Coronavirus. Masks are intended for general public use only. They are non-sterile and are not intended for use in any clinical or surgical setting or where exposure to bodily or hazardous fluids may be expected, where the risk of exposure through inhalation is high, or near intense heat or flammable gas. Masks are not surgical masks, personal protective equipment, or filtering respirators (such as N95 masks).” See <https://help.redbubble.com/hc/en->

us/articles/360042620271. This is a strange disclaimer for a mask purporting to provide a better seal; or, perhaps this is nothing more than a marketing gimmick after all.

Back to TA **FN01.40.00.00.00**: He says this concern about breathing is supposed to be a “limiting factor for a small set of patients who cannot tolerate them.”

For clarity, he is using the word *inspiration* to speak of inhaling. And one wonders why not simply say “MASKS CAN CAUSE PEOPLE TO FEEL LIKE THEY CANNOT BREATHE, OR THAT THE MASKS INTERFERE WITH THEIR ABILITY TO GET SUFFICIENT AIR. Or, if he desires to dismiss people who find masks an annoying interference with natural respiration (—:)) why not simply put it *some might subjectively believe the masks make it harder to breathe.*

My only guess for why he would express this concern in such a convoluted manner is that IN FACT IT’S A FACT that masks DO in FACT inhibit free breathing—that is, interfere with natural respiration. Maybe he is influenced by a sensitivity to this argument because of an intuitive sense that EVERYONE notices masks do in at least SOME MEASURE inhibit breathing.

*** This is such a sensitive concern, perhaps he does not want to raise it in so direct a manner??? He wants to be insulting toward those who do find the resistance to

natural respiration troubling and annoying and does not want to give it any respect at all. I find that concerning!

I don't know, of course, but intimidating those who find masks to be an obstruction to their breathing is the result!

So, let's put it out there: **MASKS RESTRICT BREATHING**. That is a plain fact. The question of whether they restrict it sufficiently to be concerned they pose a health risk, or compromise health is another matter. **I believe THEY DO!** And it's not merely psychological, although in the current milieu of social interaction being sensitive to everybody's sensitivities is vogue. Except those sensitivities that are quite natural; those can be disregarded at will.

Like many other things, the cumulative affect of masks will not likely be felt by most people and probably some RCTs ought to be done testing cognitive facility before and after wearing masks for x number of hours, etc. Might be an interesting trial, and it would not be too difficult to construct. These things are measurable. I postulate that prolonged use of masks does impact mental acuity, and performance of just about every physical function, most notably brain function.

Likewise over long periods of time, like a month, or so, of wearing them 4 hours or more every day, or at least five days each week, likely produces measurable impact on

health — and so forth. Not to mention the science supporting concerns that masks actually exacerbate viral infection and INCREASE it.

TA refers to some tests conducted on N95s that found no decrease, or MINOR DECREASE in oxygen saturation with N95 respirators. (67) — Okay, that’s a good start. Minor DECREASE, however, IS DECREASE. Clearly, the body wants MORE oxygen that is available to a person wearing one of these masks. Footnote 67 from FN01.140.00.00.00 — Kim J-H, Benson SM, Roberge RJ. Pulmonary and heart rate responses to wearing N95 filtering facepiece respirators. Am J Infect Control. 2013;41(1):24-27. doi:10.1016/j.ajic.2012.02.037. (VETTED BELOW: FN01.40.09.00.00.)

CE: Then comes a major CCav — whereas earlier, I think it was this study, the TA claims surgical and N95s are not appreciably different with regard to source control protection, here he explains that although some minor decrease in oxygen saturation has been associated with use of the N95, “Because paper surgical masks and cloth masks are LOOSER FITTING AND MORE POROUS THAN N95 RESPIRATORS, THERE IS **LITTLE LIKELIHOOD THAT THEY MEANINGFULLY REDUCE OXYGEN SATURATION WHEN WORN IN COMMUNITY SETTINGS.**”(see 68) Footnote 68: Person E, Lemercier C, Royer A, Reychler G. [Effect of a surgical mask on six minute walking distance.] Rev Mal Respir. 2018;35(3):264-

268. doi:10.1016/j.rmr.2017.01.010 [This is interesting.

*** SP: It seems to me that TA is fitting his use of sources to the need of his present argument. Before, N95s and surgical masks are equivalent when it comes to blocking protection, here, the N95 is minimally restrictive of air flow but, no worries when it comes to the surgical mask, THE VERY FEATURE THAT MAKES THEM FAR MORE VULNERABLE TO PENETRATION also makes them much more conducive to BREATHING. This seems like specious argument to me.

CCav: Then, here is another CCav: “THERE IS SOME EVIDENCE THAT N95 RESPIRATORS CAN INCREASE RESPIRATORY DEAD SPACE AND TRANSCUTANEOUS CO-2 LEVELS LEADING TO MILD HYPERCAPNIA, (69) but THERE IS LITTLE EVIDENCE THAT PAPER SURGICAL OR CLOTH MASKS CAUSE CO-2 RETENTION. (70).

Again, TA drives us toward the surgical mask, which everyone knows, except TA, are much inferior to N95 for protection, and lauds the feature that makes them inferior as making them superior for public use. He concludes: “Therefore, there is little evidence that masks cause significant respiratory problems for most people.”

ACTUALLY: The science is pretty quiet on this point. But it’s gathering momentum as the insistence upon mask

mandates upon the general public is exposing a greater number of people to the problems masks cause.

Hmmm. But TA admits they clearly DO cause SOME difficulties for many, and at significant levels for at least some.

I'll examine these studies: 67-70. TA
FN01.40.00.00.00 cites:

67. Kim J-H, Benson SM, Roberge RJ. Pulmonary and heart rate responses to wearing N95 filtering facepiece respirators. *Am J Infect Control*. 2013;41(1):24-27. doi:10.1016/j.ajic.2012.02.037.

No link. Title search: Found:
[https://www.ajicjournal.org/article/S0196-6553\(12\)00717-1/fulltext](https://www.ajicjournal.org/article/S0196-6553(12)00717-1/fulltext) (Paid access only).

An overview is all that is provided:

FN01.40.09.02.00.00-
[https://www.ajicjournal.org/article/S0196-6553\(12\)00717-1/fulltext](https://www.ajicjournal.org/article/S0196-6553(12)00717-1/fulltext) PDF: FN01.40.02.00.00.Pulmonary and heart rate responses to wearing N95 filtering facepiece respirators - *American Journal of Infection Control* (Limited access)

PC: Written Feb. 2012; Published online: August 2012

CCP: NA—Kim; Benson; Roberge / **ORIGIN:** US-PA: Pittsburgh, National Personal Protective Tech. Lab / NIOSH, and CDC. / **REF:** Dept. of Labor, Bureau of Labor Stats; OSHA; US CDC; Liu, Yun, Ng; Lee, Yamamoto; Kao, Tsai, Chen, Chiu, Hu; Kim (7 of 26) / **FUNDING:** nd
Assumed copyright holder: Elsevier Inc.

RCT: No. Method: “Twenty young, healthy subjects exercised on a treadmill at a low-moderate (5.6 km/h) [~3.5 miles] work rate while wearing 4 different models of N95 filtering facepiece respirators for 1 hour each, 2 models of which were equipped with exhalation valves, while being monitored for physiologic variables.”

CONTENT: Paid access.

Under RESULTS and CONCLUSION:

RESULTS: *** “Compared with controls, respirator use was associated with mean 1 hour increases in heart rate (range, 5.7-10.6 beats per minute, $P < .001$), respiratory rate (range, 1.4-2.4 breaths per minute, $P < .05$), and transcutaneous carbon dioxide (range, 1.7-3.0 mm Hg, $P < .001$). No significant differences in oxygen saturation between controls and respirators were noted ($P > .05$).”

NOTE/CCav: It should be noted that this test was

conducted on healthy and young subjects, the least susceptible to serious experience of sickness from COVID. Second, while 4 hours of low-moderate work rate represented by walking a treadmill I think provides a fairly representative work day for most adults working desk jobs, or light industry, it does not seem representative to laborers who are on their feet virtually all day, as for example, a restaurant server, or cook; and certainly not akin to someone that works with their hands all day in construction, or such. **BUT MOST IMPORTANTLY:** Also, we are not told how much time lapsed between trials: does this equate more honestly to a one hour trial for each separate mask? That is actually more likely. To make the study unspoiled if comparing masks, they would have to give sufficient time between trials to allow subjects to reset, recover to fully functional normal state before each trial. **SO, MY FIRST OBJECTION IS THAT A ONE HOUR TEST IS TOTALLY INADEQUATE to determine anything about the effect of wearing these masks from 4 to 8 hours every day for weeks on end.**

NOTE: Consider the tipping point principle. It's actually a thing! See TECH47.What is tipping point_ - Definition from WhatIs.com.pdf. <https://www.techtarget.com/whatis/definition/tipping-point>. The *tipping point* principle says a set of conditions accumulate without significant effect until the accumulate to a point at which an avalanche, or a cascade of effect suddenly sets in motion and is unstoppable, or irreversible.

*** Interestingly, the tipping point principle was first developed in epidemiology — “when an infectious disease reaches a point beyond any local ability to control it from spreading more widely.” Now it’s used for any commutative array of events that together build to a place where suddenly the minor effects experienced up to the tipping points suddenly cascade into a huge effect.

CCav: My point is, that while IT IS A GIVEN that the minor impact of a slightly lowered oxygen saturation level seen after 1 hour of low to moderate exertion is minimal, what does this look like after four to eight hours. And then, what does this look like after a week of wearing these? What does this look like after wearing these things consistently, even off and on, for a period of a month, or a YEAR? Is there an accumulation of negative impacts, does the body begin adjusting to less oxygen, taking energy from elsewhere? Do toxins begin accumulating and over time become toxic, does this increase stress and strain on various organs that begin decreasing efficiency gradually, and then the whole thing reaches a tipping point where organs begin to collapse prematurely —? You see, there is a huge difference in wearing a mask for an hour, or wearing them off and on for a job that occasionally requires one — but masking the entire population every day, forcing some employees to wear these cursed things all day for multiple consecutive days is something that should be considered. Especially, when the fact is, this

Pandemic is NOT the BLACK PLAGUE ripping through small towns killing 50%+ of a population. It has a recovery rate of 95% over all, and is consistently deadly only for elderly people who have other medical conditions predisposing them to severe reaction to any respiratory sickness that might come along in every flu season. Targeting mitigation efforts for those most vulnerable is the most sensible thing to do.

CONCLUSION: “The pulmonary and heart rate responses to wearing a filtering facepiece respirator for 1 hour at a low-moderate work rate are relatively small and should generally be well tolerated by healthy persons.”

IR: unrelated in any direct way to my concern. It’s about the N95. However, note it is limited to 1 hour — whereas the community experiment has many incidents of wearing these for four to five hours although not fitted.

CCav: However, within the range of 1 hour, this study shows **THERE IS AN INCREASE IN HEART RATE AND BREATHING RATE, A BIT OF CO2 RETENTION WITH NO SIGNIFICANT DIFFERENCE IN OXY SATURATION.** None of these were considered at a level of concern for 1 hour, but as I pointed out above, what about cases where foolish and unlearned people are scared into a panic and wear these for multiple hours days and weeks at a stretch?

68. Person E, Lemercier C, Royer A, Reychler G.
[Effect of a surgical mask on six minute walking distance.]
Rev Mal Respir. 2018;35(3):264-268.
doi:10.1016/j.rmr.2017.01.010.

No link. Title search: Found.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8656790/>

The article found first was in French. An English statement of results is as follows: “Distance and dyspnea [pronounced: dysp’-nea — Shortness of Breath], heart rate and saturation variations were recorded. Results: Distance was not modified by the mask (P=0.99). Dyspnea variation was significantly higher with surgical mask (+5.6 vs. +4.6; P<0.001) **and the difference was clinically relevant.** No difference was found for the variation of other parameters.”

Then I found the full text of the article in English:

FN01.40.09.03.00.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8656790/>.
(Alternate article addressing same question in similar fashion with identical results:
<https://pubmed.ncbi.nlm.nih.gov/29395560/>) PDF:
FN01.40.09.03.00.00.Effects of Using the Surgical Mask and FFP2 during the 6-Min Walking Test. A Randomized Controlled Trial - PMC.pdf

PC: Dec. 2021

CCP: Cabanillas-Barea, Rodriguez-Sanz; Carracso-Uribarren, Lopez-de-Celis, Gonzalez-Rueda, Zegarra-Chgavez, Cedeno-Bermudez, Perez-Bellmunt (All authors ?) / **ORIGIN**: Spain-Barcelona: Faculty of Medicine and Health Sciences, U. Intl, de Catalunya; ACTIUM Functional Anatomy Group; U. per a La Recerca a L'Atencio, no need at present to run down any possible association, affiliation with CCP / **REF**: Guo, Wang, Zhang, Li X., Li L., Li C., Cui, Fu, Dong, Chi; Chia, Tan, Ong, Lau, Lim, Lin, Sutjipto, Lee; Chu, Akl, Duda, Solo; Chen; Lee, Wang; Lin, Lee; Davis; Li, Tokura, Guo, Wong, Wong T., Chung; Huang, Tufekci; Wu, Tan; Lyu, Wehby (11 of 34) / **FUNDING**: “This research received no external funding.”

RCT: Asserted.

CONTENT: The assertion seems to be a positive result from wearing masks is it will exercise the respiratory muscles making them stronger.

IR: First, this does not appear to be a study that was conducted with the purpose to support, or encourage mask use. It appears to concern itself with what impact mask wearing has on exercising the respiratory accessory muscles with the assumption that since “the mask IS A HINDRANCE TO NORMAL BREATHING that causes DISCOMFORT, this COULD PUT MORE WORK ON THE

RESPIRATORY ACCESSORY MUSCLES CAUSING AN INCREASE IN TONE, OR STRENGTH.

NOTE: It was in pursuit of verifying or dismissing this theory that the study was done and the study focused on what affect masks have on distance one travels over a period of time, the heart rate, the oxygenometry, self-perceived dyspnea and accessory respiratory muscle tone. A 6 minute walk was used as the test. They tested the N95 and a surgical mask, with a control of no mask.

NOTE: RESULTS: “Significant differences were found between the three situations in terms of self-perceived dyspnea FFP2/N95 > surgical mask > no mask. However, there are no differences between the experimental situations during the 6MWT in terms of distance travelled, heart rate, oxygenometry or respiratory muscle tone.”

CCav: This study was very underpowered in that the number of occasions was small, only three for each group — N95, SM, and NM.

CCav: **They found that there were significant differences in the three sets for PERCEIVED DYSPNEA.** Walking 6 minutes wearing the N95 produced a greater anxiety of dyspnea than the SM, which produced a significantly greater anxiety of dyspnea than NM.

As for breathing, it was self-assessed — given a scale

of 1-100 from breath freely to can't breath at all.

SOME INFORMATION:

INRO: The increased work load on breathing increases need for oxygen while the barrier interferes with oxygen intake. However, the differentials here are minimal. The trial was walking for 6 minutes.

Shortness of breath is the only difference that showed any statistical significance.

Next, TA FN01.40.00.00.00 cites Laferty et al. to provide support for his contention that mask wearing does not significantly impact wearers negatively:

69. Laferty EA, McKay RT. Physiologic effects and measurement of carbon dioxide and oxygen levels during qualitative respirator fit testing. J Chem Health Saf. 2006;13(5):22- 28. doi:10.1016/j.jchas.2005.11.015

<https://www.sciencedirect.com/science/article/abs/pii/S1871553206000053> — denied access to full text of article without purchase. Check deeper into search results:

I found a full text PDF of this article:

FN01.40.09.04.00-<https://sci-hub.se/10.1016/j.jchas.2005.11.015> PDF:

FN01.40.09.04.00.Physiological Effects of Fit Testing- laferty2006

PC: Feb. 2006 / the full text PDF: Oct. 2006

CCP: Lafferty, McKay / **ORIGIN:** US-OH: U. of Cincinnati; US CDC; NIOSH. **REF:** Takahashi, Mano, Yamami (1 of 24) / **FUNDING:** see ORIGIN. — No reasonable expectation of bias.

RCT: Not asserted. An experiment to ascertain levels of carbon dioxide and oxygen levels during respiratory fit testing.

CONTENT:

IR: not relevant to my concerns except for marginal, or adjunct interest in effect of masks. However, even on that point, the matter is virtually irrelevant since it focuses on problems related to “Fit testing” the PPE.

Introduction: “In the United States, two commonly used qualitative respirator fit test methods require the use of a test hood to be placed over the subject's head and shoulders. Workers fit tested by this method have commented on the discomfort of being inside the test hood. ... Carbon dioxide levels are significantly higher and oxygen levels are significantly lower in the respirator when the test hood is used during the qualitative fit test. **This**

was especially true when fit testing filtering facepieces where mean carbon dioxide levels rose to 4.2% and mean oxygen levels dropped to 15.5%. Full facepiece respirators had similar changes, but to a lesser magnitude. The temperature inside the test hood rose an average 7.5 °F in the course of the qualitative fit test of the N95 filtering facepiece device. These stressors are not present to such an extent during a quantitative respirator fit test. Professionals conducting respirator fit tests should be aware of the physiological burdens that may occur during the qualitative respirator fit test. **Some groups may be especially sensitive to this test such as the elderly, pregnant women, persons with pulmonary and/or cardiac disease, or persons with psychological disorders such as anxiety, panic disorders, or claustrophobia.”**

NOTE: What we may take from the study is that **in fact there are stresses associated with masking;** however, in this case, the findings are limited to fit testing done with a hood.

FN01.40.09.05.00-

<https://reader.elsevier.com/reader/sd/pii/S0099176720302877?token=1459BA2A21E4663FA6972C7F80AF61C97E1EC27282D72BB451DADB702EEBDA2524CCE27E46A2E177EA394D79F03FDC7F&originRegion=us-east-1&originCreation=20220614233754> PDF:
FN01.40.09.05.00.The Physical and Psychological Effects

of Personal Protective Equipment on Health Care Workers in Wuhan, China_ A Cross-Sectional Survey Study _ Elsevier Enhanced Reader

PC: Avail. online Sept. 2020; Published Journal of
Emergency Nursing: Nov. 2020

CCP: Wei, Fu, Liao, Chan, Go, Zhouyan / **ORIGIN:**
CHINA-Hubei, Wuhan: Renmin Hospital of Wuhan U.,
Dept. of Critical Care Med.; The 1st Clinical School of
Wuhan U.; Cardiovascular Research Institute of Wuhan
U.; Shandong U. Dept. of Critical Care Medicine (All
authors CCP) /. **REF:** Lu, Tang; Wang, Hu C., Hu; Zhu,
Zhang, Wang; Hui; WHO; MacIntyre, Chughtai, Seale;
Yeom, Lee, Bae; Bai, Lin C., Lin J., Chen, Chue, Chou;
Huh; Wang; Cheng; CHINESE CDC; Ntl Hlth, Comm. of
People Republic of China (PRC); Zhang, Wen, Liang, Lei;
Hon; Hung, Choi, Chiang; Yan, Chen L., Chen; Jiang, Li,
Qu; MacIntyre, Chughtai; Dai, Wang; Khan, Parab (19 of
33). / **FUNDING:** nd

RCT: No. It's a controlled OS. Under Methods: "A
cross-sectional online questionnaire design was used Data
were collected from March 14, 2020, to March 16, 2020, in
Wuhan, China. Descriptive statistics and χ^2 analyses
testing were used."

CONTENT:

IR: Essentially, this article contributes nothing to the question I am raising, whether masks are enough source control or PPE adequately protect from infection to warrant their use for community control of a pandemic. This study addresses issues related to the negative side of wearing masks, the cost involved in the cost benefit assessment.

INFO: It does follow, however, that this study provides legitimate insight into concerns we should have with universal mask mandates.

**** There are adverse reactions:

“(1) Discomfort: dizziness or palpitation; chest distress or dyspnea; nausea or vomiting; micturition desire; retroauricular pain (mask pressure–related); thirst or dry throat; inconvenience at work; other symptoms of discomfort, for example, how an HCW felt in PPE, which was formatted as a multiple-response option.

Questions considering several vulnerable areas according to our clinical observation were also included:

(2) Was there mist on the HCW’s goggles?

(3) What were the effective methods that the HCW used to prevent misting in practice? (This question allowed for multiple-response options.)

(4) Did the HCW have pressure sores on their face?

(5) In which areas did the HCW have pressure sores?

(6) Did the HCW have skin injury owing to gloves?

(7) What type of glove-related skin damage did the HCW have?”

INFO: NOTE: Most of the severe issues arise after wearing the mask 4 hours or more — and that is what many workers are being required to do in the employ of organizations requiring face masks for employees.

Also, many are wearing their masks for 4 hours at a time in the general public.

Therefore, consideration for these studies might have some cross over benefit to questions about the advisability of masks mandates.

Next reference by TA **FN01.40.00.00.00** —

70. Roberge RJ, Coca A, Williams WJ, Palmiero AJ, Powell JB. Surgical mask placement over N95 filtering facepiece respirators: physiological effects on healthcare workers. *Respirology*. 2010;15(3)516-521. doi:10.1111/j.1440-1843.2010.01713.x

No link. Title search:
<https://onlinelibrary.wiley.com/doi/10.1111/j.1440-1843.2010.01713.x> — PAID ACCESS.

I'll include the abstract in folder:

FN01.40.09.06.00-

<https://onlinelibrary.wiley.com/doi/10.1111/j.1440-1843.2010.01713.x>. PDF: FN01.40.09.06.00.Surgical mask placement over N95 filtering facepiece respirators_ Physiological effects on healthcare workers - ROBERGE - 2010 - Respirology - Wiley Online Library (Abstract only available without payment.)

PC: March 2010

CCP: Roberge, Coca, Williams, Palmiero, Powell /
ORIGIN:
US-WaDC: OSHA, NIOSH—National Personal Protective Technology Laboratory; PA-Pittsburgh: EG&G Technical Services / **REF:** no access to references. / **FUNDING:** nd Assumed authors affiliates: NIOSH

RCT: Not asserted. Under METHOD: “A surgical mask was worn over an N95 filtering facepiece respirator by 10 healthcare workers for 1 h at each of two work rates. Heart rate, respiratory rate, tidal volume, minute volume, oxygen saturation, transcutaneous carbon dioxide levels and respirator dead space gases were monitored and

compared with controls (N95 filtering facepiece respirator without a surgical mask). Subjective perceptions of exertion and comfort were assessed by numerical rating scales.”

CONTENT:

IR: Only tangentially related to my query. The point of this study is to ascertain if the use life of N95s worn by health professionals can be extended by wearing an additional surgical mask over the facepiece. They wanted to test the physiological impact of using a surgical mask with an N95,. Goes to question whether masks hinder normal respiration at any significant level of concern.

It's totally IR — but could be important to any query regarding whether masks actually do inhibit breathing to any degree important to health.

—> Back to **FN01.40.00.00.00-**
<https://wmjonline.org/wp-content/uploads/2020/11/9/4/229.pdf> — The Great Mask Debate ...

Back to the reasons given for not wearing masks: the next reason given is...

***** MASKS CAUSE REINFECTION OR REINHALATION OF PATHOGENS:**

SP: Interestingly, TA does not actually address this issue beyond dismissing it as “largely unsupported.” His claim that this concern was reinforced by an **imprecise** statement from the Surgeon General is a bogus bit of bloviation. The Surgeon General’s comment **MADE NO REFERENCE AT ALL TO THIS CONCERN** — no one I know made any connection between the SG’s statement and this concern. It’s typical, however, of the sort of dodge one uses when he wishes to change the subject, or create a smoke screen to hide something.

*** Merely dismissing a study as “largely unsupported” means nothing with regard to evidence. TA does not bring forward any study on the question, he only dismisses it as “largely unsupported.” Well, my friend, I can tell you that many Muslims consider the Holocaust to be “largely unsupported.”

I would like to see some studies done on this question; it’s an IMPORTANT ONE.

*** Intuitively, one would expect virus particles lodged in the weave of a mask might be drawn in during *inspiration* — and that should be the default expectation consistent with all laws of physics and all our experience. Therefore, these natural assumptions should not be given up unless and until by an RCT carefully constructed by unbiased researchers that PROVES, by some miracle,

virions ejected from the lungs into a mask used as source control somehow magically take on features adhering the virion to the mask making it impossible to dislodge by normal respiration, (not to mention coughing, or gasping for air) or that the mask has some feature, that HOLDS the virion in place even when air is being drawn in through the mask in respiration.

Some reading these notes might think the same holds true regarding my counter-intuitive position against mask use, saying the intuitive expectation should hold. But here is the difference. Every legitimate RCT conducted to ascertain mask efficacy against a virus concludes they do not provide adequate protection. This confirmed scientific fact overrides my intuitive, grossly uninformed expectation that putting a barrier over my face protects from airborne pathogens even those as small as a virus.

NOTE: TA gets some points for bringing these thing into his consideration, but shows his untoward BIAS when he dismisses such an important matter with a wave of the rhetorical hand: “largely unsupported.” It compromises what would otherwise be a feature of his study that would recommend it to honest researchers. Now I must conclude TA is simply arguing a point rather than laying out facts to support a conclusion. In argument, you see, there is always the element of competition, who will win! In something like research, such a motive defeats the purpose.

Next concern TA FN01.40.00.00.00 address is ...

THE CLAIM THAT MASKS WEAKEN THE IMMUNE SYSTEM: Again, here is another dismissive statement for which TA provides ZERO documentation to support:

SP/SS: “The claim that masks weaken the immune system **is not well supported** and has been consistently refuted by public health officials and professional societies.”
— okay! Now, this guy has documented us to death on just about every other point and he fails to provide a **SINGLE REFERENCE** to support this broad claim?????

*** This is a consistent thing with TA in this paper. Going over my notes on this article I find repeatedly occasion to complain he conveniently fails to provide citation at junctures in this study where that citation might undermine his thesis, or simply dismiss research without bothering to explain the basis for his dismissal.

SP: Here is what he passes off as “legitimate” concerns about masks, and you will notice they are sociological not medical:

“Some concerns about masks are legitimate. It is possible that masks might create a false sense of security. Yan and colleagues used anonymized cell phone data to show that when communities were ordered to wear masks

in public, people left their homes more frequently and stayed away longer, often visiting restaurants and hardware stores.⁷² This trend could undermine the benefits of community masks and highlights the importance of continued diligence for physical distancing. On the other hand, another community study showed that mask wearing increased adherence to social distancing.⁷³ Young Black men have expressed concerns that wearing a face covering will make them a target for suspicion,⁷⁴ which is unfortunate inasmuch as Black people and African Americans are more likely than other groups to contract COVID-19 and to have poor 236 WMJ • DECEMBER 2020 outcomes.⁷⁵ The CDC estimated that non-Hispanic Black people have an age-adjusted risk of hospitalization from COVID-19 that is disproportionately higher than that of non-Hispanic White people.⁷⁶ According to the Wisconsin Department of Health Services, as of October 30, 2020, Black people accounted for 11.3% of Wisconsin COVID-19 deaths, despite constituting only about 6.2% of the population.⁷⁷”

This statement is rated SP because it is bogus to pretend the only legitimate objections to masks are how people feel about wearing them, especially when he consistently dismisses those concerns in the body of this article.

The next citation from TA **FN01.40.00.00.00** as he addresses concerns about negative effects of wearing

masks: p. 236

*** MASKS CAN BE INCONVENIENT, WARM, AND UNCOMFORTABLE.

They fog glasses [which can be dangerous].

They can cause RASHES — [we have seen much evidence of this.]

This next one goes back to the “inspiration” [inhalation] issue discussed above:

“Mask wearers may experience a minor sensation of difficulty inhaling because of increased resistance from the fibers of the mask or increased reactive nasal resistance.” I’ve addressed this.

*** Headaches: watch how he dismisses this concern without taking into consideration the many reports of headaches experienced by workers who are forced to wear masks all day, or during long shifts:

“Health care professionals can develop headaches from longterm use of personal protective equipment, such as N95 respirators and goggles. Headaches could be secondary to external compression of sensitive facial and scalp nerves from tight-fitting masks or their straps. Alternatively, altered cerebral hemodynamics could be

responsible for the headaches, although this effect is not a limiting factor for health care worker performance. **One study suggested that headaches could be associated with minor acute increases in middle cerebral artery blood flow and end-tidal carbon dioxide levels in health care workers wearing N95 respirators,**⁷⁸ but these minor alterations were not shown to affect performance of the health care workers.⁷⁹ **This minor concern about N95 respirators is not likely to be a limiting factor for community use of masks.”**

SS: Okay, well, because you said so, it must be so!

Next TA **FN01.40.00.00.00** speaks to the exemption issue. [I must say TA is thorough, and I do appreciate the fact that he did cover the issues. It's just that he did not cover them honestly.]

ARE THERE LEGITIMATE MEDICAL EXEMPTIONS FROM WEARING MASKS?

“CDC, ‘cloth masks should not be placed on young children under age 2, anyone who has trouble breathing, or is unconscious, incapacitated, or otherwise unable to remove the mask without assistance.’⁸⁰”

*** TA offers a little crack in the door for medical exemptions that involve issues beyond those stipulated by CDC, see above, but only minimally, and with a caution

that such should be “CAREFULLY CONSIDERED BY A PATIENT’S HEALTH CARE PROVIDER.”

NOTICE no provision is considered for a religious based exemption. I show in my book a strong argument for biblically based religious conviction exemption.

Next segment: **Studies that have been misinterpreted or taken out of context:** p. 236

TA **FN01.40.00.00.00** identifies these studies that he claims have been misinterpreted and lays them out by the numbers:

1. New England Medical Journal, footnote 81 — “We know that wearing a mask outside health care facilities offers little, if any, protection from infection.”

*** TA dismisses this because it was before the **significance of respiratory droplets was well-established**. Furthermore, the researchers in that article agreed: masks, coupled with other nonpharmacological interventions, could reduce the spread from asymptomatic individuals infected with COVID-19.” **THIS ARTICLE WAS WRITTEN IN MAY OF 2020 — NOT 1968! IT WAS PUBLISHED IN THE JOURNAL JUL. 2020.** This exposes TA **FN01.40.00.00.00** is no doubt premising his assessment on the debate that swirled around the transmission issue some suggesting is was not

communicated by aerosol — HOWEVER, THAT WAS IN ORDER TO PROMOTE THE SIMPLE AND ACCESSIBLE SURGICAL MASK FOR PUBLIC USE — YOU SEE, EVERYONE KNEW IT WOULD ONLY BE A MATTER OF TIME BEFORE THE USE OF SURGICAL MASKS TO PROTECT AGAINST AEROSOLS WOULD COLLAPSE UNDER THE PRESSURE OF SCIENCE — My guess is that these guys got hammered pretty hard for their frank admissions concerning surgical masks and their efficacy in a pandemic.

Also, TA points out that the authors of the disputed study wrote a followup letter explaining **their intent was to encourage greater use of masks, not less. They totally snapped into conformity with the agenda.**

Here is the article, and their followup letter: 81,82 respectively.

I'm going to vet these articles in a moment. But notice something I found striking. That's it! That is ALL he had to say about studies that have been misinterpreted or taken out of context.

SP: He refers to one study, when there are several. He refers to it as if to say those citing it were making the claim that upon the authority of these medical dudes, we declare, blah, blah. No, we don't do SS. The point was not that the article was written to discredit mask

use, or that the doctors intended to undermine their use for controlling community spread. THE STUDY IS REFERENCED TO POINT OUT THOSE AUTHORS CONFIRMED WHAT EVERYBODY KNOWS ABOUT MASKS — **“We know that wearing a mask outside health care facilities offers little, if any, protection from infection.”** That is a FACT!

Unless the TA’s perspective is one that finds no reason to address with any seriousness the opposition to his point of view, this is SP. If the other is true, TA is full of himself, and has succumbed to hubris.

Nevertheless, I’ll take a look at this study.

81. Klompas M, Morris CA, Sinclair J, Pearson M, Shenoy ES. Universal masking in hospitals in the Covid-19 era. *N Engl J Med.* 2020;382:e63.
doi:10.1056/NEJMp2006372

No link. Title search:
<https://www.nejm.org/doi/full/10.1056/NEJMp2006372>
Cannot find in these notes (doc1 or doc2)

[NOTE: I have a little notation anomaly here that for reasons that are too complicated to explain, I need to correct by assigning these next articles with a notation that skips over FN01.40.09.07.00 through FN01.40.09.09.00, and assign them an address in my archive that places

them out of the order in which they appear in these notes. These articles will be notated as FN01.40.10.00.00—and sequence from there. Then I'll be coming back to pick up at FN01.40.07.00.00.]

FN01.40.10.00.00-

<https://www.nejm.org/doi/full/10.1056/NEJMp2006372>.
PDF: FN01.40.10.00.00.Universal Masking in Hospitals in the Covid-19 Era _ NEJM (see

<https://supchina.com/2016/12/14/new-england-journal-medicine-goes-china/> — PDF:

FN01.40.10.01.00.Universal Masking - The New England Journal of Medicine goes to China – SupChina) It is highly unlikely that China would accept any medical journal circulation that did not bow to CCP. Within the content, dependency upon CCP influence is evident: “Universal masking is already standard practice in Hong Kong, Singapore, and other parts of Asia and has recently been adopted by a handful of U.S. hospitals.” Harvard, Boston.

PC: May, 2020

CCP: Authors ? / **ORIGIN:** New England Journal of Medicine — Recently launched a Chinese language sister publication available free to registered users in China — See **FN01.40.10.01.00-**

<https://supchina.com/2016/12/14/new-england-journal-medicine-goes-china/> PDF: FN01.40.10.01.00.The New England Journal of Medicine goes to China – SupChina

with **FN01.40.10.00.00**. Universal Masking in Hospitals in the Covid-19 Era _ NEJM. **It is highly unlikely that China would accept any medical journal circulation that did not bow to CCP.** Within the content, dependency upon CCP influence is evident: “Universal masking is already standard practice in Hong Kong, Singapore, and other parts of Asia and has recently been adopted by a handful of U.S. hospitals.” Harvard, Boston. / **REF:** Bai, Yao, Wei; Li Pei, Chen; Ng, Chia (3 of 5) / **FUNDING:** See PDF: FN01.40.10.02.00.nejmp2006372_disclosures — Apparently, the only claim for royalties etc. from article is by Michael Klompas and it’s through licenses held in the name of UpToDate.Inc, the rest declared “I do not have any financial interests to disclose at this time.” I’ve never seen that before???

RCT: No. In fact, this is not even an RL and certainly not a SRL. It’s an opinion piece.

CONTENT:

IR: This speaks to concern within a health care facility.

*** ** I don’t have a category for this, but here is another instance where the TA actually, tacitly, admits masks are really more about control, manipulation, and perception than protection:

**** “It is also clear that masks serve symbolic roles.

Masks are not only tools, they are also **talismans that may help increase health care workers' perceived sense of safety**, well-being, and trust in their hospitals. **Although such reactions may not be strictly logical, we are all subject to fear and anxiety, especially during times of crisis.** One might argue that fear and anxiety are better countered with data and education **than with a marginally beneficial mask**, particularly in light of the worldwide mask shortage, **but it is difficult to get clinicians to hear this message in the heat of the current crisis.** Expanded masking protocols' greatest contribution may be to reduce the transmission of anxiety, over and above whatever role they may play in reducing transmission of Covid-19. The potential value of universal masking in giving health care workers the confidence to absorb and implement the more foundational infection-prevention practices described above may be its greatest contribution.” **ADMITTING THE REAL BENEFIT OF MASKING, OR THE “GREATEST CONTRIBUTION” OF MASKING IS PSYCHOLOGICAL manipulation.**

CCav: The above paragraph also qualifies as CCav since it tacitly admits masking is actually of only marginal benefit.

*** Here is the statement pointed to by many to say the New England Journal of Medicine researchers TA for this article say masking “offers little, if any, protection from infection,” **“We know that wearing a mask outside**

health care facilities offers little, if any, protection from infection. Public health authorities define a significant exposure to Covid-19 as face-to-face contact within 6 feet with a patient with symptomatic Covid-19 that is sustained for at least a few minutes (and some say more than 10 minutes or even 30 minutes). **The chance of catching Covid-19 from a passing interaction in a public space is therefore minimal. In many cases, the desire for widespread masking is a reflexive reaction to anxiety over the pandemic.**”

*** IR: Clearly, the *thesis* (soft thesis) of this article is that masks are more about dampening anxiety than about protecting from infection.

CCav: The declared intent of the TA for this article (see 82, below) notwithstanding, they ADMIT IT IS GENERALLY UNDERSTOOD THAT MASKS OFFER “LITTLE, IF ANY, PROTECTION FROM INFECTION.” They go on to explain “the chance of catching Covid-19 from a passing interaction in a public space is therefore minimal.” And then admit it’s actually about the psychology: **“In many cases, the desire for widespread masking is a reflexive reaction to anxiety over the pandemic.”**

THAT statement was specifically intended to be their statement regarding **“wearing a mask OUTSIDE HEALTH CARE FACILITIES.”** The one TA

FN01.40.00.00.00 mentions in his article, *The Great Mask Debate* ... [See above!]

IR: The rest of the 2020 article focuses on concern about protection in health care settings. In that setting, after admitting that masks alone “in this setting” will reduce risk only slightly, and the reason is that it will not block droplets from entering the eyes, or from contact on fomites in the environment, they explain **“More compelling is the possibility that wearing a mask may reduce the likelihood of transmission from asymptomatic and minimally symptomatic health care workers with Covid-19 to other providers and patients.”**

Next, TA **FN01.40.00.00.00** turns our attention to...

82. Klompas M, Morris CA, Sinclair J, Shenoy ES. Universal masking in the Covid-19 era. *N Engl J Med*. 2020;383:e9. Doi:10.1056/NEJMc2020836

I guess I should include at least a mention of and citation for the **FN01.40.09.09.01** TA’s mea culpa — Mea culpa? well, that might be reflective of my opinion of this effort to walk back the considerable damage these doctors did to the CCP agenda in their moment of honesty but it is not likely they would ever admit it even if it was true.

No link. Title search: FOUND it sectioned within the main article. Expanded that and reprinted (PDF) the article

to include the letter. My commentary on the letter: (So, no need for a separate PDF in my archive, the original article has their letter of clarification included.

INFO: They do indeed state their “intent” was to “push for more masking, not less.” Here is their statement in full: “We understand that some people are citing our Perspective article (published on April 1 at NEJM.org) as support for discrediting widespread masking. In truth, the intent of our article was to push for more masking, not less. It is apparent that many people with SARS-CoV-2infection are asymptomatic or presymptomatic yet highly contagious and that these people account for a substantial fraction of all transmissions. Universal masking helps to prevent such people from spreading virus-laden secretions, whether they recognize that they are infected or not.”

CCav: The “intent” of the TA makes absolutely no difference in the interpretation of their statements given above. Their “intent” was clearly not well served, which is the reason they had to follow up with this letter.

In fact, their article did far more damage to the masking agenda than the Wisconsin Medical Journal TA, John Raymond, insinuated.

INFO: *** They did clarify one important distinction: saying wearing masks outside health care facilities offers

little, if any, protection was not to be applied to “sustained interactions within closed environments.”

I will stipulate to the statement that the risk of transmission is “strongly correlated with the duration and intensity of contact”:

Okay, let’s go to the next article put forward by TA
FN01.40.00.00.00 —

5. Rosenberg ES, Dufort EM, Blog DS, et al COVID-19 testing, epidemic features, hospital outcomes, and household prevalence, New York State — March 2020. Clin Infect Dis 2020 May 8 (Epub ahead of print). Crossref. opens in new tab Medline. opens in new tab Google Scholar. opens in new tab

Not in these notes:

[NOTE: I explained at the introduction of **FN01.40.10.00.00** why I had to assign that address to those articles and why I skipped over FN01.40.09.07.00-FN01.40.09.09.00 to archive those articles. We get back on track here by returning to the sequential notation beginning with **FN01.40.09.07.00.**]

FN01.40.09.07.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7239264/>.
(pdf of FULL TEXT:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7239264/p>

df/ciaa549.pdf PDF: FN01.40.09.07.00.COVID-19 Testing, Epidemic Features, Hospital Outcomes, and Household Prevalence, New York State—March 2020 - PMC

PC: May 2020

CCP: Authors ? / **ORIGIN:** US-NY: U at Albany School of Public Health, NY State U.; Albany: NY State Dept. of Health; Wadsworth Center; GA: Rollins School of Public Health, Emory U. / **REF:** Governor A. M. Cuomo (2); US CDC (2); NYSDOH; Guan, Bi, Hu; Cai; Chen, Qi, Liu; Wang, Ma, Zheng, Wu, Zhang R.; Jiatong, Wenjun (10 of 20) / **FUNDING:** “None.” Potential Conflicts of Interest: “E.R. (Author Elizabeth Rosenthal) reports grants from CDC and NYS DOH, outside the submitted work. K.S. (Kirsten St. George) reports a PHEP grant from the CDC, during the conduct of the study; grants from Akonni Biosystems Inc; Royalty Generating Collaboration from Zeptomatrix; and non-financial support from ThermoFisher, outside the submitted work. All other authors have no potential conflicts.”

RCT: No. **METHODS:** “Specimen collection for COVID-19 testing was conducted in healthcare settings, community-based collection sites, and by home testing teams. Information on demographics, risk factors, and hospital outcomes of cases was obtained through epidemiological investigations and an electronic medical records match, and summarized descriptively. Active

testing of initial case’s households enabled estimation of household prevalence.”

CONTENT:

IR. Not related to questions of this research.

6. Bi Q, Wu Y, Mei S, et al Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China: a retrospective cohort study. Lancet Infect Dis 2020 April 27 (Epub ahead of print). Crossref. opens in new tab Medline. opens in new tab Google Scholar. opens in new tab

FN01.40.09.08.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185944/>.

PDF: FN01.40.09.08.00.Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China_ a retrospective cohort study - PMC.

See SUPP: FN01.40.09.08.00.SUPP mmc2

PC: Aug. 2020

CCP: Bi, Wu, Mei, Ye, Zou, Shang, Liu, Wei, Shang, Gao, Cheng, Wu, Sun, Huang, Sun, Zhang, Ma, Lessler, Feng. / **ORIGIN:** USA-MD, 8 of eleven contributors certainly CCP influenced research within China — the other four likely MD Johns Hopkins — Bloomberg, and funding: Peng Cheng Lab and US CDC. / **REF:** Li, Guan, Wu; Chen, Zhou, Dong; Wang, Hu B., Hu C.; Yang, Lu,

Ming-Jih; WHO; Bi; Chan, Yuan, Kok; Gong; Chu, Cheng; Zou, Ruan, Huang; Pan, Ye, Sun; Imai, Cori, Dorigatti; Fang, Zhang, Xie (13 of 20) / **FUNDING**: “Emergency Response Program of Harbin Institute of Technology, Emergency Response Program of Peng Cheng Laboratory, US Centers for Disease Control and Prevention.”

RCT: No. RL and OS.

CONTENT:

NOTE: It’s unfortunate that Americans are drawn into the CCP mindset: “Rapid spread of severe acute respiratory syndrome coronavirus (SARS-CoV-2) in Wuhan, China, prompted HEIGHTENED SURVEILLANCE ...” Not a word likely to be used if this were an American influence dominated report, except today from any “public health” institution.

IR: much of the study is unrelated to our question re masks and only touches that subject incidentally. I would stipulate to the data re incubation, symptom characteristics, and even transmissibility estimates as within boundaries of what is now known.

AME: Masks: The only mention of masks is a passing one, but reveals AME bias: “Close contacts were identified through contact tracing of a confirmed case and were defined as those who lived in the same apartment, shared

a meal, travelled, or socially interacted with an index case 2 days before symptom onset. Casual contacts (eg, other clinic patients) and some close contacts (eg, nurses) **who wore a mask during exposure were not included in this group.**”

AME: One wonders why they would not include masked nurses in their case identification efforts. Apparently, it is assumed the mask protected them from exposure.”

Next article TA FN01.40.00.00.00 cited is...

7. Cheng H-Y, Jian S-W, Liu D-P, et al Contact tracing assessment of COVID-19 transmission dynamics in Taiwan and risk at different exposure periods before and after symptom onset. JAMA Intern Med 2020 May 1 (Epub ahead of print). Crossref. opens in new tab Medline

FN01.40.09.09.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7195694/>.
PDF: FN01.40.09.09.00.Contact Tracing Assessment of COVID-19 Transmission Dynamics in Taiwan and Risk at Different Exposure Periods Before and After Symptom Onset - PMC. For SUPP see
FN01.40.09.09.00.SUPPjamainternmed-e202020-s001

PC: Published online: May 2020, in JAMA: Sep. 2020

CCP: Cheng, Jian, Liu, Ng, Huang, Lin / **ORIGIN:** Taiwan-Taipei: Global Health Program, National Taiwan University College of Public Health, Taiwan: Taipei Taiwan CDC, Office of Preventative Medicine. I think CCP bias is likely, albeit not necessarily controlling. Certainly, the cultural bias favoring masks should be expected. **REF:** Zhu, Zhang, Wang; WHO (5); Nishura; Zou, Ruan, Huang; Pan, Zhang, Yang, Poon, Wang; Liu, Liao, Qian; Patel, Abdirizak; Cheng, Chang, Fan; Cheng, Yang; Wang, Ng; Taiwan Legislative Yuan; Jian, Chen, Lee, Liu; Taiwan CDC; Huang, Wang, Li; Wang, Hu, Hu C.; Wu; Ji, Ma, Pan; Li, Guan, Wu; Nishiura; Ong, Tan, Chia; Bin, Heo Song; Kim, Chang, Sung; Google (27 of 33) / **FUNDING:** Statement: “The study was funded by Taiwan Ministry of Science and Technology (MOST 107-2314-B-002-187-MY2 and MOST 108-2628-B-002-022).”

RCT: No. **METHODS:** “On January 15, 2020, in response to the outbreak in Wuhan, the Taiwan Centers for Disease Control (Taiwan CDC) made COVID-19 a notifiable disease. We conducted a prospective case-ascertained study that enrolled all the initial 100 confirmed cases in Taiwan between January 15 and March 18, 2020, and their close contacts. All contacts were followed up until 14 days after the last exposure to the index case. The last follow-up date was April 2, 2020.”

CONTENT:

IR: Point of article is to ascertain the transmissibility of coronavirus disease 2019 (COVID-19) to close contacts?

CCav: RE masks, only two statements include mention. First, to say a surgical mask would not be appropriate PPE for HCW performing aerosol-generating procedures. **[This is tacit admission surgical masks are inadequate to protect against infection in the presence of aerosolized particles, but I should add, in a health care setting, where the exposure might be expected to be intense and not of a casual nature.]**

AME: The second mention is evidence of expected AME bias from a study coming out of Asia, in this case, Taiwan: “In response to a possible shortage of face masks, the government proactively initiated a name-based rationing system for mask purchase and boosted the production of face masks to ensure the availability for both N95 respirators and face masks to both health care professionals and the general public.”

NOTE: Nothing in this study offers insight into mask efficacy, except to confirm the inferiority of surgical masks to N95s as PPE.

The next article cited by TA FN01.40.00.00.00 is ...

See also 4. Leung NHL, Chu DKW, Shiu EYC, et al Respiratory virus shedding in exhaled breath and efficacy

of face masks. Nat Med 2020;26:676-680. Crossref. opens in new tab Web of Science. opens in new tab Medline. opens in new tab Google Scholar

Already vetted in these notes: **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2> PDF:
FN01.28.03.00.00.Respiratory virus shedding in exhaled
breath and efficacy of face masks _ Nature Medicine:
Nature Medicine, 26, 676–680.

An article of interest related to the psychological
aspect of masking: see Stefan Pfattheicher, Laila Nockur,
Robert Böhm, Claudia Sassenrath, Michael Bang
Petersen, 2020, The Emotional Path to Action: Empathy
Promotes Physical Distancing and Wearing of Face Masks
During the COVID-19 Pandemic

Already vetted in these notes: See
FN01.28.00.00.00—
<https://journals.sagepub.com/doi/full/10.1177/0956797620964422> PDF: FN01.28.00.00.00.The Emotional Path to
Action_ Empathy Promotes Physical Distancing and
Wearing of Face Masks During the COVID-19 Pandemic -

Conclusion of **FN01.40.00.00.00-**
<https://wmjonline.org/wp-content/uploads/2020/119/4/229.pdf> — The Great Mask
Debate ...

SS/SP: Raymond concludes there is “copious

evidence” supporting conclusion that masking “reduces the transmission of COVID-19.” Copious — abundant supply or quantity. The only problem is that copious does not assume compelling—the fact that there is a lot of anything says nothing about the thing there is a lot of, except that there is a lot. The evaluation of evidence provided by Raymond is unconvincing. Sheer volume does not prove anything about the quality of what fills the volume.

SP: A citation of CDC is virtually worthless these days: “Although most of the benefit of wearing a mask is conferred to the community and to bystanders through source control, **a mask also can protect the wearer from infection to some extent** (guidance from Centers for Disease Control and Prevention, November 10, 2020).”

NOTE: *** The contribution of masks to control, curb, or mitigate transmission is by Raymond’s assessment mostly from the assumed psychological impact and yet I would argue that evidence contradicts this and suggests the overall negative psychological impact of masks far exceeds any perceived benefit. **Besides the ethical concerns about manipulating people psychologically, or offering to them a false sense of security in what science has proved is devoid of any meaningful benefit.**

SS: I rate his concluding assertions an example of SS because the documentation he uses to support the

conclusions are inconclusive at the very best, contradictory to his conclusions and unethically used by the TA at worst.

SP: Arrogantly, in my opinion, he assumed to have established the *final word*, ending all debate. This is a somewhat newish tactic on the left — to declare a “full stop” to discussion, or declare debate done: “The debate about the usefulness of masks to mitigate the spread of COVID-19 shouldn’t be a debate at all.” Why? Well, because in his asserted as true opinion the benefits of community mask wearing outweigh the risks. Hmmm! If by risks he means those negatives mentioned earlier, according to the plethora of studies I’ve examined, the risks he stipulates far outweigh the virtually non-existent benefits of masking.

FN01.41.00.00.00 — Medical Decision Making — CLAIM: “The authors used over 50 sources to determine that even with moderately effective masking *‘it is evident that mask effectiveness significantly affects transmission.’* The researchers recommend masking until at least widespread vaccination occurs.”

FN01.41.00.00.00-

<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029> PDF: FN01.41.00.00.00.Effectiveness of Face Masks in Reducing the Spread of COVID-19_ A Model-Based Analysis - Isabelle J. Rao, Jacqueline J. Vallon, Margaret L. Brandeau, 2021.pdf For Supp see

<https://journals.sagepub.com/home/mdm> PDF:
FN01.41.00.00.00.SUPP Medical Decision Making_ SAGE
Journals —

PC: May, 2021

CCP: Rao, Vallon, Brandeau / **ORIGIN:** US-CA: Stanford, Dept. of Management Science and Engineering / **REF:** Johns Hopkins; US Coronavirus Tracker; CDC (4); WHO; Cheng, Wong, Chuang; Lyu, Wehby; Chu, Akl, Duda; Want, Tian, Zhang; Bundgaard; MacIntyre, Zhang, Chughtai; Cowing, Chan, Fang; Chua, Cheng, Goh; Li, Liu, Li M., Qian, Dai; Ngonghala, Iboi; Ngonghala, Iboi, Gumel; Li, Pei, Chen; Du, Wang; You, Deng, Hu; NYT; Bi, Wu, Mei; Bi; Lin, Xu; Zhou, Yu, Du; Wu; NY State-Cuomo; Tang, Wang, Li; Tang; Moghadas, Shoukat; Washington Post Staff; Wang, Du; Governor’s Press Office-Cuomo; Zhao, Lee, Ghader; Wu, Wang, Chang; Abou-Ismael; American College of Surgeons (38 of 74) / **FUNDING:** IJR (Isabelle J. Rao) and MLB (Margaret L. Brandeau) supported by grant from National Institute on Drug Abuse.

RCT: No — a “dynamic disease model” which essentially is constructed around AME with no actual scientific study of the question re mask efficacy.
METHODS: “We develop a dynamic disease model to assess the effectiveness of face masks in reducing the spread of COVID-19, during an initial outbreak and a later resurgence, as a function of mask effectiveness, coverage, intervention timing, and time horizon. We instantiate the

model for the COVID-19 outbreak in New York, with sensitivity analyses on key natural history parameters.”

CONTENT:

AME: This study concludes absolutely on the side of masking, without showing any science supporting their excessive confidence. However, at least this is admitted by the TA: “Data regarding COVID-19 transmission are uncertain, and empirical evidence on mask effectiveness is limited. Our analyses assume homogeneous mixing, providing an upper bound on mask effectiveness.”

CCav: “Data regarding COVID-19 transmission are uncertain, and empirical evidence on mask effectiveness is limited. Our analyses assume homogeneous mixing, providing an upper bound on mask effectiveness.”

NC/AME: Conclusion: “Even moderately effective face masks CAN play a role in reducing the spread of COVID-19, particularly with FULL COVERAGE, but should be combined with social distancing measures ...”

CCP: Dependency on CDC and WHO: “The US Centers for Disease Control and Prevention (CDC) recommends ‘wear[ing] [sic] cloth face coverings in public settings when around people outside of their household, especially when other social distancing measures are difficult to maintain.’⁴ The World Health Organization similarly recommends the wearing of face masks.⁵”

CDC: 4. Centers for Disease Control and Prevention . About cloth face coverings. 2020. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html>

FN01.41.01.00.00-

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html> PDF:

FN01.41.01.00.00.Use and Care of Masks _ CDC

IR: Not about mask efficacy. No need for a full vet, it's a statement from CDC on mask policy.

CDC: A CDC release, authors not named. / **ORIGIN:** CDC / **REF:** No references cited. / **FUNDING:** CDC

CONTENT: This is a very soft recommendation from CDC. Recommendations are tied to risk levels low, medium and high. For low risk use your own judgment. For medium, if immunocompromised, consult your doctor about “additional precautions, such as wearing masks or respirators indoors in public.” High: “wear a well-fitting mask indoors in public, regardless of vaccination status or individual risk (including K-12 schools and other community settings). *** NO RECOMMENDATION TO WEAR MASKS WHILE OUT OF DOORS!!!!

AME: Anyway, this doc is 100% AME. Zero science is

appealed to in this article.

WHO: 5. World Health Organization . Coronavirus disease (COVID-19) advice for the public: when and how to use masks. 2020. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>

Next study referenced by TA **FN04.41.00.00.00-**
https://journals.sagepub.com/doi/full/10.1177/0272989X211019029#_i52 — Effectiveness of Face Masks ...

FN01.41.02.00.00-
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>. PDF: FN01.41.02.00.00.When and how to use masks

PC: December 2021

CCP: No authors named. / **ORIGIN:** WHO / **REF:** None cited. / **FUNDING:** WHO.

CONTENT:

IR: It does not speak to mask efficacy, that is assumed; it's recommendations from WHO re use of masks.

AME: This is another doc that is 100% AME with zero appeals to science for support.

NOTE: For the mask fanatics out there, you can take a 1 hour course on how, when, where etc to wear your beloved mask: <https://openwho.org/courses/COVID-19-mask-use>

—> Back to **FN01.41.00.00.00-**
https://journals.sagepub.com/doi/full/10.1177/0272989X211019029#_i52 — Effectiveness of Masks ...

SP: The *it's been done before argument*: Face masks have been recommended for previous outbreaks of respiratory disease such as the 2003 SARS outbreak and the 2009 H1N1 epidemic.^{6, —6}. Centers for Disease Control and Prevention . Public health guidance for community-level preparedness and response to severe acute respiratory syndrome (SARS). 2004. Available from: <https://www.cdc.gov/sars/guidance/i-infection/downloads/i-infection-full.pdf>

FN01.41.03.00.00-
<https://www.cdc.gov/sars/guidance/i-infection/downloads/i-infection-full.pdf> PDF: FN01.41.03.00.00.Supplement I_ Infection Control in Healthcare, Home, and Community Settings

PC: Jan. 2004

CCP: No authors named / **ORIGIN**: It's a CDC doc, so! / **REF**: Internal document prepared by CDC / **FUNDING**: nd (US govt. CDC)

RCT: No. This is a CDC US govt. official recommendations doc.

CONTENT:

AME: Recommendations to wear masks based on AME.

INFO: *** A procedure mask is a surgical mask fitted by loops placed around ears, a proper surgical mask is fitted with ties.

CCav: In this doc, CDC recommends masks offered to persons that are coughing during “periods of increased respiratory infection in the community.”

INFO: *** Back in 2004, CDC was not as enthusiastic about the efficacy of masks as they are now. Surgical or Procedure masks are recommended for “Droplet Precautions” for HCW. Patients in healthcare settings when showing symptoms — likewise, patients showing symptoms should wear masks on transport vehicles, public transportation should be avoided. Masks should be used when in close proximity to patients, and etc. etc.

INFO: Patients moving outside the home should wear a mask, “if tolerated.”

INFO: Masks as source control — sick persons should wear a mask when others are present.

AME: So, no science is appealed to, its 100% AME.

—> Back to **FN01.41.00.00.00-**

https://journals.sagepub.com/doi/full/10.1177/0272989X211019029#_i52 — Effectiveness of Masks ...

TA refers us to...

7 — 7. Centers for Disease Control and Prevention . Interim recommendations for face-mask and respirator use to reduce 2009 influenza A (H1N1) virus transmission. 2009. Available from: <https://www.cdc.gov/h1n1flu/masks.htm>

FN01.41.04.00.00-

<https://www.cdc.gov/h1n1flu/masks.htm> PDF:
FN01.41.04.00.00.CDC H1N1 Flu _ Interim
Recommendations for Facemask and Respirator Use to
Reduce Novel Influenza A (H1N1) Virus Transmission

PC: Sept. 24, 2009

CCP: Authors not named. / **ORIGIN:** US CDC 2009,

so likely, but not necessarily pervasive. / **REF:** All embedded links in text and all internal doc references. / **FUNDING:** CDC

RCT: No. Another CDC recommendations doc.

CONTENT:

CCav, of sorts: interesting, the H1N1 virus that caused the 2009-2010 pandemic is understood to have become “a regular human flu virus and continues to circulate seasonally worldwide.” According to many virologists, this is exactly what we should expect with the current SARS-2 virus. [However, we notice the CDC/WHO under CCP instruction and control are refusing to let this scare-demic go; it’s been too useful in advancing their agenda to bring the world under Communist power and control.]

CCav: “In community and home settings, the use of facemasks and respirators generally are not recommended. However, for certain circumstances as described in Table 1. a facemask or respirator may be considered, specifically for persons at increased risk of severe illness from influenza.(#table1)”

INFO: *** POLICY UPDATE NOTIFICATION: The doc includes a preface insertion explaining that it does not reflect current attitudes and beliefs about masks.

Nevertheless, NOTHING IN THE SCIENCE has changed. Only the conclusions of scientists has.

CCav: more of the same (see above) **“Use of N95 respirators or facemasks generally is not recommended for workers in non-healthcare occupational settings for general work activities.** For specific work activities that involve contact with people who have ILI, such as escorting a person with ILI, interviewing a person with ILI, providing assistance to an individual with ILI, the following are recommended.” A few exceptions are noted: distancing from persons exhibiting ILI symptoms, or when providing assistance with persons exhibiting symptoms, or persons who are at high risk of contracting severe illness from influenza infection. When impossible to avoid close contact with persons exhibiting ILI persons might elect to use masks for protection on a “voluntary basis.”

CCav: **“Facemasks do not seal tightly to the face and are used to block large droplets from coming into contact with the wearer’s mouth or nose.”** Confirming current science regarding masks — they provide some protection from large droplets, however ...

This doc, from the CDC, shows early inclination toward Asian bias re masks: “However, the use of a facemask or respirator is likely to be of most benefit if used as early as possible when exposed to an ill person and

when the facemask or respirator is used consistently. (Ref. 1. **MacIntyre** CR, et al. EID 2009;15:233-41. 2. **Cowling** BJ, et al. Non-pharmaceutical interventions to prevent household transmission of influenza. The 8th Asia Pacific Congress of Medical Virology, HongKong, 26-28 February 2009.)” — [Consider that MacIntyre and Cowling are both heavily influenced by CCP. I consider them CCP plants in the medical establishment in Australia (MacIntyre) and Hong Kong with American connections — (Cowling).]

I have vetted more current articles from MacIntyre and Cowling but do not have this article in these notes:

FN01.41.04.01.00-

https://journals.lww.com/jphmp/Abstract/2009/03000/Using_Nonpharmaceutical_Interventions_to_Prevent.6.aspx
PDF: FN01.41.04.01.00.Using Nonpharmaceutical Interventions to Prevent Influenza T... _ Journal of Public Health Management and Practice.pdf

PC: March 2009

CCP: Stebbins, Downs, Vukotich (All Authors ?) / **ORIGIN:** US-PN: Pittsburgh, Grad. School of Public Health, U of Pitts.; CDC, Public Health, PA, likely. / **REF:** None. / **FUNDING:** “This research was supported by Cooperative Agreement number 5UCI000435-02 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily

represent the official views of the Centers for Disease Control and Prevention.”

RCT: No. An OS: METHODS: “During the spring of 2007, the Pittsburgh Influenza Prevention **Project surveyed 134 teachers and 151 parents representing nine elementary schools regarding attitudes toward NPIs** and their usage by adults and school children during seasonal influenza outbreaks.”

CONTENT: “Objectives: Schools act as “amplifying sites” for the spread of infectious diseases, outbreaks, and pandemics. This project assessed which nonpharmaceutical interventions (NPIs) **are most acceptable to parents and teachers of school children in grades K-5 to K-8** in Pittsburgh public schools.

Unfortunately, this article requires paid access. It does not promise to offer any particularly new insights or information, so I’ll reproduce the Abstract here and assess significance of this article to my studies:

ABSTRACT:

IR: Does not address the question of mask efficacy. Merely examines the attitudes of parents toward nonpharmaceutical prevention measures. [Doing some psychological recon on teachers parents re susceptibility toward masking?]

