Effectiveness of three versus six feet of physical distancing for controlling spread of COVID-19 among primary and secondary students and staff: A retrospective, state-wide cohort study

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Summary: There is no significant difference in K-12 student and staff SARS-CoV-2 case rates in Massachusetts public school districts that implemented ≥3 feet versus ≥6 feet of physical distancing between students, provided other mitigation measures, such as universal masking, are implemented.

Abstract:

Background: National and international guidelines differ about the optimal physical distancing between students for prevention of SARS-CoV-2 transmission; studies directly comparing the impact of ≥3 versus ≥6 feet 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 (IRR) for students and staff members in districts with ≥3 versus ≥6 feet 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 feet versus ≥6 feet of physical distancing between students (IRR, 0.891, 95% CI, 0.594-1.335); results were similar after adjusting for community incidence (adjusted IRR, 0.904, 95% CI, 0.616-1.325). Cases among school staff in districts with ≥3 feet versus ≥6 feet of physical distancing were also similar (IRR, 1.015, 95% CI, 0.754-1.365).

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

Key words: COVID-19, schools, physical distancing, infection control, adaptation

Background:

In March, 2020, as Severe Acute Respiratory Syndrome Coronvavirus-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 mitigation measures are implemented, and that children and schools are not the primary drivers of the pandemic [3–5].

Current guidance from the World Health Organization (WHO) is to maintain 1 meter (3.3 feet) between students while the Centers for Disease Control and Prevention (CDC) recommends students maintain 6 feet of distancing; the American Academy of Pediatrics recommends 3-6 feet [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 feet and ≥6 feet 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].

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 re-opening to prioritize student return to school buildings in the fall [14]. Schools and districts were required to prepare and submit re-opening plans to the state that addressed district re-opening in three 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, utilizing symptom screening of staff and students, hand hygiene, facilities cleaning, and dedicating isolation space for students displaying possible COVID-19 symptoms. 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 feet of distancing between individuals when possible, with a minimum requirement of ≥3 feet of distancing between students [14].

In this retrospective analysis of data from 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 versus ≥6 feet) on incidence of SARS-CoV-2 infections among students and school staff after school re-opening in fall 2020.

Methods

Data sources:

District Infection Control Plans

Publicly available district infection control plans, 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 websites. A standardized data extraction template was created using Microsoft Forms (Supplementary materials) and each district plan was individually reviewed and entered into the dataset. Variables of interest included school model type (e.g., fully remote, hybrid, or full in-person) and details of infection control strategies adopted by the district (e.g., physical distancing of ≥3 versus ≥6 feet, details of masking policy, including details about how the masking policy was applied to students in younger grades, ventilation upgrades, cleaning protocols).

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

Prior to data abstraction, three investigators abstracted and entered the same infection control plans. After an inter-rater reliability score >80% was achieved for all variables (five districts reviewed, one round), data abstraction and entry was continued. To ensure data quality and accuracy of the physical distancing variable, all districts that included a minimum of ≥3 feet of distancing in their infection control plan underwent a double-check. If there was disagreement between the two reviews, then a third reviewer also manually reviewed the district plan and made a final decision regarding classification of the district policy. Additionally, a random sample of 10% of the districts classified as requiring ≥6 feet 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 website, where they are available publicly, for the period of September 24, 2020 through January 27, 2021 [16]. District-level SARS-CoV-2 case counts are reported by school districts to DESE weekly.

Mandatory case reporting to DESE is only required 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 seven days prior to the positive test. Similarly, staff case counts only include those who had been in a school building in the seven days prior to the laboratory confirmed positive test. Individual school districts are responsible for reporting these data to DESE.

Student enrollment data was provided electronically to the research team from DESE [17]. This includes total enrollment and counts of students enrolled in each learning model, in-person, hybrid, and remote, by district. DESE pulled 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 is not reported.

Because in-person staff counts are not part of the dataset, 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 least 5% of enrolled students in an in-person or hybrid learning model. District demographic data (proportion of children aged 5-17 living in poverty, racial and ethnic enrollment within the school district) were also obtained from NCES CCD.

Community Case Data

Community incidence data was obtained from USAFacts [19], at the county level, dividing each county's totals among the county's zip codes, 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 dataset 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% or more 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 less than 80% of enrolled students participating in on-campus instruction.

After the three 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 at least 5% in-person or hybrid attendance. Weeks with less than 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 feet 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 and Microsoft Excel.

