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COVID-19 Prevention Strategies in K-12 Schools: Findings from Parents, Students, Teachers and other School Staff
March – May 2021

Project Overview: *Monitoring School COVID-19 Prevention Strategies*

To make informed decisions, public health, schools and elected officials need timely, actionable, and school-specific data to help successfully prevent the spread of the COVID-19 virus in K-12 settings—and to make sure schools can open for in-person learning and stay open safely. The CDC Foundation, in partnership with Deloitte and technical assistance from the Centers for Disease Control and Prevention (CDC), launched the Monitoring School COVID-19 Prevention Strategies project to collect data on the impact of COVID-19 on the social, emotional, academic and mental health of the K-12 community.

Data were collected from 4,039 parents of K-12 students, 2,200 K-12 students ages 13-20, 1,842 K-12 teachers, 576 K-12 principals and vice-principals and 708 facilities staff1 via cross-section surveys between March 2 and May 17, 2021. This summary outlines high-level findings and includes results that are statistically significant (p<.05).

Five Strategies of Focus

Surveys designed between February and April 2021 focused on five prevention strategies that were recommended by CDC for safe delivery of in-person instruction and to prevent transmission of the COVID-19 virus in K-12 schools. While vaccination is another important prevention strategy, it was not included in this report.

MASK WEARING[2]	**ADEQUATE PHYSICAL DISTANCING**[2]	**PROPER HAND HYGIENE**	**MAINTENANCE OF HEALTHY FACILITIES**[3]	**CONTACT TRACING**
Universal and correct use of masks, meaning that masks are worn at all times, by all people in school facilities (with exceptions based on specific individual circumstances or in certain settings, such as while eating or drinking). Masks should be required in all classroom and non-classroom settings, including hallways, school offices, restrooms, gyms, auditoriums, etc.	Maintaining at least 3 feet of distance between students in classrooms, at least 6 feet of distance between adult staff members and between students and adult staff members, facing desks in the same direction in classrooms, limiting school visitors where possible and using cohorts or pods, which are distinct groups of children and teachers or specific school staff that stay together throughout an entire day.	Washing hands with soap and water for at least 20 seconds, especially for certain activities such as before and after eating, after using the restroom, and after coughing or sneezing. If handwashing is not possible, hand sanitizer containing at least 60% alcohol should be used.	**Increased cleaning:** Cleaning and disinfection of high-touch surfaces and objects at school at least daily, and as often as possible between uses. **Improved ventilation:** Increasing the introduction of outdoor air and delivery of clean air by managing HVAC settings to maximize ventilation, opening windows, improving air filtration to reduce contaminants, and using exhaust fans in restrooms and kitchens.	Contact tracing (in combination with isolation and quarantine), meaning schools collaborate with health departments to confidentially provide information about people diagnosed with or exposed to COVID-19. This includes encouraging students and staff to stay home when they have symptoms and support notification of exposure and quarantine of those with close contact to a known or suspected COVID-19 case at K-12 school facilities or events.

Overall Takeaways

Adoption of prevention strategies varied based on some school and respondent characteristics.

- **Geographic location:** Greater adoption of prevention strategies were reported in schools in the Northeast.
- **School type:** Mask-wearing and physical distancing were reported more often in public schools than in private schools.
- **Respondent type:** Compared to principals, teachers reported that barriers more negatively impacted implementation of prevention strategies.
- **School Level:** Middle school and high school teachers reported less difficulty wearing masks while teaching and implementing physical distancing in the classroom, compared to elementary school teachers.

The 3 most common barriers to implementing prevention strategies were:

- **Lack of key staff to carry out prevention measures,** include enough teachers, nurses, bus drivers, custodians and back-up staff (substitute teachers).
- **School physical infrastructure issues**, including availability of hot water, operable windows in classrooms and other physical aspects of the school.
- **Lack of adherence** or acceptance to mitigation measures from teachers or school staff.

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1 *Facilities staff includes custodial staff, maintenance staff, and HVAC specialists. For the remainder of this report "Facilities staff" is used to refer to this group.*
2 *As of May 13, 2021, CDC announced that fully vaccinated people no longer needed to wear a mask or physically distance in indoor or outdoor settings, unless required by federal, state, local, tribal or territorial laws, including local business and workplace requirements. These guidelines were not in effect at the time of survey distribution.*
3 *CDC released updated guidance on disinfecting while the survey was being fielded and after much of the data were collected.*

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Key Findings by Prevention Strategy

K-12 Students, Parents, Teachers, Principals and Facilities Staff shared their attitudes, practices and experiences with five prevention strategies in their schools. Results are highlighted below.