*** NOTE: Results: General etiquette practices such as covering coughs, handwashing, and using hand sanitizer were highly acceptable to both groups, **while masks and gloves were not.**

INFO: **** Clearly, “they” were preparing US for introducing what they refer to candidly as “more intrusive NPIs”: See Conclusions: “The success of an NPI or a set of NPIs depends on both its **efficacy** and the **feasibility** of implementing it with relevant populations. If masks, gloves, and other **more intrusive** NPIs are to be used in community settings during a severe influenza season or pandemic, **it is clear that there is significant preparatory work needed to increase acceptability on the part of the adults.** Without such acceptance, it is highly unlikely that children and their supervising adults will participate.”

*** It is clear that in 2009, mask bias was beginning to surface but health care workers were still conscientious about parents and students receptivity to what they agree are **intrusive measures.**

—> Back to **FN01.41.04.00.00-**
<https://www.cdc.gov/h1n1flu/masks.htm> — Interim
Recommendations

CCav: “Unless otherwise specified, the term

‘facemasks’ refers to disposable facemasks cleared by the U.S. Food and Drug Administration (FDA) for use as medical devices. This includes facemasks labeled as surgical, dental, medical procedure, isolation, or laser masks. ... Facemasks help stop droplets from being spread by the person wearing them. They also keep splashes or sprays from reaching the mouth and nose of the person wearing the facemask. **They are not designed to protect against breathing in very small particle aerosols that may contain viruses.**”

CCav: Community use NOT RECOMMENDED — except for persons required to be caregiver for ILI patient. Take a look at this chart and compare it to today's recommendations from CDC.

—> Back to **FN01.41.00.00.00** -
<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029>

TA refers us to Cheng to support claim that previous studies have shown mask efficacy to “mitigate the spread of the virus.”

11. Cheng, VCC, Wong, SC, Chuang, VWM, et al. The role of community-wide wearing of face mask for control of coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2. *J Infect.* 2020;81(1):107–14.

FN01.41.04.02.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177146/>.
PDF: FN01.41.04.02.00.The role of community-wide
wearing of face mask for control of coronavirus disease
2019 (COVID-19) epidemic due to SARS-CoV-2 - PMC

**Rated by ECDC as LOW to MODERATE
confidence: see**

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: April 2020

CCP: Cheng, Wong, Chuang, So, Chen, Sridhar, To, Chan, Hung, Ho, Yuen / **ORIGIN**: CHINA-HK SAR (Special Administrative Region): Queen Mary Hospital, Dept. of Microbiology; Infection Control Team; Quality and Safety Div. / **REF**: Chan, Kok, Zhu, Chu, To, Yuan; WHO (3); Centre for health protection, HK; Cheng, Wong, To, Ho, Yuen; Cheng, Wong, Chen, Yip, Chuang, Tsang; Cheng, Lau, Woo, Yuen; Cheng, To, Tse, Hung, Yuen; Chan, Yuan, Kok, To, Chu, Yang; Chu, Chan, Wang, Yuen, Chai, Hou; Chan, Yip, To, Tang, Wong, Leung; MacIntyre, Dwyer, Seale, Cheung; Cowling, Chan, Fang, Cheng, Fung, Wai; Lo, Tsang, Leung, Yeung, Wu, Lim; Wu, Xu, Zhou, Lin, He; To, Tsang, Yip, Chan, Wu, Chan; To, Tsang, Leung, Tam, Wu, Lung; HK SAR; Singapore; Chan, Yuen; Feng, Shen, Xia, Song, Fan, Cowling; US CDC; Zou, Ruan, Huang, Liang, Huang, Hong; Hui, Chow, Chu, Ng,

Lee, Gin; Chan, Leung, Lam, Cheng; Cheng, Tai, Li Chau, So, Wong; Cheng, Wong, Wong Y., Yuen; Cheng, Chen, Wong, Chen, Ng; Wong, Cowling, Aiello; Greenhalgh; Chan, Zhang, Yuan, Poon, Chan, Lee (32 of 37) /
FUNDING: nd “We thank colleagues of Hospital Authority and Department of Health for facilitating this study.”
Obviously, CCP.

RCT: No. OS. Description of Method: “Patients presenting with respiratory symptoms at outpatient clinics or hospital wards were screened for COVID-19 per protocol. Epidemiological analysis was performed for confirmed cases, especially persons acquiring COVID-19 during mask-off and mask-on settings. The incidence of COVID-19 per million population in HKSAR with community-wide masking was compared to that of non-mask-wearing countries which are comparable with HKSAR in terms of population density, healthcare system, BCG vaccination and social distancing measures but not community-wide masking. Compliance of face mask usage in the HKSAR community was monitored.”

CONTENT:

IR/AME/OS: Does not examine mask efficacy but assumes it on basis of observational study that ignores confounders.

NC: “Community-wide mask wearing may contribute

to the control of COVID-19 by reducing the amount of emission of infected saliva and respiratory droplets from individuals with subclinical or mild COVID-19.”

Enough. I’ve seen so many of these it’s almost as if they run their data through a template.

TA FN01.41.04.02.00 refers us to another article by Cheng:

5. Cheng V.C.C., Wong S.C., To K.K.W., Ho P.L., Yuen K.Y. Preparedness and proactive infection control measures against the emerging novel coronavirus in China. *J Hosp Infect.* 2020;104:254–255. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.41.04.02.01-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7134450/>.
PDF: FN01.40.04.02.01.Preparedness and proactive infection control measures against the emerging novel coronavirus in China - PMC

PC: Mar. 2020

CCP: Cheng, Wong, To, Ho, Yuen / **ORIGIN:** CHINA-Hong Kong Special Administrative Region: Queen Mary Hos. Dept. of Microbiology; Infection Control Team / **REF:** Dept. Health, HK SAR; Yuen, Chan, Tsang, Que; Cheng, Lau, Woo, Yuen; Chen, Tai, Wong, Chan, Li, To; Cheng,

To, Tse, Hung, Yuen; Cheng, TAI, Lee, Chan, Wong, Chen; Cheng, Lee, Sridhar, Ho, Yuen; Yip, Lam, Luk. Wong, Lee, So (8 of 8) / **FUNDING**: “None.”

RCT: No. No statement re method, no description of the study. A generalized description of protocols is offered. This is not a scientific study, it’s an article outlining recommended measures in response to the outbreak in Wuhan and migration of disease to Hong Kong.

CONTENT: Searched doc for “mask” to find anyplace where something like science regarding the question of mask efficacy can be found in this article.

IR/AME: Word *mask* appears one time in a context of simply stating PPE included surgical masks, along with face shield or equivalent, and gown as a minimum.

—> Back to **FN01.41.04.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177146/>

— The role of community ...

Cheng, et al, refers to yet another study produced by Cheng:

6. Cheng V.C.C., Wong S.C., Chen J.H.K., Yip C.C.Y., Chuang V.W.M., Tsang O.T.Y. Escalating infection control response to the rapidly evolving epidemiology of the coronavirus disease 2019 (COVID-19) due to

SARS-CoV-2 in Hong Kong. *Infect Control Hosp Epidemiol.* 2020:1–6. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.41.04.02.02-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7137535/>.
PDF: FN01.41.04.02.02.Escalating infection control response to the rapidly evolving epidemiology of the coronavirus disease 2019 (COVID-19) due to SARS-CoV-2 in Hong Kong - PMC

PC: Mar. 2020

CCP: Cheng, Wong, Chen, Yip, Chuang, Tsang, Chan, Ho, Yuen / **ORIGIN**: CHINA-Hong Kong Special Administrative Region: Queen Mary Hos., Dept. of Microbiology; Infection Control Team; Hospital Authority, Quality & Safety Div. / **REF**: No need to name all resources: All Asian/CCP professionally or culturally influenced in favor of masking except two (28 of 30) / **FUNDING**: All CCP: “This work was supported in part by the Consultancy Service for Enhancing Laboratory Surveillance of Emerging Infectious Diseases of the Department of Health, Hong Kong Special Administrative Region; and the Collaborative Innovation Center for Diagnosis and Treatment of Infectious Diseases, the Ministry of Education of China.”

RCT: No. Description of Methods: “A bundled

approach of active and enhanced laboratory surveillance, early airborne infection isolation, rapid molecular diagnostic testing, and contact tracing for healthcare workers (HCWs) with unprotected exposure in the hospitals was implemented. Epidemiological characteristics of confirmed cases, environmental samples, and air samples were collected and analyzed.”

CONTENT: Searched doc for “mask” to find anyplace where something like science regarding the question of mask efficacy can be found in this article.

CE: First mention of mask in doc: “From day 1 to day 42, 42 of 1,275 patients (3.3%) fulfilling active (n = 29) and enhanced laboratory surveillance (n = 13) were confirmed to have the SARS-CoV-2 infection. The number of locally acquired case [sic] significantly increased from 1 of 13 confirmed cases (7.7%, day 22 to day 32) to 27 of 29 confirmed cases (93.1%, day 33 to day 42; $P < .001$). Among them, 28 patients (66.6%) came from 8 family clusters. **Of 413 HCWs caring for these confirmed cases, 11 (2.7%) had unprotected exposure requiring quarantine for 14 days.** [HCW were not wearing masks, or gowns.] **None of these was infected, and nosocomial transmission of SARS-CoV-2 was not observed.** Environmental surveillance was performed in the room of a patient with viral load of 3.3×10^6 copies/mL (pooled nasopharyngeal and throat swabs) and 5.9×10^6 copies/mL (saliva), respectively. SARS-CoV-2 was

identified in 1 of 13 environmental samples(7.7%) **but not in 8 air samples collected at a distance of 10 cm from the patient’s chin with or with-out wearing a surgical mask.**”

NOTE: This provides anecdotal evidence contrary to the TA thesis. It is frustrating dealing with these mask biased sources. They premise their conclusions almost exclusively on exactly this sort of anecdotal evidence, EXCEPT WHEN IT CONTRADICTS their assumption.

AME: Second mention of mask: Table 2. Merely declares what PPE if any were used and masks were numbered with equipment used.

AME: Third mention of mask: “Surgical mask could be used as an alternative based on risk assessment.

AME: Fourth mention of mask: “During medical surveillance, these people were advised to wear surgical masks in the hospital and the community.”

—> Back to **FN01.41.04.02.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177146/>
— The role of community ...

OS: TA reports on action of virus in a cosmopolitan city of 7.45 million people in Southern China. Their Center for Health Protection (CHP) alerted members of the public

and put in place distancing, hygiene, and masking protocols. Their mask policy required all to wear a mask “IF THEY DEVELOP RESPIRATORY SYMPTOMS.3”

3. The Centre for health protection closely monitors cluster of pneumonia cases on Mainland. Press release of the department of health, Hong Kong Special Administrative Region.

2019. <https://www.info.gov.hk/gia/general/201912/31/P2019123100667.htm> Accessed 10 April 2020. [[Ref list](#)]

As spread progressed, “other community interventions [were introduced] to control the spread ...” They implemented what amounts to mask mandates by general public which was monitored by staff in Infection Control Unit, and Department of Microbiology, Queen Mary Hospital for three days, April 6 to 8, April 2020. “EACH STAFF MEMBER WOULD COUNT THE NUMBER OF PERSONS NOT WEARING A MASK AMONG THE FIRST 50 PERSONS ENCOUNTERED IN THE STREET DURING THEIR MORNING COMMUTE.” This was recorded.

NOTE: Absolutely nothing can be determined about mask efficacy from such a study.

CCav: DISCUSSION: “**Evidence for using face**

masks to prevent transmission of respiratory viruses in the community remains limited to a few studies conducted in the household setting.^{12 , 13} Although there is no expert consensus on this issue, universal masking is voluntarily adopted by people in our **HKSAR community soon after the first imported case of COVID-19 was reported.** This public action was linked to the painful experience of the 2003 SARS outbreak (1755 cases with 299 deaths in 6.73 million population) when HKSAR people adopted universal masking in addition to other non-pharmaceutical interventions such as hand hygiene, social distancing and school closure.⁷ “

TA offers references 12 and 13 supporting CCav that “using face masks to prevent transmission of respiratory viruses in the community **REMAINS LIMITED** to a few studies ...,” already vetted in these notes:

12. C.R., Cauchemez S., Dwyer D.E., Seale H., Cheung P., Browne G. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis.* 2009;15:233–241. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.31.03.00.00** —
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>.
PDF: FN01.31.03.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC (See

also FN01.08.05.00.00)

13. Cowling B.J., Chan K.H., Fang V.J., Cheng C.K., Fung R.O., Wai W. Facemasks and hand hygiene to prevent influenza transmission in households: a cluster randomized trial. *Ann Intern Med.* 2009;151:437–446. [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

FN01.08.08.00.00-

<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF: FN01.08.08.00.00.Facemasks and hand hygiene to prevent influenza transmission in households_ a cluster randomized trial - PubMed.pdf

Rated by ECDC as LOW to MODERATE confidence.

See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Continuing with **FN01.41.04.02.00-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177146/#_ffn_sectitle — The role of community ...

NOTE/CCav: Upon the fact that notwithstanding no expert consensus exists on the mask efficacy question virtually all the people of this city willingly donned the masks, it is **CONCLUDED:**

SS: “These community hygienic measures during the SARS outbreak resulted in a **significant reduction of positive specimens** of all circulating respiratory viruses including influenza viruses in 2003 compared with preceding periods.[14](#) In a case-control study conducted in Beijing during 2003 SARS, consistent wearing of a face mask outdoors was associated with a 70% risk reduction, compared to those not wearing a face mask.[15](#)”

Let’s look at Footnote, or Reference 14:

14. Lo J.Y., Tsang T.H., Leung Y.H., Yeung E.Y., Wu T., Lim W.W. Respiratory infections during SARS outbreak, Hong Kong, 2003. *Emerg Infect Dis.* 2005;11:1738–1741. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.41.04.02.03-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3367357/>.
PDF: FN01.41.04.02.03.Respiratory Infections during SARS Outbreak, Hong Kong, 2003 - PMC

PC: Nov. 2005

CCP: Lo, Tsang, Leung, Yeung, Wu, Lim / **ORIGIN:**
CHINA-Hong Kong Special Admin. Region: Dept. of Health

/ **REF**: SARS Expert Committee, HK; Housing Authority; Leung, Lam, Ho, Ho, Chan, Wong; Cheng; Lau, Yang, Tsui, Kim; Lo, Lim, Yeung (6 of 9) / **FUNDING**: nd Clearly CCP.

RCT: No. A Comparative study described under heading The Study that depended on surveys. The same confounders present in all such studies: compounded interventions making it impossible to sort out which contributed what % to results examined; failure to take into consideration a myriad of other factors that might or might not have skewed results, etc., etc., etc..

CONTENT:

AME: Compared the way this outbreak progressed to the 1998 and 2002. Such studies are susceptible to multiple confounders which is the reason they are not regarded as adequate evidence supporting any particular claim for masks or other interventions.

Essentially, all of these CCP dominated OS are the same: here is a group of people where an outbreak occurred, we established various control protocols: masks, distancing, hand hygiene for community control, plus gowns, gloves, face shields, for HCW. We noticed x rate of infection this year and compared that to the y rate of infection here, or there, or then, as compares to now, etc. We found a lower infection rate, and this shows that

masks work! It's unreal how naive intelligent people can be.

OS: Community engaged in a sustained and intense hygiene campaign (1-3: "1. SARS Expert Committee. SARS in Hong Kong: from experience to action. Report of the SARS Expert Committee. [cited 2005Aug 20]. Available from <http://www.sars-expertcom.gov.hk/english/reports/reports.html>

2. Leisure and Cultural Services Department. Additional precautionary measures at LCSD facilities and functions. Press release 27 March 2003. [cited 2005 Aug 20]. Available from <http://www.info.gov.hk/gia/general/200303/27/0327250.htm>

3. Housing Authority. HA shopping centre activities postponed. Press release 28 March 2003. [cited 2005 Aug 20]. Available from <http://www.info.gov.hk/gia/general/200303/28/0328183.htm>)

OS: Surveys indicated most people wore masks (76%), washed their hands after contact with potentially contaminated objects (65%), used soap when washing hands (75%), covered their mouths when sneezing or coughing (78%), used diluted bleach for household cleaning (>50%) (4-5)

There is no need to vet these, but I'll put the full

citation here for reference:

4. Leung GM, Lam TH, Ho LM, Ho SY, Chan BH, Wong IO, et al. The impact of community psychological responses on outbreak control for severe acute respiratory syndrome in Hong Kong. *J Epidemiol Community Health*. 2003;57:857–63. 10.1136/jech.57.11.857 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

5. Cheng C. Report on the public responses to the SARS outbreak in Hong Kong [Monograph]. [cited 2005 Aug 20]. Available from http://www.ust.hk/src/Research_e.html”).

OS: And another survey showed >70% of respondents practices some of these hygienic measures more frequently during the SARS outbreak than during the pre-SARS period. (6): (Again, no need to vet, but here is the citation:)

6. Lau JT, Yang X, Tsui HY, Kim JH. Impacts of SARS on health-seeking behaviors in general population in Hong Kong. *PrevMed*. 2005;41:454–62. 10.1016/j.ypmed.2004.11.023 [PMC free article] [PubMed] [CrossRef] [Google Scholar]”). They compared this to prior years when the mitigation efforts were less intense, or the participation less, and since the *R* was less in the second case, this is evidence that the mitigation efforts contributed to the difference.

OS/CCav: It's so bizarre — we did all this (masks, hand hygiene, distancing), and observed a lower infection rate (R) than prior outbreaks where **we did the same things only not as aggressively, and this shows masks work**. There are so many confounders to a study like this it is literally a waste of time to give them any more notice than to provide some historical footnote.

NOTE: I see the logic in this but these are learned scientists and they know better than to rest conclusions on such flimsy evidence. That data only proves that in this latest outbreak the R was lower than in the prior outbreak. What contributed to it is mere speculation—the fact that they more aggressively attempted to control spread this time than last time does not prove either that any one of the controls worked, or that any combination of the controls worked. Other factors might have contributed more significantly to the lower R that are not known, or that were ignored in this study.

—> Back to **FN01.41.00.00.00-**

https://journals.sagepub.com/doi/full/10.1177/0272989X211019029#_i52 — Effectiveness of Face Masks ...

TA states: “Similarly, empirical studies comparing SARS-CoV-2 transmission between populations with and without mandatory mask wearing have concluded that requiring face masks could help mitigate the spread of the

virus,”(11, 12). We looked at reference 11 at FN01.41.04.02.00. Let’s look at Reference No. 12:

12. Lyu, W, Wehby, GL. Community use of face masks and COVID-19: evidence from a natural experiment of state mandates in the US. *Health Aff (Millwood)*. 2020;39(8):1419–25.

Already vetted in these notes: See **FN01.04.00.00.00-**
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00818>. PDF: FN01.04.00.00.00.Community Use Of Face Masks And COVID-19_ Evidence From A Natural Experiment Of State Mandates In The US _ Health Affairs

—> Back to **FN01.41.04.02.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177146/>
— The role of ...

TA refers to two other articles I’ve vetted:

14. Lo J.Y., Tsang T.H., Leung Y.H., Yeung E.Y., Wu T., Lim W.W. Respiratory infections during SARS outbreak, Hong Kong, 2003. *Emerg Infect Dis*. 2005;11:1738–1741. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.41.04.02.03-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3367357/>.

PDF: FN01.41.04.02.03.Respiratory Infections during SARS Outbreak, Hong Kong, 2003 - PMC)

15. Wu J., Xu F., Zhou W., Feikin D.R., Lin C.Y., He X. Risk factors for SARS among persons without known contact with SARS patients, Beijing, China. *Emerg Infect Dis.* 2004;10:210–216. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See **FN01.38.00.06.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3322931/>. PDF: FN01.38.00.06.00.Risk Factors for SARS among Persons without Known Contact with SARS Patients, Beijing, China - PMC)

NOTE: *** **MORE PROBLEMS** with these CCP studies: Under DISCUSSION, the paragraph beginning “HKSAR [Hong Kong Special Administrative Region] is the only area practicing...” etc. the TA compared *mask off* areas to *mask on* areas. They found that mask-off settings allowed the sharing of saliva and respiratory droplets, “which may contain a viral load of 100 million per ml,” *** [INFO: The viral load of the saliva and droplets indicated at such a high volume is interesting and I’ll check this out below], whereas in HKSAR hospitals, where masking is mandatory and in

many community and health care settings where because of shortages the people wore not more than one mask per day [Yikes!] and they came up with a higher R in the mask off areas than in the mask on areas.

CCav: The *problem* is there are no controls for whether someone got infected at a *mask off* event as opposed to contracting it elsewhere; there are no controls to differentiate persons in these settings engaged in other transmission behaviors like kissing, or spending considerable time in very close contact with others as is customary in socializing gatherings—or in other words, the differentials might be close proximity to infected persons for prolonged periods and not *mask off* or *on*.

But the information regarding viral load is interesting. TA FN01.41.04.02.00 provides two references: 16, 17.

16. To K.K., Tsang O.T., Chik-Yan Yip C., Chan K.H., Wu T.C., Chan J.M.C. Consistent detection of 2019 novel coronavirus in saliva. *Clin Infect Dis.* 2020 [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.41.04.02.05-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108139/> PDF: FN01.41.04.02.05.Consistent Detection of 2019 Novel Coronavirus in Saliva - PMC

PC: Feb. 2020

CCP: To, Tsang, Yip, Chan, Wu, Chan, Leung, Chik, Choi, Lung, Tam, Poon, Fung, Hung, Cheng, Chan, Yuen / **ORIGIN:** CHINA-Hong Kong Special Admin. Region: Dept. of Microbiology, State Key Lab. for Emerging Infectious Diseases; U. of Hong Kong: Shenzhan Hosp., Dept. of Clinical Microbiology and Infection Control; Dept. of Medicine and Geriatrics; Dept. of Medicine; Princess Margaret Hospital, ICU; Dept. of Pathology / **REF:** ALL references are CCP connected. / **FUNDING:** Full statement on financial assistance: “This study was partly supported by the Consultancy Service for Enhancing Laboratory Surveillance of Emerging Infectious Diseases and Research Capability on Antimicrobial Resistance for Department of Health of the Hong Kong Special Administrative Region of the People’s Republic of China; the Theme-Based Research Scheme (grant number T11/707/15) of the Research Grants Council, Hong Kong Special Administrative Region; the Sanming Project of Medicine in Shenzhen, China (grant number SZSM201911014); the High Level-Hospital Program, Health Commission of Guangdong Province, China; and the donations of Michael Seak-Kan Tong, Respiratory Viral

Research Foundation Limited; Hui Ming, Hui Hoy, and Chow Sin Lan Charity Fund Limited; Chan Yin Chuen Memorial Charitable Foundation; Marina Man-Wai Lee; and the Hong Kong Hainan Commerical Association South China Microbiology Research Fund.”

RCT: No. But diagnostics were based on lab-confirmed cases of COVID-19 infection.

CONTENT: CLAIM: viral particles in saliva/droplets can be 100 million per mL. The study was to conducted to determine whether saliva can be used to detect presence of 2019-nCoV (now called SARS-CoV-2).

IR: with regard to mask issue. Of interest because this reference was used to support claim that the volume of viral particles in saliva/droplets can be 100 million per mL.

INFO: *** “The median viral load of the first available saliva specimens was 3.3×10^6 copies/mL (range, $9.9 \times 10(2)$ to $1.2 \times 10(8)$ copies/mL).”

CONFIRMATION OF THE CLAIM: 10 to the sixth power (1 followed by six zeroes) is 1 million. 3.3×1 mill is not 100 million. However, this is stipulated to be the median — the point at which an equal number falls on

either side. The RANGE is given at 9.9×10^2 to 1.2×10^8 . Now 10 to the eighth is 100 million (1 followed by eight zeroes: 100,000,000). So, this study does claim a viral load in saliva could be as much as 100 million per milliliter.

INFO: In any event, according to this study, the viral load of saliva exceeds 100 million per milliliter. There are about 30 milliliters in 1 ounce. (See <https://www.calculateme.com/volume/fluid-ounces/to-milliliters/1>) That means in one ounce of spittle one could find as many as 100mil viral RNA copies.

NOTE/SP: *** Another interesting side note is that these TA recommend saliva specimens for testing viral load over nasopharyngeal or oropharyngeal for load monitoring because of the discomfort these last cause the patient. **It's interesting that our doctors ignore this but jump all over the mask bias.** But this is the one thing here that is premised upon real science. Hmmm?

But this is saliva, what about droplets? From TA FN01.41.04.02.05, reference no. 11.

11. Yan J, Grantham M, Pantelic J, et al.; EMIT Consortium Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community. *Proc Natl Acad Sci USA* 2018; 115:1081–6. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: see
FN01.38.00.03.26d—
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5798362/>. PDF: FN01.38.00.03.26d.From the Cover_ Infectious virus in exhaled breath of symptomatic seasonal influenza cases from a college community - PMC (For SUP see FN01.38.00.03.26d.SUP pnas.201716561SI.pdf) can be found during normal breathing.) The amount of load does not seem to be stipulated:

To reprise comments made in earlier vetting:
“Influenza virus RNA was detected in 76% of the fine-aerosol samples, 40% of the coarse-aerosol samples, and 97% of the NP swabs of enrolled volunteers. For the positive samples, the GM viral RNA content of fine-aerosol samples was 3.8×10^4 , for coarse aerosols was 1.2×10^4 , and for NP swabs was 8.2×10^8 (Fig. 2B). The adjusted GMs were 1.2×10^4 (95% CI 7.0×10^3 to 1.9×10^4) for fine aerosols and 6.0×10^2 (95% CI 3.0×10^2 to 1.2×10^3) for coarse aerosols. Quantitative culture was correlated with RNA copies in both NP swabs (Fig. 2C) ($r = 0.58$) and fine aerosols (Fig. 2D) ($r = 0.34$). The time course of shedding is shown in Fig. 2E.”

NOTE/INFO: *** The influenza virus is more dense in the fine-aerosol samples than in the course — 76% versus 40%. The content of viral RNA in fine aerosols was 3.8×10^4 — or $3.8 \times 10,000 = 38,000$ — but what was the sample size? “30-minute breath samples (coarse $>5\text{-}\mu\text{m}$ and fine $\leq 5\text{-}\mu\text{m}$ fractions).” Okay, I found it: “We recovered infectious virus from 52 (39%) of the fine aerosols and 150 (89%) of the NP swabs with valid cultures. The geometric mean RNA copy numbers were 3.8×10^4 /30-minutes fine-, 1.2×10^4 /30-minutes coarse-aerosol sample, and 8.2×10^8 per NP swab.”

NOTE: *** The sample size that interests me was 30 minutes breathing. TA found infectious virus in about 39% of the fine aerosol samples collected. The RNA copy numbers were $3.8 \times 10,000$ in a 30 minute sample, or **38,000 copies of RNA are expressed in 30 minutes of normal breathing**. Keeping in mind that 89% of the subjects produced valid cultures of SARS-2, we see that although subjects generally had 8.2×10^8 , or 100 million RNA copies in their nasal cavity, only 38,000 of these escape into the atmosphere during normal breathing. [**Nevertheless, if you have 38,000 bullets coming at your head, and you block even 80% of these with a mask (which is never going to happen) you still have**

over 7000 bullets hitting the target. How many bullets hitting you directly in the head will it take to take you out?]

Then TA FN01.41.04.02.00 presents 17 to support claim regarding viral load in respiratory droplets:

17. To K.K., Tsang O.T., Leung W.S., Tam A.R., Wu T.C., Lung D.C. Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS-CoV-2: an observational cohort study. Lancet Infect Dis. 2020 [PMC free article] [PubMed] [Google Scholar]

This one is not in these notes.

FN01.41.04.02.06-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7158907/>
PDF: FN01.41.04.02.06.Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS-CoV-2_ an observational cohort study - PMC

PC: Mar. 2020

CCP: To, Tsang, Leung, Tam, Wu, Lung, Yip, Cai, Chan, Chik, Lau, Choi, Chen, Chan, Chan, Daniel, Ip, Ng, Poon, Luo, Cheng, Chan, Hung, Chen, Chen, Yuen /
ORIGIN: CHINA-Hong Kong Special Admin. Region:

Pokfulam, U. of Hong Kong Dept. of Microbiology, State Key Lab. for Emerging Infectious Diseases; Dept. of Medicine and Geriatrics; Dept. of Pathology; Shenzhen: Dept. of Clinical Microbiology and Infection Control / **REF**: Virtually all CCP connected professionally or culturally (31 of 32) / **FUNDING**: Full statement on funding: “Richard and Carol Yu, May Tam Mak Mei Yin, The Shaw Foundation Hong Kong, Michael Tong, Marina Lee, Government Consultancy Service, and Sanming Project of Medicine.”

RCT: No. An observational cohort study. (OS)

CONTENT: *** Viral load in saliva: in excess of 1.4 million RNA copies per mL of saliva/droplets.

IR: not relevant to my primary concern. Interesting because of information about viral load in saliva. Not sure if this TA touches on aerosols. I’ll check.

NOTE: Confusion re use of dot operator in their notation. Are TA using commas for decimals? Whatever!

INFO: Scientific notation: Scientific notation - Definition, Rules, Examples & Problems (TECH01.Scientific notation - Definition, Rules, Examples & Problems. <https://byjus.com/maths/scientific-notation/>) The dot operator indicates multiplication: see TECH02.Dot Operator Symbol (·) <https://wumbo.net/symbol/dot-operator/> This plainly tells us it is used in linear algebra as

the “dot product operator” which means it functions like a multiplication symbol.

INFO: Under FINDINGS: paragraph beginning, “Between Jan 22, 2020...” Find “The median viral load in posterior oropharyngeal saliva [from deep throat] or other respiratory specimens at presentation was $5 \cdot 2 \log_{10}$ copies per mL ...” How do I calculate this number? Is TA using the \cdot as a *dot operator* so that what we have is 10^{10} ? If so, why not simply write 10^{10} . Which would be 10,000,000,000 or ten million.

CONFUSION: What does this expression mean: slope $-0 \cdot 15$? I’ve examined slope calculations and NONE of them use this format. It’s 0.15, not $0 \cdot 15$, and means a 15% slope. The \cdot cannot be used as a multiplication symbol here, so it must be a decimal. Here is a site that does a deep dive into mathematical notation (<https://www.purplemath.com/modules/mathtext.htm>). On page 3 one example is $u \cdot v$, offering an alternative expression by using the asterisk (*) instead of the \cdot and offers the following explanation: “As long as you define the asterisk to mean the dot product, you can use this for dotting two vectors. Use generous spacing. As long as you've specified that the context is vectors, you can ignore the arrows.” “The dot product” — product is achieved by multiplication. And that is the way I’ve seen this used; but then it must mean something different when used to speak of slope, because $0 \cdot 15$ cannot mean 0×15 .

I'll have to conclude the most reasonable interpretation is TA uses \cdot like a decimal here, and so I suspect the expression $5 \cdot 2$ in the above notation does not represent 5×2 but 5.2 . Followed by \log_{10} tells me it's 5.2^{10} which would calculate out to 1,445,551 rounded, according to the calculator:

<https://www.meracalculator.com/math/exponents.php> —

However, if TA does mean to use the dot operator as it is customarily used in the above equation, and there is some obscure rule regarding slope notation that has him using it there as a decimal, unless it's a typo, then the calculation would be significantly different, and yet still awkward. In this case it would be 5×2 to the tenth power, or 10^{10} , or 10 times ten million, or 100 million. This seems probable since the claim of TA FN01.41.04.02.05 is that there can be as many as 1.2×100 mil RNA copies in a mL of liquid: "viral particles in saliva/droplets can be 100 million per mL."

Okay, having sorted that out — this study finds roughly 1.4 million viral RNA copies in a milliliter of saliva collected from deep in the throat of infected patients. (Or 120 million—which seems way too high.)

How are they calculating median? The median of the range 0-13 would be 6.5, and if I drop 0, it's 7. How do they get 4 as the median of a range from 0-13? All I can

figure is the days between symptom onset ranged from 0-13, but the array was not 0-13 — it must have been groups of persons who went to hospital immediately, and those who went 2 days after onset, 4 days, etc. so that the two middle numbers added to 8 and divided by 2 gave them 4.

This study was not written well.

—> Back to **FN01.41.04.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177146/#bib0017> — The role of community ...

SS/NC: “Universal masking in the community may mitigate the extent of transmission of COVID-19 and may be a necessary adjunctive public health measure in a densely populated city like HKSAR, with an average of 170,000 people entering HKSAR from Mainland and overseas per day.¹⁸” (18. Hong Kong in figures. Census and Statistics Department. Hong Kong Special Administrative Region.

2020. <https://www.statistics.gov.hk/pub/B10100062020AN20B0100.pdf>. Accessed 24 April 2020. [Ref list]

I will stipulate to the statistics presented in this article but present it here for further study if necessary.

CCav: “However, the use of face mask in the community remains controversial.” 21-22.

This is weird: they did not analyze *mask off* settings in the family “because the modes of transmission among close household contacts can be more diverse.” I think this is the study that differentiated between social gathering settings and normal work day settings but did not consider that in the social gathering settings where would be multiple, diverse modes of transmission active? Some of these might closely replicate household settings—crowded office space, team sports, etc..

—> Back to **FN01.41.00.00.00-**

<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029> PDF: FN01.41.00.00.00.Effectiveness of Face Masks in Reducing the Spread of COVID-19_ A Model-Based Analysis - Isabelle J. Rao, Jacqueline J. Vallon, Margaret L. Brandeau, 2021.pdf For Supp see <https://journals.sagepub.com/home/mdm> PDF: FN01.41.00.00.00. SUPP Medical Decision Making_ SAGE Journals.

I think I’ve vetted all the studies referenced here. But let’s take a look.

Footnote 13.

13. Meta-analysis of 39 observational and comparative studies estimated face mask use by

susceptible persons in non-health care settings led to a relative infection risk of 0.56. That study is 13. Chu, DK, Akl, EA, Duda, S, et al. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. Lancet. 2020;395(10242):1973–87.

No link. Title search: Found.

Already vetted in these notes: See **FN01.38.00.04.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7263814/>. PDF: FN01.38.00.04.00.Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19_ a systematic review and meta-analysis - PMC

Vetted:

Footnote 14.

14. Wang, Y, Tian, H, Zhang, L, et al. Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing: a cohort study in Beijing, China. BMJ Glob Health. 2020;5(5):e002794.

No link. Title search: Found.

Already vetted in these notes: See **FN01.30.00.00.00-**
<https://gh.bmj.com/content/5/5/e002794> PDF:
FN01.30.00.00.00.Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing_ a cohort study in Beijing, China

Vetted:

Footnote 15.

15. Bundgaard, H, Bundgaard, JS, Raaschou-Pedersen, DET, et al. Effectiveness of adding a mask recommendation to other public health measures to prevent SARS-CoV-2 infection in Danish mask wearers. *Ann Intern Med.* 2021;174(3):335–343.

Already vetted in these notes: See
FN01.38.00.03.37c.01.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7707213/#__ffn_sectitle PDF:
FN01.38.00.03.37c.01.Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers (For DISCLOSURES see
FN01.38.00.03.37c.01.DISCLOSURES Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers_ A Randomized Controlled Trial_ Annals of Internal Medicine_ Vol 174, No 3)

THIS STUDY was RATED BY ECDC as Low to Moderate confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>, 5

Vetted:

Footnote 16.

16. MacIntyre, CR, Zhang, Y, Chughtai, AA, et al. Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness. *BMJ Open*. 2016;6(12):e012330.

No link. Title search: Found.

Already vetted in these notes: See **FN01.38.00.03.25e-** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223715/>. PDF: FN01.38.00.03.25e.Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness - PMC

Vetted:

Footnote 17.

17. Cowling, BJ, Chan, KH, Fang, VJ, et al. Facemasks and hand hygiene to prevent influenza

transmission in households: a cluster randomized trial.
Ann Intern Med. 2009;151(7):437–46.

No link. Title search: Found.

Already vetted in these notes: See **FN01.08.08.00.00-**
<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF: FN01.08.08.00.00.Facemasks
and hand hygiene to prevent influenza transmission in
households_ a cluster randomized trial - PubMed.pdf.

Rated by ECDC as LOW to MODERATE confidence.

See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

(Also referenced at **FN01.38.00.11.00-**
https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org (FULL TEXT)
PDF: FN01.38.00.11.00.Facemasks and Hand Hygiene to
Prevent Influenza Transmission in Households_ A Cluster
Randomized Trial_ Annals of Internal Medicine_ Vol 151,
No 7)

Vetted:

Footnote 18.

18. Suess, T, Remschmidt, C, Schink, SB, et al. The role of facemasks and hand hygiene in the prevention of influenza transmission in households: results from a cluster randomised trial; Berlin, Germany, 2009-2011. BMC Infect Dis. 2012;12(1):26

No link. Title search: Found.

Already vetted in these notes: **FN01.08.07.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>.
PDF: FN01.08.07.00.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC
(Duplicate: **FN01.38.00.10.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>.
PDF: FN01.38.00.10.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC)

Continuing with **FN01.41.00.00.00-**
<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029> —Effectiveness of Face Masks in Reducing the Spread

As for claim that several empirical studies have shown mask effectiveness is affected by mask fit, material, and layers: **stipulated.**

Studies referenced are as follows:

Footnote 19.

19. Clapp, PW, Sickbert-Bennett, EE, Samet, JM, et al. Evaluation of cloth masks and modified procedure masks as personal protective equipment for the public during the COVID-19 pandemic. JAMA Intern Med. 2021;181(4):463–9.

No link. Title search: Found.

Already vetted in these notes: See **FN01.16.00.00.00-**
<https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2774266> PDF: FN01.16.00.00.00.Evaluation of Cloth Masks and Modified Procedure Masks as Personal Protective Equipment for the Public During the COVID-19 Pandemic

Vetted:

Footnote 21.

21. Chua, MH, Cheng, W, Goh, SS, et al. Face masks in the new COVID-19 normal: materials, testing, and perspectives. Research (Wash D C). 2020;2020:7286735.

No link. Title search: not found in these notes.

FN01.41.05.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7429109/>.
PDF: FN01.41.05.00.00.Face Masks in the New COVID-19 Normal_ Materials, Testing, and Perspectives - PMC

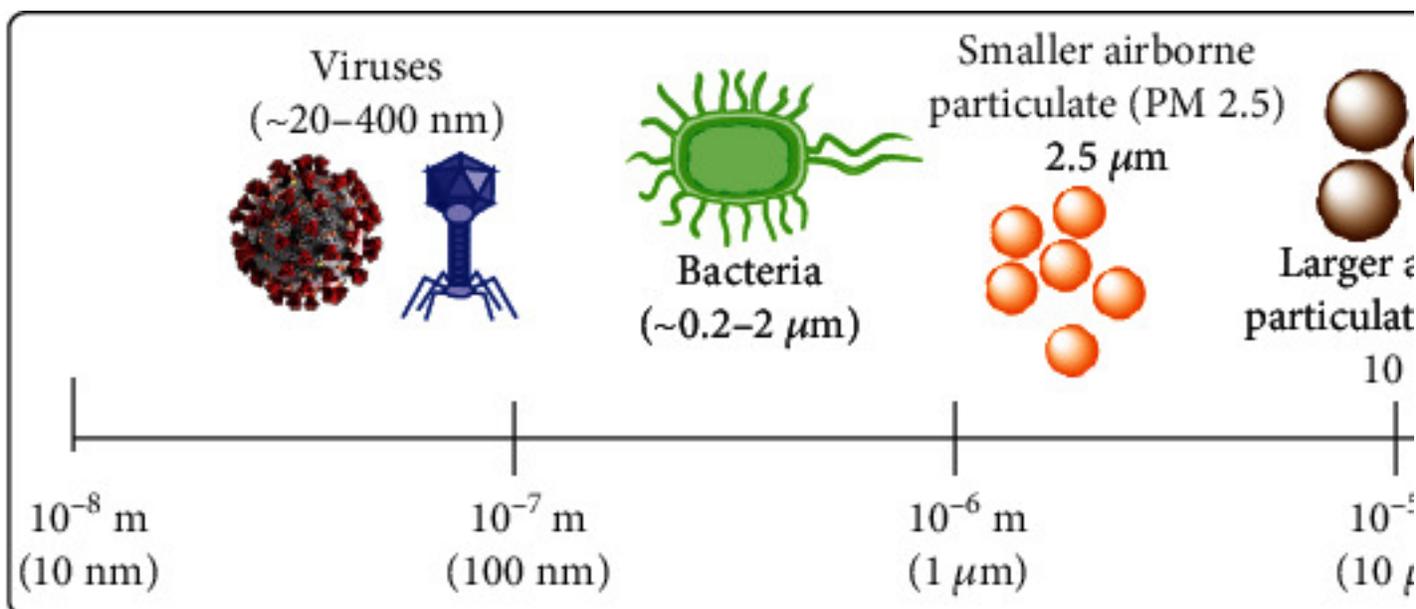
PC: Aug. 2020

CCP: Chua, Cheng, Goh, Kong, Li, Lim, Mao, Wang, Xue, Yang, Ye, Wun, Zhang, Cheong, Tan, Li, Tan, Loh / **ORIGIN:** Singapore-Innovis: Agency of Science, Tech & Research, Institute of Materials Research and Engineering; Dept. of Infectious Disease. / **REF:** Wong, TAn; Xie, Chen; Guan, Ni, Hu; Chu, Akl, Duda; Tang; Leung, Lam, Cheng; He, Zhao, Lin; Yokoe; Gao, Xu, Sun; Long, Hu, Liu; Davies; van der Sande, Teunis, Sabel; Zhu, Zhang, Wang W.; Leung, Chu, Shiu; Pung, Chiew, Young; Anfinrud, Bax C., Bax A.; Bax C., Bax A., Anfinrud; Morawska, Johnson; Asadi; Patel; Johnson; Cowling; Seto, Tsang, Yung; Offeddu, Yung, Low, Tam; Wei, Li, Chiew, Young, Toh, Lee; Chan, Yuen; Feng, Shen, Xia, Song, Fan, Cowling; Bai, Yao, Wei; Pan, Chen, Xia; US CDC; MacIntyre, Seale, Dung; Cowling, Chan, Fang; Aiello; MacIntyre, Dwyer; Li, Pei, Chen; WHO; Sung A., Sung J.; Kai; Lim; Tham, Hien, Nga; Yang, Seale, MacIntyre; Chughtai, Seale, MacIntyre; Chughtai, Seale, Dung, MacIntyre; Ma; US CDC; Konda, Prakash; Zhao, Zhao Z., Wang Y., Zhou, Ma, Zuo; Liao, Xiao, Zhao; Ou, Pei, Kim; Leung; Li; Xiang, Song, Gu; Liu, Hsu, Lee; Liang, Xu, Li; Li, Xu, Wei, Wang X.; Zhang, Li, Young, Wang S.; Xu, Jin,

Wang F.; Lee, Cho, Park; hang, Liu, Yin, Yu, Ding; Liu, Zhang X., Zhang H.; Yang, Pu, Zhang; Li, Zhang, Yang T., Yang S., Yang X., Zhu; Gao, Li, Xue; Wang L., Zhang, Gao, Pan; Li, Song, Long; Wang N., Yang, Al-Deyab, El-Newehy, Yu, Ding; Liu, Zhang, Gong, Zhang X., Wang, Jin; Gu, Han, Lu; Liu, Nie, Han; Wang X., Ding, Sun, Wang M., Yu; Zhang, Tang, Gao, Yin, Yu, Ding (69 of 144). / **FUNDING:** nd (Obviously, from ORIGIN, it was Asian cultural and professional institutions.)

RCT: Not asserted. A scientific study using light scattering equipment and so forth. Very involved and interesting study.

CONTENT:



*** Helpful information: 10 nm is 10^{-8} (or 10^{-8} meters (This would look like 0.000000001). Viruses are ~20-400 nm. What virus is 400 nm??? The SARS virus is ~125 nm (range of 40-140 nm). Bacteria is ~0.2-2 μm , or 200-2000 nm. Then there are “SMALLER airborne particulate” which begin at 2.5 μm — really? That’s 2500 nm, and the larger particulates are 10 μm or 10000 nm. Pollen ranges from ~15-200 μm or 15000-200000 nm.

These guys cite reference 25 what the Effectiveness of Face Masks ... article cites at reference 15. With regard to the droplet sizes carried in clusters from sneezing or coughing: 25. Bourouiba L. Turbulent gas clouds and respiratory pathogen emissions: potential implications for reducing transmission of COVID-19. *JAMA*. 2020;323(18):1837–1838. doi: 10.1001/jama.2020.4756. [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Footnote 15:

**** **FN01.41.05.01.00-**

<https://jamanetwork.com/journals/jama/fullarticle/2763852> PDF: FN01.41.05.01.00.Turbulent gas clouds and respiratory pathogens ...
jama_bourouiba_2020_it_200011

PC: March 2020

CCP: Bourouiba (Author ?) / **ORIGIN:** USA-MA, Cambridge. / **REF:** Ong, Tan, Chia; US CDC; WHO (2); MacIntyre, Wang (5 of 9) / **FUNDING:** Statement re funding: “Dr Bourouiba reported receiving research support from the Smith Family Foundation, the Massachusetts Institute of Technology (MIT) Policy Lab, the MIT Reed Fund, and the Esther and Harold E. Edgerton Career Development chair at MIT.”

RCT: Not asserted. Reads rather like a review of the science re gas cloud formation and how they behave as applicable to viral transmission.

CONTENT:

INFO: *** Discovery that particles ejected from a cough or sneeze are expressed in a cloud, or a “gas cloud” that **contains droplet clusters in a range of sizes that within that cloud do not evaporate as quickly as an isolated droplet.** Droplets can evade evaporation “much longer than occurs with isolated droplets.” The extension is estimated to be a factor of up to 1000, **ranging from a fraction of a second to minutes.**

INFO: *** These clouds can travel significant distances, [partly because they are not as susceptible

to air movement].

They can travel from 23-27 feet. [TA refers to two studies she did on this,

Reference 3. Bourouiba L, Dehandshoewercker E, Bush JWM. Violent respiratory events: on coughing and sneezing. J Fluid Mech. 2014;745:537-563. Google Scholar Crossref and

Reference 4. Bourouiba L. Images in clinical medicine: a sneeze. N Engl J Med. 2016;375(8):e15. PubMed Google Scholar

NOTE: So will TA have us distance up to 27 feet, recommending that this 3-6 foot thing is inadequate. [You can see that this is getting increasingly ridiculous. **Soon they will be arresting us in biohazard suits if we are seen sneezing in public.**]:

INFO: “Peak exhalation speeds can reach up to 33 to 100 feet per second (10-30 m/s), creating a cloud that can span approximately 23 to 27 feet (7-8 m).”

CCav: “Protective and source control masks, as well as other protective equipment, should have the ability to repeatedly withstand the kind of high-momentum multiphase turbulent gas cloud that may be ejected during a sneeze or a cough and the exposure from them.

Currently used surgical and N95 masks are not tested for these potential characteristics of respiratory emissions.”

NOTE: *** TA argues that larger particles remain large for extended periods in these “clouds” (Up to minutes) and so it might be argued that surgical masks that can block particles in the larger category (say from 500->1000 nm) might be effective in protecting someone within 27 feet of a cough or sneeze cloud. So, let’s look at TA’s argument regarding mask use:

“Turbulent gas cloud dynamics should influence the design and recommended use of surgical and other masks. [1] **These masks can be used both for source control (ie, reducing spread from an infected person) and for protection of the wearer (ie, preventing spread to an unaffected person).** [2] **The protective efficacy of N95 masks depends on their ability to filter incoming air from aerosolized droplet nuclei. However, these masks are only designed for a certain range of environmental and local conditions and a limited duration of usage.** [3] **Mask efficacy as source control depends on the ability of the mask to trap or alter the high-momentum gas cloud emission with its pathogenic payload.** [4] **Peak exhalation speeds can reach up to 33 to 100 feet per second (10-30 m/s), creating a cloud that can span approximately 23 to 27 feet (7-8 m).** [5] **Protective and source control masks,**

as well as other protective equipment, should have the ability to repeatedly withstand the kind of high-momentum multiphase turbulent gas cloud that may be ejected during a sneeze or a cough and the exposure from them. Currently used surgical and N95 masks are not tested for these potential characteristics of respiratory emissions.” [0]

[0] I added a [0] to allow for general comments on the paragraph content. The general tone of the paragraph suggests TA is not enthusiastic about the ability of either the N95 or the surgical mask to perform adequately against these clouds. Why is that? I’ll explain as I offer commentary on her statements.

[1] CLAIM: TA asserts N95 and surgical masks can be used as PPE and as SOURCE CONTROL. (Remember, PPE refers to the masks ability to protect the wearer, and SOURCE CONTROL refers to the masks ability to protect others from the wearer (the source) which is extrapolated to protection for the community.) However, as noted in [0], TA concludes with what amounts to a CCav statement: “Currently used surgical and N95 masks ARE NOT TESTED FOR THESE POTENTIAL CHARACTERISTICS OF RESPIRATORY EMISSIONS.” Earlier, TA makes another statement that supports my characterization of TA’s confidence in mask efficacy against the “cloud” : “The dichotomy of large vs small droplets remains at the core of the classification systems of routes of respiratory disease

transmission adopted by the World Health Organization and other agencies, such as the Centers for Disease Control and Prevention. **These classification systems employ various arbitrary droplet diameter cutoffs, from 5 to 10 μm , to categorize host-to-host transmission as droplets or aerosol routes.**¹ Such dichotomies continue to underly current risk management, major recommendations, and allocation of resources for response management associated with infection control, including for COVID-19. **Even when maximum containment policies were enforced, the rapid international spread of COVID-19 suggests that using arbitrary droplet size cutoffs may not accurately reflect what actually occurs with respiratory emissions, possibly contributing to the ineffectiveness of some procedures used to limit the spread of respiratory disease.**”

The text that is underlined and set in bold typeface represents a major CCav almost contradicting her endorsement of masks for public, or community intervention. She effectively says the efforts to curb spread by use of mask mandates and other interventions failed. She offers as an explanation the failure to understand the dynamic of the cloud phenomenon described in her study.

[2] CCav: Her next statement is with reference to the protective efficacy of the N95: “The protective efficacy of N95 masks depends on their ability to filter incoming air

from aerosolized droplet nuclei. However, these masks are only designed for a certain range of environmental and local conditions and a limited duration of usage.⁹ I agree with TA on this point, it comports with all else I've gleaned from research: the N95 is unusable for general public use. This is no doubt the primary reason Fauci et al. does not recommend them; in fact, the “authorities” recommend against their use for the general public. TA does not seem to include the N95 in this statement, suggesting understanding that surgical masks are not intended for protection against aerosols — another fact corroborated by my own extensive research in this subject. So far TA has essentially said masking has not worked and now specifically undermined the efficacy of the N95 for community use by explaining its limitations.

[3] TA's next statement seems to be intended to discuss the surgical mask: “Mask efficacy as source control depends on the ability of the mask to trap or alter the high-momentum gas cloud emission with its pathogenic payload.” I say this because she mentioned both N95 and surgical masks as being within the scope of her comments but has only spoken specifically about the N95 for PPE. She is writing in March of 2020, and by then, among those “in the know” already movement away from the surgical mask as PPE for general public use was gaining momentum, and a switch to an emphasis on surgical masks as *source control* was beginning to be emphasized. So, I assume the statement relates

specifically to surgical masks.

*** CCav/CE: Here TA undermines the efficiency of masks, whether N95 or surgical masks, to protect against the particle cloud she describes in her study.

Notice the valid point she makes when she points out that masks need to be able to protect against a “gas cloud emission” that is moving at “high momentum” (she will explain how fast in a moment), but the reason this is important is that I’m informed by other research that larger droplets hitting the mask fibers with any appreciable velocity will break up into smaller droplets.

Add to this the fact that any droplet emitted in ejecta from a cough or sneeze does begin evaporation immediately, even if that evaporation is greatly slowed by the moisture in the gas cloud, and when these engage the fibers of a mask, they break down and quickly become droplet nuclei depending on the sort, hydrophobic or hydrophilic.

If hydrophobic, the droplet is scattered, disintegrated into multiple, perhaps hundreds of smaller droplets, scattered over the field of the mask surface, at a size now that is very susceptible to evaporation, and located where evaporation will be facilitated by respiration. Many immediately become droplet nuclei upon impact (small enough to penetrate)—and most likely to do so especially if moving with “high momentum.” Or these scattered droplets become droplet nuclei at an accelerated rate due to respiration, and exposure to sun and air, depending on

atmospheric conditions, if particularly hot and dry, very quickly, and if warm and humid, only quickly.

If the mask is hydrophilic, the droplet will quickly be absorbed into the fabric, which will have a similar effect as droplet disintegration only in this case, the moisture will be broken down, and spread out over the fiber, but also facilitating evaporation, releasing droplet nuclei, and so we are back to the releasing of virions to be drawn deeply into the lower respiratory tract, or launched into atmosphere as aerosol to find another host wearing a mask that is totally inadequate to block the microdroplet from penetrating into their lower respiratory tract.

Since we are talking about coughing and sneezing, as source control, anyone sneezing or coughing into their mask will have to replace it immediately. Normal cough etiquette would be sufficient to supply capture and redirection of the ejecta actually efficiently, for a mask would have to be replaced after each episode. Furthermore, on the other side of source control is the passerby, or person in community exposed to the ejecta cloud that does manage to escape and travel at high momentum for about 10 of the 27 feet it travels, and continues at a significant pace thereafter for another 10-17 feet, if TA is correct, and these will be larger droplets of the sort a surgical mask might be able to capture, it would be better to allow our natural filter to take care of this problem. A mask, as pointed out above, will collect the droplet ejecta, and all the problems described above will enter into effect. But the NATURAL FILTRATION system

is far more efficient. The larger droplets are caught in the nasal passage way, and the larger droplets that enter through the mouth are caught in the throat and swallowed into the digestive system where they are speedily dispatched, totally neutralized. Only the very fine particles by pass this natural filtration system. So, if TA is accurate, the BEST thing to do is wear NO MASK, practice proper cough and sneeze etiquette, and let the natural filtration system take care of the rest.

[4] CE: Next, TA explains how fast the ejecta particle cloud is moving: “Peak exhalation speeds can reach up to 33 to 100 feet per second (10-30 m/s), creating a cloud that can span approximately 23 to 27 feet (7-8 m).” Now, this sounds like normal talking generates a cloud that can span ~23-27 feet. If she does have normal talking in view, the problems I describe above are even more applicable. I have read material that suggests normal talking by only a few, say ten, people will fill a room of, say, 1000 sq. feet, with particle cloud in thirty minutes or less. TA tells us the speed of this particle cloud, say from a sneeze or a cough, moves between 33 - to - 100 feet PER SECOND. That’s the speed, not the distance. The distance is 23-27 feet before the cloud dissipates. Friend, that’s really booking. Any particle cloud assaulting a surgical mask at that velocity is definitely going to behave as described above. But with NATURAL FILTRATION, the problems described above are virtually eliminated.

[5 Finally, TA offers the CCav that CEs her effort to encourage folks to build better masks: “Protective and source control masks, as well as other protective equipment, **should have the ability to repeatedly withstand the kind of high-momentum multiphase turbulent gas cloud that may be ejected during a sneeze or a cough and the exposure from them. Currently used surgical and N95 masks are not tested for these potential characteristics of respiratory emissions.** Masks should be able to withstand multiple assaults from particle clouds. Not only should the wearer replace a mask coughed or sneezed in, apparently, all wearers would do well to also change out their mask every time someone coughs or sneezes in the vicinity of 23-27 feet of their person — of, immediately upon seeing or hearing someone cough or sneeze, run as fast as you can until you are at least 30 feet away. :)

This is nonsense, of course, but don't say it too loud, Fauci might hear you and come out with a new protocol to either change out your mask after anyone sneezes within 30 feet of your person, or, if you hear them or see it coming, try to get 30 feet away STAT.

*** Anyway, this study suggests an even greater argument for the utter inadequacy of masks to protect anyone from transmission.

*** **In order to live, we will need to allow natural**

filtration and natural immunity to do its job!!!

—> Back to **FN01.41.00.00.00-**

https://journals.sagepub.com/doi/full/10.1177/0272989X211019029#_i52 — Effectiveness of Face Masks ...

TA **FN04.41.00.00.00** next cites footnote 20

20. Cumbo, E, Scardina, GA. Management and use of filter masks in the “none-medical” population during the COVID-19 period. Safety Sci. 2021;133:104997.
Google Scholar | Crossref | Medline

Not found in these notes:

FN01.41.06.00.00-

<https://www.sciencedirect.com/science/article/pii/S0925753520303945> PDF: FN01.41.06.00.00.Management and use of filter masks in the “none-medical” population during the Covid-19 period - ScienceDirect

PC: Received Augusts 2020, Accepted Sept. 7, 2020,
Online: Sept. 21, 2020, Version of record: Sept. 29, 2020
— Published Elsevier: Jan. 2021

CCP: Cumbo, Scardina (Authors ?) / **ORIGIN:** Italy-Palermo, U. of Palermo, Dept. of Surgical Oncological and Stomatological Disciplines / **REF:** Aiello, Davis; Balazy; US CDC; Chen; Chen, Willeke; Chughtai, Seale, MacIntyre;

Davies; Leung, Chu, Shiu; MacIntyre, Dwyer, Seale, Chueng; MacIntyre, Chughtai (2); MacIntyre, Seale, Dung; NIOSH - 1995; Wang P., Gao; Willeke, Myojo; WHO (16 of 32) *The appearance of a 1995 NIOSH article might be evidence of early CCP dominance over US Institutions. / FUNDING: nd (Searched fund, support, acknowl with results NULL.)*

RCT: No. An OS study.

CONTENT: Is it merely an education problem: “The use of masks, which are medical devices, requires correct use, based on medical principles unfortunately not known by the whole population.”

CCav: “This cultural deficiency, **linked to the breathing difficulties caused by the use of this filter**, has led to incorrect management of these important medical devices, facilitating the commission of errors that **can make the masks ineffective or even dangerous because they can become a vehicle for the spread of the disease itself** ([World Health Organization, 2009](#), [Centers for Disease Control and Prevention, 2009](#), [Bałazy et al., 2006](#), [Chen et al., 1991](#), [NIOSH, 1995](#), [Tuomi, 1985](#), [Weber et al., 1993](#), [Wilder-Smith, 2020](#).”

*** Well, admitting the masks cause “breathing difficulties” and that masks “can become a vehicle for the spread of the disease itself.” WOW!

He links us to the following support documents: 1. World Health Organization, 2009, 2. Centers for Disease Control and Prevention, 2009, 3. Bałazy et al., 2006, Chen et al., 1991, 4. NIOSH, 1995, 5. Tuomi, 1985, 6. Weber et al., 1993, and 7. Wilder-Smith, 2020

The first and second links returned a Page not found. The Google Scholar link takes me to a page that cites the references but does not link to the docs. Let's try a search on those expired links.

1. World Health Organization, 2009. Advice on the use of masks in the community setting in Influenza A (H1N1) outbreaks. Interim guidance (3 May 2009). (<http://www.who.int/csr/resources/publications/Adviceusemaskscommunityrevised.pdf>).
Google Scholar

Already vetted in these notes: See **FN01.41.06.01.00-**
<https://scholar.google.com/scholar?q=World%20Health%20Organization,%202009.%20Advice%20on%20the%20use%20of%20masks%20in%20the%20community%20setting%20in%20Influenza%20A%20%20outbreaks.%20Interim%20guidance%20.%20> FN01.41.06.01.00. World Health Organization, 2009. Advice on the use... - Google Scholar.pdf

NOTE: These are 2009 studies and the only reason I

can think for these pages being removed is the WHO does not want us to have access to those studies.

2. Centers for Disease Control and Prevention, 2009. Interim public health guidance for the use of facemasks and respirators in non-occupational community settings during an influenza pandemic. (<http://www.pandemicflu.gov/plan/community/maskguidancecommunity.html>).
Google Scholar

In this case, neither link takes me to the doc cited. Another 2009 CDC pub that CDC does not want us to see???

However, I do find another Interim report from CDC and it's dated Sept. 24, 2009:

Already vetted in these notes: See **FN01.41.04.00.00-**
<https://www.cdc.gov/h1n1flu/masks.htm> PDF:
FN01.41.04.00.00.CDC H1N1 Flu _ Interim
Recommendations for Facemask and Respirator Use to Reduce Novel Influenza A (H1N1) Virus Transmission — It has a variation on the name — Rather than “Interim public health guidance for the use of facemasks ...” it’s Interim Recommendations for Facemask and Respirator Use ...”

3. A. Balazy, M. Toivola, A. Adhikari, S.K. Sivasubramani, T. Reponen, S.A, Grinshpun Do N95

respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks? Am. J. Infect. Control, 34 (2006), pp. 51-57
ArticleDownload PDFView Record in ScopusGoogle Scholar

FN01.41.06.02.00-

<https://www.sciencedirect.com/science/article/abs/pii/S0196655305009119> PDF: FN01.41.06.02.00.Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks_ - ScienceDirect

Limited access.

PC: Feb. 2006

CCP: Balazy, Toivola, Adhikari, Satheesh, Reponen, Grinshpun (All authors ?) / **ORIGIN:** US-OH: U of Cincinnati, Dept. of Environmental Health, Center for Health-Related Aerosol Studies; Poland-Warsaw: Warsaw U. of Tech, Dept. of Chemical and Process Engineering. / **REF:** No CCP bias indicators are detected. / **FUNDING:** Statement: “Supported in part by the Kosciuszko Foundation (American Center for Polish Culture).”

RCT: Not asserted. METHOD: tested performance of two types of N95 respirators and examined for efficiency against particles in the 10-80 nm range.

CONTENT:

CCav: ***Conclusion: “The N95 filtering face piece respirators **may not provide the expected protection level against small virions. Some surgical masks may let a significant fraction of airborne viruses penetrate through their filters, providing very low protection against aerosolized infectious agents in the size range of 10 to 80 nm.** It should be noted that the surgical masks are primarily designed to protect the environment from the wearer, whereas the respirators are supposed to protect the wearer from the environment.”

NOTE: This study does not actually examine the efficacy of surgical masks as source control, but only asserts their study examined them as PPE.

—> Back to **FN01.41.06.00.00-**

<https://www.sciencedirect.com/science/article/pii/S0925753520303945#b0015> — Management and use ...

