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MAJOR ARTICLE

Effectiveness of 3 Versus 6 ft of Physical Distancing for Controlling Spread of Coronavirus Disease 2019 Among Primary and Secondary Students and Staff: A Retrospective, Statewide Cohort Study

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Background. National and international guidelines differ about the optimal physical distancing between students for prevention of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission; studies directly comparing the impact of ≥3 versus ≥6 ft of physical distancing policies in school settings are lacking. Thus, our objective was to compare incident cases of SARS-CoV-2 in students and staff in Massachusetts public schools among districts with different physical distancing requirements. State guidance mandates masking for all school staff and for students in grades 2 and higher; the majority of districts required universal masking.

Methods. Community incidence rates of SARS-CoV-2, SARS-CoV-2 cases among students in grades K-12 and staff participating in-person learning, and district infection control plans were linked. Incidence rate ratios (IRRs) for students and staff members in traditional public school districts with ≥3 versus ≥6 ft of physical distancing were estimated using log-binomial regression; models adjusted for community incidence are also reported.

Results. Among 251 eligible school districts, 537 336 students and 99 390 staff attended in-person instruction during the 16-week study period, representing 6 400 175 student learning weeks and 1 342 574 staff learning weeks. Student case rates were similar in the 242 districts with ≥3 versus ≥6 ft of physical distancing between students (IRR, 0.891; 95% confidence interval, .594–1.335); results were similar after adjustment for community incidence (adjusted IRR, 0.904; .616–1.325). Cases among school staff in districts with ≥3 versus ≥6 ft of physical distancing were also similar (IRR, 1.015, 95% confidence interval, .754–1.365).

Conclusions. Lower physical distancing requirements can be adopted in school settings with masking mandates without negatively affecting student or staff safety.

Keywords. COVID-19; schools; physical distancing; infection control; adaptation.

In March 2020, as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) cases were increasing across the United States, schools across the country were closed, and the vast majority stayed closed for the remainder of the school year [1]. This policy decision was based on data adapted from influenza transmission, for which children and schools may be major drivers of pandemics [2]. Since schools were initially closed, new data have emerged suggesting that SARS-CoV-2 transmission in schools is limited, provided implementation of mitigation measures, and that children and schools are not the primary drivers of the pandemic [3–5].

Current guidance from the World Health Organization is to maintain 1 m (3.3 ft) between students, while the Centers for Disease Control and Prevention recommend that students maintain 6 ft of distancing; the American Academy of Pediatrics recommends 3–6 ft [6–8]. However, the evidence for physical distancing to mitigate SARS-CoV-2 transmission in primary and secondary educational settings remains limited. Data from different countries that have implemented different physical distancing guidance in educational settings seem to suggest no major difference between ≥3 and ≥6 ft of distancing [9–12], though these studies did not directly compare different distancing requirements. To date, the impact of distancing in school settings has not been directly studied and remains a critical national policy question [13].

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Between March and September of 2020, school officials designed plans for how to provide instruction for the 2020–2021 academic year. In June 2020, Massachusetts's Department of Elementary and Secondary Education (DESE) provided initial health and safety guidance for school reopening to prioritize student return to school buildings in the fall [14]. Schools and districts were required to prepare and submit reopening plans to the state that addressed district reopening in 3 possible learning models (full in-person, hybrid, and remote) and addressed adherence to health and safety requirements including the use of masks/face coverings, physical distancing, grouping students into cohorts to minimize student interaction, using symptom screening of staff and students, hand hygiene, facilities cleaning, and dedicating isolation space for students displaying possible symptoms of coronavirus disease 2019 (COVID-19).

Based on initial DESE guidance, students in grade 2 and above, and all staff were required to wear a mask/face covering in school buildings; districts were permitted to choose to require or recommend universal masking mandates for students in all grades. Schools were encouraged to aim for ≥6 ft of distancing between individuals when possible, with a minimum requirement of 3 ft of distancing between students [14]. In this retrospective analysis of data from traditional public schools in the state of Massachusetts that opened with any in-person learning, we sought to measure the effectiveness of different physical distancing policies (≥3 vs ≥6 ft) on the incidence of SARS-CoV-2 infections among students and school staff after school reopening in fall 2020.

