

9 February 2021

## **BRIEF19**

*A daily review of covid-19 research and policy*

### **RESEARCH BRIEFING**

#### **UK variant (SARS-CoV-2 B.1.1.7) in the United States since November and showing similar transmissibility.**

February began with reason for optimism. Cases in the United States have declined in cases by 30 percent over the last couple of weeks and around 1.3 million people per day are receiving a version of the coronavirus vaccine.

Now for the bad news. A [preprint](#) posted yesterday to medRxiv presents some disturbing findings regarding the SARS-Cov-2 B.1.1.7, or “UK variant.” In mid-December reports from the United Kingdom began describing a variant first detected late in the summer of 2020 that was more contagious and possibly rendered children more susceptible than the versions then most widely in circulation. While this variant of the virus did not appear to be any more lethal (as covered in *Brief19* in [late December](#)), the concern was healthcare resources could soon again be at risk of becoming overwhelmed by a large influx of new patients. In addition, there has been wide discussion as to whether these variants would escape coverage by the existing coronavirus vaccines (as covered in *Brief19* [last month](#)).

This new preprint from researchers in the United States assessed the UK variant and attempted to gauge the prevalence and growth of this version of the virus within the United States. Using samples collected from US testing facilities in December 2020 to January 2021, genomic sequencing was performed. While the number of variants found varied from state to state, a doubling-rate of the variant was seen in a timeframe of only a little more than 1 week. As noticed in UK spread, rates of transmission increased by as high as 45 percent here in the US. Researchers also estimated that the UK variant was likely already in the US and replicating as early as November. It appears to have been introduced to the US in multiple locations on both coasts. All of these findings suggest that the US is on similar course to what the UK experienced during the month of December.

Most experts saw the UK variant making landfall on US soil as inevitable. The question is now what can be done to curb its spread. Continued vaccination is essential, followed by maintenance of social distancing and masking. This is not the last variant we will see in the US or elsewhere. The best way to decrease the number of mutations that crop up is to decrease the number of infections. Mutations occur during replication, and replication occurs during infection.

—*Christopher Sampson, MD, FACEP*

#### **More evidence that coronavirus vaccines in use may decrease transmission. The question is when?**

Deep in the appendix of the *New England Journal of Medicine* [article](#) demonstrating the efficacy of the Moderna vaccine was a promising finding that perhaps few people noticed. Fewer volunteers who had received the vaccine tested positive (asymptotically) for SARS-CoV-2 right before receiving their second dose than those who had received placebo. The problem is that the numbers were too small to make a definitive statement about the vaccine’s ability to stop infection itself (though we all now know that the vaccine is around 95 percent effective in preventing covid-19 *symptomatic disease*). Also, while the decrease in asymptomatic infections was hinted at a win to be sure, the decrease of 60 percent was no silver bullet. The hope is that in the weeks after the booster, that number will fall.

Now, a [new preprint](#) published on medRxiv points towards the possibility that the Pfizer/BioNtech vaccine also may decrease contagion. The data are less direct but are encouraging nonetheless. Researchers in Israel measured the “cycle threshold” for PCR tests of samples taken from people who became infected with coronavirus shortly after vaccination (i.e. during the time in which the vaccine was not yet sufficiently protective). In general, the lower the measured cycle threshold, the more likely a person is to be contagious. During the first 11 days after vaccination, the cycle thresholds of vaccine recipients and those who received placebo were nearly identical. But after that, the numbers deviate, with vaccine recipients generating far higher cycle thresholds, indicating less virus in those persons and therefore less contagiousness.

While this was not a measure of contagion itself, other studies have found that when cycle thresholds are higher than a certain number (the number changes a bit depending on the test being used, but generally anything close to 30 is leaning towards non-contagion), contagion is all but impossible.

An important question remains, though. How long does it take after the first (and second) dose of a vaccine for a person who becomes infected with SARS-CoV-2 to develop enough antibodies so as to *never* become contagious, or even to be contagious for a much shorter period than unvaccinated persons? Those data are not yet available. This means that for now, we cannot yet conclude to what degree the vaccines decrease contagion and at what time after inoculation. All we know is that the vaccines likely do inhibit, *at least to some degree*, the likelihood of contagion; that is, for the variants studied—this investigation did not evaluate the vaccine’s biomolecular effect on the newer coronavirus variants of concern.

—Jeremy Samuel Faust, MD MS

## **POLICY BRIEFING**

### **Changes at the CDC to revitalize reputation.**

Hitting the ground running on her first day leading the US Centers for Disease Control and Prevention (CDC), Dr. Rochelle Walensky sat down with *JAMA* to [discuss](#) her priorities in changing the direction of the organization. Amidst a laundry list of plans, three main initiatives stand out.

Public health: part of President Biden’s proposed stimulus plan [includes](#) a moratorium on private home evictions; until the bill is passed, though, the CDC has issued an extension of a previous agency order effectively banning evictions until March 31 (Previously, Congress was [unable](#) to agree on a version of a stimulus package that included the continuation of a similar moratorium). The agency has also pledged a deeper commitment to investing in healthcare infrastructure, a need made more pressing in part due to the overburdening of facilities stemming from a lack of equipment and providers.

Vaccines: To reach a goal of 100 million vaccines in the first 100 days of the Biden administration, the public’s access to the vaccine needs to be increased by expanding the vaccinator corps to include military medical providers, public health service corps, medical students, nursing students and other qualified inoculators. The developing of mobile vaccination units, federal vaccination centers, federally-qualified health centers, and pharmacies to provide the doses. In cases in which supply outpaces demand, broadening patient eligibility in order to limit wasted supplies should be considered.

Agency Esteem: The CDC has recently fallen victim to politicization. Over the last year, interference from Washington meant that some evidence-based policies recommended by professionals at the CDC were suppressed, a practice that President Biden vowed would cease on his watch. Dr. Walensky emphasized a commitment to [improving](#) the internal morale of the

organization and assure the career professionals that they will be able to conduct their work unimpeded. Externally, she wants the CDC to communicate with the American people in lay terms, with communications led by subject-matter experts.

For the CDC to reclaim its prior stature, much work remains. But there seems to be support from the Oval Office down through agency leadership. However, not even this administration, with its pro-science posture, is immune to political winds. Last week, White House Press Secretary Jen Psaki said that Dr. Walensky was speaking in her “personal capacity” when [discussing evidence](#) published by the CDC pointing towards the fact that in many circumstances, re-opening schools has not been associated with increased spread of the coronavirus. This statement, while true, was interpreted by some as a declaration that all schools should re-open, a stance with which many teachers’ unions would take issue. So while the new administration has said it won’t interfere with the CDC’s policies, it has already found at least one point of friction in applying that policy. *Various.*

—*Brief19 Policy Team*

*Kimi Chernoby, MD, JD, Policy Section Founder, Joshua Niforatos, MD Research Section Editor, Frederick Milgrim, MD, Editor-at-Large, Barb Cunningham, Copy-editor, Anna Fang, Week-in-Review. Megan Davis, social media. Kane Elfman PhD, Publishing and Design. Jeremy Samuel Faust MD MS, Editor-in-Chief. <http://www.brief19.com/> Twitter: [@brief\\_19](https://twitter.com/brief_19) [submissions@brief19.com](mailto:submissions@brief19.com). Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health and public policy.*