

## COVID-19 Transmission and Infection in New York City Public Schools

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In a recently released article in *Pediatrics*, Dr. Jay Varma and colleagues report on COVID-19 incidence, prevalence, and secondary transmission among the students and staff of New York City public schools ([10.1542/peds.2021-050605](https://doi.org/10.1542/peds.2021-050605)). This highly topical study provides key information on the risk of COVID-19 infection and transmission for students and staff, and their contacts, during in-person learning. Nationally, public health authorities have struggled to assess if there is any added value to closing schools, on top of closing businesses and limiting gatherings, in their effort to limit the pandemic. Pediatricians and families with school age children understand well that home-based online or remote schooling has grave learning disadvantages for many children, so it's crucial to get data to answer this question.

To set the stage, the authors remind us that during the 3-month period from February 29 to June 1, 2020, New York City (NYC) was a pandemic "hot spot" with over 23,195 confirmed and probably COVID-19 deaths. NYC Public Schools closed to in-person learning on March 16, 2020, with all students on remote (virtual) learning until reopening September 21, 2020 with careful distancing, masking and hygiene, and a "hybrid" model in which students could remain remote or attend in-person 1-3 days per week. School and health authorities wisely instituted a program of daily COVID-19 testing of a sample of asymptomatic physically present students and staff after re-opening. This school data, and community testing results for students and staff for October 9-December 18, 2020, were analyzed for this study. NYC public schools serve over 1.1 million children of diverse races and ethnicities in 1,400 buildings and employ over 80,000 adults - this huge educational enterprise is certainly well positioned to examine questions about COVID-19 transmission.

Full details on testing frequency, parental consent and sampling strategies are in an online Supplement to this article; case definitions, notifications and contact tracing are described in the article. Both prevalence (the number who tested positive divided by the number tested for a given time period) and incidence (the number of cases reported divided by the corresponding population) were calculated, and each was compared between the school and the community; I don't want to spoil these results for you. But my favorite finding is information about COVID-19 transmission, which is everyone's greatest fear about bringing kids and teachers back to school. Of 36,423 school-based close contacts, just 0.5% (191) ended up testing positive following exposure. For those 132 (69% of 191 cases) with enough information to draw conclusions, just 18 (14%) involved student-to-staff transmission, and 11 (8%) involved student-to-student transmission. In other words, the secondary attack rate was really low, and staff (adults) were likely the source (index case) for 78% of these new (secondary) infections. This is good news for schools interested in re-opening with a hybrid model and is great news for parents and children eager to get back to in-person school. There is so much more in this article - this just scratches the surface. I really enjoyed finally getting actual data, not just speculation, about the school setting

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and COVID-19. Let us know if you think this data can bring the US closer to in-person schooling!

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