METHODS

Data Sources

District Infection Control Plans

Publicly available infection control plans from traditional public school districts, which were, which were developed independently across the state but with guidance and ultimate approval from DESE, were identified through a variety of sources, including the *Boston Globe* school tracker [15] and public documents available on town Web sites. A standardized data extraction template was created using Microsoft Forms (Supplementary Materials) and each district plan was individually reviewed and entered into the data set. Variables of interest included school model type (eg, fully remote, hybrid, or full in-person) and details of infection control strategies adopted by the district (eg, physical distancing of ≥3 vs ≥6 ft; details of masking policy, including details about how the masking policy was applied to students in younger grades; ventilation upgrades; and cleaning protocols).

Districts that permitted a minimum of 3 ft of distancing, even if greater distances were "preferred," were classified as allowing ≥3 ft of distancing between students. Similarly, districts that allowed ≥3 ft of distancing for some grades, even if not for all, were classified as permitting ≥3 ft of distancing. Districts that implemented intermediate distancing requirements (eg, minimum of 4, 4.5, or 5 ft) were excluded from the primary analysis. Districts that allowed ≥3 ft of physical distancing in their full reopening plan but opened in a hybrid learning model with requirements of ≥6 ft in the hybrid model, were classified as requiring ≥6 ft of physical distancing. Districts with contradictory recommendations (eg, statements of permitting 3–6 ft in some sections of the infection control plan but requiring 6 ft in others) were excluded.

Before data abstraction, 3 investigators abstracted and entered the same infection control plans. After an interrater reliability score >80% was achieved for all variables (5 districts reviewed; 1 round), data abstraction and entry were continued. To ensure data quality and accuracy of the physical distancing variable, all districts that included a minimum of 3 ft of distancing in their infection control plan underwent a double-check. If there was disagreement between the 2 reviews, then a third reviewer also manually reviewed the district plan and made a final decision regarding classification of the district policy. In addition, a random sample of 10% of the districts classified as requiring ≥6 ft of physical distancing underwent a second review to ensure accuracy.

Case and Enrollment Data

We obtained data on positive SARS-CoV-2 case counts from the DESE Web site, where they are available publicly, for the period from 24 September 2020 through 27 January 2021 [16]. District-level SARS-CoV-2 case counts are reported by school districts to DESE weekly.

Mandatory case reporting to DESE is required only for districts with any in-person learning (full in-person or hybrid districts). Case counts for students include students with a laboratory-confirmed diagnosis of SARS-CoV-2 infection who are enrolled in hybrid or in-person learning models and were in a school building within the 7 days before the positive test. Similarly, staff case counts only include those who had been in a school building in the 7 days before the laboratory-confirmed positive test. Individual school districts are responsible for reporting these data to DESE.

Student enrollment data were provided electronically to the research team from DESE [17]. Data include total enrollment and counts of students enrolled in each learning model, in-person, hybrid, and remote, by district. DESE obtained this information from the district information system on a biweekly basis. The in-person, hybrid, and remote counts represent what the district is reporting at that time. In-person counts vary by week and are lower in the winter surge period, although detailed data about school closures are not reported.

Because in-person staff counts are not part of the data set, we estimated these by using the 2018–2019 National Center for Education Statistics Common Core of Data (NCES CCD) statistics [18] for total full-time staff and teachers for all districts with at ≥5% of enrolled students in an in-person or hybrid learning model. District demographic data (proportion of children aged 5–17 years living in poverty and racial and ethnic enrollment within the school district) were also obtained from NCES CCD.

Community Case Data

Community incidence data were obtained from USAFacts [19], at the county level, dividing each county's totals among the county's zip codes and weighting by zip code population. These zip code–level community rates were matched to the district data using the zip code of the district's location in the NCES CCD data set to provide a comparison for school rates and the surrounding community rates.

Analysis

Because the number of students on campus varies over the study period, we define high on-campus enrollment as districts with an average of ≥80% of their total enrolled students participating in on-campus instruction throughout the time period. Lower on-campus enrollment is defined as districts with an average of <80% of enrolled students participating in on-campus instruction.

After the 3 data sets were combined, we calculated the student and staff incidence rates for each district-week. We calculated the daily student incidence rate per 100 000 students who were attending in-person or hybrid models, and the daily staff incidence rate per 100 000 staff members for districts with ≥5% in-person or hybrid attendance. Weeks with <5% of total enrollment as in-person or hybrid attendance were excluded from the analysis.

