Town of New Castle, NH
Settled 1623
Incorporated 1693

COVID Update May 28, 2021

For some good news for the long weekend:

1. Global coronavirus cases dropped 14% last week, the WHO reports. The biggest decreases were in Europe, but the agency warned that case numbers and deaths overall are still high. The US has averaged about 28,000 new cases a day, a 19% drop compared to the previous week. Additionally, the US has hit a big vaccine milestone, with half the adult population fully vaccinated, according to CDC records.

2. New England is leading the country in COVID-19 vaccinations: Pat yourselves on the back. We're leading the way with vaccinations. According to the CDC, more than 70 percent of adults in every state in New England have gotten at least their first dose of a COVID-19 vaccine.

3. New data released by the state Department of Health and Human Services shows daily trends continuing to improve in New Hampshire. Sixty-seven new diagnoses were announced on Wednesday (over 100 on Thursday) and the number of active COVID-19 cases dropped. The 7 day average dropped to 88.

For the first time in months, 3 New Hampshire counties are only seeing moderate transmission of COVID-19 (not in Rockingham):
– Belnap County
– Hillsborough County (except Manchester and Nashua — the cities are still at widespread)
– Merrimack County

4. In study of adolescents 12 to 17, Moderna vaccine prevented 100 percent of COVID-19 cases: A late-stage clinical trial of Moderna's coronavirus vaccine in 12- to 17-year-olds found the two-dose vaccine prevented 100 percent of cases and was und to be safe.

Moderna plans to request FDA authorization next month to open up its shots to adolescents ages12 to 17.

5. Brief- 19: Vaccine Breakthrough Infinitesimally Small

There has been disproportionate media focus on the very low occurrence of vaccination-related complications rather than their phenomenal success in preventing death from covid-19. Released this week in the US Center for Disease Control and Prevention's *Morbidity and Mortality Weekly Report i*s a detailed report examining vaccine breakthrough infection—that is the number of

infections that have occurred despite inoculation—in the United States. Vaccine breakthrough has become an important area of concern with the ever-increasing number of variants appearing.

In this report the CDC Vaccine Breakthrough Investigations Team investigated all reported breakthrough cases from January through April of 2021. By the end of April approximately 101 million people in the United States were fully vaccinated against SARS-CoV-2, the virus that causes covid-19. By this same time, only around 10,000 cases of vaccine breakthrough (0.01 percent) were reported. People who reported breakthrough infections tended to be older (median age 58 years) and were more likely to be female (63 percent). Of the breakthrough cases around a quarter were asymptomatic and only 2 percent (160 individuals) died. Even among the 10 percent who required hospitalization, almost 30 percent were asymptomatic and were actually primarily being hospitalized for another reason. Further investigation was completed on the 160 deaths; among these 18 percent were asymptomatic and died from causes other than covid-19. Those who died were much older as well (median age 82 years). Genetic sequencing was available for just 5 percent of the breakthrough cases though of those, known "variants of concern" were found in almost two-thirds of the cases.

The authors of this study did acknowledge that the true number of breakthrough cases in the community was likely an undercount, given how many asymptomatic cases there were. Nevertheless, the findings reflect what is likely to be an extremely small number of cases, and even fewer significant ones, in the US among vaccine recipients. In fact, the number of breakthrough cases is so small, that the CDC has announced that it will no longer investigate new cases among vaccinated persons unless they result in either hospitalization or death.

The data presented here only further bolster the success of vaccination turning the tide of the pandemic and will hopefully convert anyone who remains undecided.

—Christopher Sampson, MD, FACEP

6. For clarification: A study out of Stanford has revealed the majority of severe Covid-19 cases brought on long-term symptoms for at least 6 months. Nearly ¾ of people with moderate to severe COVID-19 had at least one long term symptom (JAMA Network Open, Wednesday May 26, 2021).

7. For the Scientists in New Castle:

Brief 19, Monday May 24, 2021: Masks mandates and improved ventilation systems decreased infections in schools. Plexiglass barriers? Not so much.

While the covid-19 pandemic has affected children the least of any age group, there have still been around 300 deaths among US residents ages 0-17, out of around 4 million documented cases amongst a population of 73 million. Even though the real number of cases might be double, triple, or even quadruple that figure owing to asymptomatic or mild infections that went unreported, that still means that over 1,000 kids could die of covid-19 if we don't eventually vaccinate them every one of them.

Town of New Castle, NH
Settled 1623
Incorporated 1693

At the moment, it appears that schools will be re-opening in most places this fall. Assuming that not all children are vaccinated by then—either because of age restrictions or parental choice—schools will have to decide which mitigation measures to keep in place. A new study of schools in Georgia appearing in the US Centers for Disease Control and Prevention's journal *Morbidity and Mortality Weekly Report* compared schools that had mask mandates, better ventilation, and a number of other strategies in place to decrease SARS-CoV-2 spread this past school year to ones that did not attempt these measures.

The results are fascinating and informative. In schools where teachers were required to wear masks, fewer cases were documented. The same was true in schools where both teachers and students were required to mask. Interestingly, infections in schools with mask mandates for students alone were numerically lower but not statistically. That said, mask wearing was optional in all places, and it's likely that students were masking voluntarily. Schools that made improvements in ventilation also fared better.

But as interesting as the "positive findings" were the negative ones. In this study, schools keeping desks 6 feet apart or using barriers (like plexiglass) did not have lower rates of infection. In addition, hybrid models (a combination of at-home and in-person learning) was not associated with statistically significant decreases in infections, though the absolute numbers were a bit lower.

The factor most associated with higher rates of school infection? The overall covid-19 prevalence in the county. As many of us said repeatedly, the best way to limit school spread, was to limit spread in the community.

—Jeremy Samuel Faust MD, MS

Yours in Health,

Kathy Hollister, MD
Deputy Health Officer
Email: healthofficer@newcastlenh.org