Next reference cited:

4. C.C. Chen, J. Ruuskanen, W. Pilacinski, K. Willeke
Filter and leak penetration characteristics of a dust and
mist filtering face piece Am. Ind. Hyg. Assoc.
J., 51 (12) (1991), pp. 632-639
View PDF CrossRef View Record in Scopus Google

Scholar

FN01.41.06.03.00-

<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/1519/1/Amorphous-silicon-periodic-and-quasiperiodic-superlattices/10.1117/12.47190.short?SSO=1> PDF:
FN01.41.06.03.00.Amorphous silicon periodic and quasiperiodic superlattices

Paid access required. Abstract only available:

PC: Nov. 1991

CCP: Chen, Du, Li, Xu, Jiang, Feng, and a Hellmut Fritzsche. / **ORIGIN**: CHINA-Shanghai: International Conference on Thin Film Physics and Applications [? relevance] / **REF**: na / **FUNDING**: CCP us appropriately assumed.

RCT: not asserted.

CONTENT: Cited by TA FN01.41.06.00.00 re use of masks to protect against spread of Covid-19 through “the micro-droplets emitted during breathing, coughing or phonation.” The word *phonation* is linked: <https://www.sciencedirect.com/topics/medicine-and-dentistry/phonation> where various articles/excerpts from works speaking to *phonation* are presented but not in full.

From these we can ascertain that *phonation* has to do with how voice is formed by passing air over the larynx.

IR: Not relevant to my study and providing nothing in the abstract that contributes to this research.

This study cited by TA FN01.41.06.00.00 must relate to production of voice activating vocal folds which shake loose micro droplets that escape into atmosphere as aerosols. STIPULATED.

—>Back to **FN01.41.06.00.00-**

<https://www.sciencedirect.com/science/article/pii/S0925753520303945#b0015> — Management and use ...
paragraph beginning, “In an attempt to limit, as much as possible ...”

TA offered a reference here re performance of N95s speaking of how droplets are expressed in vocalization that I want to insert here.

Grinshpun et al., 2009 — S.A. Grinshpun, H. Haruta, R.M. Eninger, T. Reponen, R.T. McKay, S.A. Lee
Performance of an N95 filtering facepiece particulate respirator and a surgical mask during human breathing: two pathways for particle penetration J. Occup. Environ. Hyg., 6 (2009), pp. 593-603
View PDF CrossRef View Record in Scopus Google Scholar

FN01.41.06.04.00-

<https://www.tandfonline.com/doi/pdf/10.1080/15459620903120086?src=getftr>. PDF: FN01.41.06.04.00.Performance of an N95 Filtering Facepiece Particulate Respirator and a Surgical Mask During Human Br

PC: Published online July 2010

CCP: Grinshpun, Haruta, Eninger, Reponen, McKay, Shu-An Lee (2 of 6) / **ORIGIN**: US-OH: U of Cincinnati; Dept. of Environmental Health, Center for Health-Related Aerosol Studies; Japan-Tokyo: Koken Ltd.; CHINA-Taiwan, ROC: Feng Chia U., Dept. of Environmental Engineering and Science / **REF**: Institute of Medicine, WaDC; Haruta, Honda; Chen, Willeke; Chen, Willeke; Zhuang; Lee; Yuasa, Shimizu, Kimura, Nozaki, Emi; Balazy; Willeke; Lee (10 of 20) / **FUNDING**: “This research was partially supported by Cardinal Health, Inc., McGraw Park, Illinois; Koken Ltd., Tokyo.

RCT: Not asserted. Method described in part as follows: For each subject wearing the RPD, the particle penetration was determined as a ratio of the aerosol concentration measured inside and outside the respirator/mask. Aerosol concentration was measured particle size selectively using an Electrical Low Pressure Impactor (ELPI; Dekati Ltd., Tampere, Finland) with an air diluter. Each subject performed a variety of head and

breathing exercises(9) that were modified to include a longer, 2-min in-facepiece sampling time. This modified fit testing procedure allowed for determination of exercise specific penetration values for the tested N95 respirator and surgical mask.” They used NaCl to simulate particle size of virions, and investigated “total penetration of 0.03–1 μ m particles into N95 FFRs and surgical masks.”

CONTENT:

IR: The size range of particle penetration is outside the query of this research. 0.3-1 μ m is 300-1000 nm, we are concerned with penetration of particles from 40-140 nm, or 70-200 nm.

INFO/CCav:*** “[INFO:] At the same time, when calculated for the particle size fraction of up to 0.20 μ m [200 nm], the penetration associated with the face seal leakage was not significantly influenced by the size of aerosol particles. This finding does not extend to the particle penetration through the mask’s filter medium. [CCav:] Obviously, **the penetration levels determined for the surgical mask were much higher as compared with those obtained for the N95 respirator.** The results agree with the study by Lee et al.,(10) that showed **8– 12 times higher total penetration for surgical masks compared with N95 FFRs”**

—>Back to **FN01.41.06.00.00-**

<https://www.sciencedirect.com/science/article/pii/S0925753520303945#b0015> — Management and use ...

paragraph beginning, “The use of masks, which are ...”
examining the support docs for the assertion: “This cultural deficiency, linked to the breathing difficulties caused by the use of this filter, has led to incorrect management of these important medical devices, facilitating the commission of errors that can make the masks **ineffective or even dangerous because they can become a vehicle for the spread of the disease itself.**”

Picking up at the fifth reference given in support of the above assertion:

5. NIOSH, 1995. National Institute for Occupational Safety and Health. Us Dhhs, Public Health Service. Respiratory Protective Devices; Final Rules and Notices. Federal Register, 60(110), 30335–30393. Google Scholar

Link returns message no article found.

Search by title:

The nearest article I can find approximating the reference given above is
<https://www.govinfo.gov/app/details/FR-1995-06-08/95-13286>. But it is a limited access citation from government agency: OSHA. The PDF is found at
<https://www.govinfo.gov/content/pkg/FR-1995-06->

08/pdf/95-13286.pdf

The source I settled on for accessing the information:

FN01.41.06.04.01-

<https://www.govinfo.gov/content/pkg/FR-1995-06-08/pdf/95-13287.pdf> PDF: FN01.41.06.04.00.OSHA Mask Issue Cited in related doc 95-13287

PC: June 1995

CCP: No authors named, govt. pub. / **ORIGIN:** US-Dept. Health and Human Services, Public Health Service / **REF:** Department of Labor, Mine safety and health admin. NIOSH / **FUNDING:** US govt.

RCT: some reference is made to such studies.

CONTENT:

IR: Not relevant to this study. Deals with high end N95 respirators. Searched *surgical, medical* in association with *mask* and found results NULL. I gleaned through the doc using search words *mask* and *penetration* and only find general information suggesting masks leak, and aerosols penetrate virtually all materials but those tested at the most vigorous levels.

CCav: *** Re electret charged masks: “However, the

efficiency of electrostatic filters can be significantly reduced by exposure to certain aerosols while mechanical filters are generally more resistant to degradation.”

CCav: *** Re the unfeasibility of using N95s or high level protection PPE for general public: “Limiting the minimum filter efficiency to 95% will minimize worker exposure to airborne contaminants from filter penetration. This is important because it is the most controllable element of protection afforded by respiratory protection programs. **The human variables** in these programs are more difficult to guarantee: **that workers are provided the appropriate class of respirator; that the workers are effectively fit tested; that they achieve and maintain an effective face seal each time they wear a respirator; and that they replace disposable respirators and filters before their effectiveness is diminished.** Some commenters urged, for these reasons, that all filters should have greater than **99% efficiency.** Such high filter efficiency **poses technologic challenges, increases costs to manufacturers and users, and increases breathing difficulty for respirator wearers.** NIOSH believes that a 95% minimum efficiency best balances the public health concern and these competing considerations.”

There IS risk at 95% efficacy but it is considered acceptable balanced against three factors: 1. tech challenges (these are difficult to produce); 2. costs to

manufacture and purchase; 3. BREATHING DIFFICULTY FOR WEARERS. Interesting this is the last consideration. Perhaps these are not noted in order of importance and the last concern is given more interest that is suggested here.

6. T. Tuomi Face seal leakage of half masks and surgical masks

Am. Ind. Hyg. Assoc. J., 46 (1985), pp. 308-312

View PDF CrossRef View Record in ScopusGoogle Scholar

FN01.41.06.05.00-

<https://pubmed.ncbi.nlm.nih.gov/4014006/>. PDF:

FN01.41.06.05.00.Scopus preview - Scopus - Document details - Face Seal Leakage of Half Masks and Surgical Masks [ABSTRACT ONLY: UPDATE on LINK: as of 8/4/22, the link does not take me to the abstract of this article. I have captured a PDF copy of that abstract in my archive. See PDF: FN01.41.06.05.00. However, it is no longer directly accessible from the link used before. So I found the article by search and discovered access to the abstract via the link noted above. The PDF for that article is FN01.41.06.05.01.Face seal leakage of half masks and surgical masks - PubMed. Note, the Scopus review provides more information than the PubMed link.]

PC: June 1985

CCP: Toumi / **ORIGIN:** FINLAND-Institute of Occupational Health, Dept. of Industrial Hygiene and Toxicology / **REF:** Abstract only, references not accessible. / **FUNDING:** nd. Assumed author affiliates.

RCT: not asserted but assumed

CONTENT:

Only the abstract is available: “The efficiency and face seal leakage characteristics of two half masks equipped with particle filters or gas filters, and of **two surgical masks were studied by means of a test head connected to a breathing machine. Filtration and leakage were studied as a function of particle size over a diameter range of 0.3 -10 μm with corn oil aerosol and an optical particle counter. The filtration efficiency of the filter materials was good, over 95%, for particles above 5 μm in diameter but great variation existed for smaller particles. The face seal leakage was manifested as decreased efficiency for large particles and also for total mass, while the particles in the micrometer range contained the major part of the test aerosol mass.** The particle number efficiency diagrams obtained can be used both in filter material studies and in leak detection of valves or filter housings. Copyright 1985, American Industrial Hygiene Association.”

IR: Particle size tested outside range of interest.

NOTE: This study concludes in line with all current RCTs on the question of mask efficacy relative to particle sizes greater than 300-10000 nm, and agrees that for this size range, masks are helpful but “great variation existed for smaller particles.”

7. A. Wilder-Smith Freedman DO Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak J. Travel Med. (2020) Google Scholar

Finally, **FN01.41.06.06.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7107565/>
PDF: FN01.41.06.06.00.Isolation, Quarantine, social distancing and community containment taaa020 (Note there is an a and b version of the same article. I have archived both of these. Will add this to the DUPLICATE list to avoid counting twice.)

PC: Feb. 2020

CCP: A. Wilder-Smith, D.O. Freedman / **ORIGIN:** UK-London: London School of Hygiene and Tropical Medicine, Dept. of Disease Control; Germany-Heidelberg: U. of Heidelberg, Heidelberg Institute of Global Health; USA-AL:

Tuscaloosa, U of Alabama. Published: *International Society of Travel Medicine* / **REF:** Zhu, Zhang, Wang W.; Chen; Nishiura, Mizumoto, Ejima, Zhong, Cowling; Li, Guan, Wu P.; Goh, Heng; Yale; Zhong, Zeng; Cheng, Wong DA, Tong; Phan, Nguyen, Luong (9 of 12) / **FUNDING:** “None.” (Internal witness to CCP affinity.)

RCT: No. OS

CONTENT:

CCP: Consider the following excerpt: “China has been preparing to contain future pandemics by applying lessons learnt from SARS ever since 2003.⁹ **We have to commend China for their swift and decisive response. [Except with regard to communicating to the global community samples of the virus and access to investigate origins—lying to the world about a wet market bat source.]** Within a matter of weeks, China implemented all the tools ranging from case detection with immediate isolation, and contact tracing with quarantining and medical observation of all contacts. By 2 February 2020, 14 600 cases had been confirmed, and >20 000 cases were classified as suspect cases waiting for laboratory results, 113 579 close contacts were been [*sic-then* or *being*] tracked and 4201 people were released from medical observation. A total of 102 427 people were receiving medical observation. This is an unprecedented gigantic effort that surpasses all quarantine measures

during SARS. However, the sheer magnitude of the new cases means that not all contacts can possibly be ascertained or monitored adequately. It means that many unidentified contacts are in the community. **While SARS was mainly an outbreak that propagated itself within hospitals and confined communities (Hotel Metropole, Amoy Gardens etc), widespread community transmission is already evident for 2019-nCoV in Hubei Province and beyond. Hence, the most drastic of all classical public health measures was the only logical next step: community containment with social distancing, community-use of facemasks at all times and the city of Wuhan with 11 million residents was locked-in with the shutdown of the city's public transportation, including buses, trains, ferries and the airport.** Prior to the lockdown in Wuhan, about 5 million (many of whom were already infected) left Wuhan thus contributing to further spread. As the community-based outbreak spread, lock-down was extended to >60 million residents in >20 cities by 30 January 2020. China has issued the largest quarantine in history.”

AME: This is not a study intended to establish mask efficacy and is entirely premised on AME.

CCP: It's heavily influenced by CCP propaganda.

NOTE: I could not find any direct allusion in any of the references cited directly supporting the claim that masks

are known to be a possible vehicle for the spread of the disease. However, as noted, some of the documents from WHO and CDC are no longer accessible.

—> Back to **FN01.41.06.00.00-**

<https://www.sciencedirect.com/science/article/pii/S0925753520303945#b0155> — Management and use...

NOTE: DISCUSSION: The conclusions show the utter inadequacy of attempting to use masks to prevent spread in the community: “The data collected show important results that indicate how citizens' behavior may not be perfectly correct; the use of a medical device, such as a mask, which has an extremely important role in preventing the spread of infections in the air, must comply with very precise principles. The filtering mask must be worn and managed very carefully, otherwise it completely loses its effectiveness, even if the filtering power is particularly high as on those FFP2 and FFP3. Any type of mask must adhere perfectly to the nose and along its internal circumference, preventing air from passing sideways without any filtration (MacIntyre and Chughtai, 2020, Chughtai et al., 2013)»(MacIntyre and Chughtai, 2020, Davies et al., 2013).”

***** LEAKAGE renders even the BEST mask totally useless:** “Wearing a mask that does not adhere well to the face or even with the nose or mouth not covered properly, **even makes the best device totally useless.**”

SS/SP: CONCLUSION: “In retrospect, it is clear that in addition to the imposition of such important devices as masks, the education of the population and the diffusion of correct information by the government appears to be fundamental in order to reach even the most distracted citizens; once again it is clear that an enemy as subtle as Covid-19 can be defeated with intelligence and culture.”
SS because this is a statement asserting a fact not established by the science. It’s SP because as SS coming from a document that undermined the premise of TA, it’s disingenuous to make such an assertion without at least presenting it with a caveat.

—> Back to **FN01.41.05.00.00**—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7429109/>
— Face Masks in the new ...

SS: CLAIM: “Masks and respirators are arguably the most important piece of PPE. They are a physical barrier to respiratory droplets that may enter through the nose and mouth and to the expulsion of mucosalivary droplets from infected individuals [6, 7].”

He uses two docs to support this assertion:

6. Tang J. W., Liebner T. J., Craven B. A., Settles G. S. A schlieren optical study of the human cough with and without wearing masks for aerosol infection

control. *Journal of the Royal Society Interface*. 2009;6(Supplement 6):S727–S736. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: See

FN01.38.00.03.35—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2843945/> PDF: FN01.38.00.03.35.A schlieren optical study of the human cough with and without wearing masks for aerosol infection control - PMC SUPP: see <https://aip.scitation.org/doi/10.1063/5.0015044#suppl> with video: <https://doi.org/10.1063/5.0015044> PDF: FN01.38.00.03.35.SUP On respiratory droplets and face masks_ *Physics of Fluids*_ Vol 32, No 6

Vetted:

Continuing **FN01.41.05.00.00—**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7429109/>
— Face Masks in the new ... with Reference No. 7

7. Leung C. C., Lam T. H., Cheng K. K. Mass masking in the COVID-19 epidemic: people need guidance. *The Lancet*. 2020;395(10228):p. 945. doi: 10.1016/S0140-6736(20)30520-1. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

FN01.41.05.02.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/>. (Alternate web address: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/>) PDF: FN01.41.05.02.00.Mass masking in the COVID-19 epidemic_ people need guidance - PMC

PC: March 2020

CCP: Leung, Lam, Cheng / **ORIGIN:** CHINA-Hong Kong, Chest and Heart Diseases Association, Hong Kong Tuberculosis; UK-Birmingham: U. of Birmingham, Institute of Applied Health Research. / **REF:** Guan, Ni, Hu; WHO; Bai, Yao, Wei; Zou, Ruan, Huang (4 of 5) / **FUNDING:** nd Under Acknowledgments: “We declare no competing interests.”

RCT: No. No statement re Method. Search: *random, trial, cohort, clinical* with results NULL.

CONTENT:

“Non specific symptoms at early stages of COVID-19 and absence of clear transmission links have defied conventional containment strategy by case isolation and contact quarantine. 1.”

No need to vet: 1. Guan WJ, Ni ZY, Hu Y. Clinical characteristics of the 2019 novel coronavirus infection in China. *NEJM*. 2020
doi: 10.1056/NEJMoa2002032. published online Feb 28. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)] [[Ref list](#)]

Continuing FN01.41.05.02.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/> — Mass masking ...

NOTE: Nothing works for this “novel” this extraordinary, this amazingly dissimilar virus that is like the cold, that is like the flu that has proved to be no more aggressively infectious than other “novel,” new, strange unheard of before viruses that have come along and finally dissipated into the “community” as another variety of flu. Getting a little tired of the hype! So, the only thing that will work is “compulsory social distancing, coupled with mass masking...” something the Chinese have done forever—at least as long as I can remember. It’s part of Asian culture and this is an effort to invade our culture with the symbolism of Chinese oppression.

CE: Then TA for this article goes on: “WHO recommends against wearing masks in community

settings because of lack of evidence. 2.”

2. WHO Advice on the use of masks in the community, during home care and in health care settings in the context of the novel coronavirus (2019-nCoV) outbreak: interim guidance. 29 January 2020. <https://apps.who.int/iris/handle/10665/330987> [Ref list]. —

Let’s vet this one. (NOTE: Not sure why I’m notating these as FN01.41.06... rather than with the FN01.41.05... set??? It has created considerable confusion and I’m beginning to think it might have been a better idea to go ahead and take the time to conform these to the standard notation scheme. O Bother!)

FN01.41.06.06.01-
[https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak) PDF: FN01.41.06.06.01.WHO-2019-nCov-IPC_Masks-2020.5-eng.pdf (I found reference to this at World Health Organization , “Advice on the use of masks in the context of COVID-19: Interim guidance, 5 June 2020” (Tech. Rep. WHO/2019-

nCoV/IPC_Masks/2020.4, World Health Organization, 2020). [[Ref list](#)].

Already vetted in these notes: See

FN01.38.00.03.37-

<https://apps.who.int/iris/handle/10665/332293>. (pdf: https://apps.who.int/iris/bitstream/handle/10665/332293/WHO-2019-nCov-IPC_Masks-2020.4-eng.pdf?sequence=1&isAllowed=y) PDF: FN01.38.00.03.37.WHO-2019-nCov-IPC_Masks-2020.5-eng.pdf

ECDC rated this article LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> — World Health Organization, “Advice on the use of masks in the context of COVID-19: Interim guidance, 5 June 2020” (Tech. Rep. WHO/2019-nCoV/IPC_Masks/2020.4, World Health Organization, 2020). [[Ref list](#)]. This is an updated version of that advice: December 2020. Note: this was one of the most extensive examinations I’ve conducted in this study. The reason I examined it so thoroughly is that it was prepared by the WHO, which by the “world’s” standards stands as a virtually undisputed “authority.”

{DUPLICATE. (By the way, I have a separate table of duplicates and do not always signify a duplicate

within these notes. See FN01—DUPLICATES.]

The June version is no longer directly accessible.
{Update: as of 8/4/22, I was able to find access to the
June version.)

—> Back to **FN01.41.05.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/#bib1> — Mass Masking, Isolation, Quarantine ...
(Alternative web address:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/>)

SS/SP: After stating the WHO (June 2020)
recommended against compulsory mass masking, TA
asserts: “However, absence of evidence of
effectiveness should not be equated to evidence of
ineffectiveness, especially when facing a novel
situation with limited alternative options.”

NOTE: SP: *** The argument, see above, is
philosophical and not scientific. As a philosophical
statement, it is self-evident that the absence of
evidence is not proof there is none, and it does not by
itself prove there is no evidence supporting the
proposition. And yet **the reason it DOES reflect the
absence of evidence of effectiveness is because**

many studies HAVE been conducted to ascertain mask efficacy against particles in the size range of virions and they consistently find the masks inadequate. FURTHERMORE: there is a case where the absence of evidence is pertinent in and of itself. If someone is asking you to wear a mask that is perceived by you to be an intrusion of your autonomy, dignity, and potentially compromising your health, and/or you simply do not want to wear one — in that case, you need EVIDENCE to show why SCIENCE should overcome that objection—and in that case, the absence of evidence is pertinent.

1. Much effort has been invested in finding that proof and as we have seen in this review, that effort has produced nothing in the way of proof

2. The imposition of masks as a compulsory mandate is an intrusion into privacy, and a usurpation of autonomy and respect for individual liberty and conscience, an encroachment upon our right to breath freely, and live like human beings are meant to live. Therefore, the imposition of masks REQUIRES justification, THE FREEDOM TO BREATHE AND LIVE OUR LIVES DOES NOT! The burden of proof is on those who would encroach upon our personal freedom and autonomy!

SP: *** More psychological argument, WHICH IS NOT SCIENCE: “It has long been recommended that for respiratory infections like influenza, affected patients should wear masks to limit droplet spread. If everyone puts on a mask in public places, it would help to remove stigmatisation that has hitherto discouraged masking of symptomatic patients in many places.³”

3. Teasdale E, Santer M, Geraghty AW, Little P, Yardley L. Public perceptions of non-pharmaceutical interventions for reducing transmission of respiratory infection: systematic review and synthesis of qualitative studies. *BMC Public Health*. 2014;14:589. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

*** So, in order to make sick people feel better about wearing a mask, it must be imposed on everyone???? This is tantamount to bullying, and oppression. It is also evidence that “they” have given up the argument from science and turned to manipulation.

Let’s look at their psychological argument:

FN01.41.06.06.02-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC406>

3987/. PDF: FN01.41.06.06.02.Public perceptions of non-pharmaceutical interventions for reducing transmission of respiratory infection_ systematic review and synthesis of qualitative studies

PC: June 2014 (Wow! Part of the prep phase for the plandemic?)

CCP: Teasdale, Santer, Geraghty, Little, Yardley (All authors?) / **ORIGIN:** UK-Southampton: U. of Southampton, Faculty of Medicine, Primary Care and Population Sciences; Faculty of Social and Human Sciences, Academic Unit of Psychology — see NIHR under funding / **REF:** Cowling, Chan, Fang, Cheng, Fung, Wai, Sin, Seto, Yung, Chu, Chiu, Lee, Chiu, Lee, Uyeki, Houck, Leung; WHO; Wu, Leung; Lee, Lye; Ajzen; Cowling, Zhou, Leung, Aiello; Lau, Au, Choi; Lau, Kim, Tsui; Liao, Cowling, Lam, Ng; Lee; Hawaiian Medical Library; Jiang, Yuen; Siu; Ferng, Wong-McLoughlin; Seale, Mak, MacIntyre; Tong (13 of 64) / **FUNDING:** P. Little “contributed to gaining initial funding...” under Acknowledgments: “This research was undertaken as part of doctoral research funded by the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR).”

RCT: No. RL Under **METHODS:** “Five online databases (MEDLINE, PsycINFO, CINAHL, EMBASE and

Web of Science) were systematically searched. Reference lists of articles were also examined. We selected papers that used a qualitative research design to explore perceptions and beliefs about non-pharmaceutical interventions to reduce transmission of acute respiratory infections. We excluded papers that only explored how health professionals or children viewed non-pharmaceutical respiratory infection control. Three authors performed data extraction and assessment of study quality. Thematic analysis and components of meta-ethnography were adopted to synthesise findings.”

CONTENT:

NOTE: *** Goes to the psychological side of this debate: Teasdale is a “Research Psychologist and Research Fellow in Primary Care within the Faculty of Medicine at the University of Southampton. She focuses on understanding human behavior in response to health threats.”

IR: Does not address questions relevant to my research. Interesting only as a peripheral relevance in the relationship between psychology and universal, or mass masking, and mask mandates.

AME: Assumes mask efficacy.

It's enough for my purpose to show here that in fact there IS a psychological angle on the mask issue.

—> Back to **FN01.41.05.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/> — Mass Masking in the COVID-19 epidemic — people need guidance: (Alternate web address: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7133583/#bib1>)

The TA asserts:

SS: “Masking, as a public health intervention, would probably intercept the transmission link and prevent these apparently healthy infectious sources.” Speaking of the asymptomatic carriers.

NOTE: This article amounts to no more than a call from these “experts” for the world leaders to get with it and produce sufficient quantities of masks.

—> Back to **FN01.41.00.00.00-**

<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029#bibr21-0272989X211019029>
Effectiveness of Face Masks in Reducing the Spread—

Left off at Footnote 20 — supporting the claim

that empirical studies have shown mask effectiveness is affected by fit, material, etc.

Footnote 22. Eikenberry, SE, Mancuso, M, Iboi, E, et al. To mask or not to mask: modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic. *Infect Dis Model.* 2020;5:293–308.

FN01.41.07.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7186508/>.
PDF: FN01.41.07.00.00.To mask or not to mask_
Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic

PC: April, 2020

CCP: Yang Kuang is the only one of eight authors whose name suggests a possible CCP bias. (As I've pointed out many times already, author name alone does not conclude for bias, I'm only interested in determining whether any such bias *might* be indicated. / **ORIGIN:** US-AZ: Tempe, U. of Tempe. / **REF:** Lau, Tsui, Yang, Chan, Yuen, Wang, Lai, Poon, Cheung, MacIntyre, Yung, Low, Tam, Cowling, etc. etc. (for 23 of 52). / **FUNDING:** One author acknowledges partial financial support from the Simons Foundation and the National Science Foundation.

RCT: No. MM: see METHODS: 2.1 Baseline mathematical models ... etc.

CONTENT:

IR/AME: This study does not address the questions relevant to my enquiry. It does not speak to the issue of mask efficacy but assumes mask efficacy.

SP: I notice an interesting morphing from accepted consensus regarding masks even among the maskers to affirmations that go well beyond that consensus. Watch!

*** “[1] Face mask use by the general public for limiting the spread of the COVID-19 pandemic is **controversial**, though increasingly recommended, and the **potential of this intervention is not well understood**. We develop a compartmental model for assessing the community-wide impact of mask use by the general, asymptomatic public, a portion of which may be asymptotically infectious. [2] **Model simulations**, using data relevant to COVID-19 dynamics in the US states of New York and Washington, **suggest that broad adoption of even relatively ineffective face masks** may meaningfully reduce community transmission of COVID-19 and decrease peak hospitalizations and deaths. [3] Moreover, **mask use decreases the effective transmission rate in nearly linear proportion to the product of mask effectiveness** (as a fraction of **potentially** infectious contacts blocked) and **coverage rate** (as a fraction of the general population), while the

impact on **epidemiologic outcomes (death, hospitalizations) is highly nonlinear**, indicating masks could **synergize** with other non-pharmaceutical measures. [4] **Notably, masks are found to be useful with respect to both preventing illness in healthy persons and preventing asymptomatic transmission.**”

I’ve inserted numbers in brackets to track the morphing: [1] [2] [3] [4]

[1] — stipulating with the consensus opinion that mask use is controversial, and it’s potential not well understood.

[2] — By use of “model simulations” created with data relevant to COVID-19 dynamics in the states of NY and WA [does he mean DC?] followed b some NC: “suggest” “may meaningfully” decrease hospitalizations and deaths.

[3] — SS: “mask use decreases transmission rate in nearly linear proportion to the product of mask effectiveness” — what? Whatever this is saying, it is not a declarative statement that masks decrease transmission, because this study does not and cannot establish that as a fact. With the caveat: “to the product of mask effectiveness” means something, but I don’t know what. We will see if it becomes more clear as I proceed. This followed by “a fraction of *potentially* infectious contacts...” Everyone is a potentially infectious contact — the only way to rule out

anyone would be testing and then that would only be as good as the next encounter with a “potentially infectious contact” so this is nonsense, and not even approximating science.

[4] — SS: “Notably, masks ARE FOUND TO BE USEFUL with respect to BOTH preventing illness in healthy persons and PREVENTING asymptomatic transmission.” This is a declaration of OPINION, pure and simple.

CCP/OS: American style—Furthermore, this is an American style CCP OS — observing x number of people got sick, and y number did not, and this many wore a mask and that many did not — the confounders are confoundingly confounding. It’s sickening that American “scientists” are stooping to this sort of tripe to retask science as a political weapon.

NOTE: From the collected data they create HYPOTHETICAL mask adoptions and scenarios and from this predict outcomes. (There is a place for such study, but BEFORE they can have ANY MEANING the underlying premise must be firmly established by the SCIENCE. THIS IS NOT THE PRESENT CASE.

God help us! Science *falsely so-called*.

NOTE: I’ve read so many of these, and recognize

almost all the references cited, time becoming an increasing issue, I'll accept that the references cited support the statement they are used to support, but I do not stipulate to the conclusions inferred from or taken from these citations, and will not run them down unless I either find something I desire to explore further or need to confirm the TA did not misquote or misuse the source because the statement is too broad or explicit to be believed within the context of all my prior research.

So, I'll be interacting with statements made by this TA almost exclusively, meaning, without running down references cited.

NC: "Public mask use MAY HAVE BEEN effective at limiting community spread..." In fact, it's all *may might, perhaps* —

CCav: "Although clinical trials in the community have yielded more mixed results..."

CCav: "Given the flux in recommendations, and uncertainty surrounding the possible community-wide impact of mass face masks (especially homemade cloth masks) on COVID-19 transmission, we have developed a multi-group Kermack-McKendrick-type compartmental mathematical model, extending prior work geared towards modeling the COVID-19 pandemic..." *** It's almost as if TA is saying since we don't have clinical trials to confirm

the efficacy of masks, we have created some “models” that will do it for us.

[*** Here is a way to dodge the hard science that says, effectively, virus particles are too small to protect yourself or others from infection. Just talk about what masks are effective to do, and make the claim that since masks do block larger droplets, and since masks do provide a barrier between your hand and your mouth, that masks COULD therefore protect you from those droplets caught and that contact engaged that therefore, you see, they are doing something, and even if it’s only a little something it is after all something.

NOTE: *** But here is the problem with this sort of thinking.

1. Nothing in the fact that masks do something means they are protecting you from the specific thing they cannot protect you from—virus particles that are aerosolized — so it does not matter if you did stop a thousand bullets coming directly for your head, the the tens of thousands of bullets you missed are going to hit target; it’s a way of lying to yourself, and so since you are not actually protecting yourself, or others, for that matter,

2. wearing a mask is not a benign action; it’s not healthy physically—the diaper gets soiled from the ejecta is trapped in the mask, you are sucking that junk back into

your lungs, there are rashes to contend with, and what little oxygen is deprived, something that is a variable from person to person, and from day to day, over extended periods of time does add up to impact immunity; and etc.; and

3. wearing a mask is not healthy emotionally; it is alienating, and muting, it hides your smile and hides the smiles of others from you; and

4. wearing a mask is spiritually damaging, it requires a subordination of your body, which belongs to GOD, to the State, and to FEAR, the entire mask thing is about fear, and to require an entire population to live in fear is oppressive and wrong; and as pointed out elsewhere, masks don't remove risk, and do not in any significant measure reduce it, so the only reason to wear it is to succumb to fear —

5. Rather, we must TRUST GOD and respectfully regard true science. **God designed our bodies with a robust immune system and an amazingly efficient filtration system, and tampering with God's design by substitutes like masks and vaccines that are not, actually, vaccines, and trusting man's effort to displace the human natural system for handling these things, we are interfering with the natural order, the GOD designed order, which will cost us dearly.** There are consequences for ignoring nature and defying nature's GOD.

6. Masks are not benign!~ I have spoken to this sprinkled throughout these notes, showing proof that masks are not benign, they are dangerous.

SP: Now the WHO comes along and says the primary transmission route is “coarse respiratory droplets and contact routes.” For so long they said masks are ineffective as community control, but since the CCP bias influence has increased, they are wanting to justify mandating masks, so now it’s all about large respiratory droplets and contact with virus on surfaces — **but this is a lie.**

NOTE: *** Virtually all droplets begin to evaporate immediately upon ejection (even those carried in a particle plume, or cloud, do begin evaporating once released into atmosphere), and those that do continue for up to a minute, or two, and that’s about the farthest extent of a droplet’s life, **shrink as they evaporate almost instantaneously upon settling** whether on a mask or some other surface. At that point, the virus is virtually naked and so small it is either drawn through the mask into your lungs by inspiration or blown out into the atmosphere as an aerosol upon exhalation.

These people are simply lying to us.

*** The virus on other surfaces certainly can infect,

these are called fomites — and it's true that hand hygiene and cough etiquette are appropriate, so that the amount of exposure will be in a measure mitigated, but in the order of nature, this will be sufficient to trigger immune response to build a defense against the disease in the general community. This is the natural way and attempting to go against nature can only break down the design of nature and nature's GOD.

CCav: A major compromising caveat comes next: "Experimental studies in both humans and manikins indicate that a range of masks provide at least some protective value against various infectious agents." The AT LEAST SOME argument! At least some is not enough!

NOTE: *** All the arguments about masks blocking droplets ignore the science: particle size and aerosol aerodynamics versus mask mesh and fit, and droplet evaporation.

NOTE: *** American cities that pulled back on the mask mandates are not faring worse than those that pushed them on the people. In fact, I believe over time it will be seen that those states and cities that did not continue with mask mandates and lockdowns will demonstrate stronger community immunity and prove to be overall more healthy than those that insisted on mask mandates and lockdowns.

NOTE: *** **Why push the masks and jabs?** One reason CCP is in such a panic to get everyone in a mask and jabbed **is to mask the truth about this whole pandemic**. It was NEVER as severe as they pretended; a very large number of the total deaths were caused by the measures they implemented; and they have exacerbated this disease for political and not for health reasons.]

SP: *** Mathematical modeling cannot “prove” anything. It can test a hypothesis to determine whether it is worthy of further study, but it cannot prove the hypothesis. **THESE GUYS KNOW THIS TO BE TRUE**. But they are beginning to lean more heavily upon these sorts of “studies” because they cannot prove their case with **REAL SCIENCE**.

****** Math is certainly a very important tool to scientists, but it is not science.**

AME/SP: Remember when I offered objection to the statement: “Moreover, **mask use decreases the effective transmission rate in nearly linear proportion to the product of mask effectiveness** (as a fraction of **potentially** infectious contacts blocked) and **coverage rate** (as a fraction of the general population) ...” I knew at the time I read that there was no way they established this as a fact. Now I read: “**We assume a roughly linear relationship between the overall filtering efficiency of a mask and clinical efficiency in terms of either**

inward efficiency (i.e., effect on $\sum i$) **or outward efficiency** ($\sum o$), based on Brienen et al. (2010).”

SP: It was a **declarative** earlier, now it’s admitted to be an **assumption**. It’s really sort of dangerous, I think, to convince someone that their mask is protecting them when it is not.

CCav: *** This is interesting: “Outward efficiency was marginal for tea cloth masks, and about 50-70% for medical masks.” That is wholly inadequate especially when you understand this 50-70% effectiveness is **against particles that are 300+ nm**. But I find it interesting because in an earlier study I reviewed, it was asserted that tea cloth was superior to the surgical mask. ???

NOTE/NC/SP: *** Based on a bunch of studies, most of which I have already vetted and found their support for masks about as inadequate as are the masks they are trying to support, these TA affirm: “We therefore **estimate** that inward mask efficiency **could** range widely, anywhere from **20 to 80% for cloth masks**, with 50% possibly more typical (and higher values are possible for well-made, tightly fitting masks made of optimal materials), **70–90% typical for surgical masks**, and **95% typical** for properly worn N95 masks.” When these estimates are examined, it’s for droplets that are $>0.3 \mu\text{m}$, or $>300 \text{ nm}$. These estimates are unreliable and unreasonable for micro droplets. It does not comport with the science. The

estimates are for larger, coarse droplets, the sort they have finally convinced WHO to declare are the primary means by which the disease is spread.

CCav: “There is considerable ongoing debate on whether to recommend general public face mask use (likely mostly homemade cloth masks or other improvised face coverings) 4, and while the situation is in flux, more authorities are recommending public mask use, though they continue to (rightly) cite appreciable uncertainty.” IF THEY ARE “RIGHTLY” CITING “APPRECIABLE UNCERTAINTY” I aver it is unethical to impose these mask diapers on everyone, and wonder WHERE IS THIS PUSH FOR MASKS coming from?

*** The answer is it is a **psychological manipulation motivated either by a belief the masks make most people feel better and safer, or a more sinister purpose to subjugate the human spirit to the control of the State.**

IR: So these guys used mathematical models in place of real science, like RCTs, and with their models they “simulated epidemics.” *Simulations* are easily manipulated to prove whatever is desired because THEY WANT EVERYONE IN MASKS. Why? See above.

SP: The idea that their measures might save one life is hypocritical since this is never the criteria driving any

public policy—why not eliminate automobiles, or take full control of everyone’s diet, why not, well, you get the idea. (Don’t be surprised to discover this is what they are working toward right now.)

CCav: Here you go: “Our *theoretical* results still must be interpreted with caution.” But not for the reason they give, which is the potential for high rates of noncompliance, which actually provides cover for their bad science; rather it is because it is exactly as Fauci once said, **masks are not effective to provide protection against something so small as a virus.**

—> Back to **FN01.41.00.00.00-**

<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029> — Effectiveness of Face Masks ...

Here is another effort to argue “Mask or no mask for COVID-19: ...”

23. Li, T, Liu, Y, Li, M, Qian, X, Dai, SY. Mask or no mask for COVID-19: a public health and market study. PLoS One. 2020;15(8):1–17.
Google Scholar | Crossref

Used Crossref:

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0237691>. Let’s do a title search for a more accommodating web format.

Title search:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/>.
YES! It's a PLOS ONE format which allows searching
within the article while viewing it online.

FN01.41.08.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/>
PDF: FN01.41.08.00.00.Mask or no mask for COVID-19_
A public health and market study For SUPP see
FN01.41.08.00.00.SUPP pone.0237691.s001.docx A
RESPONSE to REVIEWERS doc:
FN01.41.08.01.00.Response to Reviewers
pone.0237691.s001.docx

PC: Aug. 2020

CCP: Li, Liu, Man Li, Qian, Dai / **ORIGIN:** USA-TX:
A&M U. Dept. of Plant Pathology and Microbiology; Dept.
of Marketing; Dept. of Electrical and Computer
Engineering; Canada-Ottawa: Hos. Research Institute. So,
given date, authors likely cultural influence and today's
status with American medicine — yes. / **REF:** Feng, Shen,
Xia, Song, Fan, Cowling; Cowling, Zhou, Ip, Leung, Aiello;
Zhang, Peng, Ou, Zeng, Liu; Ferng, Wong-McLoughlin,
Wang; Lu, Zhao, Li, Niu, Yang, Wu; Yu, Li, Wong, Tam,
Chan, Lee; Leung, Chu, Shiu, Chan, Hau; Liu, Ning, Chen,
Guo, Liu, Gali; WHO (2); Su; Zhang, Diao, Yu, Pei, Lin,
Chen; Tang, Wang, Li, Tang S., Xiao; Wu, Huang, Zhang,

He, Ming; Zhou; Leung; Liu; Morawska; Fung, Cowling, Chan; Liu; Ki; Zheng; Mizumoto, Kagaya; Luo, Liu W., Liu ZJ., Zheng, Hong, Liu; Wei, Li, Chiew, Yong, Toh; Huang, Xia, Chen, SHan, Wu; Pan, Chen, Xia, Wu, Li, Ou; Wei, Li, Chiew, Yong, Toh, Lee; Tong, Tang, Li, Li P., Yi; Han, Yang; Zou, Ruan, Huang, Liang, Huang H., Hong; Nishiura; Chen; Tang; van der Sande, Teunis, Sabel; MacIntyre, SEale, Dung, Hien, Nga, Chughtai; Jung, Kim, Lee S., Lee J., Kim, Tsai; Davies, Giri; Inouye, Okabe, Obara, Sugihara; Shakya; Furushashi; Wang, Zhang, He; Natsuko; Koo, Park, Sun Y., Sun H., Lim; Taiwan C.; Tapiwa, Chen; Ferng, Wong-McLoughlin; Shing, Wai; Bae, Kim, Kim JY., He, Lim, Jiwon; Zhiqing, Yongyun, Wenxiang, Mengning, Yuanqing, Zhenan; Leung, Wu, Liu, Leung (51 of 89) / **FUNDING**: Statment: “The author(s) received no specific funding for this work.”

RCT: No. MM — claims to include “scientific evidence”

CONTENT: CLAIM: TAs included “mask aerosol reduction rate” in their criteria for determining mask efficacy. I’ll look forward to reviewing that evidence.

Abstract:

NC: “Regardless of the debates in the medical community and the global mask production shortage, more countries and regions are moving forward with

recommendations or mandates to wear masks in public.” Right—why is that? What has changed since the last SARS outbreak? My own research, examining well over 200 documents, all purported to be proof, or evidence that masks are effective, leave me wholly unconvinced, observing, by the way, no substantial change has occurred in the science.

CCav: “Our study indicates that wearing a face mask can be effectively combined with social distancing to flatten the epidemic curve. Wearing a mask presents a rational way to implement as an NPI to combat COVID-19. We recognize our study provides a projection based only on currently available data and estimates potential probabilities. As such, our model warrants further validation studies.”

Noted! **INCONCLUSIVE** results because this was not an RCT, it was constructed on projections that are based on limited data and can only ESTIMATE POTENTIAL PROBABILITIES.

ACK: Wearing masks as community control of pandemic has been “widely debated ... as some previous experimental studies on other respiratory diseases such as influenza H1N1 suggested the limited effectiveness of using face masks to prevent infection.” TAs refer us to 2. Cowling BJ, Zhou Y, Ip DK, Leung GM, Aiello AE. Face masks to prevent transmission of influenza virus: a

systematic review. *Epidemiol Infect.* 2010;138(4):449–56.
Epub 2010/01/23. 10.1017/S0950268809991658 .
[PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.32.03.00.00-**
<https://www.cambridge.org/core/journals/epidemiology-and-infection/article/face-masks-to-prevent-transmission-of-influenza-virus-a-systematic-review/64D368496EBDE0AFCC6639CCC9D8BC05> PDF:
FN01.32.03.00.00.Face masks to prevent transmission of influenza virus_ a systematic review _ Epidemiology & Infection _ Cambridge Core — In these notes: no significant difference between mask and no mask in their findings.

Continuing with FN01.41.08.00.00-
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#__ffn_sectitle — Mask or No Mask ...

CCav/NC: Here is TAs ***However*** — “risk assessment studies using population transmission models” — in other words, not science, but models, and NC: “**COULD DELAY AN INFLUENZA PANDEMIC.**”

Here is the support document:

3. Brienens NC, Timen A, Wallinga J, van Steenbergen JE, Teunis PF. The effect of mask use on the spread of influenza during a pandemic. *Risk Anal.* 2010;30(8):1210–

8. Epub 2010/05/26. 10.1111/j.1539-6924.2010.01428.x . [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

FN01.41.08.02.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader>. PDF: FN01.41.08.02.00.The Effect of Mask Use on the Spread of Influenza During a Pandemic

PC: May 2010, whereas “risk analysis” was done in August of 2010

CCP: All Authors ? / **ORIGIN:** Netherlands-Bilthoven: National Institute for Public Health and the Environment; Utrecht: University Medical Center, Julius Center for Health Services and Primary Care; US-GA: Emory U., Hubert Dept. of Global Health. / **REF:** WHO (3); Lau, Tsui, Lau, Yang; Wu, Xu, Zhou, Lin, He, Zhu, Liang, Chin; Teunis; Chowell, Nishiura; Teunis; Fung, Cowling, Chan, Leung; Morawska; Cowling, Fung, Cheng, Fang, Chan, Seto, Yung, Chiu, Lee, Uyeki, Leung; Cowling, Chan, Fang, Cheng, Fung, Wai, Sin, Seto, Yung, Chu, Chiu, Lee, Chiu MC., Uuyeki, Leung; MacIntryre, Dwyer, Seale, Cheung, Gao; Davies; Lo, Tsang, Leung, Yeung, Wu, Lim; Seto, Tsang, Yung, Ching, Ng, Ho M., Ho LM.; Loeb; NIOSH; van der Sande, Teunis, Sabel; Balazy, Adhikari, Sivasubramani; Zhuang; Tang, Wong (21 of 40). / **FUNDING:** nd Under Acnowledgments: “We thank W. ten Have for assistance with the literature search, R.

Stumpel and GGD Gooi & Vechtstreek for support in writing this article, and L. Phillips in editing.”

RCT: Not asserted — “A population transmission model was set up ...” This is not science. It’s similar in some respects to the trick of drawing these neat diagrams and pictures with connecting arrows to show evolutionary development from species to species.

CONTENT:

Rationale: Influenza A is highly infectious, likely because the infectious dose is very small. There is a direct correspondence between exposure and infection.

“Reduction in infection risk is proportional to the reduction in exposure due to PARTICLE RETENTION OF THE MASK.”

CCav: *** This is a CCav: whatever protection masks afford it must be remembered that it is afforded at the cost of trapping the infectious particles in your mask and keeping those particles up against your face.

NOTE: Conclusion: here is the claim cited by TAs FN01.41.08.00.00 — “We conclude that population-wide use of face masks could make an important contribution in delaying an influenza pandemic.”

SS/SP: *** “Data from published clinical studies

indicate that the infectivity of influenza A virus is probably very high, so that transmission of infection may involve low doses of virus. At low doses, the relation between dose and the probability of infection is approximately linear, **so that the reduction in infection risk is proportional to the reduction in exposure due to particle retention of the mask.**” It’s SS because TA does not offer any scientific basis for the claims. He makes the first statement without citing any references to science to back it up, and likewise the second declarative re relation between dosage and probability of infection being linear. These things might be true, but TA does not offer any science to support the statements. Its SP because the argument is faulty in any case. THE FACT THAT THERE ARE DROPLETS CAPTURED IN THE MASK ONLY PRESENTS A GREATER DANGER OF INFECTION. CONSIDER:

1. Desiccation: spoken of at length in these notes from a variety of sources, evaporation shrinks the captured droplets and at full desiccation releases the naked virion. The mask actually facilitates the effort of the virions to find their way into the host. When the droplets evaporate sufficiently they are easily drawn into the lower respiratory tract, or launched into atmosphere as aerosols.

2. The moisture trapped on the inside of the mask provides a petri dish like environment for the growth of all sorts of bacteria — it is consistently forgotten that many

other pathogens are ejected in the droplets than whatever virus one might be battling. Some of this is bacteria that the body is trying to excrete naturally, but in the mask, these are trapped defeating the entire purpose of God's natural design.

3. Some of the ejecta do not originate in the respiratory system, and are dangerous if inhaled into the lungs. The mask presents the possibility that the host will aspirate some bacteria or other ejecta into the lungs that would otherwise not likely ever invade that space naturally.

And **** here is something else not thought of. The argument of the maskers is that while science compels them to admit masks are of marginal benefit re controlling a pandemic running through any community, what marginal benefit they provide, no matter how small, is multiplied by mass use and results in an overall plus — but the first problem with that is that the minute you start viewing people in groups, and not as individuals, you begin down a path toward collectivist thinking that destroys individuality, and etc., but consider this also — whatever minor negatives are present in mask use is also multiplied when mass masking is imposed on a population. The negatives of mask wearing, for extended periods is actually more widely understood than is admitted by the public maskers today, or ignored by them. I've raised many questions re the dangers of long term masking, and much has been written in contexts that many studying this

subject would understandably miss. You find it in the suggestions that physicians NOT wear masks for more than x hours, and in some cases, not more than 15 minutes, that they remove them frequently, and CHANGE MASKS rather than reuse a used one — when you dig deep into this issue, it becomes increasingly clear that masks used for public control of virus not only interferes with the natural filtration system designed by GOD, but presents many undesirable effects. Most of these studies I talk about will add something to the effect that the concern is minor, that generally, it's safe to use masks appropriately, and etc. etc., but if you are going to argue that the statistically zero benefit of masks does not mean zero benefit, and that minor, insignificant, statistically zero benefit multiples with general and extended use — the SAME THING MUST BE TRUE OF THE NEGATIVES.

INFO: *** Here is an article that refers to “the single hit model of microbial infection” — 7. 7. Teunis P, Havelaar A. The beta poisson dose-response model is not a single-hit model. Risk Analysis, 2000; 20:513–520. [PubMed]

Hmmm. Let's take a look. It's a paid access article. Abstract only is available.

(-) **FN01.41.08.02.01-**

<https://pubmed.ncbi.nlm.nih.gov/11051074/>. PDF:
FN01.41.08.02.01.The Beta Poisson dose-response model is not a single-hit model - PubMed —

Here is the abstract: “The choice of a dose-response model is decisive for the outcome of quantitative risk assessment. Single-hit models have played a prominent role in dose-response assessment for pathogenic microorganisms, since their introduction. Hit theory models are based on a few simple concepts that are attractive for their clarity and plausibility. These models, in particular the Beta Poisson model, are used for extrapolation of experimental dose-response data to low doses, as are often present in drinking water or food products. **Unfortunately, the Beta Poisson model, as it is used throughout the microbial risk literature, is an approximation whose validity is not widely known.** The exact functional relation is numerically complex, especially for use in optimization or uncertainty analysis. Here it is shown that although the discrepancy between the Beta Poisson formula and the exact function is not very large for many data sets, the differences are greatest at low doses—the region of interest for many risk applications. Errors may become very large, however, in the results of uncertainty analysis, or when the data contain little low-dose information. **One striking property of the exact single-hit model is that it has a maximum risk curve, limiting the upper confidence level of the dose-response relation. This is due to the fact that the risk cannot exceed the probability of exposure, a property that is not retained in the Beta Poisson approximation.** This maximum possible response curve

is important for uncertainty analysis, and for risk assessment of pathogens with unknown properties.”

Odd. TA FN01.41.08.02.00 argue that “For exploring the risk of individual infection after exposure, the SINGLE HIT MODEL OF MICROBIAL INFECTION PROVIDES A GENERAL FRAMEWORK FOR STUDYING THE RELATION BETWEEN EXPOSURE TO A CERTAIN DOSE OF VIRUS AND THE PROBABILITY OF BECOMING INFECTED ...” *** and yet the study they reference seems to argue for the limitations of this model—maybe that’s why they claimed only that this model provides a “general framework” —. Also, it’s possible they understood the controlling consensus is that exposure should be taken seriously as likely transmitting infection otherwise what’s the point of all the brouhaha over panic driven masking? So, on the one hand, the idea that it takes a certain dose, and that dosage can be minimized by a mask makes the single hit theory a threat to the objective to get everyone in a mask; and on the other hand, the anxiety that can be driven by threatening people with a single hit theory of infection enhances the need for protection from exposure —

—> Back to **FN01.41.08.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7> — The Effect of Mask ...

CCav/CE: *** Influenza A is “more infectious in

humans exposed by aerosol than in humans exposed by nasopharyngeal instillation of droplets.”

SP: Okay, this is interesting. The claim for COVID is that it is transmitted *mostly* by large droplets—but influenza A was considered to have been transmitted *mostly* by aerosol. The likeliness that Influenza A is transmitted more aggressively by aerosol than large droplets and SARS-CoV-2 is more aggressively spread by large droplets than by aerosol seems counterintuitive and belies the claim, and rather suggests a bias is driving the science when it comes to COVID.

The particle size of Influenza A virus is exactly in the range of SARS-2 —
<https://www.sciencedirect.com/science/article/pii/S0021967316311335> — indicates the range is 80-120 nm, which is well within the range of SARS-2 virions: 40-140 nm. See FN01.41.08.02.02.Size distribution analysis of influenza virus particles using size exclusion chromatography - ScienceDirect

INFO: *** But there is another reason to flag this statement. The fact that infection occurs more from small particles that escape the NATURAL filtration system designed by our CREATOR than from those LARGER PARTICLES that are captured in the nasopharyngeal area of the respiratory system. You know, the ones the mask captures, so they remain exposed to atmosphere on the

surface and internally to contact respiration facilitating their desiccation allowing the virions to BECOME AEROSOLS that can BYPASS the filtration system designed by GOD and far from inhibiting contagion, actually facilitating it.

—> Back to **FN01.41.08.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

Supporting claim that Influenza A virus is “more infectious in humans exposed by aerosol than ... [larger] droplets” — TA refers us to the following references: 2, 8, 9. and 10. I will stipulate to these articles regarding the point but provide them here in case further examination of them is necessary. They are not placed in my research folder. (However, I would like to include these in my SE00 archive of articles signaled out as particularly supportive of my thesis.

2. World Health Organization writing group . Nonpharmaceutical interventions for pandemic influenza, international measures. Emerging Infectious Diseases, 2006; 12:81–87. [PMC free article] [PubMed] [Google Scholar]

8. Alford RH, Kasel JA, Gerone PJ, Knight V. Human influenza resulting from aerosol inhalation. Proceedings of the Society for Experimental Biology and Medicine,

1966; 122:800–804. [PubMed] [Google Scholar]

9. Henle W, Henle G, Stokes J, Maris EP. Experimental exposure of human subjects to viruses of influenza. *Journal of Immunology*, 1945; 52:145–165. [PubMed] [Google Scholar]

10. Bridges C, Kuehnert M, Hall C. Transmission of influenza: Implications for control in health care settings. *Clinical Infectious Diseases*, 2003; 37:1094–1101. [PubMed] [Google Scholar]

Continuing with FN01.41.08.02.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

INFO: *** RE: Infectious dose: “Aerosol inoculation of a few virus particles has been shown to potentially lead to infection while intranasal droplet inoculation requires several hundreds of viruses for infection.”

NICAS AND JONES INFER THAT AEROSOL INOCULATION MAY BE 3,200 TIMES MORE EFFICIENT THAN INTRANASAL INOCULATION, BUT BECAUSE OF THE HIGH UNCERTAINTY IN THEIR DOSE-RESPONSE ESTIMATES THEY CANNOT EXCLUDE THAT THESE TWO INOCULATION ROUTES ARE EQUALLY EFFICIENT.” Here is the study: 11. Nicas M, Jones MJ. Relative contributions of four exposure pathways to

influenza infection risk. Risk Analysis, 2009; 29:1292–1303. [PubMed] [Google Scholar]

I'm interested in this question, so I'll provide doc in my folder:

Unfortunately, it's a paid access article.

(-) **** **FN01.41.08.02.03-**

<https://onlinelibrary.wiley.com/doi/10.1111/j.1539-6924.2009.01253.x> PDF:

FN01.41.08.02.03.Relative Contributions of Four Exposure Pathways to Influenza Infection Risk - Nicas - 2009 - Risk Analysis - Wiley Online Library

Here is the Abstract: “The relative contribution of four influenza virus exposure pathways—(1) virus-contaminated hand contact with facial membranes, (2) inhalation of respirable cough particles, (3) inhalation of inspirable cough particles, and (4) spray of cough droplets onto facial membranes—must be quantified to determine the potential efficacy of nonpharmaceutical interventions of transmission. We used a mathematical model to estimate the relative contributions of the four pathways to infection risk in the context of a person attending a bed-ridden family member ill with influenza. **Considering the uncertainties in the sparse human subject influenza dose-response data, we assumed alternative ratios of 3,200:1 and 1:1 for the infectivity of inhaled respirable**

virus to intranasally instilled virus. For the 3,200:1 ratio, pathways (1), (2), and (4) contribute substantially to influenza risk: at a virus saliva concentration of 10^6 mL⁻¹, pathways (1), (2), (3), and (4) contribute, respectively, 31%, 17%, 0.52%, and 52% of the infection risk. With increasing virus concentrations, pathway (2) increases in importance, while pathway (4) decreases in importance. In contrast, for the 1:1 infectivity ratio, pathway (1) is the most important overall: at a virus saliva concentration of 10^6 mL⁻¹, pathways (1), (2), (3), and (4) contribute, respectively, 93%, 0.037%, 3.3%, and 3.7% of the infection risk. With increasing virus concentrations, pathway (3) increases in importance, while pathway (4) decreases in importance. Given the sparse knowledge concerning influenza dose and infectivity via different exposure pathways, nonpharmaceutical interventions for influenza should simultaneously address potential exposure via hand contact to the face, inhalation, and droplet spray.”

—> Back to **41.08.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

CCav: All of this talk about infectivity and infectious dose actually provides a CCav to the TAs argument. It only requires a small amount of virion exposure to infect, and if no surgical mask can provide protection against particle sizes ranging from 80-120 nm (0.08-0.120 μ m)

[Later research stipulates the particles for SARS-2 are from 40-140, and can be carried in infectious volumes in respirable droplets from 70-200 nm] so that if only a few particles escape capture by the mask, there is a high probability of infection.

These TAs assert that, based on the above assertions, the secondary infectious rate caused by infectious persons ranges from 1.5 to 3.0, or each infected person likely spreads the disease to a minimum of 1 and 1/2 persons per [?] and as many as 3 persons per [?]. They cite the following documents: (I will for the moment stipulate to these studies but provide the citations here for further research if warranted.)

12. Longini IM Jr, Halloran ME, Nizam A, Yang Y. Containing pandemic influenza with antiviral agents. *American Journal of Epidemiology*, 2004; 159:623–633. [PubMed] [Google Scholar]

13. Mills CE, Robins JM, Lipsitch M. Transmissibility of 1918 pandemic influenza. *Nature*, 2004; 432:904–906. [PMC free article] [PubMed] [Google Scholar]

14. Ferguson NM, Cummings DA, Fraser C, Cajka JC, Cooley PC, Burke DS. Strategies for containing an emerging influenza pandemic in Southeast Asia. *Nature*, 2005; 437:209–214. [PubMed] [Google Scholar]

15. Ferguson NM, Cummings DA, Fraser C, Cajka JC, Cooley PC, Burke DS. Strategies for mitigating an influenza pandemic. *Nature*, 2006; 442:448–452. [PMC free article] [PubMed] [Google Scholar]

16. Wallinga J, Lipsitch M. How generation intervals shape the relationship between growth rates and reproductive numbers. *Proceedings. Biological Sciences/The Royal Society*, 2006; 274:599–604. [PMC free article] [PubMed] [Google Scholar]

17. Chowell G, Nishiura H, Bettencourt LM. Comparative estimation of the reproduction number for pandemic influenza from daily case notification data. *Journal of the Royal Society, Interface/the Royal Society*, 2007; 4:155–166. [PMC free article] [PubMed] [Google Scholar]

—> Back to **FN01.41.08.02.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

NOTE: TA assumed no initial immunity.

AME: And, more importantly, they assumed mask efficacy sufficient to at least reduce spread.

SP/CCav: WEAKNESS in their ASSUMPTIONS: “The presumed effect of mask use was a decrease in the risk of

acquiring infection during contact, depending on the filter efficiency ($= M_{\text{eff}}$) of the mask. In case of a low transferred dose it is likely that any decrease in exposure due to mask use causes an approximately proportional decrease in infection risk (19) and hence also in transmission of the virus. Given the high infectivity of the influenza virus and its relatively low reproduction number, **it seems likely that transmission may involve small doses of influenza virus.** SP because the assumption that a low transferred dose effectively translates into a decrease in risk of infection is specious. The admission that “small doses of influenza virus” trigger transmission contradicts their assurance that lowering the exposure lowers risk. Think about it this way. If a fellow fires a blast of 1000 bullets at your head and you effectively stop 800 of them (a proportion way under range as an illustration of mask efficacy) does anyone with sense think they have been served any protection at all from the barrage? the answer is no! 200 bullets landing on target achieves the purpose and could care less about the 800 deflected from target.

CCav: Their assumptions appropriately depend on the filter efficiency. But in the case of a low transferred dose, they assume “any decrease in exposure due to mask use causes an approximately proportional decrease in infection risk.” And they refer us to —

19. Teunis PFM, Nagelkerke NJD, Haas CN. Dose

response models for infectious gastro-enteritis. Risk Analysis, 1999; 19:1251–1260. Then they admit: “It seems likely that transmission may involve SMALL DOSES OF INFLUENZA VIRUS.” This means even a “small dose” of virus escaping capture is infectious, ergo, the mask is not going to protect someone if “multiple small doses” penetrate the mask—assuming one wears the mask through the day, or for multiple hours and has multiple encounters with virion particles throughout the day, as is certainly the case during a pandemic.

Okay, let’s run through this study to find any reference to “science” regarding mask efficiency. So far, it’s all been AME.

Here we go—3.1.2 Droplet and Aerosol Transmission.

Much of the information is a repeat of what we’ve already seen, and the supporting documents/studies are ones we have seen:

10. Bridges C, Kuehnert M, Hall C. Transmission of influenza: Implications for control in health care settings. Clinical Infectious Diseases, 2003; 37:1094–1101. [PubMed] [Google Scholar]

FN01.41.08.02.04-

<https://academic.oup.com/cid/article/37/8/1094/2013282?login=false> PDF: FN01.41.08.02.04.Transmission of

Influenza_ Implications for Control in Health Care Settings
_ Clinical Infectious Diseases _ Oxford Academic

PC: October 2003

CCP: Weinstein, Bridges, Kuehnert, Hall (All authors ?) / **ORIGIN:** US-GA: Atlanta, CDC (2 authors); NY: Rochester, U. of Rochester, Dept. of Pediatrics and Medicine. / **REF:** Kusumoto, Suzuki; Foy (2 of 57) — I've noticed that the farther back one goes the less presence of CCP connected sources I find. / **FUNDING:** nd.

RCT: No.

CONTENT:

IR: Limited to HCW and health care settings.

