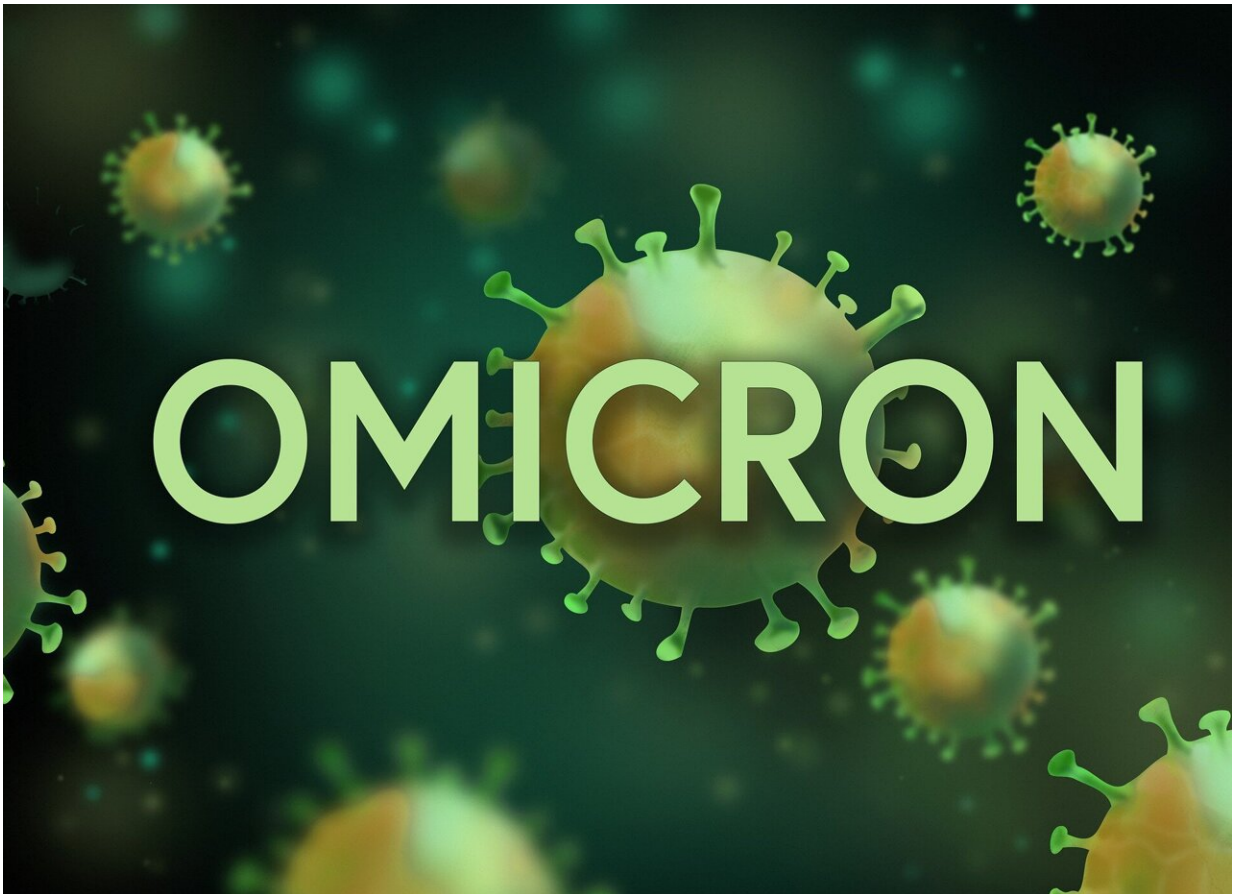


Don't be misled by reports of 'mild omicron,' researchers caution

January 5 2022, by Ellen Goldbaum



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University at Buffalo scientists who do the genomic sequencing of the SARS-CoV2 virus in Erie County are seeing omicron cases increase, an

indication that the region is exhibiting a similar trajectory to national trends.

And despite reports of a quick omicron spike in other countries, the UB scientists note that there are reasons why that may not be the case here.

Based on a batch of 344 samples taken through Dec. 21, the researchers report that the level of omicron in the region at that time was approximately 18 percent. Omicron was detected in deidentified samples provided by KSL Diagnostics, Catholic Health and Kaleida.

"This was nearly spot on with the national average of 22 percent omicron for that period," said Jennifer Surtees, Ph.D., associate professor of biochemistry in the Jacobs School of Medicine and Biomedical Sciences at UB, who leads the sequencing effort. "It is important to note that the sequencing data are not real-time data and that the actual levels of omicron are likely significantly higher."

As of Dec. 25, omicron represented an estimated 58.5 percent of variants in the U.S., according to the Centers for Disease Control and Prevention, and it continues to climb.

"Our scientists are continuing to track the incidence of COVID-19 in our community, providing crucial public health information to officials and providers alike," said Allison Brashear, MD, UB's vice president for health sciences and dean of the Jacobs School.