To assess the impact of distancing policies on incidence of infection rates, we estimated negative binomial regression models. We used separate regression models for student and staff infection incidence outcomes. The key independent variable in these models was an indicator for a policy of 6-ft distance. We also estimated models controlling for community SARS-CoV-2 incidence and controlling for district demographic variables (proportion of children living in poverty, racial and ethnic enrollment within the district). In each model, standard errors were clustered by district and all models included week fixed effects to capture week-specific factors that were constant across districts. All data were analyzed using Stata/SE 15.1 and Microsoft Excel 2016 software. A replication archive is available in supplementary materials.

To ensure that our findings were robust and not driven by other infection control mitigation measures, we conducted 2 sensitivity analyses. First, we reestimated models after excluding districts with surveillance testing programs, and we reestimated unadjusted and adjusted incidence rate ratios (IRRs). We also estimated models among districts that permitted <6 ft of physical distancing (eg, included districts that allowed 4–5 ft of distancing in the analysis).

RESULTS

Among 279 public school districts with detailed infection control plans available for review, 266 opened for any type of in-person learning during the period from 24 September 2020 to 27 January 2021 (hybrid and/or full-in person). Two district's plans included contradictory statements regarding their physical distancing policy and were excluded. Thirteen districts that remained fully remote until 1 November 2020 were also excluded, leaving 251 districts in our analysis. Of these, nine districts allowed intermediate distancing (eg, 4 -5 ft) and were excluded from the primary analysis, leaving 242 districts in the primary analysis. Two districts allowed 3 ft among some grades but 6 ft among others (one allowing 3 ft for high school, another allowing 3 ft for younger grade levels) which were included with districts allowing 3 ft of distancing.

Within districts meeting inclusion criteria, 537 336 students and 99 390 staff were in attendance in school buildings, representing 6 400 175 student learning weeks and 1 342 574 staff learning weeks. During the entire study period, 4226 cases were reported in students and 2382 in school staff (daily incidence rate by week shown in Table 1). Because learning models vary by district over the study period, we instead considered on-campus enrollment by comparing the number of students enrolled in both

Table 1. Daily Incidence of Coronavirus Disease 2019 Among Students and School Staff Participating in In-Person Instruction in Massachusetts, as Reported to the Department of Elementary and Secondary Education

	Daily Cases per 100 000 by Physical Distancing Requirement			
	Students		Staff	
Week End Date	≥6 ft	≥3 ft	≥6 ft	≥3 ft
2020				
30 Sep	1.38	2.17	2.09	3.23
7 Oct	2.90	3.26	6.26	2.42
14 Oct	2.61	2.95	6.89	4.03
21 Oct	3.59	4.32	5.19	6.47
28 Oct	5.86	6.21	9.29	7.91
4 Nov	4.81	4.67	12.85	13.47
11 Nov	4.54	7.96	17.13	8.98
18 Nov	10.36	15.70	25.33	39.86
25 Nov	7.64	7.40	24.66	22.36
2 Dec	7.61	11.96	31.52	24.62
9 Dec	16.45	10.82	53.94	44.31
16 Dec	17.71	17.18	47.89	53.78
23 Dec	14.92	16.19	46.32	53.36
2021				
13 Jan	15.65	16.48	48.10	44.59
20 Jan	17.49	11.46	45.90	42.65
27 Jan	18.01	17.63	38.14	43.64

in-person and hybrid models with total district enrollment. The majority of districts that opened for any in-person learning did so with lower on-campus enrollment, which we define as an average of <80% of enrolled students on campus during the study period (161 of 251 had [64.14%] lower and 90 of 251 [35.86%] had high on-campus enrollment). Of the districts included, 98.01% applied the same infection control policy, including distancing recommendations, across all grade levels.

Of districts with any type of in-person learning, 100% adopted universal masking for both students in grade 2 and above and for school staff. Masking was required for younger grades in 69.72% of districts, although the policy was not mandated by the state, and it was strongly encouraged by 26.29% of districts. Three districts required masking for students in grade 1 and above, and 7 districts did not have details in their masking policy to comment on grade requirements. Other commonly implemented interventions included physical distancing between students (≥3 ft distancing required in 48 districts, ≥6 ft in 194, and 4–5 ft in 9), cohorting of students (214 of 232 districts [92.24%]), enhanced disinfection protocols (218 of 227 [96.04%]), and mention of heterogeneous ventilation interventions (205 of 227 [90.31%]) (Table 2).

