

This key indicator may determine how bad a BA.2 wave could be in the US

By Brenda Goodman and Deidre McPhillips, CNN

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(CNN) With a new version of the Omicron coronavirus variant picking up steam in the United States, as many as 28 million seniors remain at risk of becoming severely ill from Covid-19, either because they are unvaccinated or partially vaccinated, or because it has been more than five months since their second or third dose of a vaccine, according to a CNN analysis of federal data.

As America casts a wary eye on rising cases caused by the BA.2 subvariant in Europe, the immune status of adults over the age of 65 will be a key indicator of how future variants will affect the US because the risk of severe outcomes rises dramatically with age.

"It's really looking at that older age group and how much prior immunity they have, either from previous infection or vaccination, that I think has been the best indicator so far of how severe a given number of cases is going to end up being in terms of hospitalizations and deaths," said Stephen Kissler, who specializes in infectious disease modeling at Harvard's TH Chan School of Public Health.

[An analysis](#) by the UK Health Security Agency shows that **the BA.2 subvariant of Omicron is growing about 80% faster than BA.1**, the virus that caused the last wave of infections in the US over the winter. Cases and hospitalizations are rising in the UK and several other European countries where BA.2 has become the dominant strain.

Even though head-to-head comparisons with BA.1 indicate that BA.2 is not more likely to lead to hospitalization, this variant has the potential to overwhelm health care resources in the US once again if it finds enough vulnerable people to infect.

Forgoing boosters

The most vulnerable group is adults over the age of 65, especially those who have little immunity against the virus. This is why Pfizer and BioNTech asked the US Food and Drug Administration this week to green-light fourth vaccine doses for older adults.

"It's that group that's most problematic when it comes to the severe critical and fatal disease. It doesn't mean that younger folks don't wind up in the hospital at times; it's just not at the same rate," said Jeffrey Shaman, who specializes in modeling the spread of infectious diseases at Columbia University's Mailman School of Public Health.

Shaman points to [Hong Kong](#), which is in the throes of a severe wave caused by BA.2. It has the highest Covid-19 death rate in the world.

"And they have not seen the full brunt of that because it lags a little bit, but it's because they have an elderly population that wasn't very well-vaccinated," he said.

US officials don't expect BA.2 to hit here as hard as it has in Hong Kong. That's because the city has pursued a zero-tolerance Covid strategy. That policy kept cases and deaths low up till now, making it a model for Covid control.

But Omicron and BA.2 have overwhelmed those defenses and started to infect a population with little prior exposure to the virus.

Hong Kong also relied on a slightly different mix of vaccines than the US and Europe, including the Chinese-made Sinovac shots and Pfizer's Comirnaty.

Health officials are looking to the UK for clues to how BA.2 may behave in the US. But they're not analogous in all ways; mostly notably, the UK is more highly vaccinated. Overall, in the UK, [82% of adults](#) have had a third dose of a Covid-19 vaccine, something that is crucial to preventing infections and hospitalizations from Omicron because of how highly "immune erosive" these variants are, Shaman says. In the US, that [number is just 36%](#).

Among Americans over the age of 65 who are eligible to get a booster, [CDC data](#) shows that 1 in 3 have not opted to get a third dose -- leaving about 15 million older Americans without that critical extra protection.

Protection wanes over time

Recent studies show that vaccine timing matters, too. Data collected by the UK's Health Security Agency shows that vaccine effectiveness against Omicron fell to 10% for infections, 35% of hospitalizations and 70% for deaths six months or more after the second dose.

Boosters restored much of that protection, but their benefits have faded, too. Four to six months after a third dose, boosters were about 40% to 50% effective at preventing Omicron infections and 75% to 85% at preventing hospitalizations, for all adults.

In the UK, about two-thirds of seniors have had a second, third or fourth dose of a Covid-19 vaccine within the past five months, but only about half of US seniors are within five months of their second or third vaccine dose.

Comparing antibody protection from a past Covid-19 infection or vaccination, the UK comes out ahead again. By the end of February, 98% of adults in the UK had tested positive for antibodies to Covid-19, according to the [Office of National Statistics](#). In the US, the [CDC estimates](#) that 43% of Americans have antibodies from a past infection to fight off Covid-19. Seniors are the least likely to have this protection, however, with just 23% of adults over age 65 testing positive for antibodies from a previous infection.

"I do still think it's a potential cause for concern that we may still see a higher case fatality rate and higher hospitalizations for Covid in the US than the UK because of the differences in underlying immunity," Kissler told CNN.

So while a BA.2 wave in the US may not be as severe as it is for Hong Kong, it might not be the same experience as the UK is having, either.

"What we see happening in the UK is going to be perhaps a better story than we should be expecting here," said Keri Althoff, an epidemiologist at the Johns Hopkins Bloomberg School of Public Health.

With perhaps a few critical weeks to prepare, Kissler and Shaman say vaccinations and boosters for seniors are an important place to start.

"Every additional layer of protection that we get helps, and so I would highly recommend, especially somebody who's elderly who has yet gotten vaccinated to do so, because it really can go a long way towards giving you the durable and robust immunity that you want," Kissler said. "This is definitely the time."