

UPDATED JANUARY 2021







Introduction

On August 28, 2020, the Maryland State Department of Education (MSDE) and the Maryland Department of Health (MDH) issued school COVID-19 guidance that included reopening metrics. The metrics were designed to provide information to inform local health departments and local school system decision making.

Scientific understanding of the SARS-CoV-2 virus that causes COVID-19 disease is more advanced today than it was just months ago during earlier waves of the pandemic. Important research findings and data aid our understanding of the impact of COVID-19 on children, and more specifically on schools. School systems across the country and the world have reopened successfully, adding to the body of evidence about COVID-19 transmission within schools and the impact of schools on community transmission.

Purpose

The purposes of this document are to:

- 1. Provide an overview of scientific evidence on COVID-19 and children, COVID-19 transmission within schools, the impact of school reopening on community COVID-19 transmission, and the effects of school closures on children and learning; and
- 2. Update school reopening guidance and educational design recommendations based on MSDE/MDH evaluation of the evidence.

What science tells us about COVID-19 and children

We have learned much about COVID-19 in children since the beginning of the pandemic. While the number of children infected with COVID-19 continues to rise, vastly fewer cases of COVID-19 are reported in children than in adults. COVID-19 susceptibility (i.e., how easily a child can become infected) in young children is lower than that of adults; and some evidence suggests children under 10 years of age do not appear to transmit SARS-CoV-2 as efficiently as adults and older children. In addition, children have milder disease and lower rates of hospitalization than adults, although severe disease can occur, with higher risk in children with underlying conditions. There is also evidence that nasal swab tests for the virus become negative sooner in most children (about a month) than in adults (up to 3 months).

What we know about the role of schools and community transmission of COVID-19

Given the experience of school reopening in other countries and the U.S., there is very little evidence that school reopening is a main driver of community COVID-19 spread. Reopening of schools for all students in countries with low community transmission did not result in significant increases in the growth rate of

COVID-19 in the community.⁶ In addition, many countries successfully and safely kept the large majority of schools open, even as cases of COVID-19 increased in the community.

What we know about within-school transmission of COVID-19

Transmission of SARS-CoV-2 can occur within school settings, and outbreaks have been reported by other countries and the U.S. in elementary and secondary schools. However, studies so far indicate that SARS-CoV-2 transmission in schools is relatively uncommon when there is effective implementation of SARS-CoV-2 mitigation strategies.⁷⁻⁹

When transmission does occur in schools, staff-to-staff transmission is the most common route. In published reports of studied outbreaks, the virus was more likely to be introduced by an adult. However, evidence suggests that adults are not at higher risk of SARS-CoV-2 within the school setting relative to other community settings. In addition, recent data indicate that children who tested positive for COVID-19 as compared to those who tested negative were more likely to have attended gatherings outside their home but not more likely to have attended school or child care. Current school reopening successes, prior to the availability of vaccinations, make it reasonable to conclude that vaccination of educators, school staff or children is not required prior to opening schools for in-person learning.

What Maryland data tells us

Since the beginning of the COVID-19 pandemic, Maryland has had 119 school outbreaks reported. About 57% of the associated cases are in students; the remaining 43% are among teachers and other staff. These outbreaks have generally been small with a median of three cases per outbreak. We are not able to conclude how many of these cases are the result of school vs. community transmission. However, many Maryland non-public schools and child care sites have successfully served children and students in person without an outbreak.

According to Maryland contact tracing data, between August 10, 2020 and January 10, 2021, only 4.3% of persons ages 19 years and younger with COVID-19 who had interviews completed reported that they attended, visited or worked in a preK-12 school. For adults ages 20 years and older, this figure was only 1%. Only 17% of those 19 years old or younger who reported attending or visiting a preK-12 school believed that they were exposed at school, whereas a third of these individuals believed they were exposed in their homes and another third said they did not know where they were exposed. This information is consistent with the research cited previously.

What we know about the impact of school closure on children

Parents and educators rightfully fear the regression of children's academic skills stemming from school closures and disrupted instruction during the pandemic. There is evidence emerging that indicates that children are already falling behind in some subjects. A recent report describes racial disparities in learning loss. Further, school provides peer social interaction and structured routines for children critical to their well-being. Research indicates that students are experiencing high rates of depression and anxiety symptoms during the pandemic. Pandemic isolation, including school closures, may put students at higher risk for long-term depression and anxiety in the future. School closures also disrupt the delivery of other school-based services important to children and families such as school meals, mental health and psychosocial services, supportive therapies, and other health care services.

