

# **COVID-19 transmission at school is rare for children with disabilities, suggests study**

September 1 2021, by Kristina Sauerwein

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Studies have determined that in-school transmission of the virus that causes COVID-19 is rare when masking, social distancing and other safety protocols are followed. However, little has been known about COVID-19 risks at school for children with intellectual and developmental disabilities. These students often are unable to mask or maintain social distancing and may have underlying medical conditions that make them more susceptible to the virus and related complications.

New research shows that rapid saliva test screenings—aimed at early detection of the virus—have contributed to exceedingly low transmission of the virus among students, teachers and staff in the six schools overseen by the Special School District of St. Louis County, the largest specialized education provider in Missouri. Precautions such as masking and social distancing also were implemented when appropriate. The study was led by Washington University School of Medicine in St. Louis, in collaboration with Special School District.

"Our research shows that safety protocols can work in high-risk [school](#) settings," said the study's senior author, Christina A. Gurnett, MD, Ph.D., the A. Ernest and Jane G. Stein Professor of Developmental Neurology and director of the Division of Pediatric and Developmental Neurology at Washington University. "In-person instruction during the pandemic has been shown to be beneficial to students. However, what was lacking was specific guidance on how to safely return to in-person learning at schools serving students with intellectual and developmental disabilities. We wanted our work to help provide clarity."

Weekly saliva testing detected fewer than two cases of school-based transmission during a six-month period in the six dedicated Special School District of St Louis County schools from November 2020 through May 2021.

The research is published in the *Journal of Neurodevelopmental Disorders*.

While the findings are reassuring, the researchers note that the study was conducted before the delta variant's surge in Missouri and across the globe.

"How the delta variant will impact school transmission rates is unknown," added Gurnett, who also serves as neurologist-in-chief at St. Louis Children's Hospital. "However, data show that vaccines—currently available to children ages 12 and older—are effective against the delta variant. While breakthrough infections do occur, they are rare, and the vaccine is effective against preventing severe infections, hospitalizations and deaths. Mitigation strategies such as masking and social distancing will provide protection to children who are too young to be vaccinated."

The research team said saliva test screenings can help maintain low transmission rates as students return to school. The simple test—developed by the School of Medicine's Department of Genetics and the McDonnell Genome Institute, in collaboration with a biotechnology company—provides same-day results.

Voluntary, weekly saliva tests were offered to Special School District teachers, staff and students beginning Nov. 20, 2020, and the research project will continue throughout the 2021-22 school year. The school district's six campuses serve more than 700 families that have children in kindergarten through the 12th grade.

"Ample, fast testing was key to detecting COVID-19 infections and allowing in-person instruction to resume within the high-risk school community," said co-author Jason Newland, MD, a professor of pediatrics who has advised multiple school districts in Missouri during the pandemic. "A return to campus was important because the pandemic has disproportionately impacted students with intellectual and [developmental disabilities](#)."

Some students have conditions such as neuromuscular disorders, orthopedic disabilities and severe autism; and some require gastric-tube feedings or breathe through a tube inserted in the airway.

"School is a place where many of the students receive health-care services and therapy," said Newland, who treats patients at St. Louis Children's Hospital. "They thrive on daily structure and in-person support for educational and social growth. When all of this is taken away, it can be devastating for students and their families."

Medical complexities that prevent students from masking or [social distancing](#) also pose potential exposure risks for the 605 teachers and staff who work on the school district's six campuses.

"It is reassuring that saliva screening tests and other safety protocols have helped to keep transmission rates low, even during the peak of the pandemic," said the study's first author, Michael R. Sherby, a project manager at the School of Medicine.

An average of 304 teachers, staff and students were tested each week, with a total of 7,289 tests performed. Altogether, the researchers identified 21 new SARS-CoV-2 positive participants.

During the 24-week period, researchers compared the school district's weekly positivity rates with rates among undergraduate students at

Washington University, as reported by BJC HealthCare. The weekly mean positivity rate during the six-month testing period was 0.29% across all schools, which was less than the reported community positivity rate of 0.31% among the undergraduate students.

Furthermore, transmission within the Special School District was low, with only two positive cases identified out of 103 participants who were quarantined for in-school exposure. The researchers interviewed those participants, and only one positive COVID-19 case was definitively associated with school-based transmission. Another case was linked to exposures in a household and in school, making the source of that infection unclear. More common were exposures from family members, while traveling or during attendance at large gatherings such as parties or indoor sporting events.

"Recent emergence of the SARS-CoV-2 delta variant warrants cautious interpretation of these results and highlights the need for ongoing studies of mitigation strategy effectiveness for this evolving pathogen," Sherby said.

**More information:** Michael R. Sherby et al, SARS-CoV-2 screening testing in schools for children with intellectual and developmental disabilities, *Journal of Neurodevelopmental Disorders* (2021). DOI: [10.1186/s11689-021-09376-z](https://doi.org/10.1186/s11689-021-09376-z)

Provided by Washington University in St. Louis

Citation: COVID-19 transmission at school is rare for children with disabilities, suggests study (2021, September 1) retrieved 26 April 2024 from <https://medicalxpress.com/news/2021-09-covid-transmission-school-rare-children.html>

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