Mask-Wearing

About **90%** of students and teachers reported wearing masks in **classrooms, hallways and offices**

- Principals reported students were required to wear a mask in all school settings more than reported by teachers and students.
- Most students and teachers reported students were required to wear a mask in school settings, especially classrooms and indoor common areas.
- Teachers reported that they would be likely to correct students who were not wearing their mask or not wearing it correctly in the classroom.
- Students endorsed various negative sentiments about wearing a mask at higher rates than teachers (e.g., finding it difficult to hear what others were saying while wearing a mask).
- Wearing masks were more challenging for elementary school teachers.

Physical Distancing

83% of teachers reported that their schools had a **policy for implementing physical distancing** strategies to prevent COVID-19

- The Northeastern region implemented physical distancing the most, and teachers in the Northeast were more often enforced physical distancing for students.
- Schools adopted physical distancing by facing student desks in the same direction, placing physical guides to account for movement, and spaced seating.
- Teachers in the Northeast more often enforced physical distancing for students and more often used cohorting strategies to support physical distancing.
- Students reported teachers more often enforced students physical distancing compared to student peer-to-peer enforcement.
- Teachers reported that it was easier to keep a distance from other adults and older students.

Cleaning & Ventilation

66% of principals reported **improved ventilation**, and

85% reported **daily cleaning and disinfection policies** in place at their school

- Increased cleaning practices were more commonly reported than ventilation improvements.
- Private schools implemented ventilation improvements more frequently than public schools.
- Over half of facilities staff reported participating in various key prevention measures, including ventilation system maintenance.
- While facilities staff had primary responsibility for cleaning and disinfecting, teachers still helped with these tasks.
- Areas used by school staff tend to be cleaned less frequently than areas used by students.
- High school students were not disinfecting their desks or personal items as frequently as other grade levels.
- Teachers in the South reported the lowest adoption of a ventilation school policy when compared to their peers in other regions.
- Opening windows was the most common strategy to increase ventilation.

Contact Tracing

83% of principals reported their district has **a publicly available tracker noting all cases in a given school** to date, and

73% reported the **tracker is updated daily** as cases occur

- Schools often reported having designated staff for contact tracing as well as data-driven tracking tools for noting all COVID-19 cases to date.
- Parents in the Midwest and Northeast more often reported that their child's school had a contact tracing process in place.
- Teacher and parent were committed to communicating confirmed cases of COVID-19 to schools.
- Mixed levels of confidence in honesty and transparency of COVID-19 case reporting were reported across school community groups.
- Referrals to primary care and health departments were the most frequent settings for diagnostic testing.

Hand Hygiene

69% of teachers reported that they often view students **practicing proper hand hygiene**

- Most students reported practicing proper hand hygiene both at school and outside of school, and were likely to correct others who were not.
- Elementary school teachers reported observing consistent hand hygiene practices among their students more often than teachers from other grade levels.
- Teachers were likely to remind students to observe proper hand hygiene practices when incorrect behavior was observed.

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Key Findings Across Prevention Strategies

In analyzing data for each of the five prevention strategies, there were key differences based on region, school type, school level, and among respondents.

Region

- Respondents in the Northeast were implementing physical distancing more than other regions.

- Teachers in the Northeast more often enforced physical distancing for students, and more often used cohorting or podding strategies to support physical distancing compared to other regions.

- Parents in the Midwest and Northeast more often reported that their child's school had a contact tracing process in place.

- Principals in the Southern and Western regions reported issues caused by inadequate cleaning supplies more often than other regions.

- Teachers in the South reported much lower levels of a school ventilation policy than their peers in other regions.

Midwest
Northeast
South
West
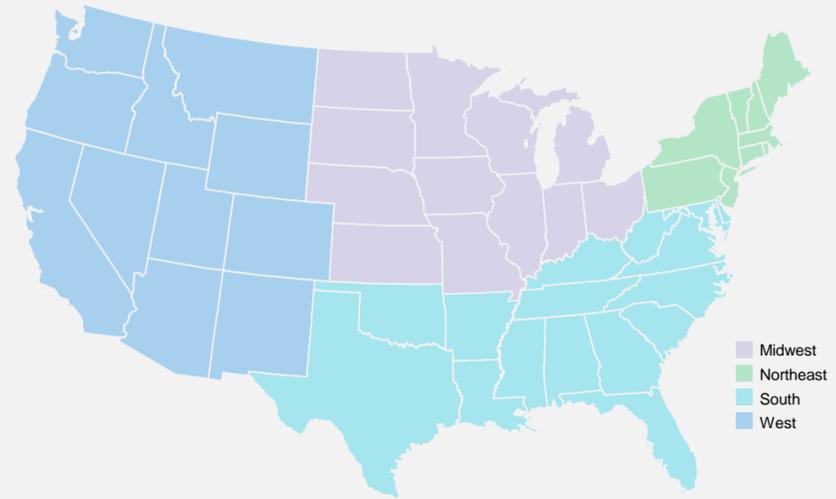
School Type and Level

- Wearing masks was more challenging for elementary school teachers.

