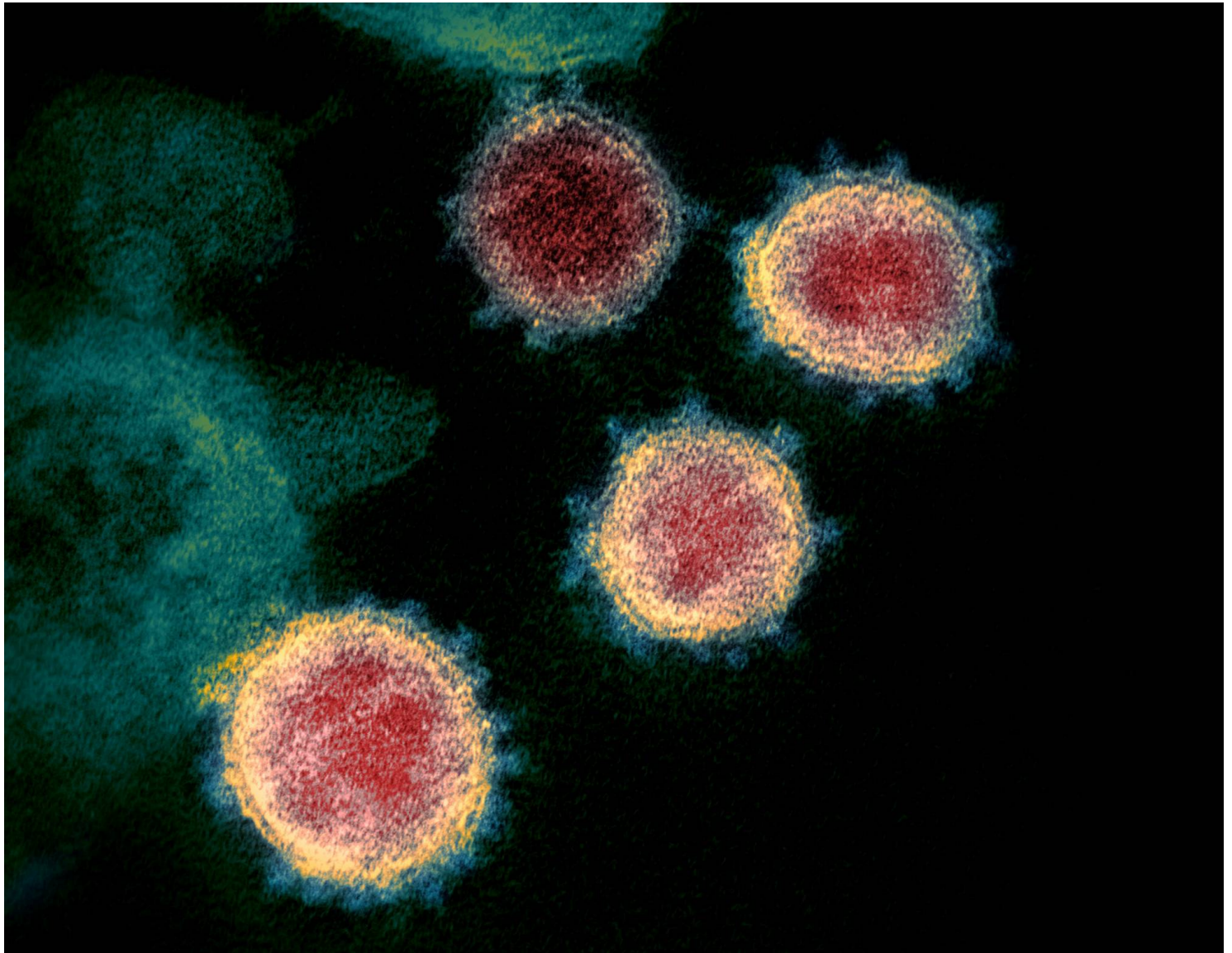


NATIONAL / SCIENCE & HEALTH

The 'stealth' subvariant of omicron is spreading in Japan. What impact could it have?



An electron microscope image of the coronavirus | NIAID-RML / VIA REUTERS

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There are signs that the “stealth” omicron subvariant, called BA.2, is gradually spreading in Japan and experts worry that it could prolong the sixth wave of infections or drive another surge of cases later this year.

The other omicron sublineage, BA.1, currently accounts for more than 90% of all infections in Japan and overseas. But the new BA. 2 subvariant, which differs in the spike protein and is said to be substantially more infectious than BA.1, is fast replacing BA.1 in some countries. And with signs that the community transmission of BA.1 has already begun, Japan could be next.

So will Japan need to brace for a further strain on the health care system and a surge of cases and deaths? Below, we examine the two known types of the omicron variant and what BA.2's spread could mean for the nation's health care system.

BA.1 and BA.2

Since the omicron variant was first discovered in South Africa last November, a number of genomes detected by South Africa, Australia and Canada shared many of the defining mutations of omicron, but some also had their own specific mutations.

That led researchers to designate the common ancestor as B.1.1.529 and relabel the omicron variant of concern as sublineage BA.1 and the new group as sublineage BA.2. There are also sublineages BA.1.1 and BA.3, and these omicron lineages are all being monitored by the World Health Organization.

BA.2, first detected from a sample collected on Nov. 17 in the Gauteng province of South Africa, carries almost all the same mutated binding receptors of the spike protein, as first found in the original omicron variant, according to the Phylogenetic Assignment of Named Global Outbreak Lineages (Pango) Network, which classifies the lineages based on its naming rules to track the spread of COVID-19. BA.2 has 66 defining mutations, compared with 58 in BA.1.



(https://www.japantimes.co.jp/wp-content/uploads/2022/02/np_file_140252.jpeg).