COVID-19 vaccination and school reopening

The state prioritized vaccination of educators and staff in all K-12 schools in Phase 1B of the COVID-19 vaccination program, which began on January 18, 2021. Vaccinations are effective in preventing disease among people who are vaccinated. However, the Centers for Disease Control and Prevention emphasize that it continues to be important for vaccinated persons to follow all current guidance regarding use of facial coverings, distancing, and quarantine after exposure to a known COVID-19 case. As more information about the impact of vaccination becomes available, updated CDC guidance in coming months should guide all districts in their decision making. Further, return to school decisions should not be based on the availability of vaccines or the level of vaccination among educators and staff.

Revised school reopening guidance

Based on the new information and considerations described above, MDH and MSDE updated Maryland's school reopening guidance to include more specific educational design options.

The updated guidance and educational design recommendations support the goal to quickly and safely restore in-person learning for Maryland's students and prioritizes students who are most academically vulnerable. Some degree of in-person learning should be the <u>immediate</u> goal for all students in all jurisdictions. To do so, schools should:

- 1. Continue to effectively implement all MDH/MSDE health and safety requirements (i.e., distancing, masking, and cleaning/disinfecting);
- 2. Seek to limit transmission in the school environment (i.e., exclusion, quarantine, contact tracing, manage cases and outbreaks);
- 3. Consider the school's ability to manage operational issues; and

4. Provide parents and caregivers the opportunity to choose a remote option for their children.

To achieve the goal of safely returning students to the classroom, we are providing two educational design options. **Option 1** is the recommended option at this time. Based on local conditions, schools should be able to move toward more daily in-person learning for more students over time. Schools that have already successfully returned many students to daily in-person learning are encouraged to continue to do so.

Educational design options

	Option 1	Option 2
Students with disabilities, special learning needs, difficulty with virtual learning, and English learners	Daily in-person learning	Daily in-person learning
Elementary Students	All students return to school in a hybrid model according to the local school system plan	All students return to school in a hybrid model according to the local school system plan
Career/Technology Students	All students return to school in a hybrid model according to the local school system plan	All students return to school in a hybrid model according to the local school system plan
Secondary Students	All students return to school in a hybrid model according to the local school system plan	All students are engaged in virtual learning according to the local school system plan

For more information about each local school system's reopening plan, please see http://www.marylandpublicschools.org/newsroom/Pages/COVID-19/ReopeningPlans.aspx.

For more information about the MSDE Recovery Plan for Education, please see http://marylandpublicschools.org/newsroom/Documents/MSDERecoveryPlan.pdf.

REFERENCES

- 1. Goldstein E, Lipsitch M, Cevik M. On the effect of age on the transmission of SARS-CoV-2 in households, schools and the community. July 28, 2020 https://www.medrxiv.org/content/10.1101/2020.07.19.20157362v1
- 2. Park Y, Choe Y, Park O, et al. Contact Tracing during Coronavirus Disease Outbreak, South Korea, 2020. Emerging Infectious Diseases. 2020;26(10):2465-2468. doi:10.3201/eid2610.201315. https://wwwnc.cdc.gov/eid/article/26/10/20-1315 article
- 3. Zhu Y, Bloxham CJ, Hulme KD, et al. A meta-analysis on the role of children in SARS-CoV-2 in household transmission clusters, *Clinical Infectious Diseases*, December 6, 2020. ciaa1825. https://doi.org/10.1093/cid/ciaa1825
- 4. European Centre for Disease Prevention and Control. COVID-19 in children and the role of school settings in transmission first update. Stockholm; 2020.
- $\frac{\text{https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-in-children-and-the-role-of-school-settings-in-transmission}{\text{n-first-update}} \\ 0.pdf$
- 5. Patwardhan A. Sustained Positivity and Reinfection With SARS-CoV-2 in Children: Does Quarantine/Isolation Period Need Reconsideration in a Pediatric Population? Cureus. 2020 Dec 10;12(12):e12012. doi: 10.7759/cureus.12012. Available at: https://doi:10.7759/cureus.12012
- 6. Guthrie B, Seiler J, Tolentino L, Jiang W, Fischer M, Issema R, Fuller S, Green D, Tordoff D, Meisner J, Tseng A, Louden D, Ross J, Drake A. Summary of Evidence Related to Schools During the COVID-19 Pandemic. October 2020. Accessed at: https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/20201019-SchoolsSummary.pdf
- 7. Brandal Lin T, Ofitserova Trine S, Meijerink Hinta, Rykkvin Rikard, Lund Hilde M, Hungnes Olav, Greve-Isdahl Margrethe, Bragstad Karoline, Nygård Karin, Winje Brita A. Minimal transmission of SARS-CoV-2 from paediatric COVID-19 cases in primary schools, Norway, August to November 2020. Euro Surveill. 2021;26(1):pii=2002011. https://doi.org/10.2807/1560-7917.ES.2020.26.1.2002011
- 8. Ismail SA, Saliba V, Bernal JL, Ramsay ME, Ladhani SN. SARS-CoV-2 infection and transmission in educational settings: a prospective, cross-sectional analysis of infection clusters and outbreaks in England. Lancet Infect Dis 2020. https://www.thelancet.com/action/showPdf?pii=S1473-3099%2820%2930882-3
- 9. Zimmerman KO, Akinboyo IC, Brookhart A, et al. Incidence and secondary transmission of SARS-CoV-2 infections in schools.

