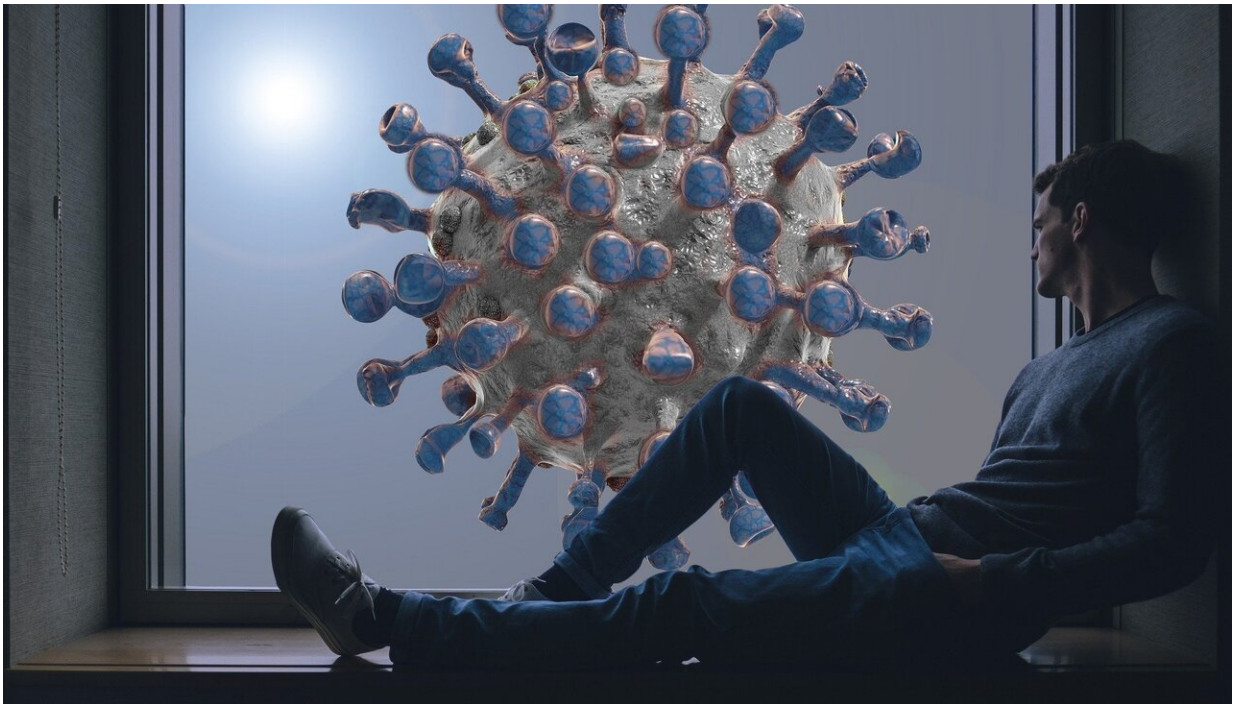


Here's what you should know about the Delta variant

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Credit: CC0 Public Domain

When it comes to infectious diseases, the United Kingdom is like the "canary in our mine," according to Texas A&M University virologist Benjamin Neuman. When a virus is spreading there, it will soon make its way to the United States.

And while it's too early to tell how the highly contagious Delta variant of the coronavirus will affect the U.S., Neuman said it's a "massive" problem in the U.K. The variant, which was first detected in India, is the "greatest threat" to the nation's attempt to eliminate COVID-19, White House chief medical advisor Dr. Anthony Fauci said Tuesday.

The variant is mostly affecting unvaccinated individuals, Neuman said. Preliminary studies out of the U.K. suggest that it causes less loss of smell and more headaches, but like the main strains of the coronavirus, it destroys the lungs and can kill unpredictably.

Neuman said vaccines authorized for use in the U.S. appear to provide protection against the Delta variant, but the large number of unvaccinated individuals in Texas remains a concern. According to the Texas Department of State Health Services, less than half of Texans over the age of 12—approximately 48.2 percent—are fully vaccinated.

The variant has been reported in Houston, he said, but it's unclear where else it is spreading. It takes an average of a little over a month to get sequence results back for a strain, "so we're way behind whatever the virus is doing out there," he said.

This low-information position makes it difficult to predict how big of a threat the Delta variant will be.

"It really depends what's out there, and at the moment we're not sure," Neuman said. "At best you might be able to get away with it, at worst it could be really bad. I think we just don't know."

The Centers for Disease Control and Prevention has classified Delta as a "variant of concern" circulating in the U.S., which means it may carry a risk of more severe illness and transmissibility. It accounts for about 10 percent of the country's COVID-19 cases.

Estimates vary, but Neuman said the Delta variant is "considerably" more transmissible than the Alpha variant, which was the contagious strain first detected in the U.K. that quickly became the dominant variant. Alpha, at that time, was considered more transmissible than regular non-variants. As the different variants continued to compete against each other throughout the pandemic, Delta has pushed out the others as the more dominant strain.

"These viruses are fighting for our lungs, and this appears to be one that has an advantage over other [strains](#) of SARS-CoV-2," he said.

Neuman explains that viruses must change in order to survive. One virus can turn into around 100 million inside an infected person over the course of a day. He said viruses are also sloppy in that they'll make a random mistake in about one of every three copies it makes—and in some instances, those mutations can give the virus an advantage over other versions.

"Mutation is how the virus responds to the world. It's basically how they are able to stay in the game, how they're able to stay competitive," he said. "That's all they are. They're just competitive little things that make mistakes in order to adapt or respond to their environment."

In the Delta variant, the mutation is a change in position in its spike protein, which allows the virus to penetrate and infect healthy cells. Neuman said a similar variant circulating in Texas and Mexico has the same mutation.

Though a strain may have advantages over others, Neuman said its spread often comes down to the activity of people. Two people standing 20 feet away from each other probably won't transmit the virus, regardless of the variant. But if an individual is in close contact with someone who's infected, they're likely to be exposed and likely will

catch that variant if they don't have immunity.

"Our [vaccination rates](#) are not high enough to where we can expect that this [virus](#) will go away on its own," Neuman said.

Provided by Texas A&M University

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