Sensitivity Analyses:

To ensure our findings were robust and not driven by other infection control mitigation measures, we conducted two sensitivity analyses. First, we re-estimated models after excluding districts with surveillance testing programs and re-estimated unadjusted and adjusted incidence rate ratios. We also estimated models among districts that permitted less than 6 feet of physical distancing (e.g., included districts that allowed 4-5 feet of distancing in the analysis).

Results:

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

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, Table 1). Because learning models vary by district over the study period, we instead consider on-campus enrollment by comparing the number of students enrolled in both in-person and hybrid models compared to 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 less than 80% of enrolled students on campus during the study period (161/251, 64.14% lower on-campus enrollment; 90/251,35.86% high on-campus enrollment). 98.01% of districts included applied the same infection control policy, including distancing recommendations, across all grade levels. 100% of districts with any type of in-person learning adopted universal masking for both students in grade 2 and above and for school staff. 69.72% of districts required masking for younger grades, although the policy was not mandated by the state, and 26.29% of districts strongly encouraged masking for students in the younger grades. Three districts required masking for students in grade 1 and above and seven districts did not have details in their masking policy to comment on grade requirements. Other commonly implemented interventions included physical distancing between students (48 ≥3 foot requirement, 194, ≥6 foot requirement, 9, 4-5 foot requirement), cohorting of students (214/232, 92.24%), enhanced disinfection protocols (218/227, 96.04%) and variable ventilation interventions (205/227, 90.31%) (Table 2).

Districts that implemented ≥3 feet of distancing between students reported 895 cases among students and 431 cases among staff (Figure 1). Districts with ≥6 feet of physical distancing reported 3223 cases among students and 2382 among staff, (unadjusted incidence rate ratio (IRR, 0.891, 95% CI, 0.594-1.335). Incident cases among both students and staff were highly correlated with community rates (Figure 2). In multivariable regression models controlling for community incidence, the risk of COVID-19 among students in districts with ≥3 versus ≥6 feet of distancing was similar (adjusted IRR, 0.904, 95% CI, 0.616-1.325) (Table 3). The model for staff controlling for community incidence also showed a similar risk with ≥3 versus ≥6 feet of distancing (adjusted IRR, 1.015, 95% CI, 0.754-1.365). After adjusting for the proportion of children aged 5-17 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 non-significant (students: adjusted IRR, 0.789, 95% CI, 0.528-1.179). In the adjusted models, the IRR ratio for staff did not change (adjusted IRR, 0.915, CI, 0.669-1.252). Incidence rate ratios for the two distancing policies were similar in the sensitivity analyses, including the sensitivity analysis that included districts that adopted intermediate distancing policies (e.g., 4-5 feet) (Table 3).

Discussion:

In June, 2020 the Massachusetts DESE released guidance for re-opening schools that included universal masking of staff and for most students and recommended ≥3 to 6 feet of distancing between students. Due to the inherent flexibility in the DESE recommendations, application of physical distancing interventions 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 in students and school staff participating in any in-person learning. Using case-report data from DESE and combining it with a manually-validated dataset 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 WHO recommends 1 meter (3.3 feet) of distancing in school settings while conversely, CDC guidance recommends 6 feet of distance “to the greatest extent possible,” and the American Academy of Pediatrics recommends 3-6 feet [6–8]. Several countries have published data on case rates among school children with various physical distancing recommendations after school re-opening, although studies directly comparing different policies are limited. In Australia, New South Wales, children were recommended to distance 1.5 meters; 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 of 929,000) [22]. Similarly, in Singapore educational settings, where students adopted 3-6 feet of distancing, case rates were low, with identification of only three potential transmission incidents in three 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 close in younger grades. Our finding of no significant difference in student or staff case rates between schools with ≥3 versus ≥6 feet of distancing with a large sample size suggests that the lower physical distancing recommendation can be adopted in school settings without negatively impacting safety.

While incidence rates in both students and staff were lower than cases 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 for SARS-CoV-2 infection control recommendations applied to school settings. The practical implication of a 6 feet of distancing recommendation is that many schools are unable to open for full-in person learning, or at all, due 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 to private schools, which have been able to more successfully open with 6 feet of distance between individuals [24]. Three-feet of physical distancing is more easily achieved in most school districts, including public ones, and thus, relaxing distancing requirements would likely have the impact of increasing the number of students who are able to benefit from additional in-person learning. Our data also suggest that intermediate distances (4 or 5 feet) can also be adopted without negatively impacting safety; adoption of intermediate distancing policies might be leveraged as a step-wise 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 were able to be included in our analysis, thus it is possible that some cases may have been missed. However, it is unlikely that cases were differentially missed in districts with 3 versus 6 feet, 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 if 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, and thus we were not able to identify asymptomatic cases that may have resulted from in-school transmission, or to measure the effectiveness of this intervention as a tool for controlling SARS-CoV-2 spread in school settings.