No information in this article contributed significantly to questions relevant to this study. However, some tangential insights are found.

INFO: *** RE: amount of dosage to infect: “The amount of virus required to induce infection is inversely related to the size of infectious particles administered, with particles <10 μ m diameter more likely to cause infection in the lower respiratory tract [36].” This is important — **THE SMALLER THE PARTICLES ARE THE MOST INFECTIOUS.**

The next article TAs of FN01.41.08.00.00 —

21. Fabian P, McDevitt JJ, DeHaan WH, Fung RO, Cowling BJ, Chan KH, Leung GM, Milton DK. Influenza virus in human exhaled breath: An observational study. PloS One, 2008; 3:e2691. [PMC free article] [PubMed] [Google Scholar]

FN01.41.08.02.05-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2442192/?report=reader>. PDF: FN01.41.08.02.05.Influenza Virus in Human Exhaled Breath_ An Observational Study

PC: Jul. 2008

CCP: Cowling, Fung, Chan, Leung / **ORIGIN:** USA-MA: Lowell, U. of MA, Work Environment Dept.; Boston: Public Health, School of Public Health; Lexington: Pulmatrix Inc.; CHINA-Hong Kong, Li Ka Shing Faculty, U. of Hong Kong; Queen Mary Hospital, Dept. of Microbiology / **REF:** US-DHHS; Huynh; Duguid; Harvard U. Press; Wei; Cowling, Fung, Cheng, Fang, Chan; Lee (7 of 42). / **FUNDED:** Joint funding US and CCP: “This work has received financial support from the **US Centers for Disease Control and Prevention** (cooperative grants #1U01CI000439-01 and #1U01CI000446-01), the **Research Fund for the Control of Infectious Disease, Food and Health Bureau, Government of the Hong**

Kong SAR, and the Area of Excellence Scheme of the Hong Kong University Grants Committee (grant no. AoE/M-12/06). This work was also supported by the **U.S. Federal Aviation Administration (FAA) Office of Aerospace Medicine through the Air Transportation Center of Excellence for Airliner Cabin Environment Research (ACER)**, Cooperative Agreements 04-C-ACE-HU. Although the FAA and CDC have sponsored this project, they neither endorse nor reject the findings of this research.”

RCT: Not stipulated. Under METHODS: “This study was conducted on a subset of subjects recruited in a randomized trial looking at the efficacy of face masks and hand hygiene to reduce influenza transmission in Hong Kong residents [41].” “We collected exhaled breath from subjects using an Exhalair (Pulmatrix, Lexington, MA) a device which integrates optical particle counting technology (Airnet 310, Particle Measuring Systems, Boulder, CO) with airflow data obtained with a mass flow meter and also collects filter...” and “Influenza virus RNA collected from the exhaled breath on the Teflon filters was extracted using a Trizol-chloroform based method modified from a protocol developed for extraction of nasal swab and lavage samples [42],” provide some sense of the approach taken by TA.

CONTENT: Point of research: Study of influenza infected patients to characterize virus and particle

concentrations in their exhaled breath.

INFO: *** RE extent of aerosols produced in tidal breathing: Used an optical particle counter. Virus was detectable in the breath of 4 out of 12 subjects. The virus RNA concentrations were measured from under 3.2 to 20 virus RNA particles per minute. **Over 87% of the particles exhaled were under 1 μm in diameter.** Findings support concern that **fine particles are generated during tidal (normal at rest) breathing, and adds to the concern that fine particle aerosols “may play a role in influenza transmission.”**

INFO: *** The concentrations of virus RNA in exhaled breath samples ranged from <48 to 300 influenza RNA copies per filter on the positive samples. [Apparently, that is the number accumulated over a period of ~15 minutes normal, or tidal breathing. Yes, see p. 6 “virus RNA copies per minute for a 15 minute sample.”]

INFO: RE how many RNA virions are found in exhaled breath: *** In terms of volume of particles they found 61-3,848 L⁻¹ (or, 61-3,848 *moles* (in this case what is measured is virions, or virus particles) in 1 liter of a solute, probably water, but not specified). Our interest is in relative number of virions per measure of solution. So there were from 61-3,848 virion particles that ranged in size from 0.3 μm to <5 μm . There were 5-2,756 particles in solution that were 0.5 μm to <1 μm . 1-1,916 that were from

1 μm to $<5 \mu\text{m}$, and 0-9 that were $\geq 5 \mu\text{m}$.

***** Once again, confirmation that volume increases as particle size decreases.**

Now, on particle size distribution:

“On average 70% of the particles measured were between $0.3 \mu\text{m}$ and $<0.5 \mu\text{m}$.”

17% were between $0.5 \mu\text{m}$ and $<1 \mu\text{m}$.

13% were between $1 \mu\text{m}$ and $<5 \mu\text{m}$.

Particles larger than $5 \mu\text{m}$ were RARELY RECORDED ($\leq 0.1\%$).

INFO: Not every patient produced virus RNA in tidal breathing: “We detected influenza virus RNA in the exhaled breath of 33% of subjects with laboratory-confirmed influenza.”

CCav: *** However, under discussion of limitations, the TAs acknowledge their equipment might not detect particles smaller than $\sim 0.3 \mu\text{m}$: “the remaining either didn’t exhale influenza virus aerosols, or generated undetectable number of influenza virus RNA copies/min.”

INFO: RE number of virions to transmit infection: ...

From this study, the TAs found “that our laboratory virus stocks have a ratio of 300 virus particles per infectious virus...” That suggests a ratio of 1-300, or 1 infectious particle in very group of 300 particles.

INFO/NC: The researchers caution that clinical specimens and aerosols “may have fewer defective viruses and less viral nucleic acid which is not associated with virus particles.”

INFO: *** To the point of the citation: “Although we don't know whether the RNA we detected originated from free nucleic acid, infectious, or non-infectious viruses, the data presented here show that aerosols of influenza virus origin are generated during tidal breathing.”

—> Back to **FN01.41.08.02.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

Okay, let's look at 3.2. Mask Efficiency in Virus Transmission:

TAs refer to the following “overview of published studies on face mask protection against influenza,” noting that most examine mask efficacy in context of contact with patients, while only a few look at possible risk reduction in general population. The study follows:

26. Cowling BJ, Fung RO, Cheng CK, Fang VJ, Chan KH, Seto WH, Yung R, Chiu B, Lee P, Uyeki TM, Houck PM, Peiris JS, Leung GM. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. PLoS One, 2008; 3:e2101. [PMC free article] [PubMed] [Google Scholar]

Already vetted in these notes: See **FN01.08.06.00.00**
Cowling BJ, Fung RO, Cheng CK, Fang VJ, Chan KH, Seto WH, et al. Preliminary findings of a randomized trial of non-pharmaceutical interventions to prevent influenza transmission in households. PLoS One 2008;3:e2101.

—> Back to **FN01.41.08.02.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

ACK/CCav: After discussing the efficiency of respirators such as, or equivalent to our N95s, the TAs admit: “Apart from these certified masks, there are many types of masks not certified as respiratory protective devices. Their exact protective effect against particles is unknown, as is their efficiency.”

NOTE: *** This was back in 2008, many studies since have confirmed the inadequacy of these masks to protect against a virus. Nevertheless, our TAs in this study [FN01.41.08.02.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b26> (alternative address, same article: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>)] refer to van der Sande (37), and Balazy (38) to support an expectation of at least *some* mask efficacy against virions:

van der Sande, according to TAs, “surgical masks and home-made masks can still give a considerable reduction in aerosol exposure.” That’s the claim. Let’s look at the support:

37. Van Der Sande M, Teunis P, Sabel R. Professional and home-made face masks reduce exposure to respiratory infections among the general population. *PloS One*, 2008; 3:e2618. [PMC free article] [PubMed] [Google Scholar] —

Already vetted in these notes: See **FN01.38.00.19.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>.
PDF: FN01.38.00.19.00.Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

Next reference is to Balazy. TA FN01.41.08.02.00—
“The Effect of Mask Use...” asserts “nonbiological particle simulants can be used to assess mask protection against biological particles of similar shape and size, and the minimum filtering efficiency of masks for nonbiological

particles may be applied for virus-containing particles as well.”

I would be inclined to **stipulate** to this, however, I wonder that TAs of this article do not bring forward any supporting finding from the Balazy study, unless it was limited to simply ascertaining whether simulants are adequate substitutes for actual virus particles.

Let’s take a look.

38. Balazy A, Toivola M, Adhikari A, Sivasubramani SK, Reponen T, Grinshpun SA. Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks? American Journal of Infection Control, 2006; 34:51–57. [PubMed] [Google Scholar]

NOTE: This article requires paid access:
[https://www.ajicjournal.org/article/S0196-6553\(05\)00911-9/fulltext](https://www.ajicjournal.org/article/S0196-6553(05)00911-9/fulltext). I don’t think I’ll add it to my archive: 1. because it does not promise to contribute to my research, and 2. because the citing TAs don’t assert anything from the article beyond the assertion simulants may be used to test for mask efficacy.

However, it does leave open the question, why did our TAs bother referencing this article unless it lent some support to their claim that surgical masks, and home-made

masks can provide some protection from a virus????

Next, TA **FN01.41.08.02.00** refers to a title I recognize: “Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks?” Let’s search that in my notes: Found.

Already vetted in these notes: See **FN01.41.06.02.00**-
<https://www.sciencedirect.com/science/article/abs/pii/S0196655305009119> PDF: FN01.41.06.02.00.Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks_ - ScienceDirect

RE: **FN01.41.06.02.00**—The available content provides a CCav: “The N95 filtering face piece respirators **may not provide the expected protection level against small virions. Some surgical masks may let a significant fraction of airborne viruses penetrate through their filters, providing very low protection against aerosolized infectious agents in the size range of 10 to 80 nm.** It should be noted that the surgical masks are primarily designed to protect the environment from the wearer, whereas the respirators are supposed to protect the wearer from the environment.”

So, perhaps our TAs did not find this statement supportive????

—> Back to **FN01.41.08.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

CCav/SS: “Mask efficiency for sedimenting droplets is likely to be better than for aerosol particles: proper mask use **completely blocks droplet transmission to the mucous membranes of the upper respiratory tract, although it cannot prevent infection through the conjunctivae (eyes)**. We therefore presume mask protection factors for aerosols to represent a worst-case assumption for protection against droplets.” CCav because this statement admits mask efficiency is better against sedimenting droplets — that would be droplets in the category of *larger* — usually stipulated as >5 or >10 μm . I’ve spoken to this often, but again, it’s important to remember how horrible this is. It means the mask captures these droplets before they reach the nasal cavities. The reason that is a problem is that on the mask, the droplets desiccate quickly, whereas in the nasal cavity they are captured and held my mucus and then, I trust appropriately, expelled by blowing the nose, or by a covered cough or sneeze. But if they desiccate on the mask, the virions the microdroplets can be drawn in from the mask deep into the lower respiratory tract, or launched into aerosols in the atmosphere.

Remember: Sedimenting droplets are those larger ones that settle quickly upon some surface. **Stipulated:**

masks do catch “sedimenting droplets.” However, these evaporate quickly, and release the virions to be inspired or expired easily into aerosols.

TA FN01.41.08.02.00 cites a recent study that shows some mask efficiency for surgical and home-made masks:

36. National Institute for Occupational Safety and Health . NIOSH-Approved Disposable Particulate Respirators (Filtering Facepieces). Available at: http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/, Accessed on May 2006.

Let’s take a look.

FN01.41.08.02.06-

https://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/ PDF: FN01.41.08.02.06.Approved Particulate Filtering Facepiece Respirators _ NPPTL _ NIOSH _ CDC

PC: Sept. 2021

CCP: No authors named: CDC / **ORIGIN**: US CDC; US NIOSH / **REF**: As per usual, a government statement document does not cite references. / **FUNDED**: US Govt.

RCT: No. It’s a statement doc from the us gov.

CONTENT: CLAIM: surgical and home-made masks

can provide “58-85%” efficiency. Wow, that’s quite a claim. Let see!

SP: I cannot find any statement approximating the claim found in FN01.41.08.02.00 — <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b36> at page 7 under 3.3. Effect of Mask Use at Population Level: “A recent study shows...”

This site is about N95 or equivalent masks. Maybe it was an incorrect link, since this is not a study at all. Perhaps the claim is supported in the next cited reference.

Continuing **FN01.41.08.02.00-** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b7>. — The Effect of Mask Use ...

Footnote No. 37.

37. Van Der Sande M, Teunis P, Sabel R. Professional and home-made face masks reduce exposure to respiratory infections among the general population. PloS One, 2008; 3:e2618. [PMC free article] [PubMed] [Google Scholar] seems more in line with the claim presented on p. 7 referencing a “recent study” that talks about surgical and home-made masks.

Already vetted in these notes: See **FN01.38.00.19.00-** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>.

PDF: FN01.38.00.19.00. Professional and Home-Made Face Masks Reduce Exposure to Respiratory Infections among the General Population - PMC

Nope. Nothing approximating the claim by TA FN01.41.08.02.00 that surgical and home-made masks can provide “58-85%” efficiency.

Let’s take a look at the study before it, Footnote 35. NEN: Nederlands Normalisatie-instituut . Nederlandse norm NEN-EN 149 (en):
Ademhalingsbeschermingsmiddelen – Filtrerende halfmaskers ter bescherming tegen deeltjes – Eisen, beproeving, merken. 2001.

This is a Dutch version of the same sort found at Footnote No. 36 — nothing on this page talks about surgical or home-made masks.

Back to the link provided at Footnote 36-
http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/

Nothing there that remotely touches on the assertion made by TA FN01.41.08.02.00 that surgical and home-made masks provide 58-85% blocking efficiency. The reason this is important is, 1. did TA get sloppy here, and/or 2. if I could find the source, I could verify whether we are talking about microdroplets in the range within the scope of our concern in this study (40-140; 70-200 nm) or is it once again another study outside the range of our

concerns, usually $>0.30 \mu\text{m}$, or $>300 \text{ nm}$.

So, it's such a perfectly relevant statement, I am chasing links to see if there is any connection to surgical and/or home-made masks:

https://www2a.cdc.gov/drds/cel/cel_form_code.asp which provides a list of NIOSH certified masks and none are standard surgical masks (there is reference to the Surgical N95 Filtering-Facepiece) and/or home-made. Here are Certified Equipment Lists, General Cautions and Limitations: <https://www2a.cdc.gov/drds/cel/cl.htm>

I don't know what happened here, but nothing I can find on the linked doc provides support for the information in the doc.

So,

—> Back to **FN01.41.08.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#b36> — The Effect of Mask Use ... see 3.3 “A recent study...”

SP: Here is another bold assertion: “Fig. 1A shows that, depending on mask efficiency and mask coverage, R_{int} might decrease below the threshold level of 1.0, **EFFECTIVELY CONTAINING THE PANDEMIC.**”

I looked at Fig 1 A — I copied it and included it at the

reference below:

PDF: **FN01.41.08.02.06**—Fig 1A. Masks control pandemic. (Do not publish) reference as follows:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#!po=43.3333>, p. 7, 3.3. - Fig. 1A.

Such a statement might be true given the parameters stipulated: 1. depending on mask efficiency, 2. whether or not the mask is worn correctly, and 3. everyone participates. **Of course, that is an unreasonable expectation for any practical purpose.** Nevertheless, I would like to see what mask they are talking about, that is, how much efficacy are they anticipating, or requiring, to achieve this? **No mask I've researched that would allow anyone to actually breathe or that could be worn for more than an hour, and that does not require being replaced after every hour, comes even close to providing the sort of efficacy assumed in this statement.**

SS/SP: So I must relegate this statement to SS because it's not grounded upon any cited science and SP because it is specious argument to make such assertions without supporting them. Look at all the work they caused!!!!

My Conclusion — So, in this study I find no science supporting the allegation that surgical and/or home-made

masks are of adequate efficacy to protect anyone from infection from a virus, much less “control a pandemic.”

Let’s see how these TA wrap up their findings:

—> Back to **FN01.41.08.02.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader#!po=43.3333> — The Effect of Mask Use ...

CE: Either this is badly written or I’m missing something here: “Comparing aerosols (nonsedimenting particles) and droplets (sedimenting particles), we argue that in case of droplet transmission mask use may be at least as effective as for aerosol transmission.” p. 8 4. See DISCUSSION “This study attempts ...” That is a very strange thing for TA to assert. ?????

*** We all know sedimenting droplets are larger than aerosols. By what logic do TAs reason that in the case of droplet transmission (here meaning larger droplets) mask use may be at least as effective as for aerosol transmission, which are exponentially smaller? This is inverted reasoning — It must have been a mistake!

SP/SS: *** They illustrate beautifully the limitations of the modeling approach to any such study. There is NO WAY the science undergirds these expectations, but they were able to manipulate, to literally fabricate a specious argument that does support these wild conclusions: “Our

results suggest that the use of face masks at the population level can **delay an influenza pandemic, decrease the infection attack rate**, and may **reduce transmission sufficiently to contain the pandemic**. The effect on final size of the epidemic depends on features of virus transmission, mask efficiency, and coverage of mask use in the population.” **This is hubris at its worst.**

NOTE/AME/SP: As for their findings being based on published literature, I’ve looked at all pertinent literature provided by TA and it DOES NOT SUPPORT these broad conclusions. They assumed mask efficacy sufficient to block virion particles in aerosols and constructed a “mathematical model” premised entirely upon those assumptions. I consider that specious argument.

CCav: With reference to the above observation, TAs admit this limitation inherent in modeling: “As such models imply highly simplified situations in which only few [*sic-a few?*] variables can be studied, we focused on the effect of population-wide mask use in reducing the risk of infection in healthy individuals.”

*** Do TAs mean this is the criteria they used to narrow the field of study, to answer the problem of “only few variables can be studied”? You’ve got to be kidding me. The bottom line is they had no choice but to assume the accuracy of their assumptions from the “published literature” and extrapolate that into conclusions about

mask efficacy population-wide.

SS: Then we have a string of SS declarations for which they provided inadequate support:

SS: “First, mask use not only protects healthy individuals but also reduces the infectiousness of symptomatic and asymptomatic carriers, thus reducing the number and effectiveness of transmission sources within the population.”

Then they talk about the behavioral aspect of mask use, something becoming increasingly depended on in the argument for masking:

SS: “Second, mask use is expected to influence behavior. Wearing a mask can raise awareness of the infection risk and the importance of additional preventive behaviors such as more frequent hand-washing or avoiding physical contact and avoiding crowded public places.”

CCav: “However, on the other hand, face mask use might engender a false sense of security and lead to reduced use of other measures such as personal hygiene.”

Then comes probably the **MOST OUTRAGEOUS** false claim I’ve ever seen in one of these studies:

SP/SS: *** “Finally, mask use is virtually the only way to prevent aerosol transmission, which may cause the most severe cases of influenza.” SP because TAs expect their standing as scientists to be sufficient support for their SS. SP also because they should know masks don’t prevent aerosol transmission and do only a marginal job preventing droplet transmission. And the science actually tells us masks exacerbate contagion by bypassing the natural filtration system and facilitating aerosol transmission. How? By 1. breaking down the droplets upon impaction into much smaller droplets that quickly shrink further into droplet nuclei; and 2. by bypassing the natural filtration system that would have protected the host much more efficiently than the mask with adding to the danger of creating aerosols through desiccation.

CCav: TAs admit aerosol transmission produces the most severe cases of disease, attacking the lower respiratory tract, whereas intranasal attack produces a milder disease — usually “without involvement of the lower respiratory tract.”

The reasoning is that general sanitary interventions such as social distancing and hygiene can help protect against infection via large sedimenting droplets, **ONLY THE MASK CAN PROTECT AGAINST AEROSOLS.** — and yet **ALL THE SCIENCE** says the surgical or home-made mask will not provide adequate protection.

Then comes the necessary admission to provide cover: “**More research on influenza transmission is needed to improve insight into the impact of mask use.**”

This study is by TAs’ own admission **INCONCLUSIVE.**

[NOTE: This looks like another ~2010 preparation study getting ready for the upcoming *plandemic.*]

—> Back to **FN01.41.08.00.00-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#__ffn_sectitle — Mask or No Mask ... (Alternate web address:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002>)

The next study referenced by the TAs

4. Zhang L, Peng Z, Ou J, Zeng G, Fontaine RE, Liu M, et al. Protection by face masks against influenza A(H1N1)pdm09 virus on trans-Pacific passenger aircraft, 2009. *Emerg Infect Dis.* 2013;19(9). Epub 2013/08/24. 10.3201/eid1909.121765 [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

FN01.41.08.03.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810906/?report=reader>. PDF: FN01.41.08.03.00.Protection by Face

Masks against Influenza A(H1N1)pdm09 Virus on Trans-Pacific Passenger Aircraft, 2009

PC: Sep. 2013

CCP: Zhang, Peng, Ou, Zeng, Liu, Cui, Hong, Zhou, Huai, Chuang, Leung, Feng, Luo, Zhu, Yu — of 19 authors / **ORIGIN**: CHINA-Beijing: CCP CDC; **CHINA-US Collaborative Program on Emerging and Re-emerging Infectious Disease**; Fuzhou: Fujian CDC; Nanchang: Nanchang CDC; Hong Kong: Hong Kong Dept. of Health / **REF**: US CDC; WHO (3); PRC General Admin. of Quality Supr. Inspection and Quarantine (2); Bin, Xingqiang, Yuelong, Nan, Chen, Xiayuan; Chinese Ministry of Health; Odaira, Takahashi, Toyokawa, Tsuchihashi, Kodama, Yahata; Hong Kong Centre for Health Protection; US CDC; Khan, Sears; Gupta, Lkin, Chen; Aiello, Davis; MacIntyre, Dwyer, Seale, Cheung; Yang, Seale, MacIntyre, Zhang, Zhang Z., Zhang Y.; Cowling, Fung, Cheng, Fang, Chan, Seto; Cowling, Chan, Fang, Cheng, Fung, Wai; Davies; Abou-Zeid, Al-Shehri, Al-Asmary, Abdel-Fattah; Ng, Lee, Hui, Lai; Loeb; US CDC; Lee; Gupta, Lin, Chen (25 of 40) / **FUNDING**: nd

RCT: No: OS Case control Study. It's a retrospective case control study: "on the New York to Hong Kong flight, we conducted a case-control study."

CONTENT:

IR: does not address issues of concern or interest to the scope of my enquiry.

AME: assumes mask efficacy.

—> Back to **FN01.41.08.00.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3810906/?report=reader>. PDF: FN01.41.08.03.00.Protection by Face Masks against Influenza A(H1N1)pdm09 Virus on Trans-Pacific Passenger Aircraft, 2009

— (Alternate web address:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#__ffn_sectitle)

TA **FN01.41.08.00.00** refers us next to Footnote 5.

5. Larson EL, Ferng YH, Wong-McLoughlin J, Wang S, Haber M, Morse SS. Impact of non-pharmaceutical interventions on URIs and influenza in crowded, urban households. *Public Health Rep.* 2010;125(2):178–91. Epub 2010/03/20. 10.1177/003335491012500206 [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

Already vetted in these notes: See **FN01.08.03.00.00**
Larson EL, Ferng YH, Wong-McLoughlin J, Wang S, Haber M, Morse SS. Impact of non-pharmaceutical interventions on URIs and influenza in crowded, urban

households. Public Health Rep 2010;125:178-91.

Continuing **FN01.41.08.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002> — Mask or No Mask...

AME: “We presume wearing masks decreases the risk of contracting the virus depending on the population mask effectiveness.” ??? What is the “population mask effectiveness”? I suppose as sentence is constructed one would have to stipulate to the naked fact that mask effectiveness depends on mask effectiveness?? Okay, I think I understand. If masks proved to be effective in a given population, then we may “presume wearing masks decreases the risk of contracting the virus...” Right?

Sometimes these things struggle in translation. But the operative word in this sentence is the word *presume*. Consider:

OS/AME: Either way, it assumes a circular effect. A population wore masks, that population had x cases, another population did not wear masks, it had y cases, the x cases were less than the y cases ergo masks decrease risk. The OS feature of this sort of study is self evident. It is AME because it is premised upon an assumption that it is the masks on or off that made the difference in the result observed.

SS/NC: *** “.... In terms of viral infectious dose, the exposure reduction by wearing a mask can proportionally decrease infection risk.” 3, 14. Given if all other factors are eliminated from the equation, the *numbers* add up. But there are a great many other factors that need to be included to get an accurate picture. 1. What about all the other factors that might have contributed to the result that are not considered; 2. reduction in infectious dose does not translate into reduction in risk—remember the analogy of a thousand bullets; let’s try a new one. Ten nuclear war heads target the Capitol dome, only one gets through. Get the picture? The argument of reducing exposure to a volume of virions attacking a host is meaningless unless it actually reduces risk of infection to a point of real and meaningful protection. Stopping a hundred thousand virions and letting through only a measly 10k is effectively NO PROTECTION. I hasten to add, these illustrations only serve to point out that even if THE MASKS PROVIDE THE AMOUNT OF PROTECTION PROMISED BY THESE STUDIES, it is EFFECTIVELY NO PROTECTION AT ALL. This does not take into consideration the additional arguments that virtually atomic bomb the whole mask thing: smaller virions are more numerous, and MORE INFECTIOUS, and they fly under the radar of all surgical and cloth masks — these are not even factored in virtually every discussion about mask efficacy where TAs are touting 50-85% blocking efficacy of virions that are 400-1000+ nm; 2. these studies boasting such efficacy for surgical and/or cloth masks generally dismiss the issue of

leakage, or fit; 3. these studies neglect or totally ignore the adverse effects of mask wearing for the durations needed to fit their mathematical models; and on, and on, and on. **KABOOM!**

So, TA FN01.41.08.00.00 offers another study for us to consider:

Footnote 3.

3. Brienen NC, Timen A, Wallinga J, van Steenbergen JE, Teunis PF. The effect of mask use on the spread of influenza during a pandemic. *Risk Anal.* 2010;30(8):1210–8. Epub 2010/05/26. 10.1111/j.1539-6924.2010.01428.x . [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

Vetted in these notes: see **FN01.41.08.02.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7169241/?report=reader>. PDF: FN01.41.08.02.00.The Effect of Mask Use on the Spread of Influenza During a Pandemic

And Reference 14.

14. Jones RM, Su YM. Dose-response models for selected respiratory infectious agents: Bordetella pertussis, group a Streptococcus, rhinovirus and respiratory syncytial virus. *BMC Infect Dis.* 2015;15:90 Epub 2015/04/17. 10.1186/s12879-015-0832-0 [PMC free article] [PubMed]

[CrossRef] [Google Scholar] [Ref list]

FN01.41.08.04.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4345006/?report=reader>. PDF: FN01.41.08.04.00.Dose-response models for selected respiratory infectious agents_
Bordetella pertussis, group a Streptococcus, rhinovirus and respiratory syncytial virus

PC: Feb. 2015

CCP: Su (1 OF 2) / **ORIGIN:** US-IL: Chicago, U. of IL, School of Public Health. Div. of Environmental and Occupational Health Sciences / **REF:** Gupta, Lin, Chen; Morawska; Zhao; Ko; Masago; Chen, Liao, Li, You; Sze-To; Chao; Morawska; Sze-To; Chao; Sato Y., Izumiya, Sato H.; Sun, Zhao, Xiao, Hu, Guo, Yu; Lee / **FUNDING:** In part by Eastern Research Group, Inc. and NIOSH.

RCT: No. Some RL and use of modeling: **METHOD:** “Experimental infectivity data in human subjects and/or animal models were identified from the peer-reviewed literature. The exponential and beta-Poisson dose-response functions were fitted using the method of maximum likelihood, and models compared by Akaike’s Information Criterion.”

CONTENT: CLAIM: exposure reduction by wearing a mask can proportionally decrease infection risk:

IR: this article does not address concerns directly connected with my interest in this research, nor does it provide any commentary regarding mask efficacy. A search for *mask* with zero results. It does speak of particles, relative sizes and airborne versus sedimentary droplets, and etc. No doubt the TA refer to this doc to show aerosols are a factor in transmission and establishes something already noted, that a very small number of natural virions can infect a host.

CCav: It is reasonable to estimate that SARS-CoV-2 transmission may only involve small doses due to its high infectivity and relatively high reproduction number [15, 16].”

Continuing **FN01.41.08.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002> — Mask or No Mask...

Footnote 15.

15. Zhang S, Diao M, Yu W, Pei L, Lin Z, Chen D. Estimation of the reproductive number of novel coronavirus (COVID-19) and the probable outbreak size on the Diamond Princess cruise ship: A data-driven analysis. *Int J Infect Dis.* 2020;93:201–4. Epub 2020/02/26. 10.1016/j.ijid.2020.02.033 . [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

FN01.41.08.05.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7110591/?report=reader>. PDF: FN01.41.08.05.00.Estimation of the reproductive number of novel coronavirus (COVID-19) and the probable outbreak size on the Diamond Princess cruise ship_ A data-driven analysis

PC: Feb. 2020

CCP: Zhang, Diao, Yu, Pei, Lin, Dechang, Chen /
ORIGIN: CHINA-Shanghai: Shanghai Jiao Tong U. School of Medicine, Dept. of Critical Care Medicine; Grad. School, Naval Med. U.; Dept. of Emergency and Critical Care Med.; Zhejiang: First People's Hos. Zhejiang U. School of Med. / **REF:** Huang, Wang, Ren., Zhao, Hu; Li, Guan, Wu, Wang, Zhou, Tong; Min. of Health and Labor; National Health Comm. of PRC; WHO; Wu, Leung K., Leung G.; Yan; Zhao, Lin, Ran, Musa, Yang, Wang (8 of 13) /
FUNDING: "None."
ANON?

RCT: No — totally OS MM based on selected data

CONTENT: "It is reasonable to estimate that SARS-CoV-2 transmission may only involve small doses due to its high infectivity and relatively high reproduction number [15, 16]."

The assertion is **stipulated**. This article is premised

upon anecdotal and observational evidence.

Continuing **FN01.41.08.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002> — Mask or No Mask...

Footnote 16.

16. Tang B, Wang X, Li Q, Bragazzi NL, Tang S, Xiao Y, et al. Estimation of the Transmission Risk of the 2019-nCoV and Its Implication for Public Health Interventions. J Clin Med. 2020;9(2). Epub 2020/02/13. 10.3390/jcm9020462 [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

FN01.41.08.06.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7074281/?report=reader>. PDF: FN01.41.08.06.00.Estimation of the Transmission Risk of the 2019-nCoV and Its Implication for Public Health Interventions

PC: Feb. 2020

CCP: Tang, Wang, Li, Tang, Xiao, Wu — (6 of 7) / **ORIGIN:** CHINA-Xian: Jiaotong U., The Interdisciplinary Research Center for Mathematics and Life Sciences; Canada-Toronto: York U., Lab. for Industrial and Applied Mathematics, Dept. of Mathematics and Statistics. / **REF:** Chen, Liu, Guo; Hui, Zumla; Kim, TAndi, Choi, Moon, Kim;

Kwok, Tang, Wei, Park, Yeoh; Lu, Tang; WHO (5); Chen, Rui, Wang, Zhao, Cui, Yin; Health Comm. Hubei Prov. (2); Tang, Xiao, Yang, Zhou, Wu, Ma; Xiao Tang, Wu; Li, Guan, Wu, Wang X., Zhou, Tong, Ren, Leung, Lau, Wong J.; Zhao, Lin, Ran, Musa, Yang, Wang W., Lou, Gao, Yang, He; Hui, Azhar, Ntoumi, Dar, Ippolito; Cheng, Wong S., To, Ho, Yuen (17 of 33) / **FUNDING**: National Natural Science Foundation of CHINA; Canada Research Chair Program; National Sciences and Engineering Research Council of Canada.

RCT: No. MM constructed from data of lab-confirmed cases occurring in mainland China obtained from a WHO situation report, the National Health Comm of the PRC and the Health Comm. of Wuhan City and Hubei Prov.

CONTENT: “It is reasonable to estimate that SARS-CoV-2 transmission may only involve small doses due to its high infectivity and relatively high reproduction number [15, 16].”

Stipulate to the assertion. The content is OS, and AME.

Continuing with **FN01.41.08.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002> — Mask or No Mask...

Material offered to establish mask efficacy: See Mask

Features: “Leung et al ...” and reference 56.

Footnote 56.

56. MacIntyre CR, Seale H, Dung TC, Hien NT, Nga PT, Chughtai AA, et al. A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. *BMJ Open*. 2015;5(4):e006577 Epub 2015/04/24. 10.1136/bmjopen-2014-006577 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: see

******FN01.38.00.03.23-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC

Next, TA FN01.41.08.00.00 refers us to Reference 57:

Footnote 57.

57. Jung H, Kim J, Lee S, Lee J, Kim J, Tsai P, et al. Comparison of Filtration Efficiency and Pressure Drop in Anti-Yellow Sand Masks, Quarantine Masks, Medical Masks, General Masks, and Handkerchiefs Aerosol and Air Quality Research. 2014;14:991–1002. [Google Scholar]

Already vetted in these notes: see
FN01.38.00.03.36-<https://aaqr.org/articles/aaqr-13-06-0a-0201.pdf> PDF: FN01.38.00.03.36.Microsoft Word - 36_AAQR-13-06-OA-0201_

And then to Reference 58.

Footnote 58.

58. Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A. Testing the efficacy of homemade masks: would they protect in an influenza pandemic? *Disaster Med Public Health Prep.* 2013;7(4):413–8. Epub 2013/11/16. 10.1017/dmp.2013.43 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See
FN01.38.00.03.31-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

Continuing with **FN01.41.08.00.00**-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002> — Mask or No Mask ...

Another study referenced to support the assertion that “Cough pressure can be significantly reduced by wearing any type of mask”

Footnote 59.

58. Inouye S, Okabe N, Obara H, Sugihara Y. Measurement of cough-wind pressure: masks for mitigating an influenza pandemic. *Jpn J Infect Dis.* 2010;63(3):197–8. Epub 2010/05/25. . [PubMed] [Google Scholar]

FN01.41.08.07.00--

https://www.jstage.jst.go.jp/article/yoken/63/3/63_63.197/_pdf/-char/en PDF: FN01.41.08.07.00.FULL TEXT
Measurement of cough-wind pressure [NOTE: I cannot perform any search on this doc.???)

PC: Received: October 2009; Accepted: March 2010

CCP: Inouye, Okabe, Obara, Sugihara / **ORIGIN:** Japan-Tokyo: Otsuma Women’s U., Public Health Research Unit; Notional Institute of Infectious Diseases, Infectious Disease Surveillance Center; Tokuyo Metropolitan U., Dept. of Mechanical Engineering; Nikken Sekkei Research Institute / **REF:** Inouye, Matsudaira Sugihara; MacIntyre, Dwyer; Cowling, Chan, Fang; Aiello (4 of 6) /. **FUNDING:** “This study was partly supported by a grant from Research on the Emerging

and Re-emerging Infectious Diseases., Ministry of Health, Labour and Welfare, Japan.

RCT: Not asserted. Mechanical experiment.

CONTENT: This article is used to support TA
FN01.41.08.00.00 CLAIM: “Cough pressure can be significantly reduced by wearing any type of mask.”

IR: Not specifically related to mask efficacy against virion penetration. Tangential interest: Intent of the study was to assess the degree to which face masks reduce the strength of cough-wind ...

NOTE: “We previously reported that conventional masks greatly reduce the velocity of cough-wind, and proposed that providing masks to people with flu-related coughing is a cost-effective countermeasure for an influenza pandemic (1).”

Stipulated: no doubt masks reduce both velocity of a cough. So does coughing into one’s elbow, or other standard or common cough etiquette manners. As for pressure, whatever reduction in airflow is achieved in expiration is also present in inspiration—this pressure drop indicates a measure of breathing restriction. Besides this, once the virions are airborne, the currents carry them significant distances — the only way this makes sense is if you are living in Japan with a population density so packed

it is impossible to raise your arm up to cover your mouth when you cough. All the negatives of masking far exceed what little benefit one might achieve with a mask.

NC: “We estimate ...” and “we assume...” are used repeatedly in this “scientific study.”

SP: The experiment did not account for leakage, at least nothing is said about this issue and the picture presents use of a mask no properly fitted for a test of this sort.

Continuing with **FN01.41.08.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428176/#pone.0237691.ref002> — Mask or No Mask ...

CLAIM: Here is an interesting claim: Mask Features: “We assume ... the base aerosol reduction percentage of face masks (commercial medical products) in the public setting, to be **approximately 60% [60] and estimate the range from 40% to 75%**, ASSUMING the best reduction rate is 99% for a NOISH [sic—NIOSH]-certified N-95 type respirator [53, 57, 58, 61].”

Let’s look at the documentation provided to support this claim: Surgical Masks reduce percentage of aerosol by 60%, with a range of 40-75%, over against the NIOSH certified N-96 —

Footnote 60.

60. Shakya KM, Noyes A, Kallin R, Peltier RE. Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure. *J Expo Sci Environ Epidemiol*. 2017;27(3):352–7. Epub 2016/08/18. 10.1038/jes.2016.42 . [PubMed] [CrossRef] [Google Scholar]

Paid access: vetted abstract and available info in these notes:

Already vetted (abstract) in these notes: See **FN01.38.00.03.39c-**
<https://www.nature.com/articles/jes201642>. PDF: FN01.38.00.03.39c.Evaluating the efficacy of cloth facemasks in reducing particulate matter exposure _
Journal of Exposure Science & Environmental Epidemiology

This study does not support the claim—see my notes at reference noted above.

Next reference by TA FN01.41.08.00.00-Mask of no mask...

Footnote 53.

53. van der Sande M, Teunis P, Sabel R. Professional and home-made face masks reduce exposure to

respiratory infections among the general population. PLoS One. 2008;3(7):e2618 Epub 2008/07/10. 10.1371/journal.pone.0002618 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.38.00.19.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2440799/>.
PDF: FN01.38.00.19. Professional and Home-Made Face
Masks Reduce Exposure to Respiratory Infections among
the General Population - PMC

Next reference by TA FN01.41.08.00.00- Mask or no
mask...

Footnote 57.

57. Jung H, Kim J, Lee S, Lee J, Kim J, Tsai P, et al. Comparison of Filtration Efficiency and Pressure Drop in Anti-Yellow Sand Masks, Quarantine Masks, Medical Masks, General Masks, and Handkerchiefs Aerosol and Air Quality Research. 2014;14:991–1002. [Google Scholar]

Already vetted in these notes: see
FN01.38.00.03.36-<https://aaqr.org/articles/aaqr-13-06-0a-0201.pdf> PDF: FN01.38.00.03.36. Microsoft
Word - 36_AAQR-13-06-OA-0201_

Next reference by TA FN01.41.08.00.00-Mask or no

mask...

Footnote 58.

58. Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A. Testing the efficacy of homemade masks: would they protect in an influenza pandemic? *Disaster Med Public Health Prep.* 2013;7(4):413–8. Epub 2013/11/16. 10.1017/dmp.2013.43 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.38.00.03.31-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

Next reference by TA FN01.41.08.00.00-Mask or no mask...

Footnote 61.

61. Furuhashi M. A study on the microbial filtration efficiency of surgical face masks—with special reference to the non-woven fabric mask. *Bull Tokyo Med Dent Univ.* 1978;25(1):7–15. Epub 1978/03/01. . [PubMed] [Google Scholar]

FN01.41.08.07.01-

<https://pubmed.ncbi.nlm.nih.gov/343940/>. PDF:
FN01.41.08.07.01.A study on the microbial filtration efficiency of surgical face masks--with special reference to the non-woven fabric mask - PubMed

Paid access, and I can't even find a source to track down where to buy it. And this is one where if the cost was reasonable, I would likely buy since it is exactly the sort of study I'm looking for. It sounds like it might be an RCT or at the very least an experimental study. Let me try again to find where I can view and/or purchase access to this article.

But, first, I'll evaluate the Abstract and available data.

PC: March 1978

CCP: M. Furuhashi / **ORIGIN**: Japan-Tokyo: Tokyo Medical U. / **REF**: no access / **FUNDING**: no access: Back in 1978, any CCP influence would be distant, and so mask bias would be expected to be more cultural than political.

RCT: No. A Comparative Study

CONTENT: Claim: Surgical Masks reduce percentage of aerosol by 60%, with a range of 40-75%, over against the NIOSH certified N-96

Abstract: “With the experimental apparatus designed and made available by Nicholes, we evaluated the bacterial filtration efficiently [sic—efficiently, but I think TA meant efficiency] (B.F.E.) of the non-woven fabric and cotton cloth masks. The apparatus was supplied by Nicholes (U.S. Military Specification 36954 C mask, surgical, disposable). The study presented here was performed as a round robin test with Nicholes. By using this apparatus, comparison was made as to the B.F.E. of the six different kinds of surgical face mask before and after prolonged use. The result was obtained that the disposable mask made of glass fiber mat combined with non-woven fabric proved to be the highest in performance with a B.F.E. of 98.1-99.4%. It is useful both in preventing hospital infection and in general clinical practice. The B.F.E. of the conventional cotton cloth masks is not only lower but variable over a wide range of 43.1-93.6%.”

OS: Comparative Study: SO, first, not an RCT — and I cannot, from this abstract, ascertain what size particles were being tested. Since the test was for B.F.E. [Bacteria] it is unlikely the size was not smaller than 0.2 μm since bacteria are generally between 0.2 and 2.0 μm . PDF: FN01.41.08.07.02.Bacteria - Size, Shape and Arrangement (<https://www.microscopemaster.com/bacteria-size-shape-arrangement.html>).

IR: On the other hand, the mask described in this abstract is a special case, glass fiber mat combined with non-woven fabric proved to achieve 98% effectiveness against bacteria. If the masks were tested for bacteria in the lower range, $0.2 \mu\text{m}$, that's still 200 nm, and outside the size range I'm interested in.

NOTE: It's the closest thing I've found to what might be a legitimate scientific study supporting mask efficacy for very small aerosolized particles, so, let's try to find it.

I've searched every way I know how and cannot find a place to purchase access to this article. It's not one I have such hopes for that I am compelled to contact the author or publisher, so I will let this go, at least for now.

This concludes any contribution this article makes to my enquiry.

Back to **FN01.41.00.00.00-**
<https://journals.sagepub.com/doi/full/10.1177/0272989X211019029> — Effectiveness of Face Masks...

NOTE: I'm going to have to limit my examination of these articles to those statements that are most immediately germane to my enquiry. I've collected enough data already to choke the proverbial horse and I'm finding myself in a circle of repeated assertions with the same inadequate support. It's becoming redundant. I'll look for

items that stand out either as supportive of my thesis, or contradicting it, and for research I have not yet seen that fits either of these criteria.

CCav: “Since empirical evidence of the effectiveness of masks is highly variable, we assess the impact of masks as a function of how effective they are.”

Too many confounders are not taken into consideration. Let’s go to DISCUSSION.

AME: It is, as was pointed out earlier, totally AME.

INCONCLUSIVE: This is probably an adequate summary of this study provided by TAs (particularly pertinent to my interest are those portions highlighted in bold): (Also, I have broken it into smaller paragraphs for ease of reading and to insert comments)

“Our compartmental model provides a general theoretical framework for understanding how key characteristics of masks influence their effectiveness in mitigating the spread of COVID-19. We assume low, medium, and high values for mask effectiveness based on ranges reported in the literature. **A recent Danish randomized controlled trial estimated that surgical face mask use led to a relative risk of 0.82.**¹⁵ [The DENMASK study: I have vetted this article—

15. Bundgaard, H, Bundgaard, JS, Raaschou-Pedersen, DET, et al. Effectiveness of adding a mask recommendation to other public health measures to prevent SARS-CoV-2 infection in Danish mask wearers. *Ann Intern Med.* 2021;174(3):335–343.

Already vetted in these notes: See **FN01.38.00.03.37c.01**.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7707213/#__fn_sectitle PDF: **FN01.38.00.03.37c.01**.Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers (For DISCLOSURES see **FN01.38.00.03.37c.01**.DISCLOSURES Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers_ A Randomized Controlled Trial_ Annals of Internal Medicine_ Vol 174, No 3)

THIS STUDY was RATED BY ECDC as Low to Moderate confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>, 5

Continuing with FN01.41.00.00.00-Effectiveness of Face Masks ...

CCav: “This **estimated effectiveness aligns closest with our parameters for masks with low effectiveness**, in which case our results emphasize the importance of

sustained social distancing.

CCav: **“However, randomized controlled trials evaluating the effectiveness of various masks in reducing the transmission of SARS-CoV-2 in the general community are lacking.**

CCav: **“Furthermore, empirical evidence on the effectiveness of different types of face masks to prevent SARS-CoV-2 spread (e.g., N95, KN95, surgical, and various types of cloth masks) is still emerging, and estimates of mask effectiveness in preventing transmission vary widely, even for the same type of mask.**

OS/ACK: **“Many observational studies focus on mask use in Asia, which may not be relevant for Western societies, and evaluate mask use only in controlled environments.**

CCav: **“Moreover, most empirical studies evaluate mask use over only a short period of time; however, prolonged mask use could lead to lower compliance by the general population and lead to lower mask effectiveness.** We explore such a scenario in our intervention fatigue analysis. Further knowledge of the effectiveness of different types of masks can be used to refine policy recommendations.”

DONE with FN01.41.00.00.

NOW I begin consideration of those studies that are PEER-REVIEW PENDING.

In FN01. — in the Falcon article, they are listed under that heading and numbered 1-8, which completes the 49 studies he promised that show masks DO WORK. I will present them here with a continuation of my notation system with 1 being FN01.42, and continuing to FN01.49. I'll add *prp* signifying it is *peer-review pending*. However, the sub-articles will not conclude with that suffix for obvious reasons.

FN01.42.00.00.00prp:

<https://www.medrxiv.org/content/10.1101/2020.08.12.20173047v3.full>. PDF: FN01.42.00.00.00prp.Examining face-mask usage as an effective strategy to control COVID-19 spread _ medRxiv

CLAIM: “If all individuals move freely and randomly interact with others ... the rate of daily infection through the populations depends on the percentage of individuals wearing masks.” Okay, let's check it out.

PC: March 2021

CCP: Yeh is the only of four that has possible Eastern cultural bias / **ORIGIN**: USA-SFO. **REF**: Bai; Feng; Ng;

Leung; Yung, Tam; Konda; Ngonghala; Chang; Kai; Kuniya; Liang; Mizumoto, Kagaya, Zarebski, Chowell; Sakurai; He; Kai (15 of 41) / **FUNDIUNG**: Funded by NIH. Date and funding suggest likely CCP influence bias. Also notice the host site is supported by Chan-Zuckerberg Initiative — is this Zuckerberg the FB dude?

RCT: No — they are modeling again! The claim of the primary article, Do Face Masks Work? Here are 49 ...” says the researchers carried out “simulations” where one infected person was put into a population of other participants who were susceptible. The only way this can result in anything like evidence masks work is if their calculations are premised upon some assumptions regarding mask efficacy. But, we shall see.

CONTENT: SEE CLAIM—“If all individuals move freely and randomly interact with others ... the rate of daily infection through the populations depends on the percentage of individuals wearing masks.”

NC: and CCav: “Face masks covering the nose and mouth area also provide a level of filtration that blocks virus transmission to a certain extent”⁶⁻⁸

TA refers to three studies (References 6, 7, 8) supporting the assertion that masks covering nose and mouth “provide a level of filtration that blocks transmission to a certain extent.” That’s a fairly modified and qualified

claim.

6. ←Feng, S. et al. Rational use of face masks in the COVID-19 pandemic. *The Lancet Respiratory Medicine* 8, 434, doi:10.1016/s2213-2600(20)30134-x (2020).CrossRefGoogle Scholar

Already vetted in these notes: See **FN01.28.02.00.00-**
[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext) PDF:
FN01.28.02.00.00.Rational use of face masks in the COVID-19 pandemic - The Lancet Respiratory Medicine

Continuing FN01.42.00.00.00-
<https://www.medrxiv.org/content/10.1101/2020.08.12.20173047v3.full> — Examining face-mask ...

7. Ng, K. et al. COVID-19 and the Risk to Health Care Workers: A Case Report. *Annals of Internal Medicine*, doi:10.7326/L20-0175 (2020).CrossRefGoogle Scholar

FN01.42.01.00.00-
<https://www.acpjournals.org/doi/10.7326/L20-0175> PDF:
FN01.42.01.00.00.COVID-19 and the Risk to Health Care Workers_ A Case Report _ Annals of Internal Medicine

PC: March 2020; Published in *Annals of Internal Medicine*: June 2020

CCP: Ng, Poon, Puar, Shan Quah, Jia Loh, Wong, Tan, Raghuram / **ORIGIN:** Singapore-Changi: General Hospital / **REF:** Ng, Poonn, Puar, Quah, Loh, Wong, Tan, Raghuram, Ng; US CDC (3); Wang, Hu B., Hu C.; Integrated surveillance of COVID-19 Italy (6 of 6)— / **FUNDING:** nd

RCT: No — it's a "case report." Totally OS with no apparent effort to consider confounders.

CONTENT: CLAIM: "Face masks covering the nose and mouth area also provide a level of filtration that blocks virus transmission to a certain extent."

IR: Limited to one case, and in a health care setting. No reference to

INFORMATION: Apparently airborne transmission refers to free floating viral RNA in droplets or naked while aerosolized droplets expelled through coughing, sneezing, and breathing are considered a distinct and separate mode of transmission: "The primary route for the spread of COVID-19 is thought to be through aerosolized droplets that are expelled during coughing, sneezing, or breathing, but there also are concerns about possible airborne transmission." This does not comport with all other research I've examined. It might be a language thing, but aerosolized droplets are the concern for airborne

transmission. The use of the term *but* is, I think, misused.

CCav: “We recognize the limitations of this single case report and acknowledge that additional studies are necessary to determine how best to protect health care workers from becoming infected with SARS-CoV while they are providing care for patients with COVID-19.”

8. ↵Suess, T. et al. The role of facemasks and hand hygiene in the prevention of influenza transmission in households: results from a cluster randomised trial; Berlin, Germany, 2009-2011. BMC Infectious Diseases 12, 1, doi:10.1186/1471-2334-12-26 (2012).CrossRefPubMedGoogle Scholar

Already vetted in these notes: See **FN01.08.07.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>.
PDF: FN01.08.07.00.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC
(Duplicate: **FN01.38.00.10.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3285078/>.
PDF: FN01.38.00.10.00.The role of facemasks and hand hygiene in the prevention of influenza transmission in households_ results from a cluster randomised trial; Berlin, Germany, 2009-2011 - PMC)

Continuing FN01.42.00.00.00-Examining face-mask

...

Another claim: CLAIM/SS: “Masks prevent the spread of droplets and aerosols generated by an infected individual.” Citing: Bourouiba, L. Turbulent Gas Clouds and Respiratory Pathogen Emissions: Potential Implications for Reducing Transmission of COVID-19. *Jama* 323, 1837, doi:10.1001/jama.2020.4756 (2020). CrossRefPubMedGoogle Scholar

Already vetted in these notes: See **FN01.41.05.01.00-**
<https://jamanetwork.com/journals/jama/fullarticle/2763852> PDF: FN01.41.05.01.00.Turbulent gas clouds and respiratory pathogens ...
jama_bourouiba_2020_it_200011

Continuing FN01.42.00.00.00-Examining face-mask

...

Another claim: CLAIM: “Uninfected individuals wearing a surgical mask are about 85% protected against infection.” Cited: Leung, N. H. L. et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nature Medicine* 26, 676, doi:10.1038/s41591-020-0843-2 (2020).CrossRefGoogle Scholar

Already vetted in these notes: See **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2>. PDF:

FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine

Continuing FN01.42.00.00.00-Examining face-mask

...

SS/SP: “Masks may be more effective than restrictions in people’s interactions for controlling the spread of infectious virus because **they prevent the larger expelled droplets from being converted into smaller droplets that can travel farther, rather than removing the interactions between individuals that cause droplets.**”

Really? First, they break up into smaller droplets upon impaction. What does not push through the fibers of a typical surgical or cloth mask, bead on the surface of hydrophobic material and absorb into hydrophilic material. In either case, continued respiration facilitates evaporation and the droplets shrink as they dry and over a short time either release the virions into the atmosphere or allow them to be inspirated deeply into the lungs. Also, the larger droplets are not the only ones that originate from exhalation or respirating, a great many smaller droplets are included in the plume.

Another claim: CLAIM: “Accordingly, face masks reduce the spread of influenza¹⁰ and coronaviruses^{11,12}.

Citing references 10, 11, and 12

10. Offeddu, V., Yung, C. F., Low, M. S. F. & Tam, C. C. Effectiveness of Masks and Respirators Against Respiratory Infections in Healthcare Workers: A Systematic Review and Meta-Analysis. *Clinical Infectious Diseases* 65, 1934, doi:10.1093/cid/cix681 (2017). CrossRefPubMedGoogle Scholar

FN01.42.02.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/>

(See also:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/#CIT0>

040) PDF: FN01.42.02.00.00.Effectiveness of Masks and Respirators Against Respiratory Infections in Healthcare Workers_ A Systematic Review and Meta-Analysis

PC: Received April 2017; Accepted Jul. 2017; Pub here: Dec. 2017

CCP: Yung, Low, Tam (3 of 4) / **ORIGIN:** Singapore-National U., Saw Swee Hock School of Public Health, Women's and Children's Hospital, Dept. of Pediatrics, Infectious Disease Service; UK-London: London School of Hygiene & Tropical Medicine / **REF:** Tu, Yen; WHO; OSHA; US CDC (3); MacIntyre, Chughtai; Chughtai, Seale, MacIntyre; Bin-Reza; Yu, Li, Wong T; Seto; Loeb; Chan; Heng, Ling; MacIntyre, Seale, Dung; MacIntyre, Wang Q.; MacIntyre, Wang, Rahman; MacIntyre, Wang Q., Seale; Loeb; Takahashi, Tokuda, Omata, Fukui; Liu, Tang, Fang;

Ma, Wang HW., Fang; Nishiura, Kuratsuji, Quy; Seto, Tsang, Yung; Heng, Zhu, Leo; Yin, Gao, Lin; Chen, Ling, Lu; Lau, Fung, Wong TW.; Nishiuyama, Wakasugi, Kirikae; Cheng, Tai, Wong LM.; Zhang, Seale, Yang; Deng, Zhang, Wang XL; Toyokawa, Sunagawa, Yahata; Ang, Poh, Win, Chow; Fung, Yu; Wong JY., Ip, Wu, Leung, Cowling; Chan-Yeung, Xu; Ng, Lee, Hui, Lai, Ip; Yang, Seale, MacIntyre; WHO; WONG VW., Cowling, Aiello (37 of 54) / **FUNDING**: nd

RCT: No — Systematic Review and Meta-Analysis

CONTENT: CLAIM — Facemasks reduce the spread of influenza. TAs claim to have reviewed RCTs and found an indication of “a protective effect of masks and respirators against clinical respiratory illness (CRI).”

Under header: “Randomized Controlled Trials” they cite them without comment, and they are as follows:

23-28, with 28 omitted for bias concerns.

Here they are: (I think I’ve seen all of these.)

Footnote 23.

23. MacIntyre CR, Seale H, Dung TC et al.. A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. BMJ Open 2015;5:e006577.

[PMC free article] [PubMed] [Google Scholar]

Already vetted in these notes: see

******FN01.38.00.03.23-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4420971/>. PDF: FN01.38.00.03.23.A cluster randomised trial of cloth masks compared with medical masks in healthcare workers - PMC

Footnote 24.

24. MacIntyre CR, Wang Q, Cauchemez S et al.. A cluster randomized clinical trial comparing fit-tested and non-fit-tested N95 respirators to medical masks to prevent respiratory virus infection in health care workers. *Influenza Other Respir Viruses* 2011; 5:170–9. [PMC free article] [PubMed] [Google Scholar]

Somehow, I got the idea that this was already vetted. I cannot find those notes. See this vetted here:

FN01.42.03.00.00-

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4941587/#__ffn_sectitle PDF: FN01.42.03.00.00.A cluster randomized clinical trial comparing fit-tested and non-fit-tested N95 respirators to medical masks to prevent respiratory virus infection in health care workers

PC: May 2011

CCP: MacIntyre, Wang, Seale, Dwyer, Yang, Shi, Gao, Pang, Zhang, Wang, Duan, Rahman (12 of 14) / **ORIGIN:** AUSTRALIA-NSW Sydney: U. of NSW, Faculty of Med., School of Public Health and Community Med; Westmead Hospital, Institute for Clinical Pathology and Med. Research. CHINA-Beijing: The Beijing CDPC. UK-London: Imperial College, Dept. of Infectious Disease Epidemiology, MRC Center for Outbreak Analysis and Modelling. / **REF:** Horcajada; Chani, Leung; Aiello, Lee; Cowling, Chan, Fang; MacIntyre, Dwyer; Balazy, Adhikari, Sivasubramani; Weilleke; Orr; Seale, Dwyer, MacIntyre; Lo, Tsang, Leung, Yeung, Wu, Lim; Pang, Zhu, Xu; Seto, Tsang, Yung; Lim, Seet, Lee; Kao, Huang KC., Huang YL. (104 of 30) / **FUNDING:** Statement: “Professor Raina MacIntyre: Raina MacIntyre receives funding from influenza vaccine manufacturers GSK and CSL Biotherapies for investigator-driven research. She has also been on advisory boards for Wyeth, GSK and Merck. Dr Simon Cauchemez received consulting fees from Sanofi-Pasteur MSD on the modelling of varicella zoster virus. The remaining author(s) declare that they have no competing interests. The corresponding author had full access to all the data in the study and had final responsibility for the decision to submit for publication. Prior to the start of this study, NMF acted as a consultant for Roche, Novartis and GSK Biologicals (ceasing in 2007).” See also, under

Acknowledgements: “Dr Simon Cauchemez thanks the Research Council, UK, and Neil Ferguson thanks the Medical Research Council for Centre funding.”

RCT: Asserted to be a randomized clinical trial. “A cluster randomized clinical trial ... of 1441 HCWs in 15 Beijing hospitals...” but this is not the same thing as a randomized controlled trial.

CONTENT: CLAIM—Clinical respiratory illness (CRI), Influenza Like Illness (ILI) and lab-confirmed respiratory virus, and influenza infection were consistently lower in N95 mask group than the medical mask group. But all are presumed to have provided some protection. The difference between N95 and medical mask was about double protection provided by the N95.

Here is another study using the *dot operator* like a decimal.

IR: This is a health care setting study and has little relevance to m enquiry.

CCav: “This study may have been underpowered.”

The studies used for support of claims relevant to my interest have been vetted in these notes:

9. Cowling BJ, Chan KH, Fang VJ et al. Facemasks

and hand hygiene to prevent influenza transmission in households: a randomized trial. *Ann Intern Med* 2009; 151:437–446. [PubMed] [Google Scholar]

Already vetted in these notes: See see

FN01.08.08.00.00-

<https://www.acpjournals.org/doi/10.7326/0003-4819-151-7-200910060-00142>. PDF: FN01.08.08.00.00.Facemasks and hand hygiene to prevent influenza transmission in households_ a cluster randomized trial - PubMed.pdf.

Rated by ECDC as LOW to MODERATE confidence.

See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> Cowling BJ, Chan KH, Fang VJ, Cheng CK, Fung RO, Wai W, et al. Facemasks and hand hygiene to prevent influenza transmission in households: A cluster randomized trial. *Ann Intern Med* 2009;151:437-46.

10. MacIntyre C, Cauchemez S, Dwyer DE et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009; 15:233–241. [PMC free article] [PubMed] [Google Scholar]

Already vetted in these notes: See **FN01.08.05.00.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>. PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf

See also **FN01.31.03.00.00** —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>.
PDF: FN01.31.03.00.00.Face Mask Use and Control of
Respiratory Virus Transmission in Households - PMC

Continuing **FN01.42.03.00.00-**

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4941587/#
__ffn_sectitle](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4941587/#__ffn_sectitle) — A cluster randomized ...

Here is a study that found no difference between N95 protection and Medical Mask protection in health care setting:

11. Loeb M, Dafoe N, Mahony J et al. Surgical mask vs N95 respirator for preventing influenza among health care workers: a randomized trial. JAMA 2009; 302(17):1865–1871. [PubMed] [Google Scholar]

Already vetted in these notes: See

FN01.38.00.09.00-

<https://jamanetwork.com/journals/jama/fullarticle/184819>. PDF: FN01.38.00.09.00.Loebb 2009
joc90119_1865_1871 Title: Surgical Mask vs N95
Respirator for Preventing Influenza Among Health
Care Workers.

*** CCav: TA FN01.42.03.00.00 — “Medical masks are not designed to provide respiratory protection.” Cited Reference 12

12. Shine KI, Rogers B, Goldfrank LR. Novel H1N1 Influenza and Respiratory Protection for Health Care Workers. *N Engl J Med* 2009; 361(19):1823–1825. [PubMed] [Google Scholar]

(Stipulated:

https://www.nejm.org/doi/10.1056/NEJMp0908437?url_ver=Z39.88-

[2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%2000www.ncbi.nlm.nih.gov](https://www.ncbi.nlm.nih.gov). Nov. 2009)

*** CE: TN FN01.42.03.00.00 — Following the above: “They have consistently lower filtration efficiency when compared to respirators, which are designed specifically for respiratory protection.”

Three articles supporting the above claim that MM (Medical Masks) are not designed to provide respiratory protection: Reference 13, 14, and 15, as follows:

13. Balazy A, Toivola M, Adhikari A, Sivasubramani SK, Reponen T, Grinshpun SA. Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks? *Am J Infect Control* 2006; 34(2):51–57. [PubMed] [Google Scholar]

Already vetted in these notes: See **FN01.41.06.02.00-**
<https://www.sciencedirect.com/science/article/abs/pii/S019>

6655305009119 PDF: FN01.41.06.02.00.Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks_ - ScienceDirect

14. Lawrence RB, Duling MG, Calvert CA et al. Comparison of performance of three different types of respiratory protection devices. J Occup Environ Hyg 2006; 3(9):465–474. [PubMed] [Google Scholar]

I will **stipulate** to the claim. It supports my thesis and my focus right now is to look for anything that contradicts it. Nevertheless, let's offer an abbreviated vetting:

FN01.42.04.00.00-

<https://pubmed.ncbi.nlm.nih.gov/16857645/> PDF:
FN01.42.04.00.00.Comparison of performance of three different types of respiratory protection devices - PubMed (Abstract only)

Paid access, or no longer available, not sure which. All I have is abstract:

PC: Sept. 2006

CCP: None noted. Lawrence, Duling, Calvert, Coffey / **ORIGIN**: NIOSH, CDC.gov / **REF**: Not accessible in abstract. / **FUNDING**: nd Assumed NIOSH.