Districts that implemented ≥3 ft of distancing between students reported 895 cases among students and 431 among staff (Figure 1). Districts with ≥6 ft of physical distancing reported 3223 cases among students and 1908 among staff, (unadjusted IIR, students, 0.891, 95% confidence interval [CI], .594-1.335; unadjusted IIR, staff, 0.989, 95% CI, .733-1.334). Incident cases among both students and staff were highly correlated with community rates (Figure 2). In multivariable regression models

Table 2. Distribution of Infection Control Interventions Implemented in Massachusetts Public Schools With Any In-Person Instruction

		Students, No.[a]			Staff, No.[a]		
Infection Control Intervention	Districts, No.	All Districts	≥6-ft Distancing	≥3-ft Distancing	All Districts	≥6-ft Distancing	≥3-ft Distancing
School model[b]							
High on-campus enrollment	90	188 134	121 949	55 989	27 270	18 699	7997
Lower on-campus enrollment	161	349 202	270 691	67 167	72 120	58 341	11 866
Elementary, middle, and high school all in same model	188	450 881	327 416	105 331	82 907	64 118	16 823
Universal masking[c]							
Among all staff	251	537 336	392 640	123 156	99 390	77 040	19 863
Among all students	251	537 336	392 640	123 156	99 390	77 040	19 863
Physical distancing							
≥6 ft	194	392 640	392 640	…	77 040	77 040	…
≥3 ft	48	123 156	…	123 156	19 863	…	19 863
Other (4–5 ft)	9	21 540	…	…	2487	…	…
Enhanced cleaning protocol[d]	218	445 916	343 834	80 542	78 290	62 521	13 282
Cohorting (any)	214	483 042	357 384	104 500	88 264	69 486	16 605
Mandatory symptom screens before entering school buildings	223	492 223	368 688	105 161	91 428	72 832	16 533
Ventilation interventions[e]	205	430 264	334 404	79 309	76 539	60 891	13 189
Surveillance testing	5	7310	6582	728	2307	2181	126
Universal vaccination policy[f]	251	537 336	392 640	123 156	99 390	77 040	19 863
District demographic variables[g]							
Children aged 5–17 y in poverty, %		10.47	10.24	12.13	…	…	…
Student race, %							
White		65.25	65.10	64.09	…	…	…
Black		6.97	7.36	5.76	…	…	…
Asian		7.58	7.91	6.34	…	…	…
Other		4.23	4.32	3.909	…	…	…
Hispanic		15.99	15.33	19.93	…	…	…

[a]Data represent no. (%) of students or staff, unless otherwise specified.

[b]High on-campus enrollment is defined as districts with an average of ≥80% of their total enrolled students participating in on-campus instruction throughout the time period. Lower on-campus enrollment is defined as districts with an average of <80% of enrolled students participating in on-campus instruction. On campus enrollment changed throughout the study period; numbers presented in the table represent the mean in-person enrollment over the study period.

[c]During the study period, universal masking among staff and students in grades 2 and higher was a prerequisite for approval to open schools, according to the Massachusetts Department of Elementary and Secondary Education. Many districts opted to require (69.7%) or strongly recommend (26.3%) masking among students in younger grade levels.

[d]Cleaning protocols were variably defined but were recorded if the district reported any enhanced protocols beyond usual practices.

[e]Ventilation interventions were highly heterogeneous and included requirements to open windows, purchase of high-efficiency particulate air filters, plans for heating, ventilation, and air conditioning upgrades, and plans to move classrooms to outdoor spaces.

[f]Universal influenza vaccination for all students was mandated in the state of Massachusetts during the fall of 2020. The requirement was later waived owing to low rates of influenza during the 2020–2021 influenza season.

[g]Demographic variables obtained from the National Center for Education Statistics at the district level [18].