Additionally, we were not able to measure the impact of physical distancing stratified by school type (elementary, middle, 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, however, due to 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 feet of distancing between students ultimately succeeded in attaining more distance between students, 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 impacted school closures; it is possible that districts with lower distancing requirements closed more frequently, or required more quarantines, due to how SARS-CoV-2 exposures are defined. Finally, we were not able to fully evaluate the impact of other types of infection control interventions, due to a lack of variation across the state. In particular, we were not able to examine the impact of universal masking due to nearly 100% adoption of this intervention, however, data from other sources and other settings clearly highlights the importance of masking as a mitigation measure and that mask compliance in school settings is high [4,25].

Conclusions:

Increasing physical distancing requirements from 3 to 6 feet in school settings is not associated with a reduction in SARS-CoV-2 cases among students or staff, provided 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.

NOTES

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Table 1. COVID-19 Daily Incidence Among Students and School Staff Participating in In-Person Instruction in Massachusetts as Reported to the Department of Elementary and Secondary Education

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

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

Infection Control Intervention	**Districts**	**Students** (All districts)	**Students** ≥6 Feet	**Students** ≥3 Feet	**Staff** (All districts)	**Staff** ≥6 Feet	**Staff** ≥3 Feet
School Model[a]							
High on-campus enrollment	90	188,134	121,949	55,989	27,270	18,699	7,997
Lower on-campus enrollment	161	349,202	270,691	67,167	72,120	58,341	11,866
Elementary, Middle, and High School All in the Same Model	188	450,881	327,416	105,331	82,907	64,118	16,823
Universal Masking[b]							
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 Feet	194	392,640	392,640	--	77,040	77,040	--
≥3 Feet	48	123,156	--	123,156	19,863	--	19,863
Other (4-5 feet)	9	21,540	--	--	2,487	--	--
Enhanced Cleaning Protocol[c]	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 Prior to Entering School Buildings	223	492,223	368,688	105,161	91,428	72,832	16,533
Ventilation Interventions[d]	205	430,264	334,404	79,309	76,539	60,891	13,189
Surveillance Testing	5	7,310	6,582	728	2,307	2,181	126
Universal Vaccination Policy[e]	251	537,336	392,640	123,156	99,390	77,040	19,863
District Demographic Variables[f]							
Children ages 5-17 in poverty (%)		10.47	10.24	12.13	--	--	--

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] High on-campus enrollment is defined as districts with an average of at least 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 less than 80% of enrolled students participating in on-campus instruction.

[b] During the study period, universal masking among staff and students grades two and higher was a pre-requisite for approval to open schools according to 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.

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

[d] Ventilation interventions were highly heterogeneous and included requirements to open windows, purchase HEPA filters, plans for HVAC upgrades, and plans to move classrooms to outdoor spaces.

[e] Universal influenza vaccination for all students was mandated in the state of Massachusetts during the Fall of 2020. The requirement was later waived due to low rates of influenza during the 2020-2021 influenza season.

[f] Demographics variables obtained from NCES at the district level

Table 3. Regression Analysis

	IRR[a], Students (unadjusted for community incidence)	IRR, Students (adjusted for community incidence)[b]	IRR Staff (unadjusted for community incidence)	IRR Staff (adjusted for community incidence)
≥6 Feet of Physical Distancing, all Districts (N=3,625)[c,d]	0.891 (0.594 – 1.335)	0.904 (0.616 - 1.325)	0.989 (0.733 – 1.334)	1.015 (0.754-1.365)
≥6 Feet of Physical Distancing, adjusted for district demographics (N=3,612)[e]	0.761 (0.500-1.157)	0.789 (0.528-1.179)	0.902 (0.663-1.226)	0.915 (0.669-1.252)
≥6 Feet of Physical Distancing, excluding districts with surveillance testing (N=3,554)[d]	0.879 (0.587 – 1.315)	0.891 (0.609 - 1.304)	0.971 (0.721 – 1.307)	0.997 (0.743-1.338)
≥6 Feet of Physical Distancing versus < 6 feet of distancing (N=3,763)[f]	0.983 (0.665 – 1.453)	0.976 (0.678 - 1.407)	1.096 (0.818 – 1.467)	1.103 (0.830-1.466)

All regressions adjusted for week. Standard errors adjusted for clustering by school district.