RCT: Not asserted

CONTENT:

ABSTRACT: “Respiratory protection is offered to American workers in a variety of ways to guard against potential inhalation hazards. Two of the most common ways are elastomeric N95 respirators and N95 filtering-facepiece respirators. **Some in the health care industry feel that surgical masks provide an acceptable level of protection in certain situations against particular hazards. This study compared the performance of these types of respiratory protection during a simulated workplace test that measured both filter penetration and face-seal leakage.** A panel of 25 test subjects with varying face sizes tested 15 models of elastomeric N95 respirators, 15 models of N95 filtering-facepiece respirators, and 6 models of surgical masks. Simulated workplace testing was conducted using a TSI PORTACOUNT Plus model 8020, and consisted of a series of seven exercises. Six simulated workplace tests were performed with redonning of the respirator/mask occurring between each test. The results of these tests produced a simulated workplace protection factor (SWPF). The geometric mean (GM) and the 5th percentile values of the SWPFs were computed by category of respiratory protection using the six overall SWPF values. The level of protection provided by each of the three respiratory protection types was compared. The GM and 5th

percentile SWPF values without fit testing were used for the comparison, as surgical masks were not intended to be fit tested. The GM values were 36 for elastomeric N95 respirators, 21 for N95 filtering-facepiece respirators, and 3 for surgical masks. An analysis of variance demonstrated a statistically significant difference between all three. **Elastomeric N95 respirators had the highest 5th percentile SWPF of 7. N95 filtering-facepiece respirators and surgical masks had 5th percentile SWPFs of 3 and 1, respectively.** A Fisher Exact Test revealed that the 5th percentile SWPFs for all three types of respiratory protection were statistically different. In addition, both qualitative (Bitrex and saccharin) and quantitative (N95-Companion) fit testing were performed on the N95 filtering- and elastomeric-facepiece respirators. **It was found that passing a fit test generally improves the protection afforded the wearer.** Passing the Bitrex fit test resulted in 5th percentile SWPFs of 11.1 and 7.9 for elastomeric and filtering-facepiece respirators, respectively. After passing the saccharin tests, the elastomeric respirators provided a 5th percentile of 11.7, and the filtering-facepiece respirators provided a 5th percentile of 11.0. The 5th percentiles after passing the N95-Companion were 13.0 for the elastomeric respirators and 20.5 for the filtering-facepiece respirators. The data supports fit testing as an essential element of a complete respiratory protection program.”

15. Weber A, Willeke K, Marchioni R et al. Aerosol

penetration and leakage characteristics of masks used in the health care industry. *Am J Infect Control* 1993; 21(4):167–173. [PubMed] [Google Scholar]

Already vetted in these notes: See

FN01.38.00.03.38b-

[https://www.ajicjournal.org/article/0196-6553\(93\)90027-2/pdf](https://www.ajicjournal.org/article/0196-6553(93)90027-2/pdf) PDF:

FN01.38.00.03.38b.Aerosol Penetration and Leakage
PII_0196-6553(93)90027-2

—> Back to **FN01.42.02.00.00-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/#_ffn_sectitle — Effectiveness of Masks ...

Footnote 25. MacIntyre CR, Wang Q, Rahman B et al.. Efficacy of face masks and respirators in preventing upper respiratory tract bacterial colonization and co-infection in hospital healthcare workers - authors' reply. *Prev Med* 2014; 65:154. [PubMed] [Google Scholar]

FN01.42.05.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7172205/>
PDF: FN01.42.05.00.00.Efficacy of face masks and respirators in preventing upper respiratory tract bacterial colonization and co-infection in hospital healthcare workers

PC: May 2014

CCP: MacIntyre, Wang, Rahman, Seale, Ridda, Gao, Yang, Shi, Pang, Zhang, Moa, Dwyer (12 of 12) / **ORIGIN:** Australia-New South Wales: NSW U., Sydney: Children's Hospital, National Centre for Immunization Research and Surveillance; Pathology and Medical Research; CHINA-Beijing: Beijing CDC; Study performed in Beijing. / **REF:** Aiello, Davis; Balazy, Adhikari, Sivasubrammani; Chan (2); Chen; Cowling, Chan, Fang; Zahar; MacIntyre, Dwyer; MacIntyre, Wang Q.; MacIntyre, Wang Q, Seale; Ong; Safdar, Maki; Wang X., Lim; Willeke; Zhou (13 of 51). **FUNDING: MacIntyre received funding from INFLUENZA VACCINE MANUFACTURERS GSK AND CSL BIOTHERAPIES FOR INVESTIGATOR DRIVEN RESEARCH.** Seale holds NHMRC Australian based Public Health Training Fellowship and has received funding for investigator-driven research/invitations from GSK and CSL and Sanofi-Pasteur. Ridda also, and for consultation from Merck. The masks/respirators used in this study were provided by manufacturer 3M and the investigators have partnered with 3M on an Australian Research Council Linkage Grant on masks.

RCT: No. A cluster randomized clinical trial is a species of OS with elements of a traditional RCT — randomization being one of them.

CONTENT:

IR: Hospital and HCW limited.

INFO: N95s particularly protective against bacterial infection, or contamination.

Continuing **FN01.42.02.00.00-**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/#_ffn_sectitle — Effectiveness of Masks ...

26. MacIntyre CR, Wang Q, Seale H et al.. A randomized clinical trial of three options for N95 respirators and medical masks in health workers. *Am J Respir Crit Care Med* 2013; 187:960–6. [PubMed] [Google Scholar]

Already vetted in these notes: See
******FN01.38.00.03.43a-**
https://www.atsjournals.org/doi/10.1164/rccm.201207-1164OC?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed PDF: FN01.38.00.03.43a.A Randomized Clinical Trial of Three Options for N95 Respirators and Medical Masks in Health Workers _ American Journal of Respiratory and Critical Care Medicine.

Next, TA FN01.42.02.00 cites reference 27:

27. Loeb M, Dafoe N, Mahony J et al.. Surgical mask vs N95 respirator for preventing influenza among health

care workers: a randomized trial. JAMA 2009;302:1865–71. [PubMed] [Google Scholar]

Already vetted in these notes: See

FN01.38.00.09.00-

<https://jamanetwork.com/journals/jama/fullarticle/184819>. PDF: FN01.38.00.09.00.Loebb 2009 joc90119_1865_1871 Title: Surgical Mask vs N95 Respirator for Preventing Influenza Among Health Care Workers.

Next, TA FN01.42.02.00 cites reference 28:

28. Jacobs JL, Ohde S, Takahashi O, Tokuda Y, Omata F, Fukui T. Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan: a randomized controlled trial. Am J Infect Control 2009; 37:417–9. [PubMed] [Google Scholar]

FN01.42.02.01.00-

<https://www.sciencedirect.com/science/article/abs/pii/S0196655308009097>. PDF: FN01.42.02.01.00.Use of surgical face masks to reduce the incidence of the common cold among health care workers in Japan_ A randomized controlled trial - ScienceDirect

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/c>

ovid-19-face-masks-community-first-update.pdf (Abstract only)

PC: June 2009

CCP: Takahashi, Tokuda, Omata, Fukui (4 of 6) / **ORIGIN:** Japan-Tokyo: St. Luke's Life Science Institute, Center for Clinical Epidemiology; St. Luke's International Hospital. USA-Hawaii: Honolulu, U. of Hawaii John A. Burns School of Medicine / **REF:** Not available in abstract. / **FUNDING:** nd Assumed author's affiliates.

RCT: Asserted.

CONTENT: Supporting claim that MM are not designed to protect from viruses, in this case, the cold virus.

NOTE: Background: "Health care workers outside surgical suites in Asia use surgical-type face masks commonly. Prevention of upper respiratory infection is one reason given, although **evidence of effectiveness is lacking.**"

NOTE: * ALSO FOR NEGATIVE EFFECTS OF MASKING:** Results: "Thirty-two health care workers completed the study, resulting in 2464 subject days. There were 2 colds during this time period, 1 in each group. **Of the 8 symptoms recorded daily, subjects in the mask**

group were significantly more likely to experience headache during the study period ($P < .05$). Subjects living with children were more likely to have high cold severity scores over the course of the study.”

SP: In what way living with children might have contributed to severity of cold symptoms is unclear and raises questions about the legitimacy of this study. If only two persons expressed cold symptoms, apparently only one was living with children to offer any differentiation of this sort, and so the study was extremely underpowered to support any conclusion of that nature. I think throwing this into the results observed without at least a notice of the lack of evidence provided here to support anything like a conclusion regarding the contribution living with children might make to the “severity” of cold symptoms makes me question the entire study.

CCav: Conclusion: “Face mask use in health care workers has not been demonstrated to provide benefit in terms of cold symptoms or getting colds.

INCONCLUSIVE: A larger study is needed to definitively establish noninferiority of no mask use.”

—> Back to **FN01.42.00.00.00prp-**
<https://www.medrxiv.org/content/10.1101/2020.08.12.20173047v3.full> — Examining face-masks ...

TA **FN01.42.00.00.00prp** refers to reference No. 11 &

12

11. Konda, A. et al. Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks. ACS Nano 14, 6339, doi:10.1021/acsnano.0c03252 (2020). CrossRefPubMedGoogle Scholar

Already vetted in these notes: See **FN01.38.00.03.39-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7185834/>. PDF: FN01.38.00.03.39.Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks - PMC. For SUPP: see FN01.38.00.03.39.SUPP nn0c03252_si_001

12. Howard, J. et al. Face Masks Against COVID-19: An Evidence Review. doi:10.20944/preprints202004.0203.v1 (2020). CrossRefGoogle Scholar

Vetted in these notes: See **FN01.38.00.03.00-**
<https://pubmed.ncbi.nlm.nih.gov/33431650/>. PDF: FN01.38.00.03.00.An evidence review of face masks against COVID-19 - PMC

—> Back to **FN01.42.02.00.00-**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/#__ffn_sectitle — Effectiveness of Mask Use ...

Next this doc takes us to a review of **Observational Studies**. Let's do a quick overview and dig when there is promise of some pay dirt.

*** OS: includes cohort, and case studies explained in this section and discussed below. These are sometimes brought together into meta-analyses studies.

CCav: the TA “did not exclude any articles based on quality assessment ... but summarized their limitations in the discussion.” This can be a good thing. By providing the studies to readers, they can make their own assessment re “quality assessment.”

Under header: **Severe Acute Respiratory Syndrome**, TA refers to 8 case-control studies and 4 cohort studies: cites References 29-36 for the 8 case-control studies, and 20-22, 37 for the 4 cohort studies.

INFO: *** A cohort study often looks at 2 (or more) groups of people that have attribute variants — example given at <https://www.verywellhealth.com/what-is-a-cohort-study-5093071> for example smokers versus non-smokers, in order to understand how the specific attribute affects an outcome.

The summary of TA from these studies follows:

1. With one exception, Reference 30, all case-control

studies were positive for mask use against SARS — specifically, they identified 31,32,34.

2. Case control studies 32-33 showed N95s conferred protection against confirmed SARS-infection in 2 of 3 case-control studies

INFO: *** A case-control study starts with a group of cases—such as persons with COVID, or etc.. The researcher attempts to construct a second group called “the control group” where the individuals are called the “controls.” In this case, a group of persons who DO NOT HAVE COVID. The researcher constructs this control group to look as much like the case group as possible, apart from the differentiating factor that the case group has COVID and the control group does not. Then the researcher attempts to find what, if anything, stands out as different in the histories of each group. This might expose risk factors. For example, let’s say the control group never wore masks, nor concerned themselves with any social distancing or extra hygiene protocols whereas the case group had a high incidence of practicing these things. It’s possible for the researcher to identify failure to participate in mask use, distancing and hygiene as possible risk factors in getting COVID.

CCav: The disadvantages: recall bias (people don’t always provide accurate data). “Recall bias may lead to concluding that there are associations between exposure

and disease that do not, in fact, exist.” It is believed people in the cases group will more likely be motivated to take the questions about exposure much more seriously than persons in the control group.

MY CONCLUSION:

Case-control studies cannot establish causation, only correlation.

Also, **case-control studies are vulnerable to confounders that cannot be easily identified, or anticipated by the researcher.**

3. CCav: NO PROTECTIVE EFFECT AGAINST SARS WAS REPORTED FOR DISPOSABLE, COTTON, OR PAPER MASKS. See Footnotes 29, 34, 35, 32.

4. CCav: TA reports evidence from the 4 cohort studies was **LESS CONCLUSIVE:**

CCav: N95 seems to provide lower risk of pneumonic SARS [22] ... and only moderate protection against lab-confirmed SARS-CoV infection ... among HCWs wearing a N95 respiratory [20]. Another reported reduced risk of infection of SARS-CoV infection among HCW wearing MM [37]. Two studies found NO PROTECTIVE EFFECT OF EITHER MM OR N95 RESPIRATORS AGAINST SARS [20-21]. The

results are all over the board!

5. BUT THEN, in meta-analyses combining 6 case-control [29,31-34,36] and 3 cohort [20-22] studies **PPE conferred significant protection against SARS among exposed HCWs**. In these studies the claim is “wearing medical masks ... or N95 respirators ... reduced the risk of SARS by approximately 80%.” One will naturally ask how does this follow? Well, the fact is, in meta-analyses, researcher bias can impact the result through the data selection process. It is not necessarily the case the bias would intentionally select studies into the array purposely to produce a certain result, or lessen results that run counter to the expectation of the researchers. But the possibility is there.

INFO: *** What is meta-analysis? This is a procedure whereby a researcher identifies a group of studies that fit a criteria or criterion of concern. The researcher constructs a model for what sorts of studies he or she wants to include, and creates a set of statistics from this criteria that are used to sift through the studies in order to identify which ones fit the criteria, or criterion. These studies are analyzed by the statistical data, and the pertinent information or result/s that is/are identified is/are synthesized into a single paper.

Statistical analysis collects and then examines data looking for patterns or trends.

Under header: **Pandemic H1N1 Influenza (pH1N1)**:
“One cohort study reported an increased risk of pH1N1 seroconversion among HCWs not wearing rPPE continuously [38]. In 4 other studies, no association was found between compliance with rPPE use and pH1N1 infection [40–43].”

And so, once again, results are **INCONCLUSIVE**.

However, let’s go through the studies offered in support of the above observations: FN01.42.02.00.00
Under header: **Severe Acute Respiratory Syndrome**, TA refers to 8 case-control studies and 4 cohort studies: cites References 29-36 for the 8 case-control studies, and 20-22, 37 for the 4 cohort studies. So we will examine 20-22, 29-37.

Reference 20. Loeb M, McGeer A, Henry B et al.. SARS among critical care nurses, Toronto. Emerg Infect Dis 2004; 10:251–5. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.02.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3322898/?report=reader> PDF: FN01.42.02.02.00.SARS among Critical Care Nurses, Toronto

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/c>

ovid-19-face-masks-community-first-update.pdf

PC: Feb. 2004

CCP: All authors ? / **ORIGIN**: CANADA-Ontario: McMaster U.; Mt. Sinai Hosp.; Toronto Public Health; Health Canada; Scarborough Grace Hosp. / **REF**: Low; Zaki; WHO (2); Leung; Seto, Tsang, Yung, Ching, Ng, Ho; Health Canada; US CDC; Chan (9 of 14) / **FUNDING**: Statement on funding: “This study was funded by the Canadian Institutes of Health Research and the Ontario Ministry of Health and Long-term Care. Dr. Loeb is supported by a career award from the Canadian Institutes for Health Research.”

RCT: Not asserted, under Methods is appears to be OS. In Abstract, it is described as a retrospective cohort study. (***) I’ve done some research on the types of studies used and, frankly, it comes down to physical experimentation, randomized controlled trials, or observational studies (which is premised on anecdotal evidence). There are clinical, cohort, cluster, review of literature, systematic reviews, intervention studies and a wide variety of other designations that actually fall into one or a combination of these three categories of study. Many RCTs include elements of physical experimentation, and every scientific study involves observation. The difference is that when conclusions are offered that are premised on what amounts to anecdotal evidence, or superficial

comparisons of results, susceptible to multiple confounders either impossible to address or that were ignored, these cannot be taken seriously. The only value of such studies is they are relatively inexpensive and uncomplicated and so can serve as a sort of sieve to separate out studies that deserve further inquiry via a genuine physical experiment and/or a well constructed authentic RCT. But for policy decisions affecting the rights and liberties of the people, there is no way conclusions derived from anecdotal or weak observational studies provide adequate justification. For this reason, I don't subscribe to the idea that a randomized cohort trial that obviously has evidence of dependence upon superficial comparisons with a myriad of unaddressed confounders can be legitimately accepted as a RCT — and it seems to me sometimes researchers attempt to borrow integrity for their research by contriving to refer to them as an RCT when in truth they are not. There may be elements of an RCT in what upon examination amounts to what are called observational studies, like randomization, or even some elements of control, like provided a “control group” and these things I think do strengthen the integrity of the study; but this does not qualify the study as an authentic, traditional RCT. This is known in the community, which is the reason such studies are not called randomized controlled trials. Anyway, this serves to explain why some studies that might be called RCTs are indicated by me as negative.)

CONTENT:

IR: Health care setting only.

CCav: “Risk was reduced by consistent use of a surgical mask, BUT NOT SIGNIFICANTLY.” Protection during activities related to intubation increase SARS risk and so use of a mask, particularly the N95 is protective.

Next TA FN01.42.02.00.00 refers to...

Reference 21. Scales DC, Green K, Chan AK et al.. Illness in intensive care staff after brief exposure to severe acute respiratory syndrome. Emerg Infect Dis 2003; 9:1205–10. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.03.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3033076/?report=reader> PDF: FN01.42.02.03.00.Illness in Intensive Care Staff after Brief Exposure to Severe Acute Respiratory Syndrome

PC: Oct. 2003

CCP: authors ? / **ORIGIN:** CANADA-Ontario: Mt. Sinai Hosp.; U Health Newwork; under Copyright notice: pub of US govt. CDC — references dominated by CCP influenced doctors and medical institutions. / **REF:** Tsang, Pak, Gaik,

Yee, Wang T., Chan-Yeung; Lee Hui, Wu, Chan; Health Canada; WHO; Seto, Tsang, Yung, Ching, Ng, Ho; US CDC; WHO (7 of 15). / **FUNDING**: Two investigators were supported in part by a grant from the Ontario Ministry of Health and Long-Term Care.

RCT: No. OS—Questionnaire based interview of quarantined healthcare workers.

CONTENT:

IR: health care setting, 69 medical personnel exposed to one patient with SARS, followup examination found 6 of 31 who entered patient's room were infected with SARS, including 3 who were in the room >4 hours.

Skip to DISCUSSION: three of the six who got SARS after entering patient's room did not use gloves. No information re hand washing was collected. ONE PATIENT GOT SARS WHO WORE AN N95 MASK, GOWN AND GLOVES. Second: "SARS DEVELOPED IN ANOTHER HEALTHCARE WORKER WHO HAD NO IDENTIFIED CONTACT WITH THE INDEX PATIENT OR WITH ANY OTHER PERSONS KNOWN TO HAVE SARS. **In first case, it shows infection occurs by aerosols and NOT BY LARGE DROPLETS only since the mask was not fit tested and that is the reason given why this patient got sick.**

INFO: Essentially, this is IR for my purposes, but it does contribute to the argument that the disease is transmitted by airborne aerosols.

Next, TA FN01.42.02.00.00 cites:

Reference 22. Wilder-Smith A, Telesman MD, Heng BH, Earnest A, Ling AE, Leo YS. Asymptomatic SARS coronavirus infection among healthcare workers, Singapore. *Emerg Infect Dis* 2005; 11:1142–5. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.03.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3371799/?report=reader> PDF: FN01.42.02.03.00.Asymptomatic SARS Coronavirus Infection among Healthcare Workers, Singapore

PC: July 2005

CCP: Heng, Ling, Yee (3 of 6) / **ORIGIN:** SINGAPORE: Tan Tock Seng Hosp; National Healthcare Group; Singapore General Hosp. Under copyright notice: a publication for the US Govt. CDC. / **REF:** Seto, Tsang, Yung, Ching, Ng, Ho; Chu, Cheng, Chan, Hung, Poon; Ho, Singh, Habib, Ong, Lim, Ooi; Chow, Ooi, Ong, Sil, Teo; Chan, Ip, Ng, Rickjason, Wu, Lee; Woo, Lau, Tsoi, Chan, Wong BH., Che; Zaki; Ip, Chan, Lee, Wu, Ng, Chan; Chan, Ng, Chan RC., Lam, Chow, Hui; Chang, Kao, Chung,

Chen, Lin, Chiang; WAng WK., Chen, Liu, Kao, Chen, Chiang; Zhao, Wen, Huang, Pi, Zhang (12 of 15) /
FUNDING: Statement on funding: “This project was funded by the SARS outbreak fund, Tan Tock Seng Hospital, Singapore. The funding source had no role in study design and data interpretation.”

RCT: Not asserted — described as a seroepidemiologic cohort study.

CONTENT:

IR/AME: Healthcare setting. With AME bias.

Skip to Conclusions: this is about asymptomatic carriers.

CCav: “Based on our data in Singapore, **transmission from asymptomatic patients appears to play no or only a minor role**, as all but 1 of the pneumonic cases of SARS had a definitive epidemiologic link to another pneumonic SARS contact. Lack of transmission from asymptomatic patients was also observed in other countries with SARS outbreaks (1; <http://www.who.int/csr/sars/en/WHOconsensus.pdf>, 2003).”

Next TA FN01.42.02.00.00 cites:

Reference 29. Liu W, Tang F, Fang LQ et al.. Risk factors for SARS infection among hospital healthcare workers in Beijing: a case control study. Trop Med Int Health 2009; 14:52–9. [Google Scholar]

FN01.42.02.04.00-

<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-3156.2009.02255.x>. PDF: FN01.42.02.04.00.Risk factors for SARS infection among hospital healthcare workers in Beijing_ a case control study - Liu - 2009 - Tropical Medicine & International Health - Wiley Online Library

PC: October 2009

CCP: Tang, Fang, Huai-Jian, Zhou, Jan, Wu-Chun Cao (6 of 8) / **ORIGIN:** CHINA-Beijing: Beijing Institute of Microbiology and Epidemiology; State Key Laboratory of Pathogen and Biosecurity; Dept. of Infectious Disease; Academy of Science; Institute of Remote Sensing Application [?]; NETHERLANDS-Rotterdam: Department of Public Health, Erasmus MC, University Medical Center Rotterdam; Dept. of Public Health / **REF:** US CDC (2); Chan-Yeung, Yu; Feng, Fang; Lau, Zhang; Ma, Wang HW., Fang, Jiang, Wei, Liu, Zhao, Ma, Cao; Nishiura, Kuratsuji, Quy; Ruan, Wei, Fe; Seto, Tsang, Yung; Heng, Zhu; WHO; Yu, Li, Wong TW. (11 of 17) / **FUNDING:** Statement of funding/support: “This study was supported by the Commission of the European Community under the SixthFramework Program Specific Targeted Research Project, SARS Control ‘Effective and AcceptableStrategies

for the Control of SARS and new emerging infections in China and Europe' (ContractNo. SP22-CT-2004-003824), and Grants from National Natural Science Foundation of China forExcellent Young Scientists (No. 30725032), and National Natural Science Foundation of China(No. 30590374).”

RCT: No. OS, a “case-control” study.

CONTENT:

IR: Hospital healthcare workers, and “in Beijing” so.

IR/AME: This study does not examine the relative penetration levels of mask materials or types. Throughout, the researchers assume mask efficacy on the intuitive presumption that a barrier is expected to block droplets. It fails to take into consideration the many confounders discussed elsewhere in these notes:

desiccation/evaporation; droplet scatter upon impact with mask; the fact of micro-droplets and droplet nuclei that escape capture by recommended surgical masks. The 16 and 12 layer masks tested showed meaningful protective results, but I could not find the study factored long-term use issues, and how often they needed to be cleaned or changed out, or breathability. When it came to

CCav: A combination of protective measures thought to be effective includes 16 layer cotton surgical mask, 12

layer cotton surgical mask, multiple layers of mask, and use of prophylactic medicine, training in use of masks and medicine, and washing the nose. However, it would seem that such masks present significant obstruction to breathing, other wearer comfort issues, and are cost and or preparation prohibitive.

Of course, this study does not isolate for any of these particularly, at least not so far as I can find, and so its results are INCONCLUSIVE.

From the introductory comments, however, it appears the disposable mask, and the surgical mask, did not provide adequate protection: “Six categories of most often used masks were identified from the participating staff: disposable mask, surgical mask, 12-layer cotton surgical mask, 16-layer cotton surgical mask, N95, and higher-level protective respirator. When evaluated individually, 12-layer cotton surgical mask and 16-layer cotton surgical mask displayed significant difference of distribution between the two groups.”

Also, see “six actions turned out to be protective (i.e. wearing 16-layer cotton surgical mask, wearing 12-layer cotton surgical mask, wearing multiple layers of masks, taking prophylactic medicine, nose wash and taking training.”

TA FN01.42.02.00.00 cites:

Reference 30. Ma HJ, Wang HW, Fang LQ et al.. A case-control study on the risk factors of severe acute respiratory syndromes among health care workers. Zhonghua Liu Xing Bing Xue Za Zhi 2004; 25:741–4. [PubMed] [Google Scholar]

FN01.42.02.05.00-

<https://pubmed.ncbi.nlm.nih.gov/15555351/> PDF:
FN01.42.02.05.00.[A case-control study on the risk factors of severe acute respiratory syndromes among health care workers] - PubMed (No access to this study conveniently available, only the abstract)

PC: Sep. 2004

CCP: Ma, Wang, Fang, Jiang, Wei, Liu, Zhao, Ma, Wu-chun Cao (all) / **ORIGINS:** CHINA-Beijiong: Institute of Microbiology and Epidemiology / **REF:** na / **FUNDING:** Assumed to be China.

RCT: No. A case-control study.

CONTENT:

IR: Healthcare setting

There is insufficient data available in the accessible portion of this article to know whether the masks

recommended as efficient or adequate approximate to those recommended today, or by what criteria these masks were deemed adequate.

There is one odd phrase that seems incomprehensible (in bold typeface): “Results showed that six factors as wearing eye glasses, wearing protection gowns, **exposure to secrets/mode of contact with SARS patients**, types of masks and working years atc [sic-etc.?], remained significant association with hospital infection of SARS.” What is meant by *exposure to secrets*? It’s likely this was originally presented in Chinese and so there is somewhat lost in translation.

TA FN0142.02.00.00 cites:

Reference 31. Nishiura H, Kuratsuji T, Quy T et al.. Rapid awareness and transmission of severe acute respiratory syndrome in Hanoi French Hospital, Vietnam. Am J Trop Med Hyg 2005; 73:17–25. [PubMed] [Google Scholar]

FN01.42.02.06.00-

<https://pubmed.ncbi.nlm.nih.gov/16014825/>. (pdf: full text: <https://d1wqtxts1xzle7.cloudfront.net/35690396/17-with-cover-page-v2.pdf?Expires=1658022644&Signature=Vjq090cW37XDe6mWcn9WW-XFquSy7yTDe7vLghMnvAJANCh9hL9AGUEqRsiGWokkp>)

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ZwCIHTlwpq4l2X3mawUMptleEv5DtgGiG3p-
prXHO6pJS9ShgBq2WxlyLJeVV4n0s3eEo19pkvXlv0nf3n
wZAEjRv33Z-bpyqqPLj-
SNDYuadV4waBBXXeW6k4~Xf5WQktF4h-
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NhE4cg3tbxH3IripTabVVaMzPP5YAN4IiH4dWQYPCirn0h
v-wknzacCWQ__&Key-Pair-
Id=APKAJLOHF5GGSLRBV4ZA PDF:
FN01.37.04.00.02.Rapid Awareness and Transmission of
Severe 17-with-cover-page-v2) PDF:
FN01.42.02.06.01.Rapid awareness and transmission of
severe acute respiratory syndrome in Hanoi French
Hospital, Vietnam - PubMed (Abstract only)

**Rated by ECDC as LOW to MODERATE
confidence:** see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Jul. 2005

CCP: all but one of eleven authors / **ORIGINS:**
JAPAN-Tokyo: The Research Institute of Tuberculosis.
[Here is a good place for a reminder that CCP is used
primarily to identify where there might be Chinese
Communist Party influence over the researchers, but it's
also a place where I indicate cultural bias in favor of

masks which is pervasive throughout Asian culture. Japan might or might not be susceptible to CCP control influence.] / **REF:** Not accessible in abstract. / **FUNDING:** nd Assumed Japan.

RCT: No. Case-control study.

CONTENT:

IR: Healthcare setting.

IR: Does not address particle size penetration of masks, etc. Search: *particle size, particle, aerosol, micro (only Microsoft), nano* with results NULL.

TA FN01.42.02.00.00 cites:

Reference 32. Seto WH, Tsang D, Yung RW et al.; Advisors of Expert SARS group of Hospital Authority Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome (SARS). *Lancet* 2003; 361:1519–20. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.07.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7112437/?report=reader>. PDF: FN01.42.02.07.00.Effectiveness of precautions against droplets and contact in prevention of

nosocomial transmission of severe acute respiratory syndrome (SARS)

Rated by ECDC as LOW to MODERATE confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: May 2003

CCP: Seto, Yung, Ng, Ho, Ching, Peiris, Yam, Yu, Lai, Tsang (all but one) / **ORIGINS**: CHINA-Hong Kong, People's Republic of China: Dept. of Microbiology, Queen Mary Hosp.; Queen Elizabeth Hosp.; Pamela Nethersole Youde Hosp.; Princess Margaret Hosp.; Kwong Wah Hosp.; Dept. of Community Medicine, U. of Hong Kong / **REF**: WHO; US CDC (2); Lai, Poon (4 of 5) / **FUNDING**: Statement of funding: "Research funding was received from Public Health Research Grant A95357, and the National Institute of Allergy and Infectious Diseases, USA."

RCT: No. Case-control study.

CONTENT:

IR: Healthcare setting: nosocomial transmission only. It is IR to my particular interests and does not, in my view, promise to add anything to my understanding. Go to DISCUSSION, RESULTS, of CONCLUSION.

SS/IR: **“Masks seem to be essential for protection, since only this measure was significant in stepwise logistic regression. Thus, in hospital, the other three measures add no significant protection to the mask. This finding fits well with droplets transmission because droplets are generated at the face level making the mask crucial for protection.”** Stipulated that in HCW scenarios where close proximity contact is extensive masks can protect wearers from large droplets but in terms of protection from a virus, the observation is premised almost entirely upon intuitive observation. The science does not support the idea that these masks are protecting anyone from viral transmission of aerosols.

CCav: *** (Major compromise to argument fo mask as public use to control virus spread): “The staff who wore surgical masks and N95 masks were significantly associated with non-infection (table 2), [1] **but this was not seen for paper masks.**

“That use of masks and hand-washing was associated with non-infection, and that no staff became infected [2] **when they used all four measures**, suggest that precautions against droplets and contact are adequate for prevention of nosocomial SARS, [3] **where no aerosolisations are expected.** [4] **The surgical and N95 masks were both effective in significantly reducing the risk of infection, which together with the finding that 30% of non-infected staff did not use**

masks (table 2) supports that transmission is not airborne. [5] The finding that paper masks did not significantly reduce the risk is not unexpected. Such masks, being easily wet with saliva, are never recommended as a precaution against droplets.³

*** [1], [5] CCav: The paper mask was deemed ineffective because it is “easily wet with saliva” — but, while the surgical mask would not be wetted with saliva so “easily” as the paper mask, they do accumulate moisture, and this compromises them over time. Virtually all studies used to support SM (surgical masks) use fresh, clean, first use — but community use is a very different circumstance in which subjects wear them multiple hours at a time, and reuse them. What this shows is that when a mask is spoiled, either by moisture accumulation over extended use, or by repeated reuse, they are ineffective and the efficacy reported by the studies that do not take these factors into consideration cannot be taken seriously. Furthermore,

[2] OS: Typical of such studies, we see here a major confounder not adequately addressed in the study: multiple interventions occurring simultaneously without a method for separating them for independent evaluation does not support any conclusion regarding masks, which is the focus of this enquiry.

[3] CCav: The efficacy claimed for masks in this study

doES NOT INCLUDE PROTECTION FROM AEROSOLIZED PARTICLES/DROPLETS.

[4] SS: Given the above, it is arrogance to assert: “The surgical and N95 masks were both effective in significantly reducing the risk of infection, which together with the finding that 30% of non-infected staff did not use masks (table 2) supports that transmission is not airborne.” First, this is also CE, since they stipulate the masks were effective in cases where no aerosolization is expected, meaning they anticipated airborne transmission ??? Second, the incidence that 30% of non-infected staff did not use masks suggests the ineffectiveness of masks, and brings into question whether the others who were not infected

NOTE: *** This shows that the current trend in western medicine toward favoring masks and the arguments used to support this are rooted in Asian AME. Notice the current argument depends heavily on the idea that “droplets are generated at the face level making the mask crucial for protection.” No science is offered to support this assertion; clearly it’s intuitive based, and ignores the vast amount of science that confounds the assumption.

TA FN01.42.02.00.00 cites:

Reference 33. Teleman MD, Boudville IC, Heng BH,

Zhu D, Leo YS. Factors associated with transmission of severe acute respiratory syndrome among health-care workers in Singapore. *Epidemiol Infect* 2004; 132:797–803. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.08.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2870165/pdf/15473141.pdf> PDF: FN01.42.02.08.00.Factors associated with transmission of severe acute respiratory syndrome among health-care workers in Singapore

Rated by ECDC as LOW to MODERATE

confidence: see

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: June 2004

CCP: Heng, Shu, and Leo (three of five) / **ORIGINS:** SINGAPORE: Tan Tock Seng Hosp.; BlaxoSmithKline Biologicals; Disease Management, Ntl. Healthcare Group; Communicable Disease Centre / **REF:** WHO (4); Chin; US CDC (2); Park; Ministry of Health, Singapore (2); Seto, Tsang, Yung (11 of 21). / **FUNDING:** nd

RCT: No. Case-control study.

CONTENT:

IR: Healthcare settings.

INFO: Contact with respiratory secretions elevated the odds ratio of infection. PROTECTION was correlated with hand washing and wearing N95. Gloves and gowns showed no effect.

CCav: *** This study found surgical masks irrelevant re protection, or simply did not bother to examine them. I'll check the pdf. The closest this article comes to discussion of MM is as follows: "Consistent with the finding of the Hong Kong study, we found that wearing a mask was associated with a ten-fold lower odds of SARS. Although the local recommendation was for N95 use, **this finding may simply attest to its effectiveness as a barrier to droplet spread rather than to the importance of airborne spread.** Prolonged aerosol-generating procedures such as nebulization were not performed for any of the index cases, and there was no significant difference in the distribution of suctioning, intubation and oxygen administration between cases and controls."

The "Hong Kong" study is not footnoted or referenced. Apparently, TA assumed readers would know the reference. The way this is written does not make clear whether the observation offered is specifically re MM or N95. In either case, it shows the matter re masks for protection inconclusive: see bold.

TA FN01.42.02.00.00 cites:

Reference 34. Yin WW, Gao LD, Lin WS et al.. Effectiveness of personal protective measures in prevention of nosocomial transmission of severe acute respiratory syndrome. Zhonghua Liu Xing Bing Xue Za Zhi 2004; 25:18–22. [PubMed] [Google Scholar]

FN01.42.02.09.00-

<https://pubmed.ncbi.nlm.nih.gov/15061941/> PDF:
FN01.42.02.09.00.[Effectiveness of personal protective measures in prevention of nosocomial transmission of severe acute respiratory syndrome] - PubMed (No full access, only abstract accessible.)

PC: Jan. 2004

CCP: Yin, Gao, Lin, Gao, etc. — (16 of 16 authors) / **ORIGIN:** CHINA-Beijing: Chinese Field Epidemiology Training Program, Chinese Center for Disease Control and Prevention / **REF:** Not available in abstract. / **FUNDING:** nd Assumed CCP

RCT: No. Case-control study.

CONTENT:

IR: Healthcare setting.

NOTE: This study adds foot wear to protective gear thought to be necessary for protection.

SS/OS: *** The researchers make an aggressive assertion: It is totally SS based on OS: “It seemed that the more the protective measures were used, the higher the protective effect was ($P < 0.001$), and could reach 100% if mask, gown, gloves, goggles, footwear, ‘hand-washing and disinfecting’ were all used at the same time.” Many unaddressed factors confound the authority of the assertion: one example, it depends on a univariate analysis, meaning they only looked at one variable, and it goes on from there.

TA FN01.42.02.00.00 cites:

Reference 35. Chen WQ, Ling WH, Lu CY et al.. Which preventive measures might protect health care workers from SARS? BMC Public Health 2009; 9:81. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.10.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2666722/?report=reader> PDF: FN01.42.02.10.00.Which preventive measures might protect health care workers from SARS_

PC: Mar. 2009

CCP: All nine TA / **ORIGINS**: CHINA-Guangzhou: Sun Yat-Sen U., Dept. of Biostatistics and Epidemiology, School of Public Health; Dept. of Nutrition; Dept. of Preventative Medicine; Dept. of Surgery; Dept. of Infection; Dept. of Pharmacology / **REF**: Koh, Lim, Chia; Singapore CDC; Seto WH., Tsang, Yung, Ching, Ng, Ho M., Ho LM; CDC-Toronto Canada; CDC-Taiwan; Jiang, Huang, Chen, Wang J., Wu, Yin, Chen, Zhan, Yan, Ma, Huang; Lau, Fung, Wong TW., Kim, Wong E., Chung, Ho, Chan, Liu, Cheng; US CDC; Ho, Sung, Chan-Yeung; Lau, Yang, Leung, Chan, Wong E., Fong, Tsui; Liang, Zhu, Guo, Liu, Zhou, Chin; Chen, Lu, Wong TW., Ling, Lin, Hao, Liu, Fang, He, Luo, Jiong, Likng, Ma, Liu, Chen, Huang, Jiang YS., Jaing WQ., Zhou, Yan; Wong TW., Chen; Wong RSM., Hui; Wong TW., Lee, Tam, Lau, Yu, Liu Chan, Sung, Parashar; Chang, Cheung, Tang, Ooi, Kuo, Jiang, Chen, Lando, Hsu, Chen; Yu, Li, Wong TW., Tam, Chan, Lee, Leung, Ho; Twu, Chen, Chen CJ., Lee, Hsu, Chang, Chen, Chiang, Wu, Wu JS; Yu, Xie, Tsio, Chiu, Tang, Hui, Lee, Li, Huang, Liu, Wong ZW., Zhong, Sung (18 of 21) /

FUNDING: Statement on funding: “This project was supported by a research grant from both the Ministry of Science and Technology and the Ministry of Education of China.”

RCT: No. Apparently, China does not do RCTs — I can't remember one so far. A retrospective case-study.

CONTENT:

IR: Healthcare settings

NOTE: Go to RESULT: found that certain medical procedures created greatest amount of exposure and recommend air ventilation in wards, avoiding face-to-face interaction with patients. Under conclusion the recommendation is limited to good air ventilation. Hmmm.

CCav: RE Masks: “SARS-Cov may be shed from a SARS patient's respiratory secretion and feces, and the latter may further contaminate objects in the ward. **The protective gown, gloves, multilayered cotton mask, and head and foot coverings wore [sic-worn] by HCWs may also be contaminated while caring for SARS patients.**”

INFO: *** The protective PPE can be contaminated with virus. That seems reasonable enough but has not come up before that I remember.

CCav: Also, here is another *** CCav: **“It is believed that nominally 'clean' areas may be contaminated if an HCW wears a piece of protective clothing contaminated with SARS patients' secretions into the area.** For this reason, HCWs must wear two layers of gown, gloves, multilayered cotton mask, head and foot covering in SARS wards and discard the outer layer before entering clean areas, in order to prevent fomite

transmission to other areas [20]. **This study proved that wearing two layers of gloves significantly protected HCWs from SARS compared with wearing a single layer of gloves, but we did not find that wearing double layers of gowns, multilayered cotton masks, and head and foot coverings were associated with HCWs being protected from SARS.** This might be due to the fact that almost of all the procedures involved in caring for patients were done with the hands; hence gloves were more highly contaminated by SARS patients' secretions.”

NOTE: *** No protection from multilayers of masks. It seems reasonable to assume that if the double masks did not provide protection to hospital workers engaging with infected patients it is unreasonable to assume they will protect the general public.

TA **FN01.42.02.00.00** cites:

Reference 36. Lau JT, Fung KS, Wong TW et al.. SARS transmission among hospital workers in Hong Kong. Emerg Infect Dis 2004; 10:280–6. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.11.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3322933/?report=reader>. PDF: FN01.42.02.11.00.SARS
Transmission among Hospital Workers in Hong Kong

PC: Feb. 2004

CCP: All ten / **ORIGINS**: CHINA-Hong Kong, PRC: University of Hong Kong, People's Republic of China.
Copyright: This is a pub of the US Government [???] CDC.
*** I've noted several studies that originate in China that are publications of the US CDC. Clearly, there is a tight connection here. And dates back into the early 2000s. /
REF: WHO; Hong Kong Govt.; Seto, Tsang, Yung, Ching, Ng, Tk, Ho; Chan, Ip, Ng (4 of 7). / **FUNDED**: Statement of funding: "This study was supported by internal funding of the Faculty of Medicine, The Chinese University of Hong Kong."

RCT: No. Case-control, OS.

CONTENT:

IR: Hospital workers health care settings.

Go to DISCUSSION: nothing here of interest or relevance.

TA FN01.42.02.00.00 cites:

Reference 37. Nishiyama A, Wakasugi N, Kirikae T et al.. Risk factors for SARS infection within hospitals in Hanoi, Vietnam. Jpn J Infect Dis 2008; 61:388–90.
[PubMed] [Google Scholar]

FN01.42.02.12.00-

<https://pubmed.ncbi.nlm.nih.gov/18806349/>. PDF:
FN01.42.02.12.00.Risk factors for SARS infection within
hospitals in Hanoi, Vietnam - PubMed (Limited access
article, abstract only.)

**Rated by ECDC as LOW to MODERATE
confidence:** see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: Sep. 2008

CCP: All authors (ten) / **ORIGIN:** JAPAN-Tokyo:
International Medical Center of Japan, Research Institute /
REF: na. / **FUNDING:** na.

RCT: No. Not sure how to characterize the study
since methods are not described and nothing in abstract
provides insight.

CONTENT:

IR: Healthcare setting

SS/OS: One statement to show conclusion of study:
“At Hospital A, the risk for developing SARS was 12.6
times higher in individuals not using a mask than in those

using a mask.” Totally AME and OS. It assumes masks primarily, perhaps, exclusively account for the result observed.

TA FN01.42.02.00.00 cites:

REference 38. Jaeger JL, Patel M, Dharan N et al.. Transmission of 2009 pandemic influenza A (H1N1) virus among healthcare personnel-Southern California, 2009. *Infect Control Hosp Epidemiol* 2011; 32:1149–57. [PubMed] [Google Scholar]

FN01.42.02.13.00-

<https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/abs/transmission-of-2009-pandemic-influenza-a-h1n1-virus-among-healthcare-personnel-southern-california-2009/56F0FD764F905B395F521B341405DBAB> PDF: FN01.42.02.13.00.Transmission of 2009 Pandemic Influenza A (H1N1) Virus among Healthcare Personnel—Southern California, 2009 _ Infection Control & Hospital Epidemiology _ Cambridge Core (This is a paid access article — which is weird since it is CDC government paid, etc. Makes me think the CDC does not want general access to this article. I can't justify buying access right now, but I've copied the page to my folder so I can look at this later if needed.

PC: Jan. 2015

CCP: Only one of 22 authors / **ORIGINS**: CDC dominates, virtually all authors are connected with CDC. Kathleen Harriman: CA-Sacramento: Dept. of Public Health; Paul Kriner: CA-El Centro: Imperial County Public Health Dept. / **REF**: US CDC (7); WHO (2); Lu; Lu; Ang, Poh, Win, Chow; Aiello; Cowling, Chan, Fang; Lau, Fung, Wong TW.; Lau, Cowling, Fang; To, Chan, Li; Ng, Lee, Hui, Lai, Ip; Cheng, Tai, Wong (19 of 46) / **FUNDING**: nd Assumed CDC

RCT: No. OS, characterized as a cohort study.

CONTENT: (It's a paid access study. Limited available content.)

IR: Healthcare setting

SS/NC: **CONCLUSIONS**: “pH1N1 transmission **likely occurred in healthcare settings** early in the pandemic **associated with inadequate PPE use**. Organizational support for a comprehensive approach to infectious hazards, including infection prevention training for inpatient- and outpatient-based HCP, is essential to improve HCP and patient safety.”

TA FN01.42.02.00.00 cites:

Reference 40. Zhang Y, Seale H, Yang P et

al.. Factors associated with the transmission of pandemic (H1N1) 2009 among hospital healthcare workers in Beijing, China. *Influenza Other Respir Viruses* 2013; 7:466–71. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.14.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5779818/?report=reader>. PDF: FN01.42.02.14.00.Factors associated with the transmission of pandemic (H1N1) 2009 among hospital healthcare workers in Beijing, China

PC: Pub. Oct. 2012

CCP: Zhang, Seale, Yang, MacIntyre, Blackwell, Tang, Wang / **ORIGINS**: CHINA-Beijing: Beijing CDC, Institute for Infectious Disease and Endemic Disease Control, Capital Med. U. School of Pub. Hlth and Family Med. AUSTRALIA-NSW, Sydney: U. of South Wales, School of Pub. Hlth, and Comm. Med. US-Texas: Lubbock, Texas Tech U., Institute of Environmental and Human Health. / **REF**: Zhang, Yang, Liyange; Deng, Pang, Yang; Wang X., Yang, Seale; Choi, Ching, Jeon, Lee; Pittayawonganon, Pooruk; Cooley, Lee; Aiello; Wu, Xu, Lu; Yin, Chow; Seale, Wang Q., Yang; Seale, Kaur, Wang Q; Amodio, Tramuto, Maringhini; Suresh, Thejaswini, Rajan; US Institute of Med; WHO (15 of 21) / **FUNDING**: Statement of funding: “This study was supported by grant from the National High Technology Research and Development Program of China (863 Program; 2008AA02Z416).”

RCT: No. Case-control study.

CONTENT:

IR: Healthcare setting,.

NOTE: CONCLUSION: Essentially, this was about vaccine efficacy, but I'll check PDF for comments re masks.

CLAIM: Apparently, $\geq 80\%$ of those participating in this study wore MM. Only 5.9% were vaccinated in the case group and 36.3% of the control group was vaccinated. Those with vaccination reported significantly lower risk of infection during pandemic.

IR/CCav: This study was not about masks. RE masks, there was no discernible difference between the two groups with regard to mask use, and so the appreciable difference in infection was attributed to vaccines.

CCav: *** “We were unable to demonstrate any impact of masks or hand washing in HCWs against pandemic influenza.” It proves consistent that prior to COVID, these studies did not bias toward mask wearing, even in the Beijing studies until later on.

TA FN01.42.02.00.00 cites:

Reference 41. Deng Y, Zhang Y, Wang XL et al.. Pandemic influenza A (H1N1) virus infection factors among healthcare workers—a case-control study. Zhonghua Yu Fang Yi Xue Za Zhi 2010; 44:1075–8. [PubMed] [Google Scholar]

FN01.42.02.15.00-

<https://pubmed.ncbi.nlm.nih.gov/21215106/>. PDF: FN01.42.02.15.00.[Pandemic influenza A (H1N1) virus infection factors among healthcare workers - a case-control study] - PubMed (Full text not accessible)

PC: Dec. 2010

CCP: All seven TA / **ORIGINS**: CHINA-Beijing: Beijing Center for Disease Prevention and Control / **REF**: Not available in abstract. / **FUNDING**: nd

RCT: No. OS — Case-control study.

CONTENT:

IR/AME: healthcare setting. It's AME

No relevant information re my question re mask efficacy and no important contribution is made to my understanding.

TA FN01.42.02.00.00 cites:

Reference 42. Chokephaibulkit K, Assanasen S, Apisarnthanarak A et al.. Seroprevalence of 2009 H1N1 virus infection and self-reported infection control practices among healthcare professionals following the first outbreak in Bangkok, Thailand. *Influenza Other Respir Viruses* 2013; 7:359–63. [PMC free article] [PubMed] [Google Scholar]

FN01.42.02.16.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5779842/?report=reader>. PDF: FN01.42.02.16.00.Seroprevalence of 2009 H1N1 Virus Infection and Self-Reported Infection Control Practices Among Healthcare Professionals Following the First Outbreak in Bangkok, Thailand

PC: May 2013

CCP: All TA Asian cultural bias expected / **ORIGIN:** THAILAND-Bangkok: Mahidol U., Dept. of Pediatrics; Dept. of Medicine; Dept. of Infectious Disease; Div. of Center for Nosocomial Infection Control; Dept. of Microbiology / **REF:** WHO; Louisirochanakul, Lerdsmaran, Wiriyarat; Kitphati, Pooruk, Lerdsmaran; Kiertiburanakul, Apivanich, Muntajit; Lerdsmaran, Pittayawonganon, Pooruk; Apisarnthanarak, Mundy; SImmarman, Sunarattiwong, Levy; Chen, Lee, Barr (8 of 13) / **FUNDING:** Statement of funding: “This study was supported by the National Science and

Technology Development Agency and the Thailand Research Fund for Senior Research Scholar and The National Research University Project of the Thailand Office of Higher Education Commission (A.A.).”

RCT: No. Appears to be a case study that involved serologic study, or examination of cases.

CONTENT: Abstract only.

IR: Healthcare setting

OS: It’s essentially a historical record of infection in the 2009 H1N1 outbreak in Bangkok, Thailand.

TA **FN01.42.02.00.00** cites:

Reference 43. Toyokawa T, Sunagawa T, Yahata Y et al.. Seroprevalence of antibodies to pandemic (H1N1) 2009 influenza virus among health care workers in two general hospitals after first outbreak in Kobe, Japan. *J Infect* 2011; 63:281–7. [PubMed] [Google Scholar]

FN01.42.02.17.00-

<https://pubmed.ncbi.nlm.nih.gov/21723615/> or for access to full text links for paid access:

[https://www.journalofinfection.com/article/S0163-4453\(11\)00350-1/fulltext](https://www.journalofinfection.com/article/S0163-4453(11)00350-1/fulltext) PDF:

FN01.42.02.17.00.Seroprevalence of antibodies to

pandemic (H1N1) 2009 influenza virus among health care workers in two general hospitals after first outbreak in Kobe, Japan - PubMed (Abstract only)

PC: Oct. 2011

CCP: All Asian (14) / **ORIGIN**: National Institute of Infectious Diseases, Tokyo, Japan / **REF**: Not available in abstract. / **FUNDING**: nd

RCT: No. It's a case study: "A cross-sectional seroepidemiological study was conducted on 268 HCWs in the two hospitals in Kobe to which all pH1N1 inpatients were directed. Participating HCWs completed a self-administrated questionnaire and provided a single serum sample which was analyzed using a hemagglutination-inhibition (HI) antibody test."

CONTENT: Abstract only.

CCav: *** "The seropositive rate (SPR) for pH1N1 of the exposed group was higher than that of the unexposed group, however not statistically significant (6.8% vs. 3.1%, $p = 0.197$). **There were no statistically significant differences in SPR for any PPE.**"

So that concludes examination of...**FN01.42.02.00.00**— Effectiveness of Masks and Respirators Against Respiratory Infections in Healthcare

Workers: A Systematic Review —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/>

—> Back to **FN01.42.00.00.00prp**—

<https://www.medrxiv.org/content/10.1101/2020.08.12.20173047v3.full-text#xref-ref-6-1> Examining Facemask usage an an effective strategy to control COVID-19 spread.

Pick it up at paragraph: “In the past, several papers have used ...”

I’ll look for claims that require examination of support documentation:

CLAIM: Here is a claim: “Percentage of population wearing masks determines the daily infection incidence and cumulative number of cases”

SS: This is SS based on OS: claim is premised upon a “simulation,” and mathematical models. Language like: “using these assumptions and model calibration, we carried out a set of simulations in which ... and so forth.

CCav/CE: *** **“Strikingly, we observed a negative correlation between the percentage of the population wearing masks and the overall number of cases (Fig. 1B).”** This points to the inadequacy of these sorts of studies and/or presents contradicting evidence in the study results.

CLAIM: TA claims results they achieved agreed with clinical studies that have highlight “the benefit of wearing masks (Fig. 1C, Movie 1).” TAs site the two following: (Let’s look at them.)

Leung, N. H. L. et al. Respiratory virus shedding in exhaled breath and efficacy of face masks. Nature Medicine 26, 676, doi:10.1038/s41591-020-0843-2 (2020).CrossRefGoogle Scholar.

Already vetted in these notes: See **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2>
PDF: FN01.28.03.00.00.Respiratory virus shedding in exhaled breath and efficacy of face masks _ Nature Medicine: Nature Medicine, 26, 676–680

Stefan Pfattheicher, Laila Nockur, Robert Böhm, Claudia Sassenrath, Michael Bang Petersen, 2020, The Emotional Path to Action_ Empathy Promotes Physical Distancing and Wearing of Face Masks During the COVID-19 Pandemic -

Already vetted in these notes: **FN01.28.00.00.00-**
<https://journals.sagepub.com/doi/full/10.1177/0956797620964422> PDF: FN01.28.00.00.00.The Emotional Path to Action_ Empathy Promotes Physical Distancing and Wearing of Face Masks During the COVID-19 Pandemic -

Liang, M. et al. Efficacy of face mask in preventing respiratory virus transmission: A systematic review and meta-analysis. *Travel Medicine and Infectious Disease*, doi:10.1016/j.tmaid.2020.101751 (2020). CrossRefPubMedGoogle Scholar

Already vetted in these notes: See **FN01.38.00.01.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7253999/pdf/main.pdf> PDF: FN01.38.00.01.00.Efficacy of face mask in preventing respiratory virus transmission

CLAIM NOT SUPPORTED: These studies do NOT provide adequate evidence supporting TAs claim.

Continuing **FN01.42.00.00.00prp-**
<https://www.medrxiv.org/content/10.1101/2020.08.12.20173047v3.full> — Examining face-masks ...

SS/SP/AME/OS-MM. (Mathematical Models): Here is a set of statements all predicated on their simulation models which make them all SS and SP based on OS and MM, clearly biased by AME: “By increasing the percentage of the individuals wearing masks, the number of newly infected individuals per day substantially decreases, which will reduce mortality and morbidity. Moreover, since the use of masks eliminates the sharp peak that characterizes SARS CoV2 epidemics, the overall impact of the outbreak on the health system is alleviated. These results highlight the importance of

widespread mask wearing as an effective intervention that can be implemented as soon as the first cases are reported.”

IR: I’m going to find this study inadequate for my purpose and interest since it is essentially a simulated model and nothing I’ve seen so far convinces me it proves anything. The resort to such studies as we have examined thus far, and there have been many, that do nothing to establish the claims of TAs convinces me I’m spending time here better invested in another article. I’ll browse over the portion addressing masks just in case, but otherwise, this will conclude my remarks. Nothing of interest.

FN01.43.00.00.00-<https://www.unthsc.edu/newsroom/wp-content/uploads/sites/16/COVID-19-report-July-20-updated.pdf> PDF: FN01.43.00.00.00.Efficacy of mask mandates - PowerPoint Presentation

PC: July 2020

CCP: No authors identified / **ORIGIN**: US-Texas: Fort Worth, University of North Texas, Health Science Center, Fort Worth — / **REF**: none / **FUNDING**: Assume the college funded the presentation preparation.

RCT: No. It’s entirely OS based SS: This not a scientific study at all. It simply represents the opinions and recommendations of the government health officials.

CONTENT:

I'm only interested in any "science" referenced in these recommendations.

I have read similar studies that approach the question similarly and conclude the mask mandates did not produce any significant reduction in overall cases or hospitalizations, or deaths.

One such study is found at <https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/>

SEE SE01.00.00.00.00-
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/>. PDF: SE01.00.00.00.00.Policy Brief_COVID Mask Mandates Prove Both Ineffective and Unsupported by the Evidence _ The Center for Renewing America

(-) **FN01.43.01.00.00-**
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> PDF: FN01.43.01.00.00.Policy Brief_COVID Mask Mandates Prove Both Ineffective and

Unsupported by the Evidence _ The Center for Renewing America (This article is not one of the 49 asserted to provide substantiation to the claim that masks work, so it is not vetted here.)

See the following excerpts from this article:

CCav: “A look at case rates in states that imposed mask mandates and states that did not provide a sense of mask efficacy played out in real-time. Rhode Island was one of the earliest states to impose mask mandates and lockdowns. **Since the start of the pandemic, it has had the second highest COVID case rate in the nation at 15,826 per 100,000.** New Jersey, which recently reimposed new mask mandates and also implemented some of the earliest and strictest mandates and lockdowns, **has the second highest case fatality rate in the country at 306 deaths per 100,000.**

“Meanwhile, a state like Florida, which did not issue a statewide mask mandate, has a case fatality rate of 237 per 100,000. **This puts Florida at number 10 in terms of number of deaths, below the mask mandate and lockdown-prone states like New Jersey, New York, and Rhode Island.**

“Governor Ron DeSantis (R-FL) left masking policies up to local officials. Despite having a higher population than New York, which imposed a mask mandate in April 2020, Florida’s case fatality rate is currently 16 percent lower than the Empire State’s (237 vs

281). At a minimum, this data suggests that masks, or at least mask mandates, are not the panacea that advocates have claimed.”

So, because this is NOT part of the 49 studies that say MASKS WORK, but one of many that say they DON'T — I'm going to identify this in a way that will separate it from that list.

I'll use SE##.00.00.00.00 where SE represents supporting evidence, that is, evidence that supports my thesis that masks do not work.

SE01.00.00.00.00-
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/>. PDF: SE01.00.00.00.00.Policy Brief_COVID Mask Mandates Prove Both Ineffective and Unsupported by the Evidence _ The Center for Renewing America

However, I'll included it in the FN01.43.01.00.00 as pertinent to that study—

FN01.43.01.00.00-
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> PDF: FN01.43.01.00.00.Policy Brief_COVID Mask Mandates Prove Both Ineffective and

Unsupported by the Evidence _ The Center for Renewing America

PC: Sept 2021

CCP: Authors are not identified. / **ORIGIN:** The U. of North Texas Health Science Center (HSC) at Forth Worth / **REF:** None — it's a power point presentation and does not break out a table of references. Within the slides: National COVID-19 daily news cases as reported in the NY Times / **FUNDING:** nd. Assumed HSC

RCT: No. It amounts to a RL that provides an overview of the key studies, including some relevant RCT studies.

CONTENT:

CE: Essentially, this debunks the primary claim of the article I'm vetting FN01.43.00.00.00—
<https://www.unthsc.edu/newsroom/wp-content/uploads/sites/16/COVID-19-report-July-20-updated.pdf>

But it provides other pertinent information as well.

TAs refer to the following studies for comment:

See Link: A relatively *recent study*... A Beijing study in

2016-Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness —

<https://bmjopen.bmj.com/content/6/12/e012330>

MacIntyre, CR, Zhang, Y, Chughtai, AA, et al. Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness. *BMJ Open*. 2016;6(12):e012330.

Already vetted in these notes: See

FN01.38.00.03.25e-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5223715/>.
PDF: FN01.38.00.03.25e.Cluster randomised controlled trial to examine medical mask use as source control for people with respiratory illness - PMC

CCav: TA FN01.43.01.00.00 examined this article and offer an observation very like my own when I examined it: “However, the data in this study was not of statistical significance in part because of the overall low influenza-like illness (ILI) infection rate in both groups. Therefore, the benefits were so marginal that no definitive conclusion could be reached.”

Next, TA FN01.43.01.00.00 cite **Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers**FREE

A Randomized Controlled Trial —

See Link: A *2011 study* conducted ... an Australian Muslim pilgrims visiting Saudi Arabia ... Osamah Barasheed, et al. Pilot Randomized Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011. See <https://www.eurekaselect.com/article/62953> — this provides only an abstract.

FN01.43.01.01.01-

<https://www.eurekaselect.com/article/62953>. PDF:
FN01.43.01.01.01.Pilot Randomised Controlled Trial to Test Effectiveness of Facemasks in Preventing Influenza-like Illness Transmission among Australian Hajj Pilgrims in 2011 - PubMed (Abstract only)

PC: 2014

CCP: Barasheed, Amasri, Badahdah, Dwyer, Rashid, Hajj Research Team (7 of 12) / **ORIGIN:** The Hajj Research Team; AUSTRALIA-NSW, Westmead: The Children's Hosp., National Centre for Immunisation Research and Surveillance / **REF:** Not available in abstract / **FUNDING:** nd

RCT: Yes.

CONTENT: (This is limited access, abstract only.)

CCav: “Studies to determine the effectiveness of facemasks in preventing influenza have been **INCONCLUSIVE**, largely due to small sample size.

IR: I am certain I’ve seen this abstract before, however, a quick search yielded no hits. Essentially, this was begun as an effort to establish an RCT study that would support masking but failed to achieve that result and was repurposed to show such a large scale RCT could be conducted.

CCav: After all the observed results were calculated and showed favorability toward masks, the researchers were compelled to conclude: However, laboratory results did not show any difference between the two groups. “This pilot study shows that a large trial to assess the effectiveness of facemasks use at Hajj is feasible.”