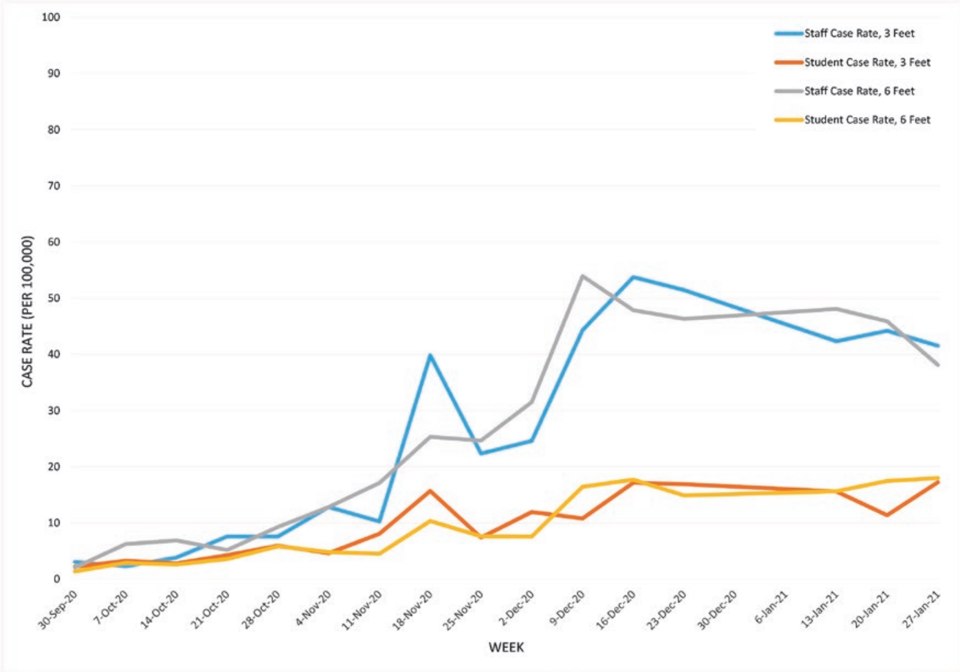

Figure 1. Incidence of coronavirus disease cases among students and school staff, by physical distancing (3 or 6 ft), reported to Massachusetts's Department of Elementary and Secondary Education during the first 16 weeks of the 2020–2021 academic year.

controlling for community incidence, the risks of COVID-19 among students in districts with ≥3 versus ≥6 ft of distancing were similar (adjusted IRR, 0.904; 95% CI, .617–1.326) (Table 3). The model for staff controlling for community incidence also showed similar risks with ≥3 versus ≥6 ft of distancing (adjusted IRR, 1.015; 95% CI, .754–1.366).

After adjustment for the proportion of children aged 5–17 years living in poverty and the racial and ethnic distribution of students within the districts, the effect estimate for the IRR changed by >10%, but results remained nonsignificant (adjusted IRR for students, 0.789; 95% CI, .528–1.179). In the adjusted models, the IRR for staff did not change (adjusted IRR,

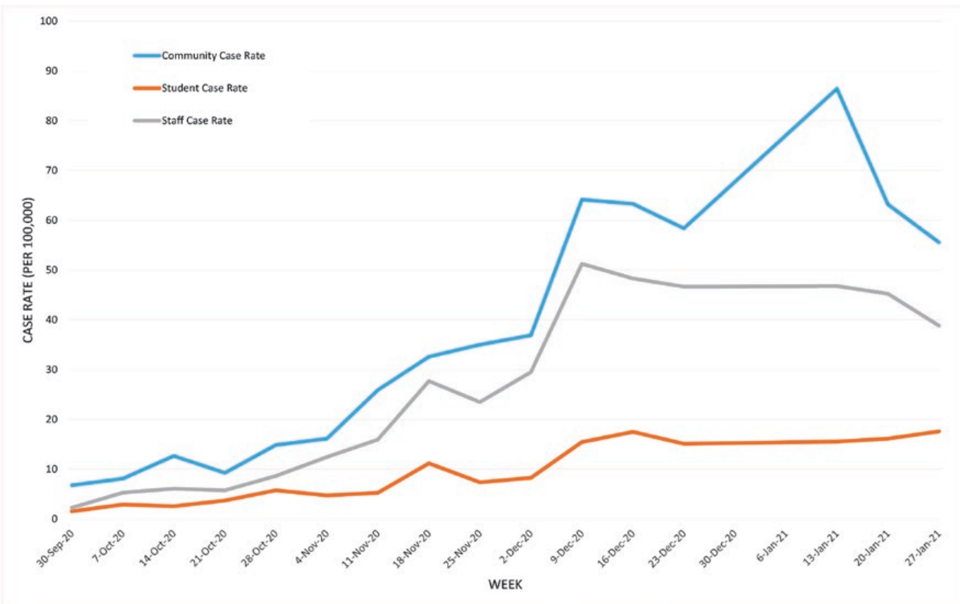

Figure 2. Incidence of coronavirus disease 2019 cases among students and school staff reported to Massachusetts's Department of Elementary and Secondary Education during the first 16 weeks of the 2020–2021 academic year and community incidence of COVID-19 from USAFacts." (Cite reference #19).

