

Virtually all western New Yorkers now infected with COVID-19 have the delta variant

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Jennifer Surtees and Donald Yergeau, associate director of genomic technologies in the Genomics and Bioinformatics Core, work together on genomic sequencing of SARS-CoV2. Credit: University at Buffalo

Any Western New Yorker who tests positive for COVID-19 almost certainly has contracted the delta variant, University at Buffalo scientists reported today.

Given the ubiquity of the [delta](#) variant nationwide, that's not surprising, but the UB scientists expressed concern at the speed with which the delta

variant became dominant in the region. They noted that it is another sign that more people need to get vaccinated and that masking and social distancing are increasingly important.

"What was really striking to me was that in May, of the cases we sequenced, 1 percent were delta, and in June 25 percent were delta. Then starting early July, every case except one was delta," said Jennifer Surtees, Ph.D., associate professor of biochemistry in the Jacobs School of Medicine and Biomedical Sciences at UB and co-director of the Genome, Environment and Microbiome Community of Excellence. She and her colleagues at UB's New York State Center of Excellence in Bioinformatics and Life Sciences have been conducting the only genomic sequencing of COVID-19 samples in Western New York.

Of the samples that the UB team sequenced from early July, the one that wasn't a delta variant was B.1.621, a variant first seen in Colombia, which now represents about 10 percent of cases in South Florida. There isn't much data on this variant yet, but Surtees said it has mutations that are concerning and is increasing worldwide.

"UB's sequencing efforts are an important part of our local and regional disease surveillance," explained Gale Burstein, MD, Erie County Commissioner of Health and clinical professor of pediatrics in the Jacobs School. "The delta variant's overwhelming prevalence in our area helps to explain the recent, exponential increase in COVID-19 cases and COVID-19-related hospitalizations. However, our area's relatively high vaccination rates have helped to counter the delta variant's higher transmissibility. I recommend that anyone who has not received the COVID-19 vaccine to get vaccinated. This will protect you, your family, and our community."

Delta has quickly become dominant

The speed with which the delta variant has become dominant demonstrates how much of a threat the delta variant poses, Surtees said.

"The fact that delta became dominant here so quickly tells us that the selective advantage of delta is dramatic," she said. "It's the same [virus](#) but it's a more robust version. This is how evolution works and it's happening so quickly because people are continuing to be infected.

"The inability to contain this virus constitutes what is essentially a gigantic evolutionary experiment on a global scale," Surtees explained. This virus will continue to evolve as long as significant numbers of people continue to get infected. Getting vaccinated and taking other mitigation measures like masking and social distancing are effective actions we can take to slow the spread of the virus and save lives."

Surtees noted that the number of samples sequenced in early July from infected people in Western New York was small. She expects to see many more cases of the delta variant next week when she and her UB colleagues will sequence about 100 more samples.

The increased transmissibility of the delta variant has been seen worldwide and is now playing out nationally, with some areas experiencing the highest levels of infections they have seen throughout the pandemic.

Surtees noted that an early sign of how significant a threat the delta [variant](#) is came when reports from the United Kingdom indicated that a single dose of a COVID-19 vaccine wasn't enough to protect individuals from getting sick.

Vaccines still protect against severe illness, hospitalizations

"People infected with the [delta variant](#) are shedding about 1,000 times the viral load that people infected with earlier variants were shedding," Surtees said.

"The vaccines remain very effective and are strongly protective against serious illness and hospitalizations," she said, "However, because this virus is more transmissible and we are still learning about it, it's important to add other mitigation approaches, such as masking and distancing, hand-washing, isolating, getting tested if you are symptomatic and avoiding large gatherings, especially indoors.

"In the course of 18 months, we have gone through multiple iterations of this virus, which are increasingly transmissible and increasingly dangerous," she said. "And there's no reason to think it's going to stop without containing the virus. So all of these approaches are important."

She noted that it's especially important that parents and other adults who routinely come into contact with children under 12 who cannot yet be vaccinated, be vaccinated themselves because that provides some protection for the children.

"It is heartbreaking that some pediatric intensive care units across the South are filling up with children infected with COVID-19, cases that didn't have to happen," she said. "The importance of getting vaccinated is clear. It makes everybody safer."

Surtees continued, "One of the frustrations throughout this pandemic has been that it has been difficult for people to evolve in their thinking. Over the past 18 months, as we learned more about the virus, our [knowledge base](#) and the virus have been changing. When we get new information and new guidance based on that new information, that's not flip flopping, it's not necessarily that we were wrong, it's that the situation has changed, we have learned more and we need to adapt our policies and

behaviors."

Provided by University at Buffalo

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