The next study cited by TA FN01.43.01.00.00 is linked:

See Link: “*A study conducted in 2020 ...*” Bundgaard, et al. Effectiveness of Adding a Mask Recommendation to Other Public Health Measures ... see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7707213/>

Already vetted in these notes: See **FN01.38.00.03.37c.01**.<https://www.ncbi.nlm.nih.gov/pmc/a>

articles/PMC7707213/#__fn_sectitle PDF:
FN01.38.00.03.37c.01.Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers (For DISCLOSURES see
FN01.38.00.03.37c.01.DISCLOSURES Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers_ A Randomized Controlled Trial_ Annals of Internal Medicine_ Vol 174, No 3)

THIS STUDY was RATED BY ECDC as Low to Moderate confidence: see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>, 5

TA FN01.43.01.00.00 offers this summary:

CCav: “The large sample size for this study fits the suggested recommendations outlined by the authors of the Beijing study. And yet the findings in this large RCT show only a 0.3 percentage point difference. **The benefits of wearing a mask, therefore, according to this large and COVID-focused RCT, would appear marginal at best.**”

TA FN01.43.01.00.00 Under “Other studies are far less favorable to proponents of masks”: TA offers:

See Link: “A *2010 study* out of France...”

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0013998>

Already vetted in these notes: See **FN01.38.00.03.25b-**
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0013998>. PDF: FN01.38.00.03.25b.Surgical mask to prevent influenza transmission in households: A cluster randomized trial. PLoS One 2010;5:e13998. (Canini L, Andréoletti L, Ferrari P, D'Angelo R, Blanchon T, Lemaitre M, et al.)

TA FN01.43.01.00.00 next links:

See Link: “Similarly, an RCT *published in New York* in 2010...”

Already vetted in these notes: See **FN01.08.03.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821845/>
PDF: FN01.08.03.00.00.Impact of non-pharmaceutical interventions on URIs and influenza in crowded, urban households. Public Health Rep 2010;125:178-91. (Larson EL, Ferng YH, Wong-McLoughlin J, Wang S, Haber M, Morse SS.)

However, TA FN01.43.01.00.00 links another supporting doc:

See Link: “The *results* of this study ...” by the same

name and authors (same article) at
<https://journals.sagepub.com/doi/pdf/10.1177/003335491012500206> but he refers to it as outlining the RESULTS —
[?] — I want to add this to my FOLDER:

FN01.43.01.02.00-

<https://journals.sagepub.com/doi/pdf/10.1177/003335491012500206>. PDF: FN01.43.01.02.00.Impact of Non-
Pharmaceutical Interventions on URIs and Influenza in
Crowded, Urban Households

**Rated by ECDC as LOW to MODERATE
confidence” see**
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

PC: March-April, 2010

CCP: Larson, Yu-Hui Ferng, Wong-McLoughlin, Wang, Haber, Morse, so it appears at least three have possible Asian culture bias toward masks / **ORIGIN:** USA-NY: Columbia U., Mailman School of Public Health, School of Nursing; Dept. of Epidemiology; Dept/ of Biostatistics. GA: Atlanta, Dept. of Biostatistics & Bioinformatics, Emory U. Rollins School of Public Health. / **REF:** Lee; Kim. Lee; Aiello; Lin; Cowling, Chan, Fang, Cheng, Fung, Wai; Lau JT., Lau M., Kim, Tsui, Tsang, Wong TW; Goh, Lee, Chia, Heng, Chen, Ma; Lau, Tsui, Lau, Yang; Yang, Sugimoto; Nishiura, Chowell; van der Sande, Teunis, Sabel; Li,

Leung, Yao, Song; Inouye, Matsudaira, Sugihara;
MacIntyre, Dwyer, Seale, Cheung; Lau, Kim, Tsui; Cowling,
Fung, Cheng, Fang, Chan, Seto; Lau, Kim, Tsui; Kim,
Sorcar, Um, Chung, Lee; NY Dept. of Health and Mental
Hygiene [?] (18 of 67) / **FUNDING**: nd

RCT: No. OS - comparative study,

CONTENT:

CLAIM: Results re masks as stipulated in the article:
“Despite the fact that compliance with mask wearing was
poor, mask wearing as well as increased crowding, lower
education levels of caretakers, and index cases 0–5 years
of age (compared with adults) were associated with
significantly lower secondary transmission rates (all
 $p,0.02$.” And under Conclusions: “mask wearing was
associated with reduced secondary transmission and
should be encouraged during outbreak situations.”

This seems to run contrary to the finding of TA
FN01.43.01.00.00: “The results of this study were
interesting in that roughly 42 percent of those in the hand
hygiene-only group experienced symptoms of an upper
respiratory infection while nearly 61 percent in the mask
plus hand hygiene group experienced an upper respiratory
infection. While we cannot know for sure whether there
were other factors at play, these findings are of statistical
significance and, in this trial, suggest that wearing a mask

was not only less effective, but potentially counterproductive for preventing primary infection.”

So, let’s search the doc to find what TA FN01.43.010.00.00 is referring to.

Found the 0.61 p-value for hand+mask group — FN01.43.01.02.01.Percent of P relative to groups Image 6-21-22 at 9.42 AM.jpg

Table 3. Regression coefficients and p-values for outcomes from GEE log and GEE Poisson models (for ILI and URIs) in a study of non-pharmaceut New York, November 2006 to July 2008

<i>Outcome</i>	<i>Variable</i>	<i>Variable</i>
Influenza	Intervention (Ref. = Education group)	Hand Sanitizer group
		Hand Sanitizer and Face Mask g
	Caretaker education (Ref. = <high school)	Caretaker: high school graduate
		Caretaker: some college
		Caretaker: college graduate
	Occupation (Ref. = other)	Homemaker/unemployed (prima home)
Service industry (e.g., health car		
ILI	Intervention (Ref. = Education group)	Hand Sanitizer group
		Hand Sanitizer and Face Mask g
	Gender (Ref. = female)	Male

From the Table found in FN01.43.01.02.00 it appears the P-value (Probability of infection) for those in the Hand Sanitizer group was 0.455, or 0.46, and the Hand Sanitizer+Face Mask Group was 0.61. So, where does TA FN01.43.01.00.00 get the 0.41, or 41% — the closest I found was a statement relative to how much time persons spent 40 hours per week outside the home: “Significantly more individuals spent at least 40 hours per week outside the home in the Hand Sanitizer and Face Mask group (42.6%) as compared with the Education (33.8%) or Hand Sanitizer (32.3%) groups ($p < 0.005$) (Table 1).”

I searched 0.41 and 0.40 and 0.42 also 40% and 41% and 41 — some overlap here, but trying to be thorough. The point is, I can't find TA FN01.43.01.00.00 reference to 42% for probable infectious rate attached to any group.

CONFIRMATION: I do find 0.455, which is ~ 0.46 and the 0.61 p-value for the two groups respectively. So, his point stands, and I'm sure I've got some typos, some slips, and so on, but this is not a fall! **The document does support the observation that a significantly greater number of persons.**

The part of the chart I should have examined is the URI (upper respiratory illness) section of Table 3 — in that case, these numbers do not appear anywhere.

The numbers there appear much closer:

I just replaced the above with what follows:

Table 3. Regression coefficients and p-values for outcomes from GEE log and GEE Poisson models (for ILI and URIs) in a study of non-pharmaceutical interventions in New York, November 2006 to July 2008

<i>Outcome</i>	<i>Variable</i>	<i>Variable</i>
Influenza	Intervention (Ref. = Education group)	Hand Sanitizer group
		Hand Sanitizer and Face Mask group
	Caretaker education (Ref. = <high school)	Caretaker: high school graduate
		Caretaker: some college
		Caretaker: college graduate
	Occupation (Ref. = other)	Homemaker/unemployed (primarily home)
Service industry (e.g., health care)		
ILI	Intervention (Ref. = Education group)	Hand Sanitizer group
		Hand Sanitizer and Face Mask group
	Gender (Ref. = female)	Male
URI	Intervention (Ref. = Education group)	Hand Sanitizer group
		Hand Sanitizer and Face Mask group
	Caretaker education (Ref. = <high school)	Caretaker: high school graduate
		Caretaker: some college
		Caretaker: college graduate
	Born outside U.S. (Ref. = no)	Yes
	Gender (Ref. = female)	Male
		Age

The spread between hand sanitizer only group, and the hand+mask group is 0.138 and 0.194 respectively.

So, maybe our TA **FN01.43.01.00.00** confused the ILI spread with the URI spread, and compounded the error by also confusing or missing or typo'd the 42% number when it should have been >45% or something, but we have a problem here.

Back to the article to search for anything approximating TA **FN01.43.01.00.00** statement that roughly 42% of hand-sanitizer group exhibited URI as opposed to 61% of hand+mask group — see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2821845/> (I'm wondering if this is a newer, updated version that was emended and that what TA FN01.43.01.00.00 saw was an error that was corrected, or what I'm seeing is a truth that was covered up???)

Under Incidence of URIs, ILIs, and confirmed influenza: with Table 2 I what appears to be confirmation of TA FN01.43.01.00.00 assertion:

“A total of 5,034 URI symptoms were reported, most commonly rhinorrhea or cough. About 83.3% (424/509) of households had at least one member with one or more symptoms, but 48.6% (1,355/2,788) of members had no reported symptoms. **Households in the Hand Sanitizer**

group included significantly more members without any reported symptoms (57.6% as compared with 49.4% in the Education group and 38.7% in the Hand Sanitizer and Face Mask group, $p < 0.01$).”

So, according to this, the hand sanitizer group (Hgroup) **“included significantly more members without any reported symptoms.”** Fewer incidents of URI infection appeared in the hand sanitizer only group (Hgroup). In the HAND+MASK group (HMgroup) — **there were significantly MORE incidents of URI—57.6% in Hgroup as compares to 38.7% in the HMgroup — and that’s weird.** The numbers are different from TA FN01.43.01.00.00 assertion, **but the differential is very nearly the same.** The spread between 57.6 and 38.7 is 18.9 and that between 61 and 42 is 19 —

Therefore TA FN01.43.01.00.00 is correct in his essential point. Wow, now that was a lot of work.

Now we will move to the 2007 study cited by TA **FN01.43.01.00.00:**

See Link: *“A 2007 study out of Hong Kong...”*
Preliminary Findings of a Randomized Trial of Non-Pharmaceutical Interventions to Prevent Influenza Transmission in Households:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/>

I've seen this study before:

Already vetted in these notes: See **FN01.08.06.00.00**-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2364646/>.
PDF: FN01.08.06.00.00.Preliminary Findings of a
Randomized Trial of Non-Pharmaceutical Interventions to
Prevent Influenza Transmission in Households - PMC

TA **FN01.43.01.00.00** observed: **** (This study repeatedly suggests masks CAN CONTRIBUTE to INFECTION) “One of the key findings in this study was that **the secondary attack rate of the ILI was twice as high in the mask group as in the hand hygiene and control groups**. While the overall difference was not statistically significant (8 percent secondary attack rate for masks compared to 4 percent for the other two groups), the findings nevertheless undermine arguments in favor of masks as a means to reduce transmission.”

Because of the problems I encountered finding TAs quote or statement within the cited reference with regard to the NY Study cited above (<https://journals.sagepub.com/doi/pdf/10.1177/003335491012500206>) I probably need to examine this article more closely to find corroboration of TA **FN01.43.01.00.00** observation:

ACK: I found a CCav, but it is likely I noted this in my first vetting of this article. However, just in case: “If an

influenza pandemic emerges, the likely limited supply of antivirals and vaccines will mean that non-pharmaceutical interventions have a major role to play in mitigating disease spread [11], [12]. **While conventional wisdom proposes that hand hygiene [8], and perhaps surgical masks [26], could be effective measures to reduce household transmission of influenza, all available data have so far been derived from at best observational settings and mostly based on anecdotal evidence rather than controlled trials [7], [8], [27].** Our study is the first reported community-based randomized trial of these interventions specifically against influenza, with laboratory-confirmed outcomes.”

So, this acknowledges that up till this study, all before it were inadequate to establish mask efficacy. Does *this article* serve that purpose?

CCAV: I remember this CCav — TAs of the article in question admit their study was not sufficiently powered to “assess the relative efficacy of the interventions”: “Whereas the present study was not powered to assess the relative efficacy of the interventions...” they aver, however, that their study is valuable to demonstrate “the feasibility of our study design and the local characteristics of influenza transmission.”

CCav: **“Although we found little effect of the interventions in preventing household transmission,**

our study was underpowered.”

NOTE: So, we have yet ANOTHER RCT attempting to satisfy the need for REAL SCIENCE to support mask mandates that concludes with **“Nevertheless, our point estimates are close to null, STRONGLY SUGGESTING TRUE EQUIPOISE (balance, equalization of forces, etc.) UNTIL A DEFINITIVE RANDOMIZED TRIAL WITH SUFFICIENT POWER (i.e., much larger sample size) RIGOROUSLY TESTS THE RELATIVE EFFICACY OF THESE INTERVENTIONS.”**

By the way, this study was funded by CDC.

So far, I can find nothing approximating TA FN01.43.01.00.00 assertion that “the secondary attack rate of the ILI was twice as high in the mask group as in the hand hygiene and control groups.”

One more look: (If only these guys would quote at least a string of four or five words to identify where in the doc they found support for their statement ... very frustrating!)

Here is table three. It purports to offer “Factors affecting the laboratory-confirmed influenza and clinical influenza secondary attack ratios in the 350 household contacts” — this has to be the source.

Table 3

Factors affecting the laboratory-confirmed influenza and clinical influenza secondary attack ratios in the 350 household contacts.

	n	Laboratory -confirmed influenza		Clinical influenza*					
		Definition 1	Definition 2	Definition 1	Definition 2	Definition 3	Definition 3	Definition 3	Definition 3
		O	95% CI for OR	O	95% CI for OR	O	95% CI for OR	O	95% CI for OR
Control group	20	1.00		1.00		1.00		1.00	
Face mask group	60	1.16	(0.31, 4.34)	0.88	(0.34, 2.27)	0.87	(0.30, 2.51)	2.00	(0.57, 7.02)
Hand hygiene group	83	1.07	(0.29, 4.00)	0.86	(0.39, 1.91)	0.88	(0.36, 2.14)	0.80	(0.22, 2.89)
Child (aged ≤ 5)	54	1.00		1.00		1.00		1.00	
Adult	22	1.00	(0.43, ...)	0.00	(0.31, ...)	1.00	(0.56, ...)	1.00	(0.36, 4.60)

(aged 16+)	9	75	7.16)	59	1.15)	40	3.53)	28	
Female	2	1.		1.		1.		1.	
	1	00		00		00		00	
	1								
Male	1	1.	(0.52,	0.	(0.51,	0.	(0.39,	0.	(0.38, 2.58)
	3	10	2.33)	87	1.47)	76	1.48)	99	
	4								
Not vaccinated	3	1.		1.		1.		1.	
	0	00		00		00		00	
	8								
Vaccinated in past 1 year	3	0.	(0.07,	1.	(0.72,	1.	(0.55,	0.	(0.10, 4.07)
	7	46	2.98)	42	2.79)	30	3.08)	63	
Child (aged ≤ 5) index	5	1.		1.		1.		1.	
	2	00		00		00		00	
Adult (aged 16+) index	7	0.	(0.18,	0.	(0.42,	0.	(0.36,	0.	(0.16, 1.84)
	0	51	1.43)	83	1.66)	82	1.87)	55	
Female index	6	1.		1.		1.		1.	
	8	00		00		00		00	

Male	5	0.	(0.30,	0.	(0.48,	0.	(0.35,	1.	(0.43, 4.85)
index	4	80	2.13)	95	1.88)	79	1.80)	44	

[Open in a separate window](#)

*Clinical influenza definition 1 is fever \geq 38°C or at least 2 of headache, runny nose, sore throat, aches or pains in muscles or joints, cough, or fatigue. Clinical influenza definition 2 is at least 2 of fever \geq 37.8°C, cough, headache, sore throat, aches or pains in muscles or joints. Clinical influenza definition 3 is the standard CDC classification of fever \geq 37.8°C plus cough or sore throat.

†OR=odds ratio.

PDF: FN01.43.01.02.03.Table - PMC

So, once again, my TA FN01.43.01.00.00 is either looking at a different version of this article, or ??? — from Table 3, we can ascertain the following:

NOTE: None of the number spreads is equivalent to “twice as high” but the numbers reflecting clinical diagnosis under definition 3, which is the “standard CDC classification of influenza: fever \geq 37.8c, plus cough or sore throat are actually greater than “twice as high”: Face mask group showed a greater incidence of ILI: 0.57 with odds ratio of 7.02 than the Hand hygiene group: 0.22 with odds ratio of 2.89).

CONFIRMATION OF CITATION TO SUPPORT STATEMENT: Once again, while precision is off, **the essential point is supported**. The mask group was *more* than twice as likely to show symptoms of ILI consistent with the CDC standard clinical classification for clinical influenza diagnosis.

HOWEVER: it should be pointed out that with regard to LAB-CONFIRMED influenza, the numbers are much closer:

Mask group - 0.31 with a odds ratio of 4.34 as opposed to the Hand hygiene group: 0.29 with a 4.00 odds ratio. Nevertheless, the POINT continues to be served — **the mask group was MORE LIKELY to present with lab-confirmed influenza than the hand hygiene group.**

TA FN01.43.01.00.00 observes: “Simply put, their effectiveness appears to be marginal at best. **The only conclusion one can reach is that mask policies for the general public do not correlate with an actual reduction in viral transmission.**”

—> Back to **FN01.43.01.00.00-**
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> — Policy Brief: COVID Mask ...

Next TA cites the “The Bangladesh Study.” Sept. 1, 2021, a large scale RCT conducted in Bangladesh. Let’s take a look.

See Link: “On September 1, 2021, the findings of a *large-scale RCT conducted in Bangladesh* were released ...”

Title: The Impact of Community Masking on COVID-19: A Cluster-Randomized Trial in Bangladesh

Not found in these notes:

FN01.43.01.01.02-https://www.poverty-action.org/sites/default/files/publications/Mask_RCT____S

ymptomatic_Seropositivity_083121.pdf PDF:
FN01.43.01.01.02.The Impact of Community Masking on
COVID-19-RCT in Bangladesh

PC: August 2021

CCP: Jason Abaluck, first named, see Ahmed Mushfiq Mobarak last named (These authors are connected with Bill & Melinda Gates funding for this research, see below) Kwong, Chung, Huq, (3 of 22 authors with possible cultural mask bias) / **ORIGINS:** Yale, Stanford, Berkeley, Bangladesh, Johns Hopkins Bloomberg School... US-MD, and Australia. Given date and these institution's fraternity with China, I think CCP bias likely. On pages 92-94 we find a polling of "policy makers" and among them WHO, NCAER and **WORLD BANK [???—What interest does World Bank have in such a study?]**.

RCT: No. CRT (Cluster-Randomized Trial) The difference is that the randomization involves something other than the patient or participant. These are used in areas such as "education and public health research," where the interest is in testing methods or approaches to patient care — as opposed to "evaluating the physiological effects of a specific intervention."

NOTE/SP: *** What does this mean? Studies of this kind do not evaluate, for example, the question of mask

efficacy in blocking a virus, penetration issues are not considered, etc. Conclusions depend on assumptions with regard to those questions (AME). They evaluate on an OS basis the affect of this or that intervention on groups. The “randomization” is in differentiating groups rather than individuals. **In my opinion, this was created to borrow credibility from RCT to OS based studies. It goes to this whole trend toward viewing populations as groups, or collectives, rather than as individuals. But this is very dangerous — it’s the foundation of racism premised on stereotypes rather than on individual experience with persons, that is, individuals.**

See TECH06.Randomized controlled trials_ Overview, benefits, and limitations <https://www.medicalnewstoday.com/articles/280574#what-is-a-randomized-controlled-trial> for explanation of RCT. (This includes important information to this study. ***)

See TECH07.Cluster Randomized Trials - Rethinking Clinical Trials <https://rethinkingclinicaltrials.org/chapters/design/experimental-designs-randomization-schemes-top/cluster-randomized-trials/> to understand “cluster-randomized trials”

CONTENT: TA **FN01.43.01.00.00** asserts that **FN01.43.01.01.02 CLAIMED**: “mask-wearing as an intervention ‘demonstrates a scalable and effective method’ to reduce symptomatic COVID-19 infection, with a

nearly 12 percent reduction in symptomatic COVID-19 and a 9.3 percent reduction in seroprevalence.”

FIND the CLAIM: Again (groan) TA **FN01.43.01.00.00** does not connect his citation with the support statement. FN01.43.01.01.02—Impact of Community Masking does present the phrase “demonstrates a scalable and effective method” but not in a context that asserts a near 12 percent reduction in seroprevalence. Here is the sentence where I found the quoted portion: Conclusion: Our intervention *demonstrates a scalable and effective method* to promote mask adoption and reduce symptomatic SARS-CoV-2 infections.” Clearly, TN **FN01.43.01.01.02** DOES assert that their intervention demonstrates a scalable and effective method to promote adoption and reduce symptomatic SARS-CoV-2. But, as you can see, it appears from the context of the quoted matter the TA was actually more focused on promoting mask use, and asserting, with AME, that masks “reduce” infection. So, close! And in fact it is so close that it suggests the version I’m looking at is updated. Generally, this is stipulated somewhere, so I’ll take a look. But, as I pointed out, I’ve had this challenge repeatedly with TN **FN01.43.01.00.00** [???]. So far, in each instance, I’ve been able to find matter in the cited reference that virtually justifies the assertions. But it is odd that consistently there is not a direct connection between the assertion and the reference.

NOTE: Here is an example of content in the cited doc

that essentially confirms the assertion made: “We find clear evidence that surgical masks lead to a relative reduction in symptomatic seroprevalence of 11.2% (aPR = 0.89 [0.78,1.00]; control prevalence = 0.80%; treatment prevalence = 0.71%). For cloth masks, we find an imprecise zero, although the confidence interval includes the point estimate for surgical masks (aPR = 0.95 [0.79,1.11]; control prevalence 0.67%; treatment prevalence 0.62%).” But there is no assertion to 12%, and I don’t think 11.2 is “nearly 12%.” It would be more like ~11%. Again, however, the essential point being asserted is generally supported even if the citation is not accurate in terms of specific numbers.

IR: Because this study actually does not study the efficacy of masks. It offers conclusions about masks based on observations made of results in groups, in this case, villages, where one village was encouraged to wear masks and another was not. The problem with these sorts of studies is the wide variety of confounders present: the relative sanitation practices of individuals within each group can have a very significant impact on infectivity measured for the whole group; the relative health status of members of one over another group, the sanitation circumstances of the various villages, and the rest can go on compromising any conclusions anyone might take from such a study.

AME: The AME is evident — this study set out to

prove mask wearing efficacy in order to encourage wider acceptance of mask use. “Our objectives were to identify strategies that can persistently increase mask-wearing and assess the impact of increasing mask-wearing on symptomatic SARS-CoV-2 infections.”

OS: The “observation” control involved observers at social gathering places, such as Mosques, markets, main roads to villages, and tea stalls —

OS: The outcome tested for is seroprevalence — the percentage of persons in a group that test positive for the appearance of, in this case, the COVID pathogen. There are problems with this as a sole criterion since, first, they did not test everyone, and second, no filter was in place for false positives.

OS: After five months, the perceived impact of the intervention “faded.” This, even though the intervention group continued to wear masks!!!

CCav: The differential was very small. COVID-like symptoms appeared in 7.62% in the INTERVENTION arm (the group where mask and distancing interventions was implemented and encouraged) as opposed to 8.62% in the “control arm” meaning those groups where the interventions were not encouraged. This is a 0.01 differential — ???? It’s statistically meaningless.

In order to increase the differential, they adjusted for “baseline covariates” and this gave them a 9.3% reduction. I would have to examine the “baseline covariates”: did they adjust for age variations, relative health variations, and etc. — as per some of the confounders I mentioned above?

NOTE/OS: *** One interesting note on the questionable value of questionnaires about face mask use: “An August 2020 phone survey in rural Kenya finds that while 88% of respondents claim to wear masks in public, direct observation revealed that only 10% actually did [30].”

CCav: It does not appear this study took into consideration what is called study contamination — did any or none, or many or few persons in the “control group” electively wear masks?

OS: While they tested symptomatic persons in each group they cannot know how many or if any persons with symptoms avoided testing.

CCav: Again, the admission of bias is refreshing but presents a concerning CCav in my opinion: “We present results from a cluster-randomized controlled trial of a scalable intervention designed to increase mask-wearing and reduce cases of COVID-19.”

NOTE: I’ve seen this study before: “While critics of mask mandates suggest that individuals who wear masks

are more likely to engage in high risk behaviors, we found no evidence of risk compensation as a result of increased mask-wearing. In fact, we found that our intervention increased the likelihood of physical distancing, presumably because individuals participating in the intervention took the threat of COVID-19 more seriously. These findings should be interpreted with caution, as these behavioral responses may be especially context-dependent.” I remember this paragraph and flagging it as indicating that mask wearing increases social distancing — creating a sense of ALIENATION.

LIMITATIONS/CCav: * PROBLEMS WITH OS:**
“Survey respondents could have changed their likelihood of reporting symptoms in places where mask-wearing was more widespread.” In other words, there is a natural instinctive wish to give a positive report— *we have been wearing masks because they are supposed to help us, I want to encourage the surveyor with a positive report.* Also, because symptoms were mild perhaps they were **not reported by this group**. Whereas, in the other group, presuming they were not told anything about masks, etc. they would more likely be comfortable reporting on their symptoms.

It was not possible to eliminate any correspondence between villagers of one village with others in another.

SP: Every limitation is skewed toward suggesting their

results would likely have been greater than the <10% achieved after adjustments are made for covariates.

SP: They brush away adverse reactions earlier saying there were “none.” Here, on p. 33, they admit: “While we did not directly assess harms in this study, there could be costs resulting from discomfort with increased mask-wearing, adverse health effects such as dermatitis or headaches, or impaired communication.”

NOTE: This study limits its assertions to PPE and defers conclusions regarding source control to a future study: “Whether people with respiratory symptoms should generally wear masks to prevent respiratory virus transmission—including for viruses other than SARS-CoV-2—is an important area for future research. Our findings suggest that such a policy may benefit public health.”

SP: BIAS—GiveWell.org provided grant to fund this study. GiveWell has a connection with Bill & Melinda Gates Foundation — see May 11, 2018 article “A conversation with Bill & Melinda Gates Foundation” here [https://files.givewell.org/files/conversations/Gates_Foundation_05-11-18_\(public\).pdf](https://files.givewell.org/files/conversations/Gates_Foundation_05-11-18_(public).pdf)

I have no immediate interest in chasing down whether Gates’ foundation contributed to the funding of this study. We stipulated that two of the authors, Jason Abaluck, and Mushfiq Mobarak are financially connected to B&MGF.

However, we know that Bill & Melinda Gates Foundation has funded efforts to “encourage masking and COVID-19 vaccines in the developing world”:

<https://som.yale.edu/story/2021/gates-foundation-grants-support-faculty-led-initiative-encourage-masking-and-covid-19> where Bangladesh is specifically mentioned: The BMGF [Bill & Melinda Gates Foundation] has donated \$3 million to the NORM project, which last year established a successful formula for mask-wearing implementation in Bangladesh, Nepal; Pakistan, India; and parts of Latin America.”

Let’s add this article to my archives establishing B&MGF involvement in mask studies: Gates Foundation Grants Support Faculty-Led Initiative to Encourage Masking and COVID-19 Vaccines in the Developing World:

**** **FN01.43.01.01.03-**

<https://som.yale.edu/story/2021/gates-foundation-grants-support-faculty-led-initiative-encourage-masking-and-covid-19>. PDF: FN01.43.01.01.03.Gates Foundation Grants Support ... Encourage Masking and ... Vaccines

No need to vet this article. Here is proof of Abalulck and Mushfiq connection to Gates and Gate’s funding of research to promote mask wearing:

*** “Based on research led by Jason Abaluck and

Ahmed Mushfiq Mobarak, both professors of economics, the NORM project's initial study showed that a "cocktail" of four interventions substantially increased mask usage. The elements include no-cost masks delivered door-to-door; offering information on mask benefits; reinforcing mask-wearing; and modeling and endorsement by local leaders. To reinforce these key elements, Mobarak's team created the acronym NORM. A second stage in the study found that the villages where the intervention took places had lower levels of symptomatic COVID infections, especially among older people and when surgical masks were used." Obviously, this study is suspect for bias. Also, it's an OS and compromised by many confounders.

Now, TA FN01.43.01.00.00 offers a pretty good response to the Bangladesh study: while it tracks along with my own observations given above, it does add some important insight:

CE: *** (Not used here to suggest TA contradicts his own assertions but that matter in this citation contradicts the maskers arguments.) "However, there are key questions that remain about this study. **The study did not conduct a large-scale baseline test for seroprevalence of COVID-19 antibodies prior to moving individuals into the control and intervention groups, meaning it is unclear how many participants had already had prior COVID-19 infections.** This would have given researchers a more accurate comparison of

seroprevalence in both groups before and after the masking intervention.

“Importantly, the researchers also only tested those who self-reported symptoms, which would potentially bias results of the study. With individuals receiving COVID-19 testing after reporting symptoms, this raises the possibility of whether a demand effect was transpiring over the course of this study. A demand effect is when participants in a study interpret the purpose of the study and change their behavior in accordance with what they believe is occurring. [Something I mentioned in my observations but was not aware this had a name: demand effect!] Such an effect would bias results of the Bangladesh study and likely skew the findings.

“Those who released the study should address some of these shortcomings and provide more information going forward.”

NOTE: *** My own overall assessment conclusion to the Bangladesh study is that there are **too many confounders causing potentially skewed results and the evident bias** that obviously was driving the researchers. They intentionally set out to encourage more wide spread mask use and I think contrived to achieve their goal. *** Understand the difference between having a SCIENTIFIC OBJECTIVE and a SOCIAL POLICY OBJECTIVE and the impact these can have on research. **A scientific objective more suitable would have been to ascertain whether or not masks provide any**

protection and if so, is it significant. The study, unfortunately, began with the assumption, and set a policy objective rather than a scientific one.

Next TA **FN01.43.01.00.00** goes into the question of school mask mandates:

Flashpoint: Mask Mandates in Schools:

CCav: *** A “large-scale study” of COVID-19 transmission in schools was published by CDC — it found **a negligible health benefit to masking school children:** “As highlighted above, what data exists from various **randomized controlled trials suggests a statistically insignificant benefit to wearing a mask.** A large-scale study of COVID-19 transmission in schools, published by the CDC, found this also applied to student masking measures.”

Here is the study: See Link: “*A large-scale study of COVID-19...*” Does it say researchers found a *negligible health benefit to masking school children?*

FN01.43.01.02.04-

<https://www.cdc.gov/mmwr/volumes/70/wr/mm7021e1.htm>
? PDF: FN01.43.01.02.04.Mask Use and Ventilation Improvements to Reduce COVID-19 Incidence in Elementary Schools — Georgia, November 16–December 11, 2020 _ MMWR

PC: May, 2021

CCP: Gettings, Czarnik, Moris, Haller, Thompson-Paul, Rasberry, Lanzieri, Smith-Grant, Aholou, Thomas, Drenzek, Mackellar / **ORIGIN**: GA Dept. Pub. Health; San Antonio, TX, so, yeah, pretty much. / **REF**: CDC (3), Tarasawa; Ueki, Furusawa, Horimoto (Japan) (5 of 9) / **FUNDING**: nd

RCT: No. A survey collected data analyzed for this study which is a retrospective data analysis.

CONTENT: Query: Does this study/article support the claim that the “*A large-scale study of COVID-19...*” found a *negligible health benefit to masking school children?*

The assertion of TA FN01.43.01.00.00 does not align with overview of FN01.43.01.02.04—Mask Use... provided by CDC: “**COVID-19 incidence was 37% lower in schools that required teachers and staff members to use masks and 39% lower in schools that improved ventilation.** Ventilation strategies associated with lower school incidence included dilution methods alone (35% lower incidence) or in combination with filtration methods (48% lower incidence).”

Here we go again! This has happened about three times already. Each time, I’ve been able to find material in

the cited reference that justified TA's assertions, but this is very strange. I'll look again. But it's beginning to appear some great effort has been invested in undermining this study, or the study was not done with the level of care required. Perhaps this is an older version of the article? TA published Sept. 2021, that's fairly recent. The elementary school study is May of 2021, our TA published in September, roughly five months later — it would seem likely TA had the same article I'm evaluating.

So far, each time this happens, a deeper reading uncovers what TA is responding to. Let's see.

CLAIM: A CDC published article (<https://www.cdc.gov/mmwr/volumes/70/wr/mm7021e1.htm>?—alternate: <https://www.cdc.gov/mmwr/volumes/70/wr/mm7021e1.htm?#contribAff>) finds mask use provides statistically insignificant benefits to students.

*** TA FN01.43.01.02.04 — Mask Use..., the CDC article in question: “In the current study, the lower incidence in schools requiring mask use among teachers and staff members is consistent with research on mask effectiveness (6), and investigations that have identified school staff members as important contributors to school-based SARS-CoV-2 transmission (7). **The 21% lower incidence in schools that required mask use among students was not statistically significant compared**

with schools where mask use was optional.”

Confirmed: Assertion made by TA FN01.43.01.00.00
—Policy Brief... is supportable by cited reference
FN01.43.01.02.04—Mask Use ...

Notice CDC article (FN01.43.01.02.04) references (6)
as a sample of the sort of mask effectiveness research
they are talking about:

6. Ueki H, Furusawa Y, Iwatsuki-Horimoto K, et al.
Effectiveness of face masks in preventing airborne
transmission of SARS-CoV-2. *mSphere* 2020;5:e00637-
20. <https://doi.org/10.1128/mSphere.00637-20>external
icon PMID:33087517external icon

Already vetted in these notes: **FN01.39.03.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7580955/>
(Full Text) PDF: FN01.39.03.00.00.Effectiveness of Face
Masks in Preventing Airborne Transmission of SARS-CoV-
2 - PMC. SUPP: FN01.39.03.00.00.SUP [mSphere.00637-
20-s0001.docx](#)

This article does not prove masks protect against viral
infection.

The CDC article also cites (7)

7. Gold JAW, Gettings JR, Kimball A, et al.; Georgia
K–12 School COVID-19 Investigation Team. Clusters of

SARS-CoV-2 infection among elementary school educators and students in one school district—Georgia, December 2020–January 2021. MMWR Morb Mortal Wkly Rep 2021;70:289–92. <https://doi.org/10.15585/mmwr.mm7008e4external> icon PMID:33630823external icon

Do not find this article in these notes:

FN01.43.01.02.06-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8344983/>. PDF: FN01.43.01.02.06.Clusters of SARS-CoV-2 Infection Among Elementary School Educators and Students in One School District — Georgia, December 2020–January 2021

PC: Jan. 2021 (Corrected Mar. 12, 2021)

CCP: No authors flagged for potential cultural mask bias, but 11 of 18 are directly connected to CDC; and all others to Georgia govt.: so 100% potential for professional bias susceptible to CCP influence) / **ORIGIN:** CDC COVID-19 Response Team; CDC Epidemic Intelligence Service; Georgia Dept. of Public Health; Georgia, Marietta: Cobb & Douglas Public Health; City Schools / **REF:** CDC (2); Ismail, Saliba (3 of 7). / **FUNDING:** nd Assumed CDC

RCT: No. Essentially, this is a report on findings derived from data collected re elementary school educators and students in one school district from the period Dec. 2020-Jan. 2021.

CONTENT: Actually, I would stipulate to the claim that school staff contribute to school-based spread.

CCP: This article is compromised by CCP bias — sadly, the CDC cannot be trusted to present independent research any longer.

SS: This article offers no science supporting SS conclusions and assertions that are based on OS and, I think, influenced by CCP bias.

—> Back to **FN01.43.01.02.04**—Mask Use ...

However, back to looking for anything in Mask Use & Ventillation ...

<https://www.cdc.gov/mmwr/volumes/70/wr/mm7021e1.htm>

? (alternate address to the same article:

<https://www.cdc.gov/mmwr/volumes/70/wr/mm7021e1.htm>

?#contribAff) that conforms to TA's assertion that **the CDC found masks to provide insignificant protection.**

Searched the words *insignificant*, *benefit*, let's try *mask*.

All the above statements tend to affirm mask efficacy. Of course, it's OS, and there are no controls for lab-confirmed cases, or sorting out confounders and so on. But the question before us is this. TA FN01.43.01.02

The only statement I can find even remotely approximating TA's assertion was noted above: "The 21% lower incidence in schools that required mask use among students was not statistically significant compared with schools where mask use was optional." But this is not saying the same thing SE01 TA is asserting in his statement:

One more pass. Sometimes the information linking to TA **FN01.43.01.00.00**—Policy Brief... is found in the tables of the cited reference. Table 1: TA's CLAIM: this study found what various RCTs have found, and that is the benefit of masking is insignificant.

We do notice some issues when examining the table.

First, the spread between mandated and optional schools is an average of 3.81 cases per 500 students in the optional group, and 2.44 in the required group.

According to CDC—Mask use...: "Adjusting for county-level incidence, COVID-19 incidence was 37% lower in schools that required teachers and staff to wear masks and 39% lower in schools that improved ventilation, COMPARED WITH SCHOOLS THAT DID NOT USE THESE PREVENTION STRATEGIES."

And yet, according to the same CDC article, there was only a 21% differential between mandating schools

and optional schools, and this is considered “not statistically significant”:

“The 21% lower incidence in schools that required mask use among students was not statistically significant compared with schools where mask use was optional.”

So, I’m confused, since in the numbers given earlier the differential was 37% lower, so apparently adjusting for county wide seems to make the difference? Widening the data spread does help reduce the impact of some confounders that might exist when comparing results between schools in a more narrow data set. It’s not known what peculiarities might have factored in the mandated masked group that did not in the optional mask group, or vice versa. Nevertheless, even in a more broad set, confounders are still a factor making these sorts of studies virtually useless beyond, perhaps, encouraging a closer look at the data, and for any other differentials between the groups.

Furthermore, the CDC—Mask Use... TA is compelled by this to offer an explanation why. The fact that TA must attempt to explain this tells us it DOES present some evidence contrary to their expectations and assertions.

*** [AN IMPORTANT WORD ON STUDIES USED TO PROVE MASKS WORK] I’m not sure if these researchers considered any correlation between schools mandating masks and also providing better ventilation, or vice versa.

Also, was there any correlation between mask mandates and desk distancing? In other words, if you have a ratio of 3.81 cases per 500 students in the optional group, and in the other group only 2.44 per/500, did more or fewer of the mandate group of schools provide ventilation, or desk distancing—is it possible this is a variation that should have been taken into consideration? Finally, without a great deal more information about the demographics of the students in each group, were more in one group more susceptible than the other for reasons having to do with unknowns like contact outside school activities, DNA susceptibility differentials, work place environment of parents or older siblings and the contacts they experience — it is possible that a certain groups demographic idiosyncrasies in eating, exercise, personal hygiene — there are so many factors that can skew our interpretation of data like what is presented here that it's bewildering — this is the reason the best thing to do is let the mechanical science guide conclusions we make from our observational studies. If the pure mechanical science of masks, based on physical experiments that examine viral penetration of mask fabrics, consideration for leakage, and consideration for droplet evaporation, scatter upon mask impact, and respiration on facilitating desiccation, and the aerodynamic behavior of aerosols, show virions escape capture by masks by an amount sufficient to transmit disease, then wearing masks ARE NOT EFFICIENT to protect against viral spread in the community no matter how many times a cohort, cluster, group, intervention, or

other observation based trial is done that suggests otherwise.

So, given the admission by the CDC TA of “Mask Use...” that there was no statistical difference between mandated and optional schools, together with the confounders I identified above, and finally, the fact that the data from this study cannot be used to infer causal relationships — in other words, it cannot be used to say because schools a,b,c... did not mandate masks, while schools d,e,f ... did, the corresponding ratios are not necessarily related to, or caused by, one set mandated masks and the other set did not, I must conclude TA FN01.43.01.00.00 Policy Brief did fairly represent the CDC-Mask Use article.

While I am annoyed that TA FN01.43.01.00.00 did not make a more directly connected link with the articles he cites, the fact is, it IS EVIDENT TA read the cited articles deeply and not superficially. Rather than point to a single statement supporting his assessment, he summarizes the overall gist of the articles he is citing. I think one should do that, but then, when offering a summary statement, stipulate as much, and in a footnote perhaps offer the break down, or the collection of statements made in the article that support the summary.

CCav: MAJOR CCav: *** **“Finally, the data from this cross-sectional study cannot be used to infer causal**

relationships.” From DISCUSSION last sentence in the fourth paragraph. You see, one thing about these articles presented by CDC and WHO, they have a reputation to protect and MUST provide a way to maintain that integrity while at the same time serve the aims of the propaganda.

Okay, I will take the 21% remark to be the basis of the assertion presented by TA FN01.43.01.00.00—Policy Brief that the CDC admitted mandated mask use produced an insignificant difference in controlling infection spread from optional mask use policies.

NEXT: TA FN01.43.01.00.00 takes us to the Spain Study: Apparently, I don't have this study in these notes:

See Link: “These findings were further bolstered by a *study conducted in Spain* and published in July 2020...”

FN01.43.01.02.05-

https://journals.lww.com/pidj/Fulltext/2021/11000/Age_dependency_of_the_Propagation_Rate_of.2.aspx PDF:
FN01.43.01.02.05.Age-dependency of the Propagation Rate of Coronavirus Disease 2019 Inside School Bubble Groups in Catalonia, Spain... _ The Pediatric Infectious Disease Journal.pdf

PC: Nov. 2021 (Accepted for publication July, 2021)

CCP: Sergio, Enric, Marti, Daniel, Iolanda, Juan,

Antoni, Uxue, Pilar, Marta, Julia, Anna, Ramon, Pere, Quique, Clara / **ORIGIN**: SPAIN-Barcelona: Dept. of Physics, U. ... de Catalunya; Catalonia: this is presented in Spanish and I'm having trouble writing out the institutions involved, U. of Barcelona, Biomedica en Red de Epidemiologia y Salud Publica; etc. etc.

MOZAMBIQUE-Maputo Centro de Invetigacao em Saude de Manchica. / **REF**: -European Centers for Disease Control (ECDC); US CDC; Wu, Wong JY.; Davies (2 of 21). / **FUNDING**: Full statement on funding: "Supported by Spanish Ministry of Science and Innovation through the 'Centro de Excelencia Severo Ochoa 2019-2023' Programgrant CEX2018-000806-S (I.J., J.J.G.G., Q.B.), Generalitat de Catalunya through the CERCA Program (I.J., J.J.G.G.), Government of Mozambique (Q.B.), Spanish Agency for International Development (Q.B.), Spanish Ministry of Science andInnovation grant PGC2018-095456-B-I00 (S.A., D.L., C.P.), European Commission, DG-CONNECT(CNECT/LUX/2020/LVP/0085) grant LC-01591965 (S.A., E.A.-L., M.C., D.L., C.P.), La Caixa Foundation grant ID 100010434under agreement LCF/PR/GN17/50300003 (M.C.), Generalitat de Catalunya, Department of Health (A.S.-A.), DirectorateGeneral of Health Research and Innovation through the program "Escoles Sentinella" (January 2021) (A.S.-A.)."

[Investigating a possible link between Gates and Spanish Ministry of Science and Innovation, I came across

an article fully, and I think adequately, debunking the notion that Bill Gates grandfather participated in the Rockefeller funded vaccination program of 1918. However, included in the hits surrounding my search query, I also found an article providing an image, pdf, of a press release from the Bill & Melinda Gates Foundation— *Foreign Talent Research Center, Ministry of Science and Technology of the People’s Republic of China*. Released to Beijing, China. (This is not denied by the B&MGF, and it is corroborated in the Epoch Times: https://www.theepochtimes.com/gates-foundation-funding-china-to-recruit-foreign-scientists_4616121.html. Complete with photo of Bill and Xi in a friendly hand shake). What to make of it is a matter of some speculation, but here is one alternative media site that I think does a fair job of assessing the significance of this: <https://ussanews.com/2022/07/22/bill-gates-funding-a-communist-party-program/>. The blog post is titled: “Bill Gates (Not a Scientist) Funding A Communist Party Program!” — which should give anyone pause for reflection. This FUNDING was directed to the CCP Ministry of Science and Technology. So, what about any link between Gates and Spain?

See

<https://www.armstrongeconomics.com/international-news/spain/spain-is-in-partnership-with-bill-gates/>. I think I’ll add this to my SE archive: See **SEO08.00.00.00-**
<https://www.armstrongeconomics.com/international-news/spain/spain-is-in-partnership-with-bill-gates/> PDF:

SEOO8.00.00.00.Spain is in Partnership with Bill Gates _ Armstrong Economics.

I do not find a direct link between Gates and Spain's Ministry of Science and Innovation, but it's clear there is a link between Gates and Spain's mask and vaccine policies.]

RCT: No. It's a species of cohort or cluster studies/trials, called Bubble Groups.

CONTENT: CLAIM: This study bolsters the CDC study vetted above. The Spain study showed transmission rates were higher among school children ages 6- up, who are **REQUIRED TO WEAR MASKS**, as compared to younger children who are **NOT REQUIRED TO MASK**.

NOTE: I don't know what a "school bubble group" is — unless it refers to a set of schools or students similar to the CDC study our TA connects to it.

NOTE: More than 1 million students were "organized into bubble groups and monitored and analyzed by the Health and Educational departments."

SCHOOL CHILDREN Older than 6 are **REQUIRED** to wear masks; "In Spain, the use of masks in the school for students older than 6 is mandatory. Therefore, young children between 3 and 5 years are not required to use

masks in schools.”

NOTE: The TABLE 1 — shows that the rate of infection among children under age 8 ranges from 0.19-0.28. It jumps to 0.35 at age 8 and climbs to 0.44 for primary school aged children, and over 0.50 for middle and high school aged children.

NOTE: The cumulative average for Preschool, ages 3-5 is 0.22. The cumulative average of cases for children ages 6-17 is 0.446 — or double! The children that are not required to wear masks are about half as susceptible to getting sick from COVID. To break it down some more: 3-5 remains at 0.22, but let's take only primary school, ages 6-11, the cumulative average for this group is 0.34. Of course, it is likely that these last two age categories would increasingly be exposed to more opportunities to become infected than we would expect to be the case for the primary children, nevertheless, as we are constantly barraged with inferences drawn from even less evidence, it might serve somewhere in this argument to give maskers pause, if for no other reason than to underscore the fallacy of resting conclusions upon such data.

CLAIM CONFIRMED: The Spain study does show that children in school who were required to wear masks got sick about twice as much as the children who were required to wear masks over all, and at least a third more than the primary children.

—> Back to **FN01.43.01.00.00-**

<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> — Policy Brief

INFO: Now TA takes us to CDC information that shows “children ... are less susceptible to illness from COVID-19. He refers us to a study that shows out of 4,528,664 children only 439 have died from the disease. This translates into a fatality rate of 0.01 percent. When this is adjusted for co-morbidities, asymptomatic cases, etc. the number is probably significantly lower. Here are the corroborating studies supporting these claims:

I’ll add them to OAI (Other Articles of Interest)

OAI06.https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm PDF: OAI06.COVID-19 Provisional Counts - Weekly Updates by Select Demographic and Geographic Characteristics/

I could not find the number *439* anywhere in this doc and that would certainly be because I have the current numbers here. The numbers reported by TA **FN01.43.01.00.00** are as of the date of his writing, Sept. 2021, or somewhere in that vicinity. I tried, but cannot find data for Sep. 2021 and don’t believe it is necessary. I’ll **stipulate** to this data.

Continuing **FN01.43.01.00.00-**
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> — Policy Brief

INFO: *** To put this in perspective — 439 children (0-17) died from COVID in the 18 months leading to the publication of this article, Sept. 2021 (that is from ~March 2020 through Sept. 2021), whereas from Oct. 2018 to Feb. 2019 (only a 5 month period) 477 children died from the flu. That is a 9% greater mortality rate among our children 0-17 years of age in only a few months dying from the common flu — consider. “Furthermore, data taken straight from the CDC reveals that children, thankfully, are far less susceptible to illness from COVID-19. As of the publishing of this paper, 439 children between the ages of 0 and 17 have died from COVID-19 in the past 18 months. The total number of cases thus far in this demographic stands at 4,528,664. This translates into a case fatality rate of 0.01 percent. The real fatality rate is likely significantly lower than even that small number based on the number of asymptomatic cases that were never diagnosed.” And see, “During the last flu season, from October 2018 to February 2019, 477 children passed away. This is a 9 percent higher mortality count in just a fraction of the time. “

INFO: Then there is the adverse affect of masks on children, and their teachers: “Empirical evidence from

other fields of study suggests that children need facial communication and expression for their own social-emotional development as well as educational advancement. A 2017 study showed that kids with a strong ability to read facial expressions performed better academically. On the flipside, a 2009 study revealed that kids who struggle to read facial expressions are more likely to struggle in school and in social settings. The imposition of a mask is an obvious barrier for this critical developmental indicator in children.”

The studies will be added to OAI:

OAI07-<https://pubmed.ncbi.nlm.nih.gov/28504585/>
(Paid access article—\$37) PDF: OAI07.Seven- to 11-Year-Olds' Developing Ability to Recognize Natural Facial Expressions of Basic Emotions - PubMed

OAI08-<https://pubmed.ncbi.nlm.nih.gov/19928317/>
(No access article, do not see a path to purchase, and will not take time to hunt for it.) PDF: OAI08.Social adjustment, academic adjustment, and the ability to identify emotion in facial expressions of 7-year-old children - PubMed

—> Back to **FN01.43.01.00.00**-
<https://americarenewing.com/issues/policy-brief-covid-mask-mandates-prove-both-ineffective-and-unsupported-by-the-evidence/> — Policy Brief ...

TAs assert the following concerns with children being required to learn from masked teachers: “Additionally, there is no data or scientifically significant study that provides information related to the development of a child’s immune system in connection with constant mask-wearing. **In other words, there is currently no way to balance any public policy tradeoff with whether wearing a mask all day harms the development of a robust immune system in kids.**

“Important educational indicators must also be examined. Opponents of mandatory masking in schools have appropriately pointed out the difficulty that some kids have with learning when it comes to their teachers wearing a mask. There remain questions about whether the covering of a teacher’s face inhibits the ability of kids to learn how to enunciate, spell, and speak their own language properly.”

There is much more of great concern to us in this article, but time requires me to continue my focus for the immediate project.

—> Back to **FN01.43.00.00.00-**
<https://www.unthsc.edu/newsroom/wp-content/uploads/sites/16/COVID-19-report-July-20-updated.pdf> PDF: FN01.43.00.00.00.Efficacy of mask mandates - PowerPoint Presentation

The assertions of this study are dated. The above

current data on this subject contradicts the assertions of these TAs. It is dismissed!

FN01.44.00.00.00-<https://arxiv.org/pdf/2004.13553.pdf>
PDF: FN01.44.00.00.00.Universal Masking Is Urgent
...2004.13553.pdf

(Russell Falcon) TA CLAIM: A study from the Population Research Institute at the Family Federation of Finland found that if 80% of people in the U.K. masked, it would do more to squelch the pandemic than a full shutdown.

PC: April, 2020

CCP: Kai, Goldstein, Nangalia, Morgunov, Rotkirch (All authors ?) / **ORIGINS**: US-CA: Berkley, Hong Kong International Computer Science [?]; FRANCE-Paris: Ecole de Guerre Economique [?]; UK-Cambridge: U of Cambridge, Manifold Research; London: U College London, Royal Free Hospital; FINLAND: Pop Research Institute, The Family Federation of Finland. / **REF**: Abaluck (B&MGF); Cheong; Cowling; Kai; Feng; Tapiwa, Chen; Hong Kong Dept. of Health; Kuo; Leung, Chu, Shiu, Chan, Yen, Li, Ip, Seto, Leung, Cowling; Leung; Li; Liu, Zhi, Yu, Guo, Lili, Gali, Li Sun, Yusen, Jing, Xinjin, Ho, Kan, Qingyan, Lan; MacIntyre, Seale, Dung, Nguyen, Nga, Chughtai, Rahman, Dwyer, Wang; van der Sande, Teunis, Sabel; Zeynep; WHO (2); Jing Yan, Guha, Prasanna;

Yang (Interesting title: A quick history of why asians wear surgical masks in public) (18 of 43) / **FUNDING**: nd (Assumed support from ORIGIN institutions.)

RCT: No. OS, MM “Theoretical models” with “empirical results” — our interest, of course, is in the “empirical results” — “Simulation,” etc.

CONTENT: Predicting the impact of universal face masking. Stated Intent: Intent, or goal: to shift community mindset from “pure self-protection, towards aspirational goals of responsibly protecting one’s community.” (Viewing masks as PPE versus viewing masks as Source Control.)

CCav: “Furthermore, the SARS-CoV-2 virus is known to spread through airborne particles (Leung et al., 2020) and quite possibly via aerosolised droplets as well according to Service (2020), van Doremalen et al. (2020), Santarpia et al. (2020), and Liu et al. (2020). It may linger in the air for and travel several meters, which is why social distancing rules require at least 2 meters between individuals to be effective.” TA does not stipulate particle sizes and does not provide any definition of aerosol, another weakness of this *study*. The standard definition as of 2020 was $<5 \mu\text{m}$, or smaller than 5000 nm. Today, it’s $<10 \mu\text{m}$. Earlier, it was $<0.5 \mu\text{m}$, or 500 nm. So the size has varied. In any of these size criterions the particles we are concerned with are 40-140 nm. Also OSHA, etc. set the cut off for measuring mask efficiency at 300 nm — and

virtually every study worthy of serious consideration set the efficacy of surgical masks at $>0.3 \mu\text{m}$ (300 nm.) Typically, researchers don't bother looking at penetrations smaller than 300 nm. The point is, TA presents a compromising caveat to their argument when they stipulate to the very real probability of viral spread by aerosols. At the time of writing, this was something still debated; presently, it is commonly accepted.

AME: There is an assumed mask efficacy that stands as premise for the article. The effort is to “predict” what would happen if everyone wore them: “We present two models for the COVID-19 pandemic predicting the impact of universal face mask wearing upon the spread of the SARS-CoV-2 virusone...”

New word: *virusone*. Cannot find any definition within article, nor any use of this term online, at least not relevant to medical use, or virology. See <http://www.onlyhealthy.com/glossary-of-virology/> a Glossary of Virology — not found. Also see <https://stacker.com/stories/4032/25-virology-terms-help-you-understand-outbreaks-common-cold-covid-19> (This nonsense defines Herd Immunity in such a convoluted way Rachel Clark, TA, tells us herd immunity would be bad in the case of the coronavirus because it's so contagious and deadly. I hesitate to include this in my TECH archive because of this obvious medical establishment bias, but over all, it does provide clear and

brief descriptions of terms used in this discussion. So, TECH50.25 Virology Terms to Help You Understand Outbreaks, from the Common Cold to COVID-19 _ Stacker <https://stacker.com/stories/4032/25-virology-terms-help-you-understand-outbreaks-common-cold-covid-19>. See also TECH51.Glossary Of Virology _ [onlyhealth.com.pdf](http://www.onlyhealthy.com/glossary-of-virology/). <http://www.onlyhealthy.com/glossary-of-virology/>. Finally, a source I can't PDF is found at <https://quizlet.com/2298689/virology-terms-definitions-flash-cards/> and provides interesting information. But the word *virusone* is not found.

INFO: *** Defining VIRUS: “Submicroscopic particles whose genomes are elements of nucleic acid that replicate inside living cells using the cellular synthetic machinery for production of progeny virions (EITHER RNA OR DAN **NEVER BOTH.**)

This sort of thing costs me significant time. Perhaps it's a typo. There is a technical word very like it, *virosome* — which is defined in a *Primer to the Immune Response (Second Edition), 2014* available by purchase only. One source I found is <https://www.sciencedirect.com/topics/immunology-and-microbiology/virosome>. The word *virosomes* is defined in this publication as follows: iii) Virosomes: “Virosomes are like non-replicating ‘artificial viruses’ that can be used to deliver vaccine antigens directly into a host cell. A virosome is basically a liposome that is covered in the

envelope glycoproteins of a virus.” For short, it’s an artificially created mechanism to carry a vaccine or drugs into host cells. While such typos are embarrassing and infuriating to researchers not personally and intimately familiar with a field of enquiry, they trouble us all — the *m* and *n* are, after all, set side by side on our keyboards, so!

HOWEVER: The sentence in which this word is introduced by TA **FN01.44.00.00.00** does not allow for that use of the word: “We present two models for the COVID-19 pandemic predicting the impact of universal face mask wearing upon the spread of the SARS-CoV-2 virusone...” See it? They are talking about using masks to protect the public from the spread of something *like non-replicating ‘artificial viruses’ that [are] used to deliver vaccine antigens ...*”? So, the embarrassment goes beyond typo right on in to booboo, or Oopsie! A flag indicating these authors are not to be taken seriously. I’m going to look one more time for *virusone* to see what I find. The only thing that comes up for “virusone” is “virusone User Profile | Deviant Art.” Or “VIRUSOne - Sweet Travel,” or VirusOne facebook page, or it appears in German as reference to a computer virus (<https://context.reverso.net/translation/german-english/VirusOne>).

New expression: “mouth-and-nose lockdown” as opposed to a “full body lockdown.” Created to differentiate interventions: a mouth-and-nose lockdown is

accomplished by face masks, and a full body lockdown requires virtual quarantine.

IR/AME: This study is not about mask efficacy. It assumes mask efficacy in generalizing SS statements. For example: “Comparing different mask materials, medical masks have been found to be up to three times more effective in blocking transmission compared to homemade masks (Davies et al. , 2013). Surgical masks most efficaciously reduce the emission of influenza virus particles into the environment in respiratory droplets. Still, although masks vary greatly in their ability to protect, using any type of face mask (without an exploratory valve) can help decrease viral transmission (Sande et al. , 2008).”

NOTE: TA is not user friendly, citing references not clearly identified in his table of References. TA’s “Davies et al. , 2013” requires the reader to trudge through his references to find “Anna Davies, Katy-Anne Thompson, Karthika Giri, George Kafatos, Jimmy Walker, and Allan Bennett. Testing the efficacy of homemade masks: would they protect in an influenza pandemic? Disaster Medicine and Public Health Preparedness, 7(4):413–418, August 2013.” This is annoying, and I think it’s done to discourage anyone from actually examining TA’s assertions.

Already vetted in these notes: See
FN01.38.00.03.31-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC710>

8646/ PDF: FN01.38.00.03.31.Testing the Efficacy of Homemade Masks_ Would They Protect in an Influenza Pandemic_ - PMC

Stipulated to the point this reference supports: that medical masks “have been found to be up to three times more effective in blocking ...” but not blocking *transmission*. Based on criteria set by TA of **FN01.38.00.03.31**, medical masks block three times more particles in the upper size ranges of ...

Here are some excerpts from my vetting of this article pertinent to the question before us: (**FN01.38.00.03.31** — “SP: Curious, the lying started early. Blocking “transmission”? Really?

Continuing excerpt from **FN01.38.00.03.31** — “NOTE: This *really* sounds like one of those prep studies — we know the “plandemic” was in fact planned in advance; the proof of that is well established with the studies exposed mapping out a comprehensive scheme for controlling a coming pandemic, complete with war-scenarios plotting how to “market” the panic, and control the narrative, etc. etc.. This study appears like a few I’ve seen that appear to fit that narrative: PREPPING everyone for changing the standard practice in western culture

from no mandates on public masking to mandating public masking. You'll have to read it yourself to determine whether this take on the article is fair, but I recommend you read it in connection with all the articles that came before it on the question of the efficacy of masks. Then I think you too will notice the stark and sudden shift!!! — I remember this study, it was infuriating. After hours pouring over the specious effort to suggest medical, or surgical masks blocked virions at sizes of 23 nm, it turned out it was a TYPO. Later in that study, it is revealed that the particles sizes used were 230 to 300 nm, not 23 nm: see **FN01.38.03.32.00**: “NOTE: I question the size of the bacteriophage. Something is off. In the noted doc I find that bacteriophage S-13 and MS-2 are 230 to 300 nm, not 23. See **FN01.38.00.03.32**-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC376752/?page=1>. PDF: FN01.38.00.03.32.Airborne Stability of Tailless Bacterial Viruses S-13 and MS-2 - PMC

“You’ve got to be kidding me!!! So the statement that Bacteriophage MS2 is 23 nm is a typo, or a misprint???”

I added a note after running down the reference cited by TA FN01.38.00.03.32: “I ran that down, as per above: the page I copied (PDF) tells us the phage in

question ranges from 230-300, **‘Two unusual bacterial viruses, S-13 and MS-2, were selected for studies on airborne stability.** These were chosen because of physical characteristics that closely resemble many animal viruses: (i) **BOTH ARE 230 TO 300 NM** with apparent icosahedral symmetry ... both contain single-stranded nucleic acids ...” And all of that is to say, the test particle sizes were well beyond my query criteria of 40-140 nm, or in terms of larger droplets 70-200 nm, none of which fit the criteria used to support the specious statement.

So, back to **FN01.44.00.00.00-**
<https://arxiv.org/pdf/2004.13553.pdf> — Universal Masking is Urgent ... (no bias there!)