Table 3. Regression and Sensitivity Analyses[a]

Districts With Physical Distancing ≥6 ft	IRR for Students (95% CI)		IRR for Staff (95% CI)	
	Unadjusted	Adjusted[b]	Unadjusted	Adjusted[b]
All districts (3625 district-weeks)[c]	0.891 (.595–1.335)	0.904 (.617–1.326)	0.989 (.733–1.334)	1.015 (.754–1.366)
Adjusted for district demographics (3612 district-weeks)[d]	0.761 (.500–1.157)	0.789 (.528–1.179)	0.902 (.663–1.226)	0.915 (.669–1.252)
Excluding districts with surveillance testing (3554 district-weeks)[c]	0.879 (.587–1.315)	0.891 (.609–1.304)	0.971 (.721–1.307)	0.997 (.743–1.338)
Versus distancing <6 ft (3763 district-weeks)[e]	0.983 (.665–1.453)	0.976 (.678–1.407)	1.096 (.818–1.467)	1.103 (.830–1.467)

Abbreviations: CI, confidence interval; IRR, incidence rate ratio

[a]All regressions were adjusted for week. Standard errors were adjusted for clustering by school district.

[b]Adjusted for community incidence by week.

[c]The referent group was districts with 3 ft of physical distancing.

[d]Demographic variables included in the model included the percentages of total enrolled students who were black, Hispanic, Asian, or other (including Native American, Native Alaskan, Native Hawaiian, Pacific Islander, ≥2 races, unknown, and other rate), and the percentage of children aged 5–17 years in poverty. One district was missing poverty data and was dropped from the regression analysis.

[e]The referent group was districts with <6 ft of physical distancing.

0.915; CI, .669–1.252). IRRs for the 2 distancing policies were similar in the sensitivity analyses, including the sensitivity analysis including districts that adopted intermediate distancing policies (eg, 4–5 ft) (Table 3).

DISCUSSION

In June 2020, the Massachusetts DESE released guidance for reopening schools that included universal masking of staff and for most students and recommended ≥3 to 6 ft of distancing between students. Owing to the inherent flexibility in the DESE recommendations, application of physical in traditional public school districts varied throughout the state of Massachusetts. In this retrospective cohort study, we leveraged this variation to evaluate the effectiveness of different physical distancing recommendations on SARS-CoV-2 incidence rates among students and school staff participating in any in-person learning. Using case report data from DESE and combining that data with a manually validated data set with detailed district infection control plans, we found that adoption of greater physical distancing between individuals in school buildings was not associated with significantly reduced rates of SARS-CoV-2 among students and staff.

National and international guidance on distancing in schools is varied. The World Health Organization recommends 1 m (3.3 ft) of distancing in school settings, while, conversely, the guidance from the Centers for Disease Control and Prevention recommends 6 ft of distance "to the greatest extent possible," and the American Academy of Pediatrics recommends 3–6 ft [6–8].

Several countries have published data on case rates among schoolchildren with various physical distancing recommendations after school reopening, although studies directly comparing different policies are limited. In Australia, New South Wales, children were recommended to distance 1.5 m; a study evaluating SARS-CoV-2 transmission and secondary attack rates in children who attended schools and early childhood care settings while considered infectious found low rates of transmission, with a secondary attack rate of 1.2% [20, 21]. In educational settings in England during the summer half term, children were advised to maintain distance "as able" and universal masking was not required. Reported infections and outbreaks with a limited distancing policy were low, with 113 cases of infection and 55 outbreaks, among a large population (median daily student school attendance, 929 000) [22]. Similarly, in educational settings in Singapore, where students adopted 3–6 ft of distancing, case rates were low, with identification of only 3 potential transmission incidents in 3 disconnected educational settings [23].