- Private schools may have implemented ventilation improvements more frequently than public schools.

- Elementary school teachers reported observing consistent hand hygiene practices among their students more often than teachers from other grade levels.

- High school teachers reported that their students were not disinfecting desks or personal items as frequently as reported by teachers from other grade levels.

Respondent Group

- Principals reported students were required to wear a mask in all school settings more than reported by teachers and students.

- Students, more than teachers, found it difficult to hear what others were saying while wearing a mask.

- Students reported teachers more often enforced students physical distancing compared to student peer-to-peer enforcement.

- Mixed levels of confidence in honesty and transparency of COVID-19 case reporting were reported across school community groups.

- While facilities staff have primary responsibility for cleaning and disinfecting, teachers still helped with some of these tasks.

- Rates of increased cleaning practices were more common than ventilation improvements, but reports differed across school staff.

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Public Health Opportunities and Actions

This report provides new insights that can be used to improve successful implementation of COVID-19 prevention strategies in K-12 settings and ultimately create safer in-person learning environments that can protect the overall health and educational outcomes of students.

Key Themes

- Overall, cornerstones of CDC's guidance for COVID-19 prevention in schools–mask-wearing, physical distancing and hand washing–were **widely adopted and used concurrently.**

- **Regional differences** in implementation of and adherence to COVID-19 prevention strategies exist, which may be the result of differing state policies and other contextual factors (e.g., weather, infrastructure, social norms, etc.).

- Students at **different grade levels and school types** have different experiences and unique barriers to adopting and adhering to prevention strategies in school.

- There are **mixed perspectives** related to the implementation of prevention strategies across school community groups (e.g., teachers and principals at times have different understandings of the same strategy).

Opportunities Moving Forward

- As some prevention strategy requirements are relaxed, school leadership may need **additional, updated guidance around how these how these updated strategies are support by the evolving science** on the risk of transmission under different situations (e.g., without masks, may need to social distance; if vaccinated, contact tracing protocols change).

- Given differences in the policy landscape across states, **provide support for implementing prevention strategies at the state and local level.**

- **Tailor guidance to K-12 schools** based on school level and other key school characteristics (e.g., strategies for teachers working with younger students, material directly for teens). Audience-specific communications and education will be important to make sure unique school audiences understand guidance and their role in supporting safe environment at school.

- **Provide resources** based on school type and considering the unique contexts and barriers different schools face (e.g., resources to improve ventilation in public schools).

As the COVID-19 pandemic evolves, these lessons learned about successes and challenges that schools faced during the 2020/2021 school year provide insights for how future prevention activities might be implemented, and what additional resources and guidance schools may need heading into the fall and beyond to create safer in-person learning environments that can protect the overall health and educational outcomes of students.

Notes and Limitations

- Post-collection manipulations such as data cleaning (to ensure responses are in line with skip and logic patterns) and imputation (to correct for incomplete item responses) were conducted on the cross-sectional web panel survey data collected from both parents and teachers.
- Data collected from both self-report items and items asking respondents to report their observations of others' behavior may be prone to known biases such as self-selection, social desirability, and misclassification. These items should not be interpreted to infer causality.
- In some analyses, Likert-type response options have been collapsed into a smaller number of broad categories for ease of interpretation and to avoid small cell counts. For example, a 5-point Likert scale including response options "very unsatisfied," "unsatisfied," "neutral," "satisfied," and "very satisfied" may be combined to simply "unsatisfied," "neutral," and "satisfied."
- Some surveys included items using the phrase "social distancing," which was then updated to in later surveys to "physical distancing" in order to reflect language used in CDC guidelines. "Physical distancing" will be used throughout this report.
- While individuals using all learning or teaching models (100% in-person, 100% virtual, or hybrid) responded to our surveys, items related to in-school policies and behaviors were only posed to those attending school in-person in some capacity at the time of survey distribution. Such items are identified via direct notation of charts throughout this report.
- A multipurpose Iterative Proportional Fitting (IPF) procedure was used to calibrate individual-level weights.