SS: **** **“However, the effect of universal masking does not require full protection from disease to be effective in lowering infection rates of COVID-19.”**
Really? The lack of integrity demonstrated by these researchers is appalling. Think about it! Do these “scientists” not have sufficient mental acumen to sort out the fact that if you are exposed to something in the order of magnitude greater than 10000 virions in the size range of 40-200 nm, in a plume including 100k larger droplets in the range of >230 nm to <300nm, and your mask only captures between 50-80% of the larger virions, so that literally thousands of smaller virions attack your mask and

pass through it escaping capture and, bypassing your natural filtration, easily enter into your lower respiratory tract, where any ONE of these can transmit disease and in any cluster of 100-200 increases the certainty of infection exponentially — have you any protection at all? The answer is NO. And yet my scenario is far from anything approximating reality. First, the number of virions captured by the typical surgical mask in the range of >230 and <300 nm is way down there, not even close to 50-80%. It's closer to the range of 15-20%. In optimal conditions, proper sealing, and a fresh mask, maybe 37%. That means in the scenario I suggested above, not only will at least multiple thousands of the smaller virions pass through your mask like a honey bee through a chain link fence, but also several TENS OF THOUSANDS of the larger droplets will also escape capture. You can hope at least the larger of these might get captured by your natural filtration, but that would have happened WITHOUT THE MASK. And, in fact, the masks actually facilitate access to your respiratory tracts by, 1. breaking down the droplets upon impacting the mask surface, 2. for hydrophobic masks, bead on surface where they are quickly evaporated by respiration and exposure to atmosphere, and shrink, till they are small enough to go totally aerosol or get totally aspirated—where, in this case, a droplet that WOULD HAVE BEEN captured by natural filtration actually gets aided and abetted by the mask to become small enough to bypass natural filtration; and 3. for hydrophilic masks, the droplet absorbs into fibers, which hastens

desiccation releasing virions into atmosphere or making them small enough to be aspirated, once again, bypassing the natural filtration system and entering deep into your lower respiratory tract where the most severe infection occurs. **YOU ARE BETTER OFF WITHOUT THE MASK!**

*** You see, the REVERSE is true. Universal masking increases exposure to infection, it does not take a large number of virions to infect and blocking hundreds out of thousands affords **NO PROTECTION AT ALL**. If you have a thousand bullets coming right at your head and you stop 80% of them, you're dead! Happily, you've been lied to about the deadliness of the virus that causes COVID-19 disease. 95% survive the disease — and that's overall, including the older folks with morbidities. Among infants to 25 years old, it's virtually 100%. From 25-45, it's something like 99% — and 98% from 46-65, **MOST VULNERABLE** are the older generation, and among them, the only ones susceptible to serious problems from this disease are those that are afflicted with co-morbidities.

AME: **** “4.2 Experimental model”: ***The models, and simulations are premised on a clearly stated bias for masks with an all but stated objective to extend Asian mask culture to replace Western culture premised on a history of freedom and independence; considered selfish by most Asian standards. This is more about culture shift than about health; the natural fears re health concerns are being used as a catalyst to instigate the shift.

So, I'll evaluate part 5. Evaluation of model predictions against empirical data on universal masking impact: "5 Evaluation of model predictions against empirical data on universal masking impact."

CCav: TA agree their "models" and "simulations" are not proof, and require validation by empirical data. However, the empirical data depended upon is **historical**, of which they admit there is scant supply: "For validation of the foregoing SEIR and ABM predictive models it is necessary to compare against what little historical macro scale empirical data is available, since precise numbers are not yet known for masking rates, mask transmission and absorption rates, and infectious but asymptomatic cases."

CCav: *** (Transitioning to superstition based "science.") This is always the case with these sorts of studies — here are all our "models" and "simulations" and we would be very happy to validate them but there is so little evidence available — I understand the above characterization does not originate with these researchers, I would not expect such from a group so obviously biased, but it is objective and valid. Every time these OS studies come up against an empirical test of their hypotheses it's the same: "little ... empirical data is available," and while the reasons for this vary they do so only slightly. In this case it is because "precise numbers are not yet known for

masking rates, mask transmission and absorption rates, and infectious but asymptomatic cases.” WHY is there so little empirical support for their theories? It is certainly not for lack of testing, or lack of RCTs, it is because the RCTs consistently end up contributing yet more disappointing results—**providing empirical data that says masks do not provide the protection predicted by their models and simulations.** For this reason, “they” have begun leaving the “gold standard of scientific study” — isn’t that what Fauci called the RCT? — in favor of observational studies, and literature reviews allowing the researchers the convenience of overwhelming opposition by sheer volume of SS based on OS from AME.

So, these researchers “collected a NEW DATA SET describing the degree of success in managing COVID-19 by countries or regions segmented by the prevalence or enforcement of universal masking.”

AME/BIAS: The data set was created specifically to describe what degree of success this or that region our country experienced controlling COVID-19 spread by examining “the prevalence or enforcement of universal masking.”

I don’t think I’ve read any study that reeked so poignantly of bias.

All of it is inferential AME.

INFORMATION: The cultures of masking include: China’s urban centers, Hong Kong (also China), Taiwan (also CHINA, but not CCP), Singapore, S. Korea, also Japan, Thailand and Vietnam.

***** INFORMATION:** the “religion” connection — “Though this practice [masking] MAY HAVE FIT WITH PREEXISTING TAOIST AND HEALTH PRECEPTS OF CHINESE TRADITIONAL MEDICINE, its actual emergence may be relatively recent, starting with the industrialization of Japan at the start of the XXth century and both the flu pandemics of the XXth century as well as the rise of particle pollution.” TA cites Yang, 2014.

INFORMATION: TAs recognize the role of “**social norms or peer-pressure, perception of one’s competence, past behaviors or perception of the danger ...**” in forming a masking culture.

Pause: READING THIS, LET ME ASK YOU IF YOU THINK YOU HAVE SEEN ANYTHING SO FAR THAT LOOKS LIKE “EMPIRICAL EVIDENCE” SUPPORTING MASK USE???? The only reference to empirical evidence is in the heading at 5, and an admission they don’t have any!

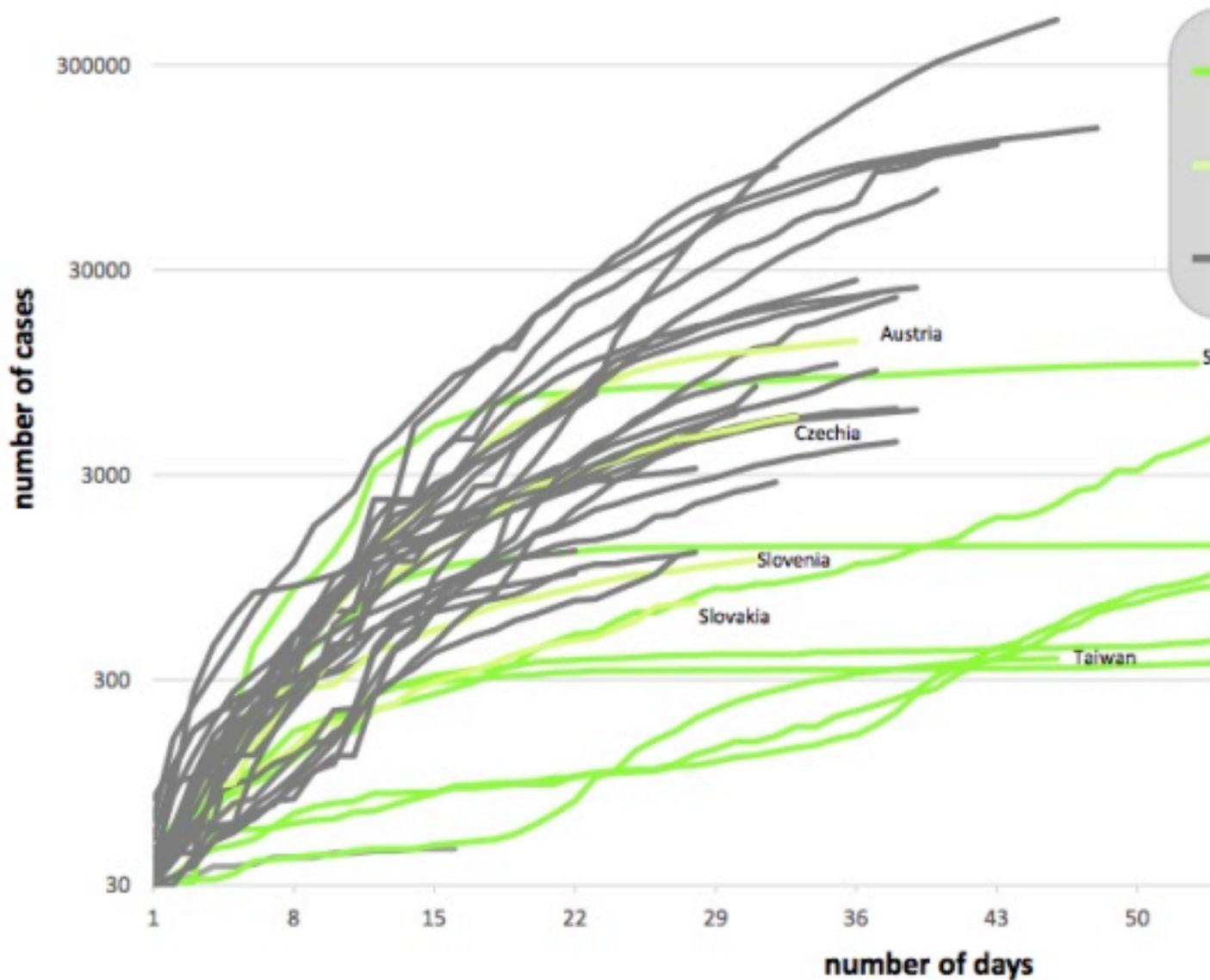
INFO: * Here is the cultural factor MOST LIKELY RESPONSIBLE FOR THE PREVALENCE OF MASKING**

IN SOME PEOPLE GROUPS: government oppression, the conditioning of the “people” to the **CONTROL** of **GOVERNMENT**: “It can thus be assumed that the maximum potency of universal masking in the context of epidemics may be reached when a government issues a mandatory or highly recommended order to the general population, issued at an early date, supported by the availability of face masks and amplified by a pre-existing ‘masking culture’.”

*** Okay, I’m beginning to see the picture. This “empirical” analysis began with a lament that there is too little data to validate their models and simulations. Then, after a bunch of blah, blah, it comes down to this remedy — **use the coercive power of government to MANDATE universal masking**, then we can get the data we need that will, in their view, certainly validate their “models” and “simulations.”

So, using the data they already admitted was inadequate, they constructed a chart that shows cultures where masking was prevalent, and mandated, had a better track record for *R* than cultures (countries) where there was no mandate. Here is the diagram:

FN01.44.01.00.00.Universal Masking Efficacy Image
6-22-22 at 8.43 AM.jpg



NOTE: Such charts are relatively easy to manufacture once you have the data in place. A lot can happen with the data before it is applied to the creation of such a chart.

Closed governments are by reputation consistently loathe to admit any data that does not make them look superior to others, this is especially true of the CCP, so

verification of the data is almost impossible.

But, let's stipulate that the data does support the chart and that consistently those countries where mask mandates were in place outperformed those countries where masks were not mandated, but optional —

1. What other factors differentiate these countries? Could any of those factors have contributed to the difference shown in the chart.

2. What other measurements besides COVID-19 infection were taken? Is it not possible that measurement of other factors, such as mortality, what tests were used, and how much testing was done, etc. would greatly alter the look of this chart?

3. Additionally, there are many other confounders one might identify that undermines the significance of their chart. Another issue is that the countries where no mask mandate was in place are measured as a whole, whereas, in China for example, only certain provinces are selected for measurement and not the entire country. This revelation amounts to a CCav — it totally compromises the entire chart.

*** One consistent problem with these sorts of studies is the *outcome bias* — the only factor considered is masking; many other things might have contributed to the results indicated by the data, including the tendency for

some countries to LIE about cases (CCP, and CCP influenced countries), and the fact that some western countries were far more aggressive in testing than others are only two of many examples. Without differentiating mortality compared with honest reporting from all countries, we cannot tell anything of value from this chart.

If the exercise described in this study amounts to what passes as “empirical” evidence, science is in serious trouble!

SS/OS/AME/SP: They assert, by the power of SS based on OS with a strong AME bias, that their models and simulations have been validated, which in turn validates (they repeat this word — seriously, this “study” reads like propaganda — repetition of certain key emotionally influencing words, in this case, *validation*) — so having “validated” their models and simulations with “empirical” (inferential conclusions from questionable data source and construction) evidence they now DECLARE: “Validation of the need for universal masking,” and “Validation of the need for early universal masking.”

Finally, this study concludes: “Universal masking needs broad support and clear guidelines.”

NOTE: *** Recommendations are premised upon one overarching principle: the principle of using government power to coerce people into actions that are “good for you.”

CCav: The only place I have found where mask efficacy is questioned is at the very end, when they agree “effectiveness of universal masking in a given population is likely to depend on (a) the type of masks used, (b) the acceptance of masking in the population, (c) the level of contagion of the virus, and (d) what other interventions have been applied.”

NOTE: Anyway, it’s not a great surprise that this article pre-print published in April of 2020 has not been peer-reviewed. It’s junk science.

Completed assessment of FN01.44.00.00.00—
<https://arxiv.org/pdf/2004.13553.pdf>

FN01.45.00.00.00-

<https://www.preprints.org/manuscript/202005.0152/v1>.
PDF: FN01.45.00.00.00 Prevalence and Acceptance of
Face Mask ... Malaysian Study
[preprints202005.0152.v1.pdf](#) (See Download PDF).

PC: May, 2020

CCP: Information about article is limited in the landing page. Let’s look at the PDF download: Yes — All authors Malaysia, and Malaysia is very much under the influence of CCP: see <https://ccp.cybersecurity.my/about/ccp-v1> — About Cybersecurity Malaysia Collaboration Program

(CCP);

<https://www.malaysiasun.com/news/270153528/ccp-buys-media-influence> — CCP buys media influence [Malaysia Sun, Pure Asia]

<https://www.malaysiakini.com/news/507301> — Malaysia under China’s growing media influence, says Freedom House report. In other words, just like America, but with the difference that Malaysia is an Asian nation and shares some common cultural characteristics. / **ORIGIN:**

MALAYSIA -Perak: Oncology Pharmacy, Hospital; Medical Officer, Hospital; Dental Officer, Manjung District Dental Clinic. / **REF:** Cui, Li, Shi; Lai; Sohrabi; Huang; Li; Wang WJ., Tang, Wei; Ren; Wu; Yang; Guo; Bai; Hu; Bhattacharya; Feng; WHO (2); Horng, Lee, Chen; Wu; Zhou; Chen; Cheng, Lam, Leung; Chan, Yuen; Ngui; MacIntyre; MacIntyre; Salim; Wang; Zhu; Lee; Wu; Lau; Greenhalgh; Jin; Wei; Tan; Cheah; Wong PL.; Ahmad; Runge; Lau (39 of 61) / **FUNDING:** Funding statement: “This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.”

RCT: No. This study is asserted to be “An Observational Study.”

CONTENT: Mask use among patients admitted to hospital was tracked, and the study concludes extensive use of facemasks COULD help mitigate impact, but “more work is needed to make sure people are correctly wearing

them.”

NOTE: The background setting for this study is that COVID-19 transmission occurs through respiratory droplets from coughing and sneezing, and HEALTH AGENCIES HAVE STRONGLY RECOMMENDED USE OF FACE MASKS AS A PRECAUTION FROM CROSS-TRANSMISSION.: or, as source control.

AME: obviously, the study is premised upon the assumption of mask efficacy supported by nothing more than that “health agencies have strongly recommended” their use as a “precaution from cross-transmission.”

IR/AME: The study does not actually address mask efficacy, but, this being assumed. Study focuses on the prevalence and correctness of their use.

SP: “As no effective treatment is available, health care authorities have relied on public health management to mitigate local human-to-human transmission.” LIE — there were and are very effective treatments available. This betrays total capitulation of science to political *science*. **[THE ONLY SCIENCE INVOLVED AT THIS POINT IN THE DEBATE RE MASKS AND COVID AND VACCINES IS *POLITICAL SCIENCE*.]**

NOTE: At least this study correlates COVID mortality to mask use, unlike the previous study that only correlated

case count. Nevertheless, even mortality rates are fudged, with some countries, like the USA exaggerating the COVID mortality rate and China (CCP) hiding theirs.

CCav: p. 15 “Evidence that facemasks can protect against infections in the community is relatively scarce [sic-scarce] [40-42], as acknowledged by contrasting views on medical facemasks by governments and public health experts [20].” On this point TA offers Footnotes 40-42 and 20. Let’s take a quick look: SHOWING THAT EVIDENCE FOR MASK EFFICACY IS SCARCE — not sure if the cited references show mask efficacy and the citation indicates their scarcity because they are so few, or if these sources confirm the point that such evidence is indeed scarce:

Reference 40. Jefferson, T., et al., Physical interventions to interrupt or reduce the spread of respiratory viruses: systematic review. *Bmj*, 2009. 339: p. b3675.

40. Jefferson T., et al., Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane Database Syst. Rev.* 7, CD006207 (2011). [PMC free article] [PubMed] [Google Scholar] [Ref list]

Already vetted in these notes: See **FN01.38.00.08.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6993921/>.

PDF: FN01.38.00.08.00.Physical interventions to interrupt or reduce the spread of respiratory viruses - PMC

Footnote 41. MacIntyre, C.R., et al., Face mask use and control of respiratory virus transmission in households. *Emerging infectious diseases*, 2009. 15(2): p. 233.

41. MacIntyre, C.R., et al. Face mask use and control of respiratory virus transmission in households. *Emerg Infect Dis* 2009;15(2):233–41. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)] [[Ref list](#)]

Already vetted in these notes: **FN01.08.05.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2662657/>.

PDF: FN01.08.05.00.00.Face Mask Use and Control of Respiratory Virus Transmission in Households - PMC.pdf
Rated by ECDC as LOW to MODERATE confidence.

See

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

Next citation from TA **FN01.45.00.00.00-**
<https://www.preprints.org/manuscript/202005.0152/v1> —
Prevalence and Acceptance ...

Footnote 42. MacIntyre, C.R. and A.A. Chughtai, Facemasks for the prevention of infection in healthcare

and community settings. Bmj, 2015. 350: p. h694.

Already vetted in these notes: **FN01.31.01.00.00-**
<https://pubmed.ncbi.nlm.nih.gov/25858901/> PDF:
FN01.31.01.00.00.Facemasks for the prevention of
infection in healthcare and community settings - PubMed
(DUP: See also FN01.31.02.00.00)

Next citation from TA **FN01.45.00.00.00-**
<https://www.preprints.org/manuscript/202005.0152/v1> —
Prevalence and Acceptance ...

Footnote 20. Feng, S., et al., Rational use of face
masks in the COVID-19 pandemic. The Lancet
Respiratory
Medicine, 2020.

Already vetted in these notes: See **FN01.28.02.00.00-**
[https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(20\)30134-X/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(20)30134-X/fulltext) PDF:
FN01.28.02.00.00.Rational use of face masks in the
COVID-19 pandemic - The Lancet Respiratory Medicine

I would have to look over my notes to determine
whether they corroborate 1. that there is scant evidence to
support masks; and/or 2. if they are examples of the scant
support that exists. The fact that I vetted them indicates
they do not support the use of masks even if they purport
to do so. So, we'll leave it at that for now.

CCav: See **FN01.45.00.00.00** p. 15: TA refers to a model used by Salim, Naomie, et al. to “estimate the number of positive COVID-19 in Malaysia estimated that the peak will be on 19 April 2020 with an estimation of 5,637 positive cases [43], however 5,425 positive cases [44] were reported on the same date questioning the effectiveness of facemask[s] in reducing infection.” — Is this the Malaysian study I vetted above?

Let’s see.

Reference 43. Salim, N., et al., COVID-19 epidemic in Malaysia: Impact of lock-down on infection dynamics. medRxiv, 2020.

Cannot find this study vetted in these notes by this title:

FN01.45.01.00.00-

<https://www.medrxiv.org/content/10.1101/2020.04.08.20057463v1.full-text> PDF: FN01.45.01.00.00.COVID-19 epidemic in Malaysia_ Impact of lockdown on infection dynamics _ medRxiv

PC: April 2020

CCP: Salim, Chan, Mansor, Bazin, Amaran, Faudzi, Zainal, Huspi, Hooi, Shithil (At least 7 of 10) / **ORIGINS:**

MALAYSIA: Faculty of Engineering, Universiti Teknologi; U. of Sultan Zainal Abidin, Faculty of Medicine (See above for establishing CCP influence: “All authors Malaysia, and Malaysia is very much under the influence of CCP: see <https://ccp.cybersecurity.my/about/ccp-v1> — About Cybersecurity Malaysia Collaboration Program (CCP); <https://www.malaysiasun.com/news/270153528/ccp-buys-media-influence> — CCP buys media influence [Malaysia Sun, Pure Asia] <https://www.malaysiakini.com/news/507301> — Malaysia under China’s growing media influence, says Freedom House report. In other words, just like America, but with the difference that Malaysia is an Asian nation and shares some common cultural characteristics.” / **REF**: WHO (3); Wang H., Wang Y., Ghani; **Daszak**; Boo; Ministry of Health Malaysia (3); Lee, Luo, Yan, Chowell; Cajka; Goh, Cheng, Jiang, Liu; Fong, Li, Nilanjan; Cheng; Johns Hopkins; Malaysia govt. (2); Majumder, Mandl; Imperial College, London (19 of 32) / **FUNDING**: Statement: “This work is funded by Universiti Teknologi Malaysia under grant ...”

RCT: No. Under methods: it’s a computer driven model created by input from health ministry websites. In fact, there is no science involved in this study that relates to ascertaining the physical properties of mask efficacy.

CONTENT: The TA citing this study claimed these researchers predicted on April 11, date of posting, that by

April 19 the COVID cases would peak at 5,637 positives, but on the day of posting, the case count already reached 5,425 [44] which raised questions about the efficacy of masking for curbing the spread.

FOUND THE STATEMENT FROM CITATION: Here is the statement: “Method one [was?] based on curve fitting with probability density function estimated that the peak will be on 19th April 2020 with an estimation of 5,637 infected persons.” [This sounds like someone trying to sound intelligent who isn’t — or something is scrambled in translation.]

In fact, the study offered three separate estimates premised on three methods. The first, given above, the second was that the peak would occur on May 20-31, 2020 if Movement Contro (MCO) is in place [???] with an estimation of 630,000 to 800.000 infected persons.” What???? First, what is Movement Contro and where did they get these estimates? Yikes! The third is based on “System Dynamic Model” and estimates that the peak will be on May 17, 2020 with an estimation of 22,421 infected persons. So, “Forecasts from each of model suggested the epidemic may peak between middle of April to end of May 2020.” Here is the full quote: “Method one based on curve fitting with probability density function estimated that the peak will be on 19th April 2020 with an estimation of 5,637 infected persons. Method two based on SIR Model estimated that the peak will be on 20th - 31st May2020 if

Movement Contro (MCO) is in place with an estimation of 630,000 to 800,000 infected persons. Method three based on System Dynamic Model estimated that the peak will be on 17th May 2020 with an estimation of 22,421 infected persons. Forecasts from each of [sic, delete *of*] model suggested the epidemic may peak between middle of April to end of May 2020.”

So, the TA of this article pretty well covered themselves; although I don't have data immediately at hand to determine whether any of these estimates were close.

NOTE: Strange question arises, was this about masks? It is still interesting to me that FN01.45.00.00.00 TA considered the first prediction damaging to the belief masks are efficacious. Apparently, that is because mask mandates were introduced after scenario number one had played out. No need to verify this assumption, it does not factor into any argument I am making regarding this article.

INFO: As for the Movement Contro (MCO) question — it's Movement Control Order issued by the Malaysian Prime Minister that prohibited movement during the epidemic in order to control spread. Wow! Apparently, this study predicted up to 800,000 cases by end of May if the order went forward. ???

NOTE: I don't have at hand data informing me how

many cases were confirmed at time of preparing the study as opposed to how many were reported by time of it's publication—or posting—so I don't know if there was a dramatic spike in cases, or whether the spike was because a sudden surge occurred of the disease, or of testing for it???? This is a very poorly prepared study.

Anyway, the next citation referenced supporting claim that the Malaysian study compromised confidence in masks needs a quick look:

Reference 44. Jr, J.K., Covid-19: 36 new cases, no deaths for first time in a month, in The star. 2020, Star Media Group Berhad:
<https://www.thestar.com.my/news/nation/2020/04/20/covid-19-36-new-cases-no-deaths-for-first-time-in-a-month>. Date Accessed [26-04-2020]

I see no need to vet or include this article; I'll stipulate that it affirms the number of new cases asserted in the article.

Let's go to the conclusion: TA FN01.45.00.00.00
CONCLUDES

The study suffers in translation, and it's ultimately IR anyway since it is AME that is premised on OS without any intention or effort to show proof of mask efficacy.

FN01.46.00.00.00-

<https://www.epa.gov/sciencematters/epa-researchers-test-effectiveness-face-masks-disinfection-methods-against-covid-19>. PDF: FN01.46.00.00.00.EPA Researchers Test Effectiveness of Face Masks, Disinfection Methods Against COVID-19 _ US EPA

CLAIM: “(EPA) performed testing of various face masks — while effectiveness varied, certain cloth masks were found to be even better than medical-grade masks. All masks were found to be effective at stopping transmission at some level.”

PC: April 2021

CCP: Authors not named. From the Environmental Protection Agency, USA, so, yeah, pretty much. Authors not names, as is customary in official institutional statements / **ORIGIN**: US- EPA; DC. / **REF**: na — govt. pub. / **FUNDING**: nd (Assumed govt. funded via taxpayers in the budget of the EPA)

RCT: No. In fact, this is not a scientific study at all. It refers to “Mask Filtration Studies” and we’ll look at these, but there appears to be no footnotes, or references, only statements from TA about studies that are not even named, or identified sufficiently to allow researchers to followup. This is bizarre. But, that’s a cursory over view,

let's look a bit closer.

CONTENT: “(EPA) performed testing of various face masks — while effectiveness varied, certain cloth masks were found to be even better than medical-grade masks. All masks were found to be effective at stopping transmission at some level.”

SP: *** FIRST, the author of root article, Russell Falcon, is being disingenuous with his assertions: [1]. “certain cloth masks were found to be even better than medical-grade masks.” and [2]. “All masks were found to be effective at stopping transmission at some level.”

[1] The most effective cloth mask provided 49.9 % filtration efficacy. That means 50.1% penetration. OSHA standards require a maximum of 20% penetration. Anything under 80% filtration, as a MINIMUM, is unacceptable. TA said “certain cloth masks were found to be even better than medical-grade masks.” He must be referring to the least effective medical grade mask, a Procedure mask without modifications, which provided 38.5% filtration efficacy. Or, maybe the Consumer-grade mask without a nose bridge, which provided 44:7% filtration. **THESE MASKS PROVIDE ZERO DEFENSE AGAINST TRANSMISSION.** **** The key is *transmission*, which is even more to the point of all this discussion than *penetration*. All that is necessary for transmission is sufficient numbers of particle penetration to infect. The

consensus, or standard, is any single viral particle can transmit the disease. In either of these cases, there are multiple thousands of particles penetrating the mask and getting drawn deeply into the lower respiratory tract. They provide ZERO protection from transmission.

NOTE: The doc asserts masks were tested with Salt aerosols and indicated these are ~80 nm and above. It asserts the salt particles are representative of the smallest virus particles. Close. The SARS-CoV-2 virions are from 40-140 nm. The most common size is 125 nm. In any case, I will stipulate that if TA tested all the masks in question with NaCl salt particles (although they did not stipulate NaCl, and since they did not provide the text of their actual study, we don't know if they actually screened to larger particles, as is customarily done in these studies, challenging N95 with the smaller particles, and the surgical masks, etc. with particles that are $\geq 0.3 \mu\text{m}$ (or 300 nm). So, we don't know whether the surgical, and cloth masks were challenged with the ~80 nm sized particle, but from the information provided, this must be assumed.

So, as to [1], TA is being SP by suggesting cloth masks perform better than some medical masks for another reason — the cloth mask in question is the “folded surgeon general style” which is so prohibitive to breathing it cannot be worn for long periods of time, and it quickly becomes soiled from expiration moisture and cannot be safely worn for hours at a time. It is unusable as a general

population face covering.

[2] “All masks were found to be effective at stopping transmission at some level.” — This is specious because the ONLY mask that meets OSHA’s standard for filtration efficacy is the last one listed under Procedure mask modifications, the one that requires the wearer to secure the procedure mask to his or her face with a nylon hosiery sleeve. This is extremely uncomfortable, significantly inhibits breathing, and is only a toe over the lower end of acceptable filtration at 80.2%. Even then, when it comes to aerosols, EVERY STUDY OF ANY REPUTE WILL TELL YOU THIS IS INADEQUATE PROTECTION AS PPE. They argument generally turns to use as source control, and I’ve addressed that numerous times in these notes. The argue that a mask that cannot protect you as PPE is going to protect others as source control is, itself, specious. (I know this word is used frequently in these notes, but that is because I’ve chosen it to speak of arguments that have a plausible ring to them, but that upon examination are very weak, if not purposely deceitful.

*** Source control claims that because droplet originate as larger they are therefore captured by the masks. 1. Not all droplets originate as larger, in fact, MANY escape the masks at the point of expiration, and in fact sufficient numbers escape to cause infection by those exposed to them. 2. Those that are trapped, evaporate, and as they evaporate, they shrink, and at some point they

are released into aerosol where they are launched into atmosphere or aspirated deep into the lower respiratory tract. 3. As these larger droplets gather on the inside of the mask, they create moisture that becomes an environment facilitating the collection and growth of bacteria. One big mistake these studies make consistently is failure to account for the fact that a whole lot more unwanted material is ejected in expiration than only virions. Other ejecta includes material the body through its normal processes is trying to excrete. A mask captures this material, allows it then to be re-aspirated but this time, often, because of the pressure drop caused by the masks, forcing the wearer to draw more forcefully to get needed air, which is ESPECIALLY true when the masks are properly SEALED, draws this sometimes toxic waste material deep into the lower respiratory regions where it can do the greatest amount of harm.

The TAs do not provide access to the studies, which is suspicious already. In other words, it's the typical arrogance of SS hubris to not clarify these obvious questions.

So, I'll stipulate to the test range being ~80nm and above for our purpose, even though NO STUDY ANYWHERE GIVES SO HIGH A RATING TO SURGICAL MASKS AT PARTICLES IN THIS SIZE RANGE. With one exception, if the test does not take leakage into consideration. However, the present study apparently did

because it addresses this issue in the modifications. Nevertheless, at 38% efficacy, 62% of particles $\sim \geq 80\text{nm}$ penetrated the mask. (The typical virion plume will have tens of thousands of droplets and over a 15 minute period, particles will literally fill ambient space with hundreds of thousands of aerosolized particles. 62% penetration is equivalent to no protection at all.

SP: *** This article is a summary of results from an EPA study, but that study is not even referenced, only referred to. I can't go read the study myself, at least not from a link provided here. That raises suspicions re the study and what they actually found if the study is read deeply, beyond the superficial declarations in concluding remarks. This really annoys me, so I keep bringing it up. Apologies!

SS: *** “We’ve performed hundreds of tests to provide the most useful information for decision makers and the public to help fight this virus.” — **Great! Where are they? Simply declaring this is so is NEVER sufficient, and in the current environment, it is actually suspicious.**

Again, vague reference to “one study” where researchers sought to determine whether alternatives to the “high-efficiency N95 masks” could be found for public use leaving the masks that do work for health care workers.

CCav: In this study, the following CCav is uncovered: “For example, surgical masks with ties provided 71.5 percent filtration, while surgical masks with ear loops only provided 38.1 percent. Knowing the relative performance of alternatives to new N95 masks will help hospital administrators make evidence-based decisions to protect their staff.” No medical professional should pretend he is following the “science” who suggests 71.5% filtration and much less 38.1% filtration provides any PROTECTION from TRANSMISSION at ALL! This is such a huge LIE!

Here is the full quote: “Other alternatives [surgical masks, cloth masks, etc.] provided less protection. **For example, surgical masks with ties provided 71.5 percent filtration, while surgical masks with ear loops only provided 38.1 percent.** Knowing the relative performance of alternatives to new N95 masks will help hospital administrators make evidence-based decisions to protect their staff.”

NOTE/CE: So, armed with all the other information re volume of particles in aerosols, durability of virus, etc. a 71.5 percent filtration is virtually meaningless, and much less should be expected from 38.1% filtration. Again, if a hundred thousand bullets are coming at your head and you stop 72% of them, or 72,000 bullets, do you feel safe knowing that 28,000 bullets are going to hit target? Forget about the mask with loops — **this EPA study actually serves to show the uselessness of masking to protect**

from a virus, either as PPE or as source control.
Because that's the MASK Fauci and friends are telling us
all to wear.

The breakdown of the results of EPA testing (NONE
OF WHICH IS ACTUALLY PROVIDED FOR
EXAMINATION, BY THE WAY — not a good sign!):

*** A really neat illustration of facemask options and
their efficacy is provided in this article:

2-Layer woven nylon:

Without aluminum nose bridge:

44.7%

With aluminum nose bridge:

56.3%

With aluminum nose bridge & filter insert

74.4%

With aluminum nose bridge, washed, no filter

79.0%

Cotton bandana:

Folded surgeon general style:

49.9%

Folded bandit style:

49.0%

Single-layer woven polyester gaiter

37.8%

Single-layer woven polyester/nylon mask w/ties
39.3%

Non-woven polypropylene mask w/fixed ear loops
28.6%

3-layer knitted cotton mask w/ear loops
26.5%

Then they tested a procedure mask (PM) with
modifications:

PM with ear loops no modifications
38.5%

PM with loops tied, corners tucked
60.3%

PM with ear guard
61.7%

PM with clawed hair clip
64.8%

PM using “Fix-the-mask” technique: Rubber bands
78.2%

PM with a nylon hosiery sleeve

80.2%

Of all the articles, this would be the most hopeful for evidence supporting use of masks. They tested the masks for filtration of particles close to the range of concern: salt particles “which are the same size as the smallest SARS-CoV-2 particles, but are not harmful.” But what they discovered actually proves the worthlessness of masks for protection against viral transmission of disease.

The rest of my vetting of this article is virtually moot, I’ve already shown it is inadequate to prove mask efficacy to protect against transmission. Nevertheless, I will leave it here because I think it has value in walking the reader through the process that led to my conclusion:

According to <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6198249/> (see PDF: TECH09. ...) the NaCl (sodium chloride, or aerosolized salt particle) is ~80 nm and that is within the range of interest to us.

However, it should be pointed out that the range for SARS-2 virus is 40-140 nm (See FN01.41.08.02.02.Size distribution analysis of influenza virus particles using size exclusion chromatography - ScienceDirect where the range of particle size for virions is stipulated to be 40-140 nm.)

The EPA scientists asserted they tested for the smallest SARS-2 virus size. It might be quibbling, after all, 95% filtration of particles between 50-100 nm is definitely in my range of interest; nevertheless, to say they tested for even the smallest size of a SARS-2 virion lacks the sort of precision I expect from this level of study: “Researchers tested how well different masks and modifications filter out airborne salt particles, which are the same size as the smallest SARS-CoV-2 particles, but are not harmful.” (Maybe the caveat is in the expression *but not harmful*.)

Also, there is a little discussed factor differentiating SARS-CoV-2 virions from sodium chloride aerosol particles — “It is possible that the ionic nature of NaCl aerosol makes it highly charged over wide size ranges, and more easily captured by the filter medium to produce a lower in-mask concentration and thereby a lower TIL value.” See TECH09.

*** INFO: By the way, TIL refers to Total Inward Leakage and measures for the amount of particles that leak through the filter either directly or via gaps in the seal. This fact tells us that testing for protection against a virus using sodium chloride might not provide the best correspondence.

Stumbling across other pertinent information relevant to my overall interest but not to the specific focus of this research: I’ll add them below in my folder under OAI

(Other Articles of Interest)

OAI09. Chemistry and Biology of SARS-CoV-2 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7243793/> — this study offers a synopsis: “Jun 11, 2020 SARS-CoV-2 is generally less pathogenic than SARS-CoV, much less pathogenic than the Middle East respiratory syndrome MERS-CoV, but more pathogenic than practically harmless HCoV-OC43, HCoV-HKU1, HCoV-229E, and HCoV-NL63. The reported case-fatality rate of COVID-19 is $\leq 3\%$ and is thus rather low as compared with SARS (30%, Table 1).” *** **WHAT? Covid-19 LESS dangerous than other respiratory diseases? Who knew?**

OAI10. SARS-CoV-2_ characteristics and current advances in research _ Virology Journal _ Full Text <https://virologyj.biomedcentral.com/articles/10.1186/s12985-020-01369-z> — this study synopsis: “Jul 29, 2020 SARS-CoV-2 has a wider range of transmission than SARS-CoV or MERS-CoV, and infects a larger number of patients, **but the ratio of critically ill COVID-19 patients is relatively lower.** Epidemiological characteristics of more than 70,000 cases described that 80.9% COVID-19 patients presented mild/moderate illness.”

OAI11. SARS-CoV-2 virion physicochemical characteristics pertinent to abiotic substrate attachment

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8169569/>
— this study synopsis: “Jun 2, 2021 The SARS-CoV-2 virion schematically shown in Figure 1 contains a single-stranded RNA genome composed of ca. 30,000 base pairs. The genome is encapsidated by the N protein. On the other hand, the envelope of the virion comprises the M (membrane) protein that plays an important role in all coronavirus assemblies [11] and the E protein.” **Vet this one for information about the ionic nature of SARS-CoV-2.**

*** ON ISSUES RELATED TO THE ELECTRET MASKS: So, first off, there is some ionic strength in the SARS-2 virion particle, particularly in the spike protein. But I find nothing in this study that indicates the relative ionic strength of the SARS-2 virion as compares to the NaCl particles. Let’s query that directly:

First, apparently, distance in Debye length is a critical factor in ionic strength: see OAI12.Chemodynamic features of nanoparticles_ Application to understanding the dynamic life cycle of SARS-CoV-2 in aerosols and aqueous biointerfacial zones <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7931671/> search ionic strength.

Debye length is the distance a charge carrier extends its electrostatic effect in a solution.

As best I can ascertain in the time available is that the ionic strength of virus particle in lung or saliva droplets is roughly 160 mM — where mM means micrometers, I think. Although, that is usually represented as μm , and Mm means a millionth of a meter, which is a micrometer, so what does mM mean — and I don't have time to sort out a definitive answer.

NOTE: *** We know that salts enhance viral absorption (see OAI13.Influence of Salts on Virus Adsorption to Microporous Filters <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC92091/> p. 2 “The effects of salts on virus adsorption to microporous filters have been studied for many years and have been discussed in several reviews (4, 13, 16, 17, 28).” See p. 2 The direct effects that have been proposed include formation of salt bridges between the viruses and the filters (16) and alteration of the charge of a filter (14). The indirect effects include (i) a decrease in the pH due to addition of aluminum salts to purified water (28); (ii) the formation of flocs that adsorb viruses and are then physically trapped by the filters (9, 28).” It is generally understood that salts have some ability to enhance absorption of virus in water, and could possibly do similar things for masks if somehow the salt could be mixed with the droplet upon contact with the mask????

RESULTS: “The effects of solutions of salts at pH 7 on the adsorption of the viruses studied to the filters

depended on the filter type and the salt added (Table 1). In general, addition of salts increased the adsorption of viruses to Millipore filters and interfered with the adsorption to 1MDS filters.”

“Viruses and filters studied. In many of the previous studies, adsorption of poliovirus and MS2 to Millipore HA filters was examined. These studies led to the conclusion that salts promote virus adsorption to microporous filters.”
— HOWEVER: **“The salt also decreases electrostatic interactions between the viruses and the 1MDS filters, which decreases adsorption.”**

Apparently, and obviously, negative is attracted to positive. If the virus particle is negatively charged it will be attracted to a positively charged fiber, or mask, and vice versa.

Since we know positively charged masks tend to perform better in filtering virus, we must assume the virus is, itself, negatively charged.

Fundamentally, however, I need to know if the salt particles used in the EPA tests were equivalent to virions in terms of electrostatic attraction to the various materials they used for the tests.

The consensus is that virions are positively charged and attracted to a negatively charged environment.

Are salts positively charged, yes. What is the relative strength of that charge, I can't find any definitive answer.

I'll have to leave this as an open question. It's possible the NaCl particles are more or less attracted to mask fibers than virus particles. If more, the results secured by EPA tests are possibly compromised for use to ascertain mask efficacy against a virus. If less, the EPA tests provide more than adequate correlation to the SARS-CoV-2 virus. But even in that case, the filtration efficacy stipulated for masks recommended for public use is inadequate. Woefully inadequate for any mask on their tables that the general public could tolerate, which, by the way, are the one's Fauci and company are pushing on the public. This is FRAUD!

ANOTHER QUESTION is whether the EPA researchers used the same standard of test (~80 nm) for all the masks tested or only for the N95? It's these questions, and more, that could be answered if I had access to the actual studies.

*** BUT EVEN IN THAT EVENT, LOOK AT THE FILTERING CAPACITY OF SURGICAL MASKS, aka, PROCEDURE MASKS with ear loops — which is the STANDARD RECOMMENDED AND DISTRIBUTED MASK by all government agencies — you only get 38.5% protection. That is inadequate and yet is it the “standard”

set by Fauci, et al.

Keep in mind that as you go down the list of modifications, every one of them increase breathing restriction and comfort irritation progressively. No one can walk about town, or work through a day, wearing a nylon hosiery sleeve over their procedure mask all day long. This would be tantamount to wearing an N95 all day, and provides 15% less protection.

Finished FN01.46.00.00.00—

FN01.47.00.00.00—

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8158891/>.
PDF: FN01.47.00.00.00.Mask Use and Ventilation
Improvements to Reduce COVID-19 Incidence in
Elementary Schools — Georgia, November 16–December
11, 2020

Already vetted in these notes: See **FN01.43.01.02.04-**
<https://www.cdc.gov/mmwr/volumes/70/wr/mm7021e1.htm>
(alternative web address, see above:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8158891/>)
PDF: FN01.43.01.02.04.Mask Use and Ventilation
Improvements to Reduce COVID-19 Incidence in
Elementary Schools — Georgia, November 16–December
11, 2020 _ MMWR

Russell Falcon claim:

“A late 2020 study looking at COVID-19 transmission in Georgia school districts found that schools in the state that required masks to be worn had a 37% lower incidence of COVID-19 among teachers and staff than those that didn’t. The study, published as part of the CDC’s Morbidity and Mortality Weekly Report, led researchers to recommend mask use for both adults and children during in-person learning.”

FN01.48.00.00.00-

<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf> PDF:
FN01.48.00.00.00.Use of face masks in the community by non-ill individuals (For SUP see FN01.48.00.00.00.SUP Supplementary material - face masks in the community_ first update)

Falcon’s CLAIM: Researchers at the European Centre for Disease Prevention and Control found that while mask types offer different degrees of protection and said they think more data is needed, they ultimately recommended mask wearing as a “non-pharmaceutical intervention.”

PC: Feb. 2021

CCP: As with institutional docs the authors are not named. It is published by the European counterpart to USA CDC — The European Centers for Disease

Prevention and Control. / **ORIGIN:** ECDC. / **REF:** ECDC (6); NIOSH (2); WHO (4); US CDC (2); Ngern, Ruampoom, Daochaeng; Nguyen, Liu; Hong, Ling, He, Zhao, Zhang JG., Zhang C.; Wang, Tian, Zhang L., Zhang M., Guo, Wu; Cheng, Wong, Chuang, So, Chen, Sridhar; Li, Zhang, Zhao; Bo, Guo, Likn, Zeng, Li, Zhang; Miyazawa, Kaneko; Chen; Hong, Dinh; Singh; Ferng, Wong, Wang S.; MacIntyre, Dwyer, Seale, Cheung; Cowling, Fung, Cheng, Fang, Chan, Seto; Suntarattiwong; Barasheed; Aiello, Davis; Wu, Xu, Zhou, Lin, He; Lau, Tsui, Lau, Yang; Tuan, Dinh, Mai; Takahashi, Tokuda, Omata, Fukui; Nishiyama, Wakasugi, Kirikae, Quy, Ha, Ban; Heng, Zhu; Nishiura, Kuratsuji, Quy, Phi, Ha; Seto, Tsang, Yung, Ching, Ng, Ho; MacIntyre, Zhang, Chughtai, Seale, Zhang D., Chu; Sung, Sung JAM; Kim, Bae, Kim JY, Park, LIm, Sung; Ueki, Furusawa, Horimoto, Imai, Kabata, Nishimura,; Chan, Yuan, Zhang, Poon, Chan, Lee; MacIntyre, Seale, Dung, Hien, Nga, Chughtai; Ni, Jin; Ho, Lin, Weng, Chuang; Ma, Shan, Zhang, Li, Yang, Chen; Hao, LI, Ma; Li, Wong T., Chung, Guo, Hu, Guan; Wang D., You, Zhou, Zong, Huang, Zhang H.; Zhao, Liao, Xiao, Yu, Wang H., Want Q.; Li, Fan, Lai, Lo; Xiao; Konda, Orakash, Guha; Lai, Poon, Cheung; Li, Guo, Wong KCT., Chung, Gohel, Leung; Wen, Yu, Yang, Hu, Li, Wang J.; Cheng, Hong; Li, Niu, Zhu; Pei, Ou, Kim, Chen, Pui; Wang P., Liu, Chen; Davies; MacIntyre, Wang Q., Seale, Dwyer, Yang; MacIntyre, Wang Q., Seale, Yang, Shi, Gao; Chen, Qin, Chen J., Xu, Feng, Wu; Seale, Dyer, Abdi, Rahman, Sun, Quereshi; Bakhit, Krzyzaniak; Bhutani, Yang; Ko; Chan, LI,

Hirsh; Singh, Pawar, Bothra, Tiwari; Purushothaman, Priyangha, Vaidhyswaran; Hu, FAn, Li, Gou, Li, Zhou; Xie, Yang, Zhang; Foo, Goon, Leow, Goh; Hua, Zuo, Wan, Xiong, Tang, Zou; Ong, Bharatendu, Goh, Tang, Sooi, Tan; Lim, Seet, Lee, Chu\ah, Ong; Chughtai, Wang Q., P:an; Chughtai, Seale, MacIntyre (81 of 155) / **FUNDING:** nd (Assumed the ECDC supported this doc prep.)

CONTENT: “Researchers at the European Centre for Disease Prevention and Control found that while mask types offer different degrees of protection and said they think more data is needed, they ultimately recommended mask wearing as a ‘non-pharmaceutical intervention.’”

A glance over the references I recognized at least 80% (a guess) as ones I’ve already seen and that is only those that I recognized.

CCav: Right off the bat: **“The evidence regarding the effectiveness of medical face masks for the prevention of COVID-19 in the community is compatible with a small to moderate protective effect, but there are still significant uncertainties about the size of this effect. Evidence for the effectiveness of non-medical face masks, face shields/visors and respirators in the community is scarce and of very low certainty.”** This is followed by the requisite: “additional high-quality studies are needed to assess the relevance of the use of medical face masks in the COVID-19 pandemic.”

***** CE/SE: Essentially, for my purposes, this study actually authenticates my own research conclusions and validates my thesis.**

NOTE/SP: After the compromising caveat represented in the above quote, as per usual, ECDC does as USCDC does and says, **“Although the evidence for the use of medical face masks in the community to prevent COVID-19 is limited, face masks should be considered as a non-pharmaceutical intervention in combination with other measures as part of efforts to control the COVID-19 pandemic.”**

NOTE: *** In other words, the EVIDENCE ultimately comes down to this, “small to moderate protective effect,” nevertheless, in spite of the fact that “the evidence for the use of medical face masks in the community to prevent COVID-19 is limited,” — still, face masks should be considered a viable tool for — what? Irritating people, gendering fear, oppressing people, generating hostility between neighbors ??? What exactly is the reason for doing this in view of the fact that they do little to prevent the spread of this disease????

NOTE: I wonder at the large number of CCP connected references and whether these appear in this updated version of the ECDC technical report. Was there less dependency upon resources that are CCP connected

(culturally and/or professionally) in the earlier version. That would be interesting, but not sufficiently important to warrant the time it would take to run that down at present.

And after this, they begin to massage the reader toward accepting a sort of default AME: “Taking into consideration the available evidence, [WHAT EVIDENCE????] the transmission characteristics of SARS-CoV-2, the feasibility and potential harms associated with the use of various types of face masks, the following options are proposed.” From this they offer a sort of something short of a universal masking mandate: read bullets 1-5 here:

- In areas with community transmission of COVID-19, wearing a medical or non-medical face mask is recommended in confined public spaces and can be considered in crowded outdoor settings.

- For people vulnerable to severe COVID-19, such as the elderly or those with underlying medical conditions, the use of medical face masks is recommended as a means of personal protection in the above-mentioned settings.

- In households, the use of medical face masks is recommended for people with symptoms of COVID-19 or confirmed COVID-19 and for the people who share their household.

- Based on the assessment of the available scientific evidence, no recommendation can be made on the preferred use of medical or non-medical face masks in the

community.

- When non-medical face masks are used, it is advisable that masks that comply with available guidelines for filtration efficacy and breathability are preferred.

Examining each of these in light of criteria first, “Taking into consideration the available evidence ...” I conclude the following:

NOTE: *** Given that the evidence is admitted to provide confirmation of the fact that masks do not provide adequate protection against COVID, I see no reason at all to suppose masks are going to do anything to protect me from the transmission characteristics of SARS-CoV-2, and so the feasibility and potential harms associated with the use of various types of masks rise to the top of my concerns and considerations and **RULE OUT USING MASKS.**

Notice how interest in the limitation of scientific evidence plays in an entirely opposite direction when it comes to a certain type of mask — and it is the ONLY MASK THAT ACTUALLY CAN OFFER SOME MEANINGFUL PROTECTION AGAINST A VIRUS — the N95 — “The very limited scientific evidence regarding the use of respirators in the community does NOT SUPPORT THEIR MANDATORY USE IN PLACE OF OTHER TYPES OF FACE MASKS IN THE COMMUNITY.”

Catching this? It's unreal how totally stupid they are, or think we are.

Here is their rating system for the evidence they are presenting:

High This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different is low.

Moderate This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different is moderate.

Low This research provides some indication of the likely effect. However, the likelihood that it will be substantially different (a large enough difference that it might have an effect on a decision) is high.

Very low This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different (a large enough difference that it might have an effect on a decision) is very high.

In their summary for effectiveness of medical face masks for the prevention of COVID-19 in the community, the TA ranks all the studies as

LOW to MODERATE. In fact, I employed their rating

system, or should say I adopted their evaluations of studies in these notes wherever they touched on a study I vetted. NONE OF THE STUDIES RATED HIGH. The BEST rating was LOW TO MODERATE, and MOST of the studies rated LOW and some VERY LOW. — See see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

*** Most, but not all studies in this group presented a favorable effect of masks, but **THE EFFECT WAS NOT STATISTICALLY SIGNIFICANT** in several of the studies and THE QUALITY OF THE EVIDENCE WAS ASSESSED AS LOW in several of these with a note that **THE RESULTS SHOULD BE INTERPRETED WITH CAUTION.**

Did the guy (Russell Falcon) who gathered these studies specifically to show that “science” says masks work bother to actually READ any of them? We are coming to the conclusion of this work and I have not FOUND ONE SINGLE STUDY that SHOWS MASKS offer anything like adequate protection from transmission, and plenty of evidence that supports the conclusion that masks are very BAD for public use.

NOTE: *** Get a load of this: “Looking at the evidence from studies in healthcare settings or other diseases than COVID-19 (i.e. influenza and other respiratory viral infections) **did not improve the certainty of the evidence.** Some of these studies show a statistically

significant favourable effect and others a non-statistically significant favourable effect, while a few studies show an unfavourable effect for the use of medical face masks. In addition, these findings may not be directly extrapolated to COVID-19 and community settings, **thus making it difficult to draw conclusions from these studies for the prevention of COVID-19 in the community.**”

Did this character (Russell Falcon) assume all of us would simply be so impressed with the sheer number of articles he arrayed here that alone would convince us? It’s unbelievable how lazy these people are with their arrogant assumptions regarding how the rest of us are to live our lives.

I’m thinking maybe the **ECDC is still committed to at least a token of respect for real science: “The large heterogeneity in the methodology of the different studies makes it difficult to generalise results to all community settings as well as to compare different studies or settings.** Additional high-quality studies are needed to investigate the relevance of medical face masks in the COVID-19 pandemic.”

The article assessed is “Effectiveness of medical face masks for the prevention of COVID-19 in the community.”

This sure seems familiar but I cannot find it by this title in these notes. The nearest I come is

“FN01.01.00.00.Effectiveness of medical face masks for the prevention of COVID-19 in the community”

I get it! This is not a title, it heads this section of the study. In other words, these remarks, see above, apply to ALL THE RESEARCH USED TO SUPPORT THE CLAIM THAT MEDICAL FACE MASKS ARE EFFECTIVE FOR THE PREVENTION OF COVID-19 IN THE COMMUNITY.

Wow!

I should have started with this article. It might have saved me hundreds of hours.

Anyway, the articles under this assessment are: 19, 20, 21-24, community, for healthcare settings: 38-42.

CCav: For prevention of influenza, SARS and other respiratory viral infections: 43-49, (**“showed inconsistent non-statistically significant results”**), with the exception of two that found a statistically significant favorable effect for a subgroup that used masks within 36 hours of onset — ***** re visit these studies: 45-49 (I remember these).** **According to ECDC these might show either benefit for PPE or source control but the studies did not provide sufficient differentiation.**

CCav: Then there is the Haj study: 50, a university study 51. Non statistically significant.

CCav: These cluster RCTs were characterized by “large heterogeneity due to variable settings — etc. making synthesis of findings challenging.

NOTE: Here you go! TA offers 52, 53, and 54, where the first two showed significant favorable effect and the last did not.

He cites 55 in this category, and 53, 56-59, 60,

CCav: As for medical masks for source control, 23, 61, 62, and the best they came up with is “**However, these studies, as described above, had inconsistent non-statistically significant results with the exception of a statistically significant favourable effect in the subgroup that only included early use (within 36 hours from the onset of symptoms) of a medical face mask.**”

Then ECDC eval. the breathing, speaking, coughing studies: 63-65 and 66. I recognize most of these. We’ll see when I look at each one.

NEXT CATEGORY:

EFFECTIVENESS OF NON-MEDICAL FACE MASKS FOR THE PREVENTION OF COVID-19 IN THE COMMUNITY.

CCav: These are all rated **VERY LOW** — yikes!

The studies in this category are as follows: 67, 25-35, 63-66, 68-104, 90, 105-106. (Very reasonably, the ECDC suggested consideration for breathability: “Factors such as the difficulty of breathing linked to various commonly available materials, especially when layered, must be taken into account when assessing the suitability of materials for non-medical face masks.”)

Next category:

EFFECTIVENESS OF FACE SHIELDS/VISORS FOR THE PREVENTION OF COVID-19 IN THE COMMUNITY:

CCav: **“Lack of scientific evidence on the effectiveness of face shields/visors and transparent face masks for the prevention of COVID-19.”**

This report assesses the evidence provided for this as **VERY LOW**

It includes the following: 108-109.

Next category:

EFFECTIVENESS OF RESPIRATORS FOR THE PREVENTION OF COVID-19 IN THE COMMUNITY.

Oh no, I thought this would at least get high marks but it's rated **LOW**.

However, I think that is because it is believed these would be impractical for community use.

The studies in this category are: 44, 110-111, 112-113, 63, 64, 114.

This study includes a section addressing potential adverse effects:

POTENTIAL ADVERSE EFFECTS OF FACE MASK USE:

TAs cite the following studies but do not give any rating to them.

124, 125-126, 127-130, 131-141, 142-145, 150, 151, 152, 153, 121, 153.

I've done only a little research on this issue but repeatedly found myself inclined to include a chapter on this question in my book. I'm convinced I should.

1. Anxiety and difficulty breathing: 125
2. No evidence masks wearing actually exacerbates

respiratory or underlying disease. 126

3. No substantial physiological effects on wearing a face mask even during vigorous exercise [????] 127-130.

4. Many reports of adverse skin reactions, erythema and pruritus, due to prolonged mask use. 131-141.

5. Tight fit of some masks result in limited tolerability, headaches and discomfort: 142-145

6. Impede communication: 146-149. 150

7. Increased risk of self-contamination for those who reuse masks intended to be worn once only: 151 [This is a big problem because Fauci et al. is recommending the public reuse masks not intended for reuse.]

8. Some non-medical masks work as well as surgical (see above, not so great) but it is believed they block large droplets and might provide some help: 152 (I've addressed this multiple times in the course of my examination of these articles.)

9. Environmental impact of mask use: 153

10. Only recommended in cases where there is widespread transmission in the community, otherwise, the potential harms and costs may outweigh benefits: 121,

153.

NOTE: *** All the recommendations are almost irrelevant to me since the obvious answer is that masks are a waste of time, the costs indicated in this study are enough to outweigh any benefit, but the ultimate cost is in the dignity of human life and the issue of government intrusion on personal autonomy and freedom. **That cost alone requires a very high bar be achieved before attempting to justify encroachment.**

**** Nevertheless, my experience with these things is that if I by pass the recommendations, someone will complain that I have mischaracterized the ECDC study — SO I WILL STIPULATE THAT DESPITE THE ACKNOWLEDGED LIMITED SCIENTIFIC EVIDENCE, AND THE FACT THAT THESE SCIENTISTS AT THE ECDC WERE HONEST IN THEIR ASSESSMENTS OF WHAT EVIDENCE EXISTS, AND FOUND ALMOST ALL OF IT OF LOW QUALITY, AND ONLY A LITTLE OF IT MODERATE, AND **NONE OF IT HIGH** — IT'S TRUE: THE ECDC DOES RECOMMEND MASKING. ????????

1. They recommend them in confined public places.
2. They want them to be considered in crowded outdoor settings.
3. They want vulnerable people to wear them, like the

elderly, especially with underlying conditions, and those with such conditions, in households by people with symptoms, in certain workplaces for certain professions that involve physical proximity to others.

They offer recommendations regarding the use of non-medical masks also, and the only recommendation against masks is against using the only mask that can actually help you. However, of course, I agree with that recommendation, wearing an N95 for prolonged periods is not advisable.

4. Face shields, not worth the money or time.

Then, recommendations regarding using the masks correctly.

FINALLY: Justification for their recommendations:

I'll let them speak for themselves:

CCav: *** **“Although there is only low to moderate certainty of evidence for a small to moderate effect of the use of medical face masks in the community for the prevention of COVID-19, the balance of results towards a protective effect across the wide variety of studies reviewed, the very low risk of serious adverse effects and applying the precautionary principle leads us to conclude** that face masks should be considered an

appropriate nonpharmaceutical intervention in combination with other measures in the effort to control the COVID-19 pandemic.

CCav: “For people vulnerable to severe COVID-19, the recommendation for the use of medical face masks for personal protection is based on the fact that most available evidence comes from studies on medical face masks and that they are standardised, as well as on the high impact of COVID-19 in these people.

***** “The lack of definitively convincing evidence and of an accurate estimate of the effectiveness of face masks illustrates the challenges of the assessment of the effectiveness of public health measures at population level.** RCTs are challenging to design and conduct in community settings while observational studies suffer from several forms of bias that are difficult to account for. Factors such as compliance and the large variability of transmission dynamics in different settings compound this assessment.

“There is very limited evidence from interventional or observational studies on the use of non-medical face masks, respirators and face shields in the community. Most studies on face masks in the community have assessed medical face masks. Experimental studies indicate that several types of non-medical face masks have filtration characteristics

comparable to that of medical face masks.

“Regarding respirators, experimental studies have confirmed that they have a better filtration efficiency than that of medical and other types of face mask. However, the effectiveness of respirators depends on their appropriate fitting and use, and decreases if fitting is not optimal. Moreover, breathability and comfort are reduced and potential skin problems more frequent with respirators, e.g. FFP2 masks, especially if used for longer duration than recommended. Some respirators with an unprotected valve to facilitate exhalation do not prevent the release of exhaled respiratory particles from the wearer into the environment and therefore may not be appropriate for use as a means of source control in the case of respiratory infections. Finally, the cost of respirators is significantly higher than that of face masks. Altogether, the anticipated added value of the universal use of respirators in the community is currently considered very low. Taking into account the potential costs and harms, a recommendation for the use of respirators in place of other types of face masks in the community is not considered currently justifiable.

“Based on experimental studies, options to maximise the fitting of medical face masks have been proposed, e.g. making knots close to the mask on each of the mask’s ear-loops, applying a mask fitter or wearing a non-medical

cloth mask over a medical face mask [102,154]. **However, the results of such experimental studies cannot be directly extrapolated to real-life situations as these options have not been shown to decrease the transmission of respiratory viral infections, nor are the face masks and other products used in such experiments representative of what is used in real life. Considerations about breathability when increasing the number of filtering layers also apply.**

“We did not provide recommendations for use of face masks in [sic-on?] children. Considerations for the use of face masks in [sic-on?] children have been published by the World Health Organization [155].”

The ECDC dodges the face masks on children question. ???

Now, let's look over the references:

First: **LOW to MODERATE confidence:**

√ 19. Bundgaard H, Bundgaard JS, Raaschou-Pedersen DET, von Buchwald C, Todsén T, Norsk JB, et al. Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers : A Randomized Controlled Trial. *Ann Intern Med.* 2020.

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FN01.38.00.03.37c.01.Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers (For DISCLOSURES see
FN01.38.00.03.37c.01.DISCLOSURES Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers_ A Randomized Controlled Trial_ Annals of Internal Medicine_ Vol 174, No 3)

THE FOLLOWING WERE RATED BY ECDC as Low to Moderate confidence: (Those with ✓ are included in my research notes)

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<http://dx.doi.org/10.1101/2020.10.23.20218651>. Available from:

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7311905/>

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7264640/>

38. Self WH, Tenforde MW, Stubblefield WB, Feldstein LR, Steingrub JS, Shapiro NI, et al. Seroprevalence of SARS-CoV-2 Among Frontline Health Care Personnel in a Multistate Hospital Network - 13 Academic Medical Centers, April-June 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69(35):1221-6. —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7470460/>

39. Saban O, Levy J, Chowars I. Risk of SARS-CoV-2 transmission to medical staff and patients from an exposure to a COVID-19-positive ophthalmologist. *Graefes Arch Clin Exp Ophthalmol.* 2020;258(10):2271- 4. —

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7665441/>

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Rated by ECDC as LOW to MODERATE confidence.

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See **FN01.31.03.00.00** —

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(See also: **FN01.38.00.11.00-**

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[00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-](https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org)

[2003&rfr_id=ori%3Arid%3Acrossref.org](https://www.acpjournals.org/doi/full/10.7326/0003-4819-151-7-200910060-00142?rfr_dat=cr_pub++0pubmed&url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org) (FULL TEXT)

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mask partition reduces the risk of non-contact
transmission in a golden Syrian hamster model for
Coronavirus Disease 2019 (COVID-19)ciaa644

Second: LOW confidence

These were all related to the N95 and I'm going to pass on

that because it's virtually IR, and the ECDC, like our own, are agreed that while these work best, they are least suited to community use.