Our study adds to the literature, as we were able to directly compare the impact of different physical distancing policies while controlling for other important mitigation measures, notably, universal masking among staff and near-universal masking among students, including those in younger grades. Our finding of no significant difference in student or staff case rates between schools with ≥3 versus ≥ 6 ft of distancing, with a large sample size, suggests that the lower physical distancing recommendation can be adopted in school settings without negatively affecting safety.

While incidence rates in both students and staff were lower than case rates in surrounding communities, we found a strong correlation between community rates and positive cases in schools, particularly among school staff. Community transmission contributes to the number of individuals who enter the school building infected with SARS-CoV-2. A variety of factors may drive the relationship between community incidence and cases introduced into schools, including mandated compliance with mitigation measures, such as masking and symptom screening. The finding of the strong correlation between community incidence and incidence in schools does not, however, imply that there is increased transmission in schools when community disease prevalence is high, nor that community metrics should dictate school opening/closing policies.

These findings have important implications for national policy on SARS-CoV-2 infection control recommendations applied to school settings. The practical implication of a 6-ft distancing recommendation is that many schools are unable to open for full-in person learning, or at all, owing to physical limitations of school infrastructure. This is particularly true in public school districts, which are unable to limit the number of students enrolled, compared with private schools, which have been able to more successfully open with 6 ft of distance between individuals [24]. Three feet of physical distancing is more easily achieved in most school buildings, including public ones, and relaxing distancing requirements would thus be likely to increase the number of students who could benefit from additional in-person learning. Our data also suggest that intermediate distances (4 or 5 ft) can be adopted without negatively affecting safety; adoption of intermediate distancing policies might be leveraged as a stepwise approach to return more students to the classroom.

Our study was limited by lack of complete data on potential cases among students and school staff; only cases reported to the state could be included in our analysis, so it is possible that some cases were missed. However, it is unlikely that cases were differentially missed in districts with 3 versus 6 ft of distancing, mitigating the impact of this limitation on our main study finding. We also did not have detailed contact tracing data available and so were not able to determine whether cases in students were due to transmissions that happened within the school environment or independent introductions from cases acquired in the community. During the study period, active surveillance programs were rare, so we could not identify asymptomatic cases that may have resulted from in-school transmission or measure the effectiveness of this intervention as a tool for controlling SARS-CoV-2 spread in school settings.

In addition, we were not able to measure the impact of physical distancing stratified by school type (elementary, middle, or high) or age group. Thus, it is possible that the intervention may be more effective in one school type or age group; however, the vast majority of the districts included in the study (98%) adopted the same distancing policy, suggesting that findings are broadly applicable. We were not able to fully exclude a small benefit of greater physical distancing requirements among student cases, but, because of our large sample size, we can conclude that more restrictive physical distancing policies would not have substantial impact on preventing cases in students attending in-person schooling. It is possible that districts that officially allowed ≥3 ft of distancing between students ultimately succeeded in attaining more distance, and our methods were only able to capture official policy, not real-world implementation of the policy.

We also were not able to examine how lower distancing policies may have affected school closures; it is possible that districts with lower distancing requirements closed more frequently, or required more quarantines, because of how SARS-CoV-2 exposures are defined. Finally, we were not able to fully evaluate the impact of other types of infection control interventions, owing to a lack of variation across the state. In particular, we were not able to examine the impact of universal masking owing to nearly 100% adoption of this intervention, however, data from other sources and other settings clearly highlight the importance of masking as a mitigation measure and the fact that mask compliance in school settings is high [4, 25].

In conclusion, increasing minimum physical distancing requirements from 3 to 6 ft in school settings is not associated with a reduction in SARS-CoV-2 cases among students or staff, provided that other mitigation measures, such as universal masking, are implemented. These findings may be used to update guidelines about SARS-CoV-2 mitigation measures in school settings.

Supplementary Data

Supplementary materials are available at *Clinical Infectious Diseases* online. Consisting of data provided by the authors to benefit the reader, the posted materials are not copyedited and are the sole responsibility of the authors, so questions or comments should be addressed to the corresponding author. A research replication archive is accessible at: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/K9O7KA.

Notes

Disclaimer. The views presented here are those of the authors and do not necessarily represent those of the US federal government.

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