

[First Identified Cases of SARS-CoV-2 Variant B.1.1.7 in Minnesota — December 2020–January 2021 \(MMWR\)](#)

Bottom Line: A recent investigation in Minnesota identified 8 persons with the B.1.1.7 SARS-CoV-2 variant during 12/18/20-1/11/21; 6 of 8 reported recent international or domestic travel (though none to the UK).

Details: This report details an investigation conducted by the Minnesota Department of Health (MDH) on identification of the B.1.1.7 SARS-CoV-2 variant in specimens collected from residents. The MDH's Public Health Laboratory conducted whole genome sequencing on 31 specimens that tested positive for SARS-CoV-2 by RT-PCR testing but were negative for the S-gene target (which serves as a proxy for B.1.1.7 variant identification). The B.1.1.7 variant was identified in 8/31 specimens, which were collected between 12/18/20 and 1/11/21, from residents in/around the Minneapolis-St. Paul metropolitan area. The 8 individuals ranged in age from 15-41 years. 6 had a history of domestic or international travel (3 traveled to California, 1 to the Dominican Republic, and 2 to West Africa) in the 2 weeks prior to symptom onset/specimen collection. 5/8 reported COVID-19-like symptoms, and 3 were asymptomatic.

Key Takeaways:

- The 8 individuals with B.1.1.7 SARS-CoV-2 variant in this investigation had travel, household, and community exposures.
- Given the increased transmissibility of this variant, continued mitigation measures, such as mask wearing, physical distancing, staying away from crowds and poorly ventilated areas, isolation and quarantine, and following travel guidance, are needed, as well as ongoing monitoring activities including genomic surveillance.

[Early Rate Reductions of SARS-CoV-2 Infection and COVID-19 in BNT162b2 Vaccine Recipients \(Lancet\)](#)

Bottom Line: A study of healthcare workers in the largest hospital in Israel demonstrates that the BNT162b2 (Pfizer-BioNTech) vaccine may be effective in reducing COVID-19 rates and symptomatic COVID-19 after the first dose. However, more robust and long-term studies are needed.

Details: This is a retrospective cohort study which examined the rates of COVID-19 after administering the BNT162b2 vaccine to healthcare workers in the largest hospital in Israel starting 12/19/20. A cohort of 9109 of eligible healthcare workers were analyzed. As of 1/24/21, 79% (n=7214) of healthcare workers received the first dose and 66% (n=6037) received the second dose. 91% of healthcare workers who were completely vaccinated (received first and second doses) received their second dose 21 or 22 days after the first one. From 12/19/20 to 1/24/21, 170 of all healthcare workers (vaccinated and unvaccinated) tested positive for COVID-19. Of them, 52% (n=89) were unvaccinated, 46% (n=78) received the first dose and 2% (n=3) received the second dose. The SARS-CoV-2 infection rate was 5.5 per 10,000 and 3.0 per 10,000 1-14 days and 15-28 days after getting the first dose, compared to a rate of 7.4 per 10,000 among those who were unvaccinated. The SARS-CoV-2 infection rate was significantly reduced 1 to 14 days after

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getting the first dose (adjusted rate reduction of 30%). This reduction was even higher 15 to 28 days after the first dose (adjusted rate reduction of 75%). The reduction in COVID-19 disease was significant among those with symptomatic infection who received the first dose on days 1-14 and 15-28 (adjusted rate reduction of 47% and 85%, respectively). This study is limited given its observational design and inclusion of only healthcare workers. However, the study demonstrated a strong reduction in SARS-CoV-2 infection and COVID-19 symptoms after the first vaccine dose.

Key Takeaways:

- The BNT162b2 vaccine may be effective in reducing COVID-19 rates and symptomatic COVID-19 disease after receiving the first dose, particularly 15 to 18 days after.
- These findings could be helpful in settings where resources are scarce and allow for more people to receive first doses of the vaccine by administering more first doses and delaying second doses. However, more long-term research is needed to determine if this is an effective strategy.

[Severe Acute Respiratory Syndrome Coronavirus 2 Serology Levels in Pregnant Women and their Neonates \(AJOG\)](#)

Bottom Line: In this study of 88 pregnant people who tested positive for antibodies against SARS-CoV-2, antibody levels were higher in symptomatic, versus asymptomatic, patients, and maternal immunoglobulin G (IgG) antibody levels correlated with antibody levels in their neonates.

Details: This study describes antibody responses against SARS-CoV-2 in pregnant people, and their correlation with both clinical course of disease for mothers and immunity conferred to neonates via the placenta (passive immunity). People who gave birth and tested positive for immunoglobulin M or G (IgM/IgG) between 3/22 and 5/31 were included; chart reviews identified COVID-19 symptoms, if present, use of supplemental oxygen during course of disease, and dates of symptom onset in order to determine timing of peak antibody levels. Cord blood samples were taken to measure neonate antibody responses. 88 pregnant people with IgG/IgM antibodies against SARS-CoV-2 were included in the study; those who were symptomatic had higher antibody levels than those who were asymptomatic. In a smaller sample (n=34) with data available about onset of symptoms, maternal IgM and IgG levels were at their highest 15 and 30 days after symptom onset, respectively. IgG levels were detected in 78% of neonates (passive immunity), with maternal antibody levels correlating with those of their neonates. Moreover, in a smaller subset of mothers, maternal IgG antibody levels and use of oxygen support (a marker of disease severity) predicted IgG antibody levels in their neonates.

Key Takeaways:

- Findings from this study demonstrate that mothers with higher antibody levels against SARS-CoV-2 are more likely to transfer antibodies to their neonates, and higher maternal antibody levels and maternal use of oxygen support (a marker of disease severity) predicted antibody levels in neonates.
- The timing and duration of antibody responses against SARS-CoV-2 in pregnant people may help inform the use of COVID-19 vaccines for this population.

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[Clusters of SARS-CoV-2 Infection Among Elementary School Educators and Students in One School District — Georgia, December 2020–January 2021 \(MMWR\)](#)

Bottom Line: In this investigation, 9 COVID-19 case clusters in a Georgia school district were detected, which involved 32 students and 13 educators at 6 elementary schools.

Details: SARS-CoV-2 transmission in eight elementary schools in 1 Georgia school district were investigated during 12/1/20–1/22/21 by local, state, and federal public health authorities. During the study period, 2,600 students and 700 staff attended school in person, and COVID-19 incidence in the county was increasing. In total, 9 clusters involving 3 or more epidemiologically linked COVID-19 cases were identified, which involved 32 students and 13 educators at 6/8 elementary schools. Including household members, the median cluster size was 6 persons. An educator was the index patient in 4 clusters, a student in 1, and it could not be determined whether the index patient was a student, educator, or both, in 4 clusters. In 2/6 clusters, educator-to-educator transmission was likely (during lunches/in-person meetings), which was followed by educator-to-student transmission, leading to 15/31 school-linked cases. 18/69 (26%) household members linked to school cases tested positive for SARS-CoV-2. Behavioral factors associated with transmission clusters included insufficient mask use by students and inadequate physical distancing.

Key Takeaways:

- In two of 6 case clusters, educator-to-educator transmission was likely, which was followed by educator-to-student in-school transmission, highlighting the central role of educators in in-school transmission dynamics.
- Multiple layered mitigation measures are needed to reduce transmission in schools, including limiting in person adult interactions at school, universal and correct physical distancing and mask use among staff and students, and taking COVID-19 precautions outside of school.