Third: VERY LOW confidence

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108. Lindsley WG, Noti JD, Blachere FM, Szalajda JV, Beezhold DH. Efficacy of face shields against cough aerosol droplets from a cough simulator. *Journal of occupational and environmental hygiene*. 2014;11(8):509-18. —
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Okay, so I'll investigate which of these I've seen and if not already in my notes, for sake of time, I'm going to accept the ECDC's assessment of the article and leave it at that. I'll make sure links are provided to all articles referenced — TA did not provide links to all.

FN01.49.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/>
PDF: FN01.49.00.00.00.Association of State-Issued Mask Mandates and Allowing On-Premises Restaurant Dining with County-Level COVID-19 Case and Death Growth Rates — United States, March 1–December 31, 2020 (Accessed 8/9/22 notice: This Article Has Been Corrected, with direction to MMWR Morb Mortal Wkly Rep. 2021 May 28. Let's make sure I have the updated version: Correction: "p. 350, the third sentence in the first paragraph should have read, 'Starting in April, 38 states and the District of Columbia (DC) issued mask mandates in 2020.'" See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8158896/?report=reader> No need to file a PDF in archives.)

PC: Mar. 2021

CCP: 11 of 12 are CDC employees; Only Maxim Gakh is not, and he is University of Las Vegas; the CDC COVID-19 Response Team: Moriah Bailey, Amanda Brown, Ryan Cramer, Catherine Clodfelter, Robin Davison, Sebnem Dugmeoglu, Arriana Fitts, Siobhan Gilchrist, Rachel Hulkower, Alexa Limeres, Dawn Pepin, Adebola Popoola, Morgan Schroeder, Michael A. Tynan, Chelsea Ukoha, Michael Williams, Christopher D. Whitson, and CDC Public Health Law Program, Gi Jeong, Lisa Landsman, Amanda Moreland, and Julia Shelburne (Did you know the CDC had a Public Health

Law Program???) / **ORIGIN:** US-GA: Atlanta, CDC, Nevada: University of Nevada, Las Vegas. / **REF:** CDC COVID-19 Response Team (2); US CDC; Lyu, Wehby; Joo (5 of 10) / **FUNDING:** nd (Assumed CDC)

RCT: No. A report from CDC on state of State-Issued Mask Mandates.

CONTENT: Concern is correlation between state-issued mask mandates and allowing on-premise restaurant dining WITH county-level COVID-19 Case and Death growth rates in the US from March 1 through December 31 2020.

NOTE: “CDC recommends a combination of evidence-based strategies to reduce transmission of SARS-CoV-2, the virus that causes COVID-19 (1).” **Does this reference support the recommendation?**

1. Honein MA, Christie A, Rose DA, et al.; CDC COVID-19 Response Team. Summary of guidance for public health strategies to address high levels of community transmission of SARS-CoV-2 and related deaths, December 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:1860–7. 10.15585/mmwr.mm6949e2 [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

FN01.49.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737690/?report=reader>. PDF: FN01.49.01.00.00. Summary of Guidance for Public Health Strategies to Address High Levels of Community Transmission of SARS-CoV-2 and Related Deaths, December 2020

PC: Dec. 2020

CCP: All Authors CDC / **ORIGIN:** CDC / **REF:** Sah; Park, Kim, Yi; Jang, Han, Rhee; Chang, Koh; Chen, Yen, Yu, Su; Chu, Ye; Hong, Dinh; Aiello (8 of 25) / **FUNDING:** nd (Assumed CDC)

RCT: No. It's a summary of CDC guidance for public health strategies.

CONTENT: Provides support for claim that CDC recommends a combination of evidence-based strategies to reduce transmission of SARS-2. I am assuming this article lays out the “evidence” that serves as the “base” of this claim. ADDITIONAL claims supported by this doc: virus is transmitted predominantly by inhaling respiratory droplets from infected persons, therefore, UNIVERSAL mask use CAN help reduce transmission.

INFO: CLAIM: 50% of new cases from asymptomatic carriers: Footnotes 2,3

SP: “Compelling evidence now supports the benefits

of cloth face masks for both source control (to protect others) and, to a lesser extent, protection of the wearer.” (<https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>.)

The link: “Science Brief: Community Use of Masks to Control the Spread of SARS-CoV-2” — see <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html>)

FN01.49.01.01.00-

https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html PDF: FN01.49.01.01.00.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC

PC: Dec/ 2021

CCP: Authors not named. / **ORIGIN:** CDC / **REF:** Moghadas, Sah; Bahl, Chughtai, MacIntyre; Davies, Giri; Leung, Chu, Shiu; Asadi; Morawska; Abkarian, Xue, Yang; Ueki, Furusawa, Iwatsuki-Horimoto; Chen; Konda, Prakahs; Aydin, Cheng, Hong, Saif; Bhattacharjee, Bahl, Chughtai, MacIntyre; Hao, Parasch; van der Sande, teunis, Sabel; Chu, Akl, Duda; Fu, Ashur; Abaluck (GATES),

Kwong; Wang, Tian, Zhang; Doung-Ngern, Suphanchaimat, Panjangampathana; Gue; Wang, Zhou, Bhatt; Lyu, Wehby; Hatzius; Chen; Joo; Kasahara; Lee; MatIntyre, Chughtai, Seale, Rahman; Chan, Li; Samannan; Bar-On O; Uhe; Park, Han, Shin; Chaiyabutr, Sukakul, Pruksaeakanan, Thumrongtharadol, Boonchai; Ammann, Ulyte, Haile, Puhan; Singh, TAn, Quinn; Kodak (37 of 90) / **FUNDING**: nd Assumed US CDC.

RCT: No, but refers to some as references.

CONTENT: I want to check the support docs in this article.

SOURCE CONTROL: 3-17

√3. Lindsley W, Blachere F, Law B, Beezhold D, Noti J. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *Aerosol Science and Technology*. 2020;55:449–457.

Already vetted in these notes: See **FN01.39.02.00.00**-<https://www.tandfonline.com/doi/full/10.1080/02786826.2020.1862409> PDF: FN01.39.02.00.00.Full article_ Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/c>

ovid-19-face-masks-community-first-update.pdf

√4. Fischer EP, Fischer MC, Grass D, Henrion I, Warren WS, Westman E. Low-cost measurement of face mask efficacy for filtering expelled droplets during speech. *Sci Adv.* 2020;6(36):eabd3083.

Already vetted in these notes: See **FN01.09.00.00.00** & **FN01.36.01.03.00** —

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7467698/>.

PDF: FN01.36.01.03.00.Low-cost measurement of face mask efficacy for filtering expelled droplets during speech - PMC (Smallest particle tested was 500nm.)

√5. Verma S, Dhanak M, Frankenfield J. Visualizing the effectiveness of face masks in obstructing respiratory jets. *Phys Fluids* (1994). 2020;32(6):061708.

Already vetted in these notes: See **FN01.36.01.04.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7327717/>.

PDF: FN01.36.01.04.00.Visualizing the effectiveness of face masks in obstructing respiratory jets - PMC

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

√6. Bahl P, Bhattacharjee S, de Silva C, Chughtai AA, Doolan C, MacIntyre CR. Face coverings and mask to minimise droplet dispersion and aerosolisation: a video

case study. *Thorax*. 2020;75(11):1024–1025.

Already vetted in these notes: See **FN01.36.01.05.00-**
<https://thorax.bmj.com/content/75/11/1024.long> PDF:
FN01.36.01.05.00.Face coverings and mask to minimise
droplet dispersion and aerosolisation_ a video case study
_ *Thorax* (Paid access—limited vetting available without
purchase)

√7. Davies A, Thompson KA, Giri K, Kafatos G,
Walker J, Bennett A. Testing the efficacy of homemade
masks: would they protect in an influenza
pandemic? *Disaster Med Public Health Prep*.
2013;7(4):413–418.

Already vetted in these notes: See
FN01.38.00.03.31-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108646/> PDF: FN01.38.00.03.31.Testing the Efficacy of
Homemade Masks_ Would They Protect in an
Influenza Pandemic_ - PMC

√8. Leung NHL, Chu DKW, Shiu EYC, et al.
Respiratory virus shedding in exhaled breath and efficacy
of face masks. *Nat Med*. 2020;26(5):676–680.

Already vetted in these notes: See **FN01.28.03.00.00-**
<https://www.nature.com/articles/s41591-020-0843-2> PDF:
FN01.28.03.00.00.Respiratory virus shedding in exhaled

breath and efficacy of face masks _ Nature Medicine

I concluded with their own conclusion: CCav: HERE IS THE FINAL: “Our findings indicate that surgical masks can efficaciously reduce the emission of influenza virus particles into the environment in respiratory DROPLETS, BUT NOT IN AEROSOLS.” (DUP:

FN01.32.03.05.00.Preventing Healthcare Workers From Acquiring Influenza _ Infection Control & Hospital Epidemiology _ Cambridge Core)

9. Bandiera L, Pavar G, Pisetta G, et al. Face coverings and respiratory tract droplet dispersion. R Soc Open Sci. 2020;7(12):201663. Available from: <http://medrxiv.org/content/early/2020/08/14/2020.08.11.20145086.abstract>.

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

10. Alsved M, Matamis A, Bohlin R, et al. Exhaled respiratory particles during singing and talking. Aerosol Science and Technology. 2020;54(11):1245–1248. — <https://www.tandfonline.com/doi/full/10.1080/02786826.2020.1812502>

Already vetted in these notes: See **FN01.49.01.02.00-** <https://www.tandfonline.com/doi/full/10.1080/02786826.2020.1812502>. PDF: FN01.49.01.02.00.Exhaled respiratory particles during singing and talking

PC: August, 2020

CCP: All Authors Swedes but one: Bohlin Richter (US)
/ **ORIGIN**: SWEDEN-Lund: Lund U. Department of
Ergonomics and Aerosol Technology; Dept. of Combustion
Physics; Dept. of Infection Control; Dept. of Translational
Medicine. USA-SFO: San Francisco Symphony Chorus /
REF: Lee; Morawska, Chao, Wan, Li Xie (2 of 7) /
FUNDING: Statement on funding: “This work was
supported by Barbro Osher Pro Suecia Foundation, AFA
insurance [grant numbers 180113, 200109] and the
Swedish Research Council FORMAS [grant number 2017-
00383].”

RCT: Not asserted. Experiment

CONTENT: Choir singing suspended in many
countries because of “incidental reports of disease
transmission” - see Hamner et al 2020 - link).

Range of aerosols measured: $0.5 \mu\text{m}$ to $10 \mu\text{m}$ —
however in the context of this study, that does not
disqualify it, since it is not studying the effectiveness of
masks, but rather the expression of particulates via
singing.

IR: this study does not address our question.

I would stipulate to the claim that aerosolized viral particles are emitted during singing. The issue is artificial means of filtration are not nearly as effective as natural ones.

√11. Asadi S, Wexler AS, Cappa CD, Barreda S, Bouvier NM, Ristenpart WD. Aerosol emission and superemission during human speech increase with voice loudness. *Sci Rep.* 2019;9(1):2348.

Already vetted in these notes: See **FN01.38.00.03.26-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382806/>.
PDF: FN01.38.00.03.26.Aerosol emission and
superemission during human speech increase with voice
loudness - PMC For SUP see FN01.38.00.03.26.SUP.

12. Morawska L, Johnson GR, Ristovski ZD, et al. Size distribution and sites of origin of droplets expelled from the human respiratory tract during expiratory activities. *Aerosol Sci.* 2009;40(3):256–269. —
<https://www.sciencedirect.com/science/article/abs/pii/S0021850208002036>

FN01.49.01.03.00-
<https://www.sciencedirect.com/science/article/abs/pii/S0021850208002036>. PDF: FN01.49.01.03.00.Size distribution and sites of origin of droplets expelled from the human respiratory tract during expiratory activities - ScienceDirect (Paid access! — Abstract only)

PC: November 2008

CCP: Morawska, Chao (2 of 8) / **ORIGIN:**
AUSTRALIA-Brisbane: Queensland U. of Tech.,
International Laboratory for Air Quality and Health;
Sydney: Sydney West Area Health Service, Center for
Population Health; CHINA-Hong Kong Special
Administrative Region: Hong Kong U. of Science and Tech,
Dept. of Mechanical Engineering; U. of Hong Kong, Dept.
of Mech. Engin. ISRAEL-Beer-Sheva: Ben-Gurion U. of
the Negev, Dept. of Biotechnology and Environmental
Engineering. / **REF:** Not available in abstract. / **FUNDING:**
nd.

RCT: Not asserted.

CONTENT: Effort to measure size distribution of
droplets from origin expelled from human respiratory tract

INFO: Measurements revealed: most particles for all
activities were below $0.8 \mu\text{m}$ (800 nm) at average
concentrations of 0.85 cm^{-3} .

INFO: “Speech produced additional particles in modes
near 3.5 and $5 \mu\text{m}$.”

IR: The size range measured was LIMITED to $0.3\text{-}20$
 μm (300-20000 nm), which is larger than the scope that

concerns us: 40-140 nm.

Nothing else of interest to us in this article.

13. Abkarian M, Mendez S, Xue N, Yang F, Stone HA. Speech can produce jet-like transport relevant to asymptomatic spreading of virus. Proc Natl Acad Sci U S A. 2020;117(41):25237–25245. —
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7568291/>

FN01.49.01.04.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7568291/>.
PDF: FN01.49.01.04.00.Speech can produce jet-like transport relevant to asymptomatic spreading of virus (See online version for 6 supplementary files.)

PC: Pub. online: Sept. 2020; Pub. PNAS (Proceedings of the National Academy of Science): Oct. 2020

CCP: Abkarian, Xue, Fang (3 of 5) / **ORIGIN:** FRANCE-Montpellier: U. of Montpellier, Centre de Biochimie Structurale; Institut Montpellierain Alexander Grothendieck. USA-NJ: Princeton U., Dept. of Mechanical and Aerospace Engineering. / **REF:** Lu; Parks; Jang, Han, Rhee; Hijnen; Gandhi, Yokoe; Duguid; Ni, Seo; Asadi (2); Liu, Li, Wei; Ai; Xu, Liu, Gong; Feng, Yao, Sun, Jiang, Liu; Gupta, Lin, Chen; Xu, Gong, Liu; Chi, Honda, Wei, Feng, Dang; Chen; Kwon; Lee, Chu; Krothapalli, Arakeri; WHO

(21 of 47). / **FUNDING:** Statement re funding and support: “We thank the NSF for support via the RAPID Grant CBET 2029370 (program manager is Ron Joslin). M.A. thanks the IRN “Physics of Living Systems” (CNRS/INSERM) for travel support, as well as K. Meersohn for pointing out the importance of plosives in almost all languages of the world. S.M. thanks V. Moureau and G. Lartigue (CORIA [Complexe de Recherche Interprofessionnel en Aérothermochimie], UMR 6614) for providing YALES2, which served as a basis for the development of YALES2BIO. Simulations with YALES2BIO were performed using high-performance computing resources from GENCI-CINES (Grants A006 and A0080307194) and from the platform MESO@LR. S.M. acknowledges the LabEx Numev (Convention ANR-10-LABX-0020) for support for the development of YALES2BIO. We thank A. Smits for loaning the fog machine and P. Bourrienne and J. Nunes for help measuring flow rates during breathing.”

RCT: Not asserted. Under METHODS: Experiment using pointwise laser light contrived to create a laser sheet of ~2 m length and 1 m in height, with ~3 mm thickness. So, it’s a measurement of particles ejected during speech.

CONTENT: **Stipulate** to claim: “Speech can produce jet-like transport to asymptomatic spreading of virus” assuming asymptomatic contagion is verified beyond the specious argument that it seems people get sick from others who don’t appear to be. Note: This article does not

answer that question.

OS: Some MM and SIMULATIONS employed.

INFO: *** Discussion: particles expressed via speech accumulate around the head. The visual created is that of **a cloud of virion particles exhaled into atmosphere** by multiple persons and those clouds intermingling and moving about in the atmosphere by constant respiratory behavior creates a very **dynamic environment for the spread of disease**.

This is all very natural, and **such an image generates a sort of panic, and can encourage obsessive behavior driven by fear of contamination similar to what Howard Hughes lived with**. The facts are, **GOD has designed nature to deal with these issues, so that some exposure to a virus creates a sort of community inoculation that facilitates immune response and contributes to hastening the expiration of the virulent strength of the virus**.

NOTE: *** Here is a first: not until this article, pub. 2020, have I found any reference to concern that breathing might in some way contribute to **FOOD SHORTAGES!** “Our work will help better understand virus transmission in mammals, **WHICH CAN HAVE CATASTROPHIC CONSEQUENCES IN NATURE OR AFFECT THE FOOD SUPPLY.**” ????? (This reads like propaganda!)

*** Stretching the concern now to include a THREAT TO OUR FOOD SUPPLY is just taking this too far.

CCav: This was a very underpowered study: “Due to difficulties imposed by the pandemic, only one subject could enter the laboratory and participate in the experiments. The subject volunteered for the study, is male and 44 y old, with no known physical conditions.”

CCav: The camera was way underpowered for any test examining particulates expressed in respiration: they used a lens that had a focal length of 3.91 mm. Earlier, I addressed this issue (see TECH11), showing that a normal focal length is 50mm for human eyesight, and that as you decrease the focal length you decrease magnification of the optical field. See above. A focal length of 3.91 mm cannot identify for particles anywhere close to the size range of our interest.

The above mentioned concern is verified by the following stipulation: “The flow is seeded by a fog machine (Mister Kool by American DJ), which uses a water-based juice (Swamp Juice by Froggys Fog) and generates droplets with diameters of about 1 μm .” 1 μm is 1000 nm and our interest is in particles within the range of 40-140 nm, or not greater than 70-200 nm)

√14. Ueki H, Furusawa Y, Iwatsuki-Horimoto K, et al. Effectiveness of face masks in preventing airborne

transmission of SARS-CoV-2. mSphere.
2020;5(5):e00637-20.

Already vetted in these notes: See **FN01.39.03.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7580955/>
(Full Text) PDF: FN01.39.03.00.00.Effectiveness of Face
Masks in Preventing Airborne Transmission of SARS-CoV-
2 - PMC. SUPP: FN01.39.03.00.00.SUP mSphere.00637-
20-s0001.docx

Rated by ECDC as VERY LOW confidence: see
<https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

15. Rodriguez-Palacios A, Cominelli F, Basson AR, Pizarro TT, Ilic S. Textile masks and surface covers—a spray simulation method and a “Universal Droplet Reduction Model” against respiratory pandemics. *Front Med (Lausanne)*. 2020;7:260. —
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267001/>

FN01.49.01.05.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267001/>.
PDF: FN01.49.01.05.00.Textile Masks and Surface
Covers—A Spray Simulation Method and a “Universal
Droplet Reduction Model” Against Respiratory Pandemics
(For SUP, see FN01.49.01.05.00.SUP .Data_Sheet_1)

PC: Pub. Online: May 2020

CCP: All Authors ? / **ORIGIN:** USA-OH: Cleveland, Case Western Reserve U. School of Medicine, Div. of Gastroenterology and Liver Disease; Dept. of Pathology; U. Hospitals Cleveland Med. Center, Digestive Health Institute; Columbus: OH State U., College of Education and Human Ecology, Dept. of Human Sciences, Human Nutrition. BRAZIL-Para: Fed. U. of Para; Rio de Janeiro, Fed. U. of Rio; US FDA / **REF:** Du, Cowling; Chughtai, Seale, Dung, Rahman, MacIntyre; WHO (4); US CDC (4); Kim, Choe, Oh, Oh KJ., Kim J., Park; Xiao, Wang ML., Wei, Wang J., Zhao, Yi; Shiu, Leung, Cowling; Lilu, Ning, Chen, Guo, Liu Y., Gali; Cowling, Tang; Sun, Zhang, Chen, Chen L., Deng, Zou; Cai, Sun, Huang, Wu, He; Han, Weng, Huang; Han, Shim, Shin, Lee YW., Lee JS., Ahn; Xie, Li, Sun, Liu; Chan, Yuan, Kok, To, Chu, Yang; Lee; MacIntyre, Dwyer, Seale, Cheung; Llu, Yu, Ge, Wang L., Zhang; MacIntyre, Zhang, Chughtai, Seale, Zhang, Chu; MacIntyre, Seale, Dung, Hien, Nga, Chughtai; MacIntyre, Chughtai; Offeddu, Yung, Low, Tam; Ali, Zhang; US-DHS [?]; Huang, Tufekci; Gupta M., Gupta K., Gupta S.; Konda, Prakash, Guha (27 of 57) / **FUNDING:** Statement on funding: “ This study was conducted with discretionary funds allocated to AR-P and SI. AR-P received partial support from NIH via grants R21DK118373, entitled Identification of pathogenic bacteria in Crohn's disease, P30DK097948 NIH Silvio O. Conte Cleveland Digestive Diseases Research Core Center, and P01DK091222 (Germ-Free and Gut Microbiome Core) to FC and TP, Case Western Reserve University. AB received support

via NIH F32.”

RCT: Not asserted. Experiment: a spray simulation of bacteria-containing micro-/macro-droplet clouds.

CONTENT: Assess household textiles as serviceable for blocking transmission of viral droplets.

***IR: This study relates mostly to fomite transmission but also inhalable aerosols. The particle size range is way outside our parameters:

FOMITE TRANSMISSION: “Using infrared imaging we recently illustrated that the spray model was composed of various liquid droplet dynamic phases occurring within a single spray (25), which reproduces results in a wide arrange of droplet sizes (previously described as right skewed distribution ranges between 20 and 900 μm , with peak at 70–100 μm) (26), and therefore distance reach and landing velocities. In context, the size of droplets in the human sneeze ranges between 40 and 900 μm , with most droplets (70–100%) normally or bimodally distributed around 360–390 μm (27).” Our concern is with particles and droplets in the size range of 40-200 nm.

AEROSOL TRANSMISSION: “Although published droplet sizes vary with study method (Supplementary Table 1), most sneezed droplets are “large,” and can reach >1 mm. **Physiologically, two types of sneeze exist (27): unimodal, when all droplets are large (360 \pm**

1.5 μm -diameter); and bimodal, when droplets are large ($390 \pm 1.7 \mu\text{m}$ -diameter, 70%) and small ($72 \pm 1.5 \mu\text{m}$, 30%). Assuming droplets are spherical, for an average of two sneezes (unimodal:bimodal, 200,000 droplets), we determined that large droplets (85% of total) contain 703-times more fluid than small droplets. Thus, EDBs could reduce COVID-19 EnvDC by effectively blocking the dispersion of fluids/viruses contained in large droplets. **Because droplets of $<47 \mu\text{m}$ are known to evaporate before reaching the ground (33), EDB will also prevent small-size droplet aerosolization by trapping such droplets immediately after production. An overview of a “universal textile droplet reduction action-model” against pandemics is illustrated in Figure 4F.”**

INFO: **** The above statement re aerosol clouds produced by sneezing includes important information: 1. The quantity in a single sneeze is upwards of 200k droplets in sizes ranging from $\sim 72 \mu\text{m}$ to $\sim 390 \mu\text{m}$. 2. While TAs here claim the greater number are the larger, other studies show that where there are larger droplets present, there are a great many more smaller—the devices used limit detection (LOD) and better equipment would show the micro-droplets in sizes well below $5 \mu\text{m}$ are scattered around the outer parameters of the “cloud.” 2. Evaporation: “droplets of $<47 \mu\text{m}$ are known to evaporate BEFORE REACHING THE GROUND. 3. The idea that trapping large droplets before they are ejected preventing small-size droplet aerosolization is a mistake: as I’ve

explained several times before, a large droplet caught in a hydrophobic material will break down into smaller droplets when engaging that material, and due to repeated respiration activity, break down further until full desiccated, releasing the virions into aerosols to be launched into atmosphere or aspirated deep into the lower respiratory tract. When these particles engage a hydrophilic material, they absorb into the fabric, thinning out, which also facilitates evaporation resulting in the same effect. Masks FACILITATE transformation of large droplets to smaller ones and the creation of aerosol particles.

SP: “However, for asymptomatic individuals, not wearing masks in public could easily cause the spread of COVID-19.” This is an assertion premised entirely on an intuitive guess. TA offers no science to back it up.

CCav: *** “Household textiles RETAIN liquid droplets, particularly if double layered.” The retention of viral droplets is considered a “good thing,” because it means they are trapped in the mask and not free to go aerosol and be breathed in by someone else. However, 1. the retention of the viral droplet in your mask upon exhalation means it’s trapped in the immediate vicinity of your mouth, so as you talk, it gets to lips, and from lips to mouth, and, 2. the viral droplet remains virulent for a significant amount of time anyway, and that time is extended so long as it is contained within the moisture of the droplet, and 3. it begins to evaporate almost immediately, and as it does,

droplet size diminishes and at some point it desiccates, releasing the naked virion allowing it to be re-inhaled, or pushed through the mask into the atmosphere by exhale. So, the idea that the household textiles trap or RETAIN liquid droplets is not a positive.

IR: Does not test for particle sizes within the range of our interest: “Using infrared imaging we recently illustrated that the spray model was composed of various liquid droplet dynamic phases occurring within a single spray (25), which reproduces results in a wide arrange of droplet sizes (previously described as right skewed distribution ranges between **20 and 900 μm** , with **peak at 70–100 μm**) (26), and therefore distance reach and landing velocities. In context, the size of droplets in the human sneeze ranges between 40 and 900 μm , with most droplets (70–100%) normally or bimodally distributed around 360–390 μm (27).” You can see that these sizes are way outside our parameters: 20-900 μm is 20000 to 900000 nm and the peak at 70-100 μm is 70000 to 100000 nm. We are looking for protection from particles in the range of 40-140 nm.

SP: The rationale of TA is that because “most sneezed droplets are ‘large,’ and can reach >1 mm,” and a mask can be depended upon to trap such a droplet, masks are therefore efficacious and “can stop” some viral particles. This, it is assumed, should be considered axiomatic — clearly, if a mask can stop *some* particles,

especially of the size that comprise most of those included in a sneeze cloud, it should be considered defacto proof that masks work.

*** The problems with this are manifold: 1. This assumes that “most” of the particles expressed in a sneeze are “large,” but this is actually contrary to what we know about particle size distribution — in these notes I refer to studies that show in any volume of x number of larger particles there will be more small particles, and even exponentially more micro particles. In every volume of particles, there will be MORE small than large particles. 2. These particles will begin immediately to shrink due to evaporation and become micro-droplets very quickly. And 3. The efficacy of any mask to trap large particles does not guarantee they trap the smaller ones, and in fact we know that “some” micro-particles pass through the surgical, and homemade masks easily and that they do so in a volume sufficient to transmit disease. Again, ten thousand bullets are launched targeted to your head, and if we use some of the more outrageous claims, and say you succeeded to block 80% — you have 2000 bullets engaging the target — what did your efforts achieve? The answer is nothing!

*** Large droplets are stipulated in this study to be those that are $390 \mu\text{m}$ (+/- 1.7) in diameter; that’s 390,000 nanometers (nm). Small, in this study, is stipulated to be $72 \mu\text{m}$ (+/- 1.5) — and that’s 72,000 nm. TA asserts that in a sneeze, 70% will be large, and 30% will be small. TA

argues that there are 200,000 droplets expressed in two sneezes. He argues that 85% of these droplets will be trapped by a mask — not sure he is following his own math here, since the argument was that there are 70% large versus 30% small — so maybe he is using the unimodal measure of droplet size??? But even that does not quite work. Okay! Take the higher percentage — 85%, 200,000 bullets coming at you, that leaves 30,000 bullets landing on target. Is your mask making you “feel safe”?

Discussion: SP/SS: here is an outlandish claim: “Despite low compliance, meta-analyses indicate that masks lower the odds of having (SARS)-respiratory infections by **87%** (OR = 0.13), compared to the odds of having an infection “not wearing a mask” (43).” Really? He gives us Offeddu V, Yung CF, Low MSF, Tam CC. Effectiveness of masks and respirators against respiratory infections in healthcare workers: a systematic review and meta-analysis. *Clin Infect Dis.* (2017) 65:1934–42. 10.1093/cid/cix681 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.42.02.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/>
(See also:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7108111/#CIT0040>) PDF: FN01.42.02.00.00.Effectiveness of Masks and Respirators Against Respiratory Infections in Healthcare Workers_ A Systematic Review and Meta-Analysis.

Remember, if I simply refer to a study as Vetted, it means the study was examined for any matter that provided evidence supporting the claim that masks work, and NONE WAS FOUND. Otherwise, I'll add a qualifying statement after vetted, like Vetted: positive. You will notice that NONE of the articles I've vetted so far provide proof of mask efficacy — defined as protecting the wearer or others from viral particles in a volume sufficient to cause disease.

So, I think we are done with this article. Vetted:

16. Viola IM, Peterson B, Pisetta G, et al. Face coverings, aerosol dispersion and mitigation of virus transmission risk. IEEE Open J Eng Med Biol. 2021;2:26–35.

Already vetted in these notes: See **FN01.38.00.03.33-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8545035/>. PDF: FN01.38.00.03.33.Face Coverings, Aerosol Dispersion and Mitigation of Virus Transmission Risk - PMC For SUP see FN01.38.00.03.33. SUP supp1-3053215

Rated by ECDC as VERY LOW confidence: see <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-face-masks-community-first-update.pdf>

17. Adenaiye OO, Lai J, de Mesquita PJB, et al. Infectious SARS-CoV-2 in exhaled aerosols and efficacy of masks during early mild infection. Clin Infect Dis. 2021;doi:10.1093/cid/ciab797.

FN01.49.01.06.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8522431/>
PDF: FN01.49.01.06.00.Infectious SARS-CoV-2 in Exhaled Aerosols and Efficacy of Masks During Early Mild Infection (For SUP see FN01.49.01.06.00.SUPP ciab797_suppl_Supplementary_Materials)

PC: Sep. 2021

CCP: Lai, Hong, Tai, Hang, Fung, Chung, Ma (7 of 22) / **ORIGIN**: USA-MD: College Park, U. of Maryland School of Public Health, Institute of Applied Environmental Health, Public Health Aerobiology and Biomarker Lab.; Dept. of Epidemiology and Biostatistics; Dept. of Microbiology and Immunology; Silver Spring: Walter Reed Army Institute of Research, Viral Diseases Branch; Baltimore: U. of Maryland School of Med, Depot. of Pathology; Texas: Houston, Rice U., Dept. of Computer Science; SINGAPORE: Duke-NUS Med. School, Programme in Emerging Infectious Disease. / **REF**: Found in SUPP: Matsuyama, Nao, Shirato; Wang N.; Wang EW.; Li, Chung, Pireku; Li (5 of 14) / **FUNDING**: nd

RCT: Not asserted. Description of methods: “We recruited COVID-19 cases to give blood, saliva, mid-turbinate and fomite (phone) swabs, and 30-minute breath samples while vocalizing into a Gesundheit-II, with and without masks at up to two visits two days apart. We quantified and sequenced viral RNA, cultured virus, and assayed sera for anti-spike and anti-receptor binding domain antibodies.”

CONTENT: To ascertain SARS-CoV-2 in exhaled aerosols and the efficacy of masks during early mild infection.

IR: I don't think this study measured effectiveness of masks against virions in the size range of our interest: 40-140 nm. Here is a description of their results: “We detected SARS-CoV-2 RNA in 45% of **fine ($\leq 5 \mu\text{m}$)**, **31% of coarse ($> 5 \mu\text{m}$) aerosols**, and **65% of fomite samples overall and in all samples from four alpha-variant cases**. Masks reduced viral RNA by 48% (95% confidence interval [CI], 3 to 72%) in fine and by 77% (95% CI, 51 to 89%) in coarse aerosols; cloth and surgical masks were not significantly different. The alpha variant was associated with a 43-fold (95% CI, 6.6 to 280-fold) increase in fine aerosol viral RNA, compared with earlier viruses, that remained a significant 18-fold (95% CI, 3.4 to 92-fold) increase adjusting for viral RNA in saliva, swabs, and other potential confounders. Two fine aerosol samples, collected while participants wore masks, were culture-

positive.”

*** I’ve before explained that when a study such as this stipulates a bottom size range it is reasonable to expect it represents the smallest particle size measured. Therefore, since “fine” particle size begins at $\leq 5 \mu\text{m}$, the smallest particle was not less than $4 \mu\text{m}$, or TA would have stipulated $\leq 4 \mu\text{m}$. This means the smallest particle size measured in this study was 4000 nm, which is way out of the range of our interest.

CCav: *** TA seems to be less than enthusiastic about the benefits of masking to protect from the SARS-CoV-2 pandemic: “SARS-CoV-2 is evolving toward more efficient aerosol generation **and loose-fitting masks provide significant but only modest source control.** Therefore, until vaccination rates are very high, continued layered controls and tight-fitting masks and respirators will be necessary.” — This is an important admission that masks as “source control” provide at best modest protection.

Done with this article: Vetted:
<https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html>

—> Back to **FN01.49.01.00.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737690/?r>

eport=reader. PDF: FN01.49.01.00.00.Summary of Guidance for Public Health Strategies to Address High Levels of Community Transmission of SARS-CoV-2 and Related Deaths, December 2020

SP: “To preserve the supply of N95 respirators for health care workers and other medical first responders, CDC recommends nonvalved, multilayer cloth masks or nonmedical disposable masks for community use.” (<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html>.) This study is IR and I don’t see a reason to include it in my folder.

The rest of the footnotes in this CDC article are not science, but all SS based on AME.

Let’s look at the REFERENCES: I’ll scan for any that I have not seen and that look promising. I found the following.

11. Sassano M, McKee M, Ricciardi W, Boccia S. Transmission of SARS-CoV-2 and other infections at large sports gatherings: a surprising gap in our knowledge. *Front Med (Lausanne)* 2020;7:277. 10.3389/fmed.2020.00277 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.49.01.07.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7273227/?r>

eport=reader PDF: FN01.49.01.07.00.Transmission of SARS-CoV-2 and Other Infections at Large Sports Gatherings_ A Surprising Gap in Our Knowledge

PC: May, 2020

CCP: All Authors ? / **ORIGIN:** ITALY-Rome: U. Cattolica del Sacro Cuore, Section of Hygiene and Public Health, Dept. of Life Science and Public Health; Fondazione Ppoliclinico Universitario. UK-London: London School of Hygiene and Tropical Med.. US-Case Western Reserve U.; **Pfizer** / **REF:** Italian govt. Institutions (5); Bai, Yao, Wei, Tian, Jin, Chen; Qian, Miao, Liu, Zheng, Luo, Li; Hoang; Shi; European Commission Coronavirus; Otabi, Perlmann; Greenhalgh (12 of 16) / **FUNDING:** Statement, make what you will of it: “The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.”

RCT: Not asserted. This serves historical interests.

CONTENT:

IR: The article does not address the question of concern to us and that is whether masks serve as adequate protection against transmission or contagion. The only place the word *mask* appears is in the footnotes in reference to an almost passing recommendation that

face *coverings* be used in the event sports events cannot be held “behind closed doors”: “Should this not be possible, we believe that the use of face coverings as a means of source control, while not a substitute for social distancing which anyway cannot be maintained at large gatherings, should be made mandatory for spectators, given recent evidence supporting their role in reducing the transmission of the infection (14, 15).”

Okay, so, CLAIM: “...recent evidence supporting their role in reducing the transmission of the infection...” supported by two references: 14, 15.

14. Greenhalgh T, Schmid MB, Cypionka T, Bassler D, Gruer L. Face masks for the public during the covid-19 crisis. *BMJ*. (2020) 369:m1435.10.1136/bmj.m1435 [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.33.02.00.00-**
<https://www.bmj.com/content/369/bmj.m1435>. PDF:
FN01.33.02.00.00.Face masks for the public during the covid-19 crisis _ The BMJ

15. Rodriguez-Palacios A, Cominelli F, Basson A, Pizarro T, Ilic S. Textile masks and surface covers - a ‘universal droplet reduction model’ against respiratory pandemics. *medRxiv*. (2020). 10.1101/2020.04.07.20045617 [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.49.01.05.00-**
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267001/>.
PDF: FN01.49.01.05.00.Textile Masks and Surface
Covers—A Spray Simulation Method and a “Universal
Droplet Reduction Model” Against Respiratory Pandemics
(For SUP, see FN01.49.01.05.00.SUP .Data_Sheet_1)

—> Back to **FN01.49.01.00.00-**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737690/?report=reader#__ffn_sectitle — Summary of Guidance ...

13. Chen YT, Yen YF, Yu SH, Su EC. An examination on the transmission of COVID-19 and the effect of response strategies: a comparative analysis. *Int J Environ Res Public Health* 2020;17:5687.
10.3390/ijerph17165687 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.49.01.08.00-
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7459733/>
PDF: FN01.49.01.08.00.An Examination on the
Transmission of COVID-19 and the Effect of Response
Strategies_ A Comparative Analysis

PC: Pub. Online: August 2020

CCP: Chen, Yen, Yu, Su (all authors) / **ORIGIN:**
TAIWAN-Taipei: U. of Nursing and Health Sciences,

College of Health Tech., Dept. of Health Care Management; Taipei City Hospital, Section of Infectious Diseases; Ntl. Yang-Ming U., Institute of Public Health; Tapei Med. U., College of Medical Science and Tech., Grad. Institute of Biomedical Informatics; Clinical Big Data Research Center; Miaoli: Ntl. United U., Dept. of Business Management / **REF**: WHO; Liu; Chimmula, Zhang; Shim, Tariq, Choi, Lee; Zhang, Tao, Wang J., Ong, Tang, Zou, Bai, Ding, Shen, Zhuang; So; Chen, Yang, Yang Q., Wang; Davis, Mu, Sun; Pan, Liu, Wang C., Guo, Hao, Wang Q., Huang, He, Yu, Liu; Tian, Liu, Li, Wu, Chen, Li, Cai, Xu, Yang; Ministry of Health; Tuite, Ng; Hwang; Le; Dong, Hu, Gao; Zhou, Hou, Shen, Huang, Cheng; Chiew, Lee; Lee, Chiew, Khong (18 of 34) / **FUNDING**: Statement on funding: “This study was funded in part by the Ministry of Science and Technology (MOST) in Taiwan under grant numbers MOST 108-2410-H-227-008 to Yi-Tui Chen and MOST 108-2410-H-239-014 to Shih-Heng Yu.”

RCT: No. Mostly historical.

CONTENT: Intent was to examine the transmission of COVID-19 and the associated factors that affect transmission.

NC/AME: “The success of the fight against COVID-19 in China and Korea **may be due** to high numbers of viral tests together with an effective tracing system as well as **other mitigation strategies such as the lock down of**

cities, wearing masks, and social distancing to prevent the transmission of infection.” There are many such statements throughout.

IR: Does not address the issue of mask efficacy, but is AME throughout. However, this is the **ONLY** place in the article that mentions masks. I checked for coverings also; no other mention of masking is found in this article.

17. Lewis NM, Chu VT, Ye D, et al. Household transmission of SARS-CoV-2 in the United States. Clin Infect Dis 2020. Epub August 16, 2020. 10.1093/cid/ciaa1166 [CrossRef] [Google Scholar]

FN01.49.01.09.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8436395/>
PDF: FN01.49.01.09.00.Household Transmission of Severe Acute Respiratory Syndrome Coronavirus 2 in the United States_ Living Density, Viral Load, and Disproportionate Impact on Communities of Color (SUP: see FN01.49.01.09.00.SUP ciab701_suppl_supplementary_materials)

PC: Pub. Online: August 2021; Clinical Infectious Diseases: May 2022

CCP: Zhang, Chhetri, Kelly D. Lin, Khan, Feng-Chang Lin, Jessica Lin (6 of 24) / **ORIGIN:** USA-NC, Chapel Hill: U of NC School of Medicine, Institute of Global Health and

Infectious Diseases (stomping grounds of Baric, Fauci's gfr bud); U. of NC, Gillings School of Global Public Health; Dept. of Microbiology and Immunology. GAMBIA-Fajara: The Bambia at the London School of Hygiene & Tropical Medicine, Medical Research Council Unit. / **REF**: WHO-China Joint Commission; US CDC; He, Lau, Wu; Yang; Fung; Zhu; Premkumar; Li, Yi, Luo; Chang; Chu, Ye; Hou; Liu, Yan, Wan; Zaidi (13 of 35) / **FUNDING**: Statement on funding: "Research was supported by funds and charitable contributions from the UNC Department of Medicine (emergency funds to principal investigator [PI] J. T. L., UNC School of Medicine), UNC COVID-19 Response Fund/Health Foundation (via UNC Health Foundation to PI J. T. L., UNC School of Medicine), a Gillings Innovations Laboratory Award funded by the 2007 Gillings Gift to UNC—Chapel Hill's Gillings School of Global Public Health (to co-PIs K. A. P. and J. T. L.), and the National Center for Advancing Translational Sciences, National Institutes of Health, through grant award UL1TR002489 (NC TrACs Pilot Funding Award to PI J. T. L.). L. P. reports grants as the co-investigator for NCI-U54 CA260543 and NC Collaboratory Fund. Trainees were supported by the National Institute of Allergy and Infectious Diseases (NIAID; T32A1007151, K. T.) and the Infectious Diseases Society of America (T. R.). Rapid antibody tests were provided by BioMedomics Inc, Morrisville, NC." **POTENTIAL CONFLICTS OF INTEREST**: Statement on potential conflicts: "K. R. M. [Katie Molan] received grant support from Ridgeback Biotherapeutics LP (2020–2021)

and has human immunodeficiency virus collaborations unrelated to this study with Gilead Sciences (ongoing). L. P. [Lakshmanane Premkumar] reports grants or contracts as co-investigator for NIAID (U01AI151788). All other authors report no potential conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.”

RCT: No. Reads like a case-study. METHODS: “This prospective study enrolled 100 coronavirus disease 2019 (COVID-19) cases and 208 of their household members in North Carolina though October 2020, including 44% who identified as Hispanic or non-White. Households were enrolled a median of 6 days from symptom onset in the index case. Incident secondary cases within the household were detected using quantitative polymerase chain reaction of weekly nasal swabs (days 7, 14, 21) or by seroconversion at day 28.”

CONTENT: Disproportionate impact of household transmission on communities of color.

IR: Little mention of masks. In each of the only four places where masks are mentioned, none support a recommendation for mask use in the home: (Each relates to the question of mask use not mask efficacy.)

1. IR: “Though a slightly greater percentage of participants in households without secondary transmission reported wearing a mask at home in the week prior to enrollment (22% vs 13% for index cases and 30% vs 20% in HCs), these differences were not statistically significant.” No bearing on the question of this research: are masks efficacious to protect against viral transmission.

2. IR: “While the sample size precluded full investigation of drivers of increased transmission in minority households, we found that high living density/household crowding was more common in non-White households, while viral load and reported masking in the home did not differ by race-ethnicity.”

3. IR/CCav: “Additionally, we were unable to adequately assess the effects of age, mask-wearing, and the presence of symptoms on transmission.” And “While mask use was queried, mask use prior to any COVID-19 diagnosis in the household was not specifically elicited.”

4. CCav: “While masking, physical distancing, and quarantining the whole household may reduce or prevent transmission beyond the household, **these strategies are less effective within the household**, especially in the setting of high viral load infections and crowded living spaces.”

So, this concludes vetting of FN01.49.01.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737690/?report=reader#!po=56.6667>

—> Back to **FN01.49.00.00.00-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#__ffn_sectitle (Alternate web address:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#!po=5.55556>)

After vetting **FN01.49.01.00.00-**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7737690/?report=reader>. PDF: FN01.49.01.00.00.Summary of Guidance for Public Health Strategies to Address High Levels of Community Transmission of SARS-CoV-2 and Related Deaths, December 2020, which was used to support the statement that “because the virus is transmitted predominantly by inhaling respiratory droplets from infected persons, universal mask use can help reduce transmission,” **it is clear the reference does not support the claim.**

CLAIM: Next claim: “reducing person-to-person interactions by avoiding nonessential shared spaces, such as restaurants, where interactions are typically unmasked and physical distancing (≥ 6 ft) is difficult to maintain, CAN ALSO DECREASE TRANSMISSION. (2)”

2. Fisher KA, Tenforde MW, Feldstein LR, et al.; IVY Network Investigators; CDC COVID-19 Response

Team. Community and close contact exposures associated with COVID-19 among symptomatic adults ≥ 18 years in 11 outpatient health care facilities—United States, July 2020. MMWR Morb Mortal Wkly Rep 2020;69:1258–64. 10.15585/mmwr.mm6936a5 [PMC free article] [PubMed] [CrossRef] [Google Scholar] [Ref list]

FN01.49.02.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7499837/?report=reader>. PDF: FN01.49.02.00.00.Community and Close Contact Exposures Associated with COVID-19 Among Symptomatic Adults ≥ 18 Years in 11 Outpatient Health Care Facilities — United States, July 2020

PC: Sep. 2020

CCP: All authors ?, 5 CDC / **ORIGIN:** Author affiliations: CDC, USA-MA, NC, MN, OH, Seattle, WA, Stanford U., Salt Lake City, UT, Johns Hopkins, MD, CO — see “CDC COVID-19 Response Team; 2Epidemic Intelligence Service, CDC; 3Influenza Vaccine Effectiveness in the Critically Ill (IVY) Network; 4Vanderbilt University Medical Center, Nashville, Tennessee; 5Beth Israel Deaconess Medical Center, Boston, Massachusetts; 6Wake Forest University Baptist Medical Center, Winston-Salem, North Carolina; 7Hennepin County Medical Center, Minneapolis, Minnesota; 8Baystate Medical Center, Springfield, Massachusetts; 9Ohio State University Wexner Medical

Center, Columbus, Ohio; 10University of Washington Medical Center, Seattle, Washington; 11Stanford University Medical Center, Palo Alto, California; 12Intermountain Healthcare, Salt Lake City, Utah; 13Johns Hopkins Hospital, Baltimore, Maryland; 14University of Colorado School of Medicine, Aurora, Colorado.” / **REF:** CDC (2); Lu, Gu, Li; Lei, Xu, Xiao, Wu, Shu (4 of 10). / **FUNDING:** nd, at least not stated, but under Acknowledgments I find: “Zhaner Haimovich; Northrop Grumman; Sherri Pals, Division of Global HIV & TB, Center for Global Health, CDC” suggesting these persons and/or organizations provided support, including financial.

RCT: No. Case study.

CONTENT: reducing person-to-person contact as a strategy to control spread.

IR: First off, this actually is outside the focus of this research. I’m interested in mask efficacy, not looking at the social distancing question.

OS: Conclusions are based on observational studies and assessment of cases, there are no RCT structured studies presented in this article.

Consequently, and not surprisingly, very little is said about masks:

1. AME: “Exposures and activities where mask use and social distancing are difficult to maintain, including going to places that offer on-site eating or drinking, might be important risk factors for acquiring COVID-19.”

2. AME: “Data collected included demographic characteristics, information on underlying chronic medical conditions, symptoms, convalescence (self-rated physical and mental health), close contact (within 6 feet for ≥ 15 minutes) with a person with known COVID-19, workplace exposures, mask-wearing behavior, and community activities ≤ 14 days before symptom onset.” Participants were asked about mask use.

3. SP: “In the 14 days before illness onset, 71% of case-patients and 74% of control-participants reported always using cloth face coverings or other mask types when in public.”

4. SP: “Among 107 participants who reported dining at a restaurant and 21 participants who reported going to a bar/coffeeshop, case-patients were less likely to report observing almost all patrons at the restaurant adhering to recommendations such as wearing a mask or social distancing ($p = 0.03$ and $p = 0.01$, respectively).”

5. CCav: “Direction, ventilation, and intensity of airflow might affect virus transmission, even if social distancing measures and mask use are implemented according to

current guidance.”

Nothing else in the article contributed to this research.

—> Back to **FN01.49.00.00.00-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#__ffn_sectitle (Alternative web address:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#!po=5.55556>) — Association of State-issued ...

SP: “Implementing mask mandates was associated with reduced SARS-CoV-2 transmission, whereas reopening restaurants for on-premises dining was associated with increased transmission.” **Correlation does not equate to causation.**

AME/SP: And all of this article is AME and SP — AME because it does not present anything like scientific evidence supporting mask efficacy but every where assumes it; and SP because the entire argument of the article is that because we saw a rise in the number of cases and deaths when mask mandates were relaxed, therefore, masks made the difference — **correlation does not prove causation.**

Let’s go to **Discussion:**

SP: “Mask mandates were associated with statistically significant decreases in county-level daily COVID-19 case

and death growth rates within 20 days of implementation.”
Correlation does not equate to causation.

CLAIM: “Studies have confirmed the effectiveness of community mitigation measures in reducing the prevalence of COVID-19 (5-8).”

TA offers the following support docs for the claim:

5. Courtemanche C, Garuccio J, Le A, Pinkston J, Yelowitz A. Strong social distancing measures in the United States reduced the COVID-19 growth rate. *Health Aff (Millwood)* 2020;39:1237–46.
10.1377/hlthaff.2020.00608 [PubMed] [CrossRef] [Google Scholar]

FN01.49.02.01.00-

https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00608?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed PDF: FN01.49.02.01.00.Strong Social Distancing Measures In The United States Reduced The COVID-19 Growth Rate _ Health Affairs

PC: May 2020

CCP: Authors: ? / ORIGIN: USA-KY, GA: Author
Affiliation: . “Charles Courtemanche (courtemanche@uky.edu) is an associate professor of

economics at the University of Kentucky, in Lexington, Kentucky; Joseph Garuccio is a doctoral student in economics at Georgia State University, in Atlanta, Georgia; Anh Le is a doctoral student in economics at the University of Kentucky; Joshua Pinkston is an associate professor of economics at the University of Louisville, in Louisville, Kentucky; Aaron Yelowitz is a professor of economics at the University of Kentucky.” / **REF:** Qiu; Gupta, Nguyen, Lee; Abaluck (B&MGF), Ko; State of Georgia; Dept. of Ag; Johns Hopkins U.; Wu, Shah, Nikutta; Census Bureau; White House (_9 of 31).

FUNDING: nd

RCT: No. OS — “Observational data analyses” :
“Finally, as is typical of observational data analyses, we could not rule out all possible threats to causal inference.”

CONTENT: Claim is that this study contributes to support of “Studies” that “have CONFIRMED the EFFECTIVENESS of community mitigation...”

IR: My concern is not with social distancing, but with masks.

IR: Because this study did not have as its purpose to determine whether masks or social distancing work, rather, the point is to determine whether government intrusion effectively increased the impact of mitigation strategies: “At issue is not whether isolation works to limit the spread

of disease but, rather, whether the particular government restrictions designed to encourage social distancing in the US reduced spread relative to simply providing information and recommendations. Individuals may voluntarily engage in avoidance behavior, such as washing hands or wearing masks, once they fully perceive the risks of contagion.”

CCav: Cannot rule out all possible confounders: “Numerous confounders could vary across time and space, including the other policies mentioned here, informal encouragement by government official to wear masks or improve hygiene, changing business practices, and social norms regarding distancing.”

CCav: “At the same time, our results are not informative about the effectiveness of intermediate measures, such as lifting a shelter-in-place order but requiring masks in public or opening restaurants at reduced capacity. Further research is needed as gradual, untested steps toward reopening are taken across the country.”

TA refers to one study that speaks directly to our interest: Footnote No. 12: Abaluck J , Chevalier JA , Christakis NA , Forman HP , Kaplan EH , Ko A et al. The case for universal cloth mask adoption and policies to increase supply of medical masks for health workers [Internet]. New Haven(CT): Yale University; 2020 Apr 1 [cited 2020 May 11]. Available

from:https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3567438 Google Scholar

FN01.49.02.01.01-

https://www.researchgate.net/publication/340483413_The_Case_for_Universal_Cloth_Mask_Adoption_and_Policies_to_Increase_Supply_of_Medical_Masks_for_Health_Workers/link/600ebb5b299bf14088bc9b0e/download PDF:
FN01.49.02.01.01.Abaluck.CovidEconomics.Masks.facepage.2020.pdf

PC: April 2020

CCP: Abaluck is connected with B&MGF (See **FN01.43.01.01.02** where Jason Abaluck first named, see Ahmed Mushfiq Mobarak last named (These authors are connected with Bill & Melinda Gates funding for this research, see below)

“Bill & Melinda Gates Foundation has funded efforts to “encourage masking and COVID-19 vaccines in the developing world”:

<https://som.yale.edu/story/2021/gates-foundation-grants-support-faculty-led-initiative-encourage-masking-and-covid-19> where Bangladesh is

specifically mentioned: The BMGF [Bill & Melinda Gates Foundation] has donated \$3 million to the NORM project, which last year established a successful formula for mask-wearing implementation in Bangladesh, Nepal; Pakistan, India; and parts of Latin America.” / **ORIGINS:** USA- all

Yale / **REF:**

Cowling, Chan, Fang, Cheng, Fung, Wai, Sin, Seto, Yung, Chu, Chiu; Davies; Nedjati-Gilani, Imai, Bhatia, Dighe; Fong, Gao, Wong JY., Xiao, Shiu, Ryu, Cowling; Long, Hu, Liu, Chen, Guo, Yang, Cheng, Huang, Du; MacIntyre, Chughtai; van der Sande, Teunis, Sabel; Yan, Guha (8 of 12). **FUNDING:** nd

RCT: No. RL/OS/MM: “In this paper, we [RL] review briefly the scientific literature on mask evidence, [OS] undertake an empirical analysis of mask efficacy, and [MM] estimate the economic value of universal cloth mask-wearing.”

CONTENT:

INFORMATION: “Further, while we are not aware of studies that demonstrate that a sick person can become sicker due to mask-wearing, there is a plausible mechanism by which that could occur.”

CCav: “While existing RCTs fail to find a reduction in risk for mask-wearers outside of high-risk settings, these studies (even collectively) are not powered to detect large effects...” Right! So we must turn away from RCTs and depend on observational studies, manufactured models constructed on fudgeable data, that everyone admits cannot possibly address all the confounders possible—

establishing correlation does not confirm causation. The limitations of OS far outstrip those of RCTs.

IR: As for the economic value of masks, it is not within the scope of my interest in this study. As for mask efficacy, this article does not address penetration (Search: *particle, aerosol, droplet* with results NULL.)

AME: Under Homemade Masks as an Antidote to Hoarding, not one appeal is made to science at all.

OS/IR/SP: TA discussion of evidence for mask efficacy is entirely dependent on data comparison between countries without consideration for the myriad of confounders compromising their conclusions. “The pattern in the figure [Figure 1 — confirmed positive tests] is quite stark: countries with pre-existing norms that sick people should wear masks — including South Korea, Japan, Hong Kong and Taiwan — have been among the most effective at containing the spread of the epidemic.”

SP: Some of these countries saw the most “stark” rise in cases later, after doubling down on mask use: Australia, and Japan providing two examples.

IR: This is about “sick people” wearing masks, not universal masking.

OS: The number of potential confounders

compromising any conclusions drawn from this sort of study literally render them meaningless.

So, FN01.49.02.01.01 is vetted.

—> Back to **FN01.49.00.00.00-**

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#__ffn_sectitle (Alternative web address: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#!po=5.55556>) — Association of State-issued ...

6. Lyu W, Wehby GL. Community use of face masks and COVID-19: evidence from a natural experiment of state mandates in the US. *Health Aff (Millwood)* 2020;39:1419–25. 10.1377/hlthaff.2020.00818 [PubMed] [CrossRef] [Google Scholar]

Already vetted in these notes: See **FN01.04.00.00.00-**
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00818>. PDF: FN01.04.00.00.00.Community Use Of Face Masks And COVID-19_ Evidence From A Natural Experiment Of State Mandates In The US _ Health Affairs

7. Joo H, Miller GF, Sunshine G, et al. Decline in COVID-19 hospitalization growth rates associated with statewide mask mandates— 10 states, March–October 2020. *MMWR Morb Mortal Wkly Rep* 2021;70:212–6. 10.15585/mmwr.mm7006e2 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.49.02.02.00-

<https://www.cdc.gov/mmwr/volumes/70/wr/mm7006e2.htm>.

PDF: FN01.49.02.02.00.Decline in COVID-19

Hospitalization Growth Rates Associated with Statewide
Mask Mandates — 10 States, March–October 2020 _

MMWR (The title: “Decline in COVID-19 hospitalization
growth rates associated with statewide mask mandates —
...” is not found on the PDF created from the original doc
found at above address.)

PC: Feb. 2021

CCP: Joo, Kim (2 of 11) — All CDC, except Gakh,
who is US-NV: U. of Nevada / **ORIGIN**: CDC COVID-19
Response Team, USA-Las Vegas, NV / **REF**: CDC (3);
Lyu, Wehby; Bi Q; Adhikari, Arifkhanova; WHO (7 of 10).
FUNDING: nd (Assumed CDC)

RCT: No. This is a data analysis report, not a
scientific study of the question before us: are masks
adequately efficacious to justify universal mask mandates?

CONTENT: TA FN01.49.00.00.00 CLAIM: This study
contributes to support of “Studies” that “have CONFIRMED
the EFFECTIVENESS of community mitigation...”

AME: TA present data from the assumption of mask
efficacy. For example: “After mask mandates had been

implemented for ≥ 3 weeks, hospitalization growth rates declined by 5.6 percentage points among persons aged 18–39 years (95% CI = 0.9– 10.4) and those aged 40–64 years (95% CI = 1.0–10.2).” Correlation between mask mandates and statistical data showing decrease or increase of hospitalizations for COVID etc do not prove a causation link between the two: confounders include — questions about the reliability of the tests, many questions about other factors that might have contributed to the rise and fall of case counts during any period, and within any of the counties where data was collected and analyzed, etc. etc. etc.

SP: “Masks are intended to reduce emission of virus-laden respiratory droplets, which is especially relevant for persons who are infected with SARS-CoV-2 but are asymptomatic or presymptomatic; masks also help reduce inhalation of respiratory droplets by the wearer (1).” OKAY, let’s look at reference 1.

Reference 1: CDC. COVID-19. **Scientific brief:** community use of cloth masks to control the spread of SARS-CoV-2. Atlanta, GA: US Department of Health and Human Services, CDC; 2020.

<https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>

Already vetted in these notes: See **FN01.36.01.00.00-**
<https://www.cdc.gov/coronavirus/2019->

ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html. PDF: FN01.36.01.00.00.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC

Vetted thoroughly: see FN01.36.01.00.00, FN01.36.01.02.00, FN01.36.01.03.00, FN01.36.01.04.00, and others. This provides vetting for all pertinent articles in cited reference.

For the updated version of Scientific Brief: See **FN01.39.01.00.00**-<https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>. PDF: FN01.39.01.00.00.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC

For a FULL Vetting of all references cited in this CDC doc (Scientific Brief): See **FN01.49.01.01.00**-https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/masking-science-sars-cov2.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fmore%2Fmasking-science-sars-cov2.html PDF: FN01.49.01.01.00.Science Brief_ Community Use of Masks to Control the Spread of SARS-CoV-2 _ CDC

—> Back to **FN01.49.00.00.00**-

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#__ffn_sectitle (Alternative web address:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#!po=5.55556>) — Association of State-issued ...

8. Kaufman BG, Whitaker R, Mahendraratnam N, Smith VA, McClellan MB. Comparing associations of state reopening strategies with COVID-19 burden. *J Gen Intern Med* 2020;35:3627–34. 10.1007/s11606-020-06277-0 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

FN01.49.02.03.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7537575/>.
PDF: FN01.49.02.03.00.Comparing Associations of State Reopening Strategies with COVID-19 Burden (For SUP: see FN01.49.02.03.00.SUP 11606_2020_6277_MOESM1_ESM)

PC: Pub. Online: Oct. 2020; by *Journal of General Internal Medicine*: Dec. 2020

CCP: Mahendraratnam (1 of 5) / **ORIGIN**: USA-NC Durham: Duke U. Margolis Center for Health Policy; Population Health Sciences; Center of Innovation to Accelerate Discovery and Practice Transformation [???]; VA Med Center; Div. of General Internal Med. / **REF**: NYT; WaPo; CDC COVID-19 Response Team: “What Dr. Fauci wants you to know ...”; CDC; Lyu, Wehby; Yamana, Kandula, Shaman; Pham (7 of 17) / **FUNDING**: McClellan:

board member of Johnson & Johnson, Cigna, Alignment Healthcare, and Seer; co-chairs CEO Forum for the Health Care ...; receives fees for serving as an advisor to Blackstone Life Sciences, Coda, and Mitre.

RCT: No. “Quasi-experimental study design...”

CONTENT: Claim is that this study contributes to support of “Studies” that “have CONFIRMED the EFFECTIVENESS of community mitigation...”

IR: Does not address mask efficacy as a scientific inquiry.

AME: Assumes mask efficacy throughout.

SP: Outrageous specious argument: “Over 50,000 excess deaths were prevented within 6 weeks in 13 states that implemented mask mandates prior to reopening.” This claim is premised on the assumption that a mask mandate that happened to correspond with a reduction in cases was therefore the cause for that reduction, and then calculated on mathematical models constructed based on very limited data.

That’s the whole of TAs argument supporting their claim. Oh GOD, what has happened to *science*?

9. Nicola M, Alsafi Z, Sohrabi C, et al. The socio-

economic implications of the coronavirus pandemic (COVID-19): a review. Int J Surg 2020;78:185–93. 10.1016/j.ijisu.2020.04.018 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

I expect this will be IR, however, they might make a reference to the issue of concern that could be helpful. Let's see.

FN01.49.02.03.01-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162753/>. PDF: FN01.49.02.03.01.The socio-economic implications of the coronavirus pandemic (COVID-19)_ A review.

No need to vet — no mention of masks except to speak of their short supply.

Back to FN01.49.00.00.00-

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7951820/#R5>

This concludes vetting of FN01.49.00.00.00 — and completes vetting of FN01.

<https://www.kxan.com/news/coronavirus/do-face-masks-work-here-are-49-scientific-studies-that-explain-why-they-do/>

~END~