"We know the omicron COVID-19 variant is more transmissible than other variants, and it is highly likely that this variant is responsible for the recent substantial and stark increase in COVID-19 cases in Erie County," said Erie County Commissioner of Health Gale Burstein, MD, also a clinical professor of pediatrics in the Jacobs School.

Higher hospitalizations are likely

Surtees noted that with such high numbers of omicron in Western New York, it is entirely likely that the sheer numbers will likely lead to higher hospitalizations, even though many people don't experience severe illness.

"With so many COVID-19 cases being diagnosed, hospitals are strained, partly as a result of capacity in terms of beds, but more importantly because staff are getting infected and getting sick," she said. "As we move further into this wave, hospitalizations will continue to increase because of the sheer number of people being infected."

Surtees pointed out a key difference between the U.S. and South Africa, which has reported a quick peak and lower virulence.

"The population in South Africa is just younger than in the U.S. and we know that younger people are less likely to get seriously ill from SARS-CoV-2 infection, although some definitely do," she said.

For these reasons, public health officials are once again urging people to do everything they can to limit the spread.

"We are asking people to continue to make choices that protect your health and those around you," said Burstein. "Get vaccinated and boosted, wear masks with tight seal to the face, practice social distancing, and stay home and away from others when sick. And please, if there are people in your lives who are more vulnerable to COVID-19 because of their age, immunocompromising conditions or vaccination status, make those good choices to protect them, too."

Surtees stressed the importance of what's known as the "Swiss Cheese" model of preventing infection, which combines all these approaches:

"Get vaccinated. Wear good masks—cloth masks alone are no longer good enough. Avoid large gatherings, especially indoors when masks cannot be used at all times. Get tested regularly. And recognize that rapid antigen testing is not perfect and can lead to false negatives.

"A combined approach to preventing infection is best and will lower your risk significantly," she said.

Tom Russo, MD, chief of the Division of Infectious Diseases in the Jacobs School, agreed. "Behavior is a critical factor that influences the likelihood of getting infected. Please avoid indoor situations when interacting with individuals outside of your household where masks cannot be used at all times. This usually occurs when eating/drinking is involved. Although the risk of infection is less outdoors, it can still occur when people are close together for a prolonged period of time. Please be careful and use good judgment."

Concerns are growing about what looms ahead in the next few weeks based on the increased transmissibility of omicron and evidence that incidence of the variant is continuing to rise.

Increased incidence

Surtees explained that evidence of the increased incidence of omicron is based, in part, on the presence of what's known as the S gene dropout.

"Certain types of PCR tests amplify three different genes from the SARS-CoV-2 genome to test for the virus," she said.

One of those genes is the S gene, which encodes the spike protein. She explained that when there are small deletions within the spike gene, as is the case with omicron, the short nucleic acids called primers, which are used to amplify the genes, are unable to recognize the S gene, so it isn't

amplified.

"In other words, it will test positive for the other two genes in the test, but there won't be amplification of the S gene," Surtees said.

"The S gene dropout is therefore a useful proxy for omicron," she said, "and it allows us to predict the level of omicron from certain PCR tests, which is closer to real time than sequencing, which currently takes about a week."

Not all testing sites use tests that exhibit the S gene, but KSL Diagnostics, a UB testing partner, does. Since May 2020, KSL Diagnostics has been conducting between 15 and 20 percent of COVID-19 PCR testing in Western New York.

"In the first two weeks of December, we saw just a handful of S dropouts, accounting for less than 5 percent of the positive samples," said Lakshmanan Suresh, Ph.D., founder and managing partner of KSL Diagnostics Inc.

"The S dropouts started increasing dramatically from the third week of December, and as of today, over 95 percent of the positive samples in our lab are this type," he continued. "Based on what I am seeing out of our lab, I would say that the predominant variant circulating in our community is the omicron variant."

'Do not equate omicron with the common cold'

Symptoms of the omicron variant include sore throat, nasal congestion, fatigue, headache, fever and loss of the ability to taste or smell; in short, they can mimic those of any respiratory virus, but Russo cautioned: "Do not equate omicron with the common cold. Although early data suggests omicron may be less virulent than earlier variants, this is still a

potentially lethal virus. And even so-called 'mild' infections can be pretty miserable."

He added that those at highest risk for developing severe disease or a bad outcome from [omicron](#) include the unvaccinated, the immunocompromised, pregnant women, seniors and those with significant underlying disease, especially if not boosted.

Russo noted that people tend to be concerned primarily with the immediate consequences of COVID-19 (mild disease versus hospitalization and death). "However, it is clear that 'long COVID' can be very problematic in carrying on with the daily activities of living," he said. "Possible long-term consequences of COVID-19 infection that may not be clinically apparent for years or decades is a real concern. Therefore, your best strategy is to not get infected."

Provided by University at Buffalo

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