The streets of Copenhagen on Feb. 1. The omicron subvariant BA.2 has become dominant in Denmark. | BLOOMBERG

The WHO says BA.1, including lineage BA.1.1, is now present in almost every country and accounted for 96.4% of sequences submitted to the international virus database known as GISAID by the end of January.

But recent data from India, South Africa, the U.K. and Denmark suggest that BA.2 is spreading rapidly around the world. So far, BA.2, which has become the dominant subvariant in Denmark, has been reported in 69 countries, the WHO said in its weekly update on Tuesday.

BA.2 is called the “stealth” version of omicron as it lacks the genetic deletion found on the spike protein of BA.1, making it difficult to detect it via PCR tests conducted in some countries that use the marker as a proxy for detecting omicron cases. But Japan uses another criteria for detecting both BA.1 and BA.2, so Japanese authorities have had an easier time detecting BA.2 cases.

The WHO says omicron is less severe than previous variants but still represents a very high risk globally because more infections means more severe cases and deaths.

In Japan, quarantine checks at airports and seaports have identified 318 cases of BA.2, according to data from the health ministry. Genome surveillance by the National Institute of Infectious Diseases had identified 47 domestic cases by Jan. 30.



(https://www.japantimes.co.jp/wp-content/uploads/2022/02/np_file_140253.jpeg)

A pedestrian on a street in the Shinjuku district of Tokyo on Thursday. The new BA. 2 subvariant is fast replacing BA.1 in some countries and experts in Japan fear the country could be next. | BLOOMBERG

Data so far has shown that BA.2 is even more transmissible than the BA.1 subvariant.

The effective reproduction number, or the average number of people infected by a single carrier, for BA.2 is 18% higher than that of BA.1, according to an analysis by Kyoto University professor Hiroshi Nishiura and other experts. A study by Danish scientists, published on the [medRxiv](#)

(<https://www.medrxiv.org/content/10.1101/2022.01.28.22270044v1>) preprint server for health sciences, has also shown the secondary attack rate, or the chances of secondary infections in a household, was 39% in BA.2 infected households compared with 29% for BA.1.

The emergence of the BA.2 sublineage has raised alarm and WHO says that investigations into the characteristics of BA.2 should be prioritized separately from BA.1.

Initial analyses of hospitalization data in Denmark offer some promise.

Data from the European country has revealed no differences between BA.1 and BA.2, and other countries where BA.2 cases are rising are also not seeing an increase in the hospitalization rate compared to infections with BA.1.

The genome analysis of 92 COVID-19 cases conducted between Dec. 2 and Jan. 15 at Chiba Prefecture's Narita Hospital, operated by International University of Health and Welfare, identified 22 BA.2 cases, of which 18 were from individuals who arrived from overseas. But all 22 patients were asymptomatic or had minor symptoms, the university said, indicating there was no marked difference in the risk of severe disease between BA.2 and BA.1.



(https://www.japantimes.co.jp/wp-content/uploads/2022/02/np_file_140254.jpeg)

A train station concourse in Tokyo on Wednesday. Data so far has shown that BA.2 is more transmissible than the BA.1 subvariant. | REUTERS

Vaccine effectiveness

When it comes to preventing infections, [preliminary data from the U.K.](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1050721/Vaccine-surveillance-report-week-4.pdf)

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1050721/Vaccine-surveillance-report-week-4.pdf) has shown that the effectiveness of the vaccine was 9% and 13% against BA.1 and BA.2, respectively, after an interval of more than 25 weeks since the second dose. But efficacy rebounded to 63% and 70%, respectively, after a third shot, indicating no apparent difference in vaccine effectiveness between the two subvariants. Studies have shown, however, that vaccines remain widely effective at preventing severe symptoms and deaths from the omicron variant, even after antibody levels wane.

The U.S. Centers for Disease Control and Prevention (CDC) has not seen any studies that suggest BA.2 is more severe or that it will evade vaccines any more than BA.1, its director, Rochelle Walensky, told a White House COVID-19 panel last week. She added the vaccines will work in the same way they have with BA.1.

New surge in cases?

Community transmission of BA.2 has already begun, the Tokyo Medical and Dental University said, citing a sample case detected in mid-January from a COVID-19 patient who has no history of travel or close contact with an infected individual.

But it remains unclear whether BA.2 could become more prominent among omicron cases in Japan, as it has in several countries overseas. The number of BA.2 cases are currently negligible, but nonetheless the health ministry's COVID-19 advisory board on Wednesday agreed the country should be on heightened alert over BA.2, saying it could reignite a surge in new cases down the road.



(https://www.japantimes.co.jp/wp-content/uploads/2022/02/np_file_140255.jpeg)

The streets of Tokyo on Wednesday. Experts say the new subvariant BA.2 needs to be closely monitored amid signs that it could prolong the current sixth wave of the pandemic. | REUTERS

“In many prefectures the speed of increase (in new cases) is slowing,” Shigeru Omi, the government’s top COVID-19 adviser, told a parliamentary committee on Tuesday. The top of the wave could be near, he added.

But Omi also said that Japan will likely not see a sharp dive in cases and instead may only see a gradual decrease or a plateau at high levels.

“In a worst case scenario, because there’s a new subvariant of omicron called BA.2, the number of cases could go up rather than down,” he said.

Experts say BA.2 needs to be closely monitored amid signs that it could prolong the current sixth wave of the pandemic.

“As omicron has been replaced by (BA.2) in Denmark, we have to consider the risk that, just when we think we have reached the peak in Japan, we may reach a plateau and see a further increase,” Kazuhiro Tateda, a Toho University professor and a distinguished infectious disease scholar who serves on the government’s expert panel, told a TBS News program last week.

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