 Pediatrics. 2021; doi: 10.1542/peds.2020-048090 https://pediatrics.aappublications.org/content/early/2021/01/06/peds.2020-048090
- 10. World Health Organization. What we know about COVID-19 transmission in schools: The latest on the COVID-19 global situation and the spread of COVID-19 in schools. October 21, 2020. Available at:
- https://www.who.int/docs/default-source/coronaviruse/risk-comms-updates/update39-covid-and-schools.pdf?sfvrsn=320db233 2
- 11. Magnusson K, Nygard KM, Vold L, Telle KE. Occupational risk of COVID-19 in the 1st vs 2nd wave of infection. medRxiv [Preprint]. 3 November 2020; Available at: https://www.medrxiv.org/content/10.1101/2020.10.29.20220426v1
- 12. Hobbs CV, Martin LM, Kim SS, et al. Factors Associated with Positive SARS-CoV-2 Test Results in Outpatient Health Facilities and Emergency Departments Among Children and Adolescents Aged <18 Years Mississippi, September–November 2020. MMWR Morb Mortal Wkly Rep 2020;69:1925-1929. Accessed at: https://www.cdc.gov/mmwr/volumes/69/wr/mm6950e3.htm?scid=mm6950e3 x

13. Kuhfeld, M., Tarasawa, B., Johnson, A., Ruzek, E., & Lewis, K. (2020). Learning during COVID-19: Initial findings on students' reading and math achievement and growth. NWEA.Available at:

https://www.nwea.org/content/uploads/2020/11/Collaborative-brief-Learning-during-COVID-19.NOV2020.pdf

- 14. McKinsey and Company. COVID-19 and learning loss disparities grow and students need help. December 8, 2020. Available at: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-learning-loss-disparities-grow-and-students-need-help
- 15. Zhou SJ, Zhang LG, Wang LL, et al. Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *Eur Child Adolesc Psychiatry*. 2020;29(6):749-758. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7196181/
- 16. Loades ME, Chatburn E, Higson-Sweeney N, et al. Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *J Am Acad Child Adolesc Psychiatry*. 2020;59(11):1218-1239.e3. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267797/pdf/main.pdf
- 17. Centers for Disease Control and Prevention. Interim Clinical Considerations for Use of mRNA COVID-19 Vaccines Currently Authorized in the United States. Updated 1/6/2021. Available at: https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html

OTHER RESOURCES

American Academy of Pediatrics. COVID-19 Guidance for Safe Schools. January 5, 2021.

https://services.aap.org/en/pages/2019-novel-coron

 $\underline{avirus-covid-19-infections/clinical-guidance/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-considerations-return-to-in-person-education-in-schools/covid-19-planning-consideration-in-schools/covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-planning-covid-19-$

Centers for Disease Control and Prevention. Strategies for protecting K-12 school staff from COVID-19. Updated 1/4/2021. Available at: https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-staff.html

COVID-19 School and Community Resource Library. Updated November 27, 2020. Available at:

 $\frac{https://www.massgeneral.org/assets/MGH/pdf/medicine/infectious-diseases/COVID-19\%20School\%20and\%20Community\%20Resource\%20Library July\%206\%202020.pdf$

National Academies of Sciences, Engineering, and Medicine 2020. *Reopening K-12 Schools During the COVID-19 Pandemic: Prioritizing Health, Equity, and Communities.* Washington, DC: The National Academies Press; 2020. Available at: https://doi.org/10.17226/25858

Safra EJ. (2020). The Path to Zero and Schools: Achieving Pandemic Resilient Teaching and Learning Spaces. Harvard Global Health Institute. Retrieved August 19, 2020, from:

https://globalepidemics.org/wp-content/uploads/2020/07/pandemic resilient schools briefing 72020.pdf