[a] IRR= Incidence rate ratio

[b] adjusted for community incidence by week

[c] N=Number of district-weeks included in the regression

[d] 3 feet of physical distancing referent group

[e] Demographic variables included in the model, of total enrolled students: % Black, % Hispanic, % Asian, % Other (Native American, Native Alaskan, Native Hawaiian, Pacific Islander, Two or more races, Unknown, and Other), and % of children 5-17 in poverty. One district is missing poverty data and was dropped from the regression

[f] <6 feet of physical distancing referent group

Figure 1 Legend. Incidence of COVID-19 Cases Among Students and School Staff, by Physical Distancing, Reported to DESE During the First 16 Weeks of the 2020-21 Academic Year

Figure 2 Legend. Incidence of COVID-19 cases Among Students and School Staff Reported to DESE During the First 16 Weeks of the 2020-21 Academic Year

Figure 1

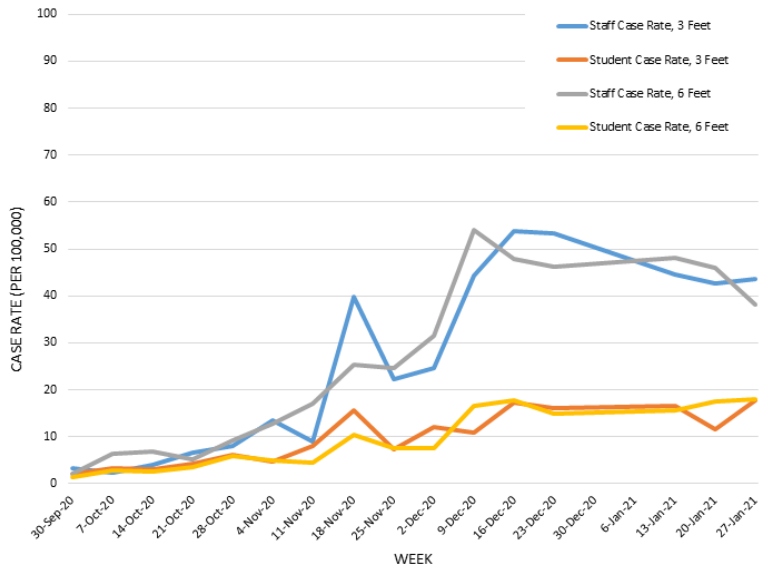
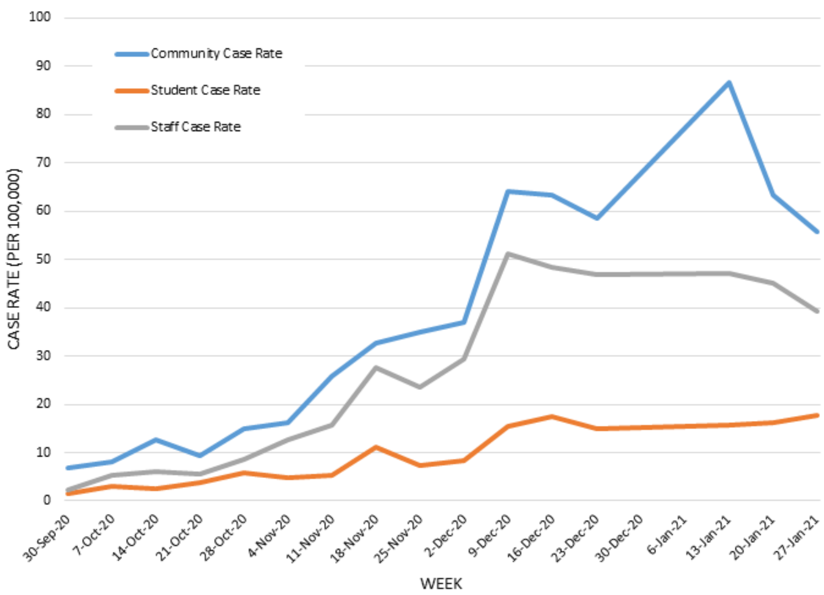

Staff Case Rate, 3 Feet
Student Case Rate, 3 Feet
Staff Case Rate, 6 Feet
Student Case Rate, 6 Feet
CASE RATE (PER 100,000)
0
10
20
30
40
50
60
70
80
90
100
30-Sep-20
7-Oct-20
14-Oct-20
21-Oct-20
28-Oct-20
4-Nov-20
11-Nov-20
18-Nov-20
25-Nov-20
2-Dec-20
9-Dec-20
16-Dec-20
23-Dec-20
30-Dec-20
6-Jan-21
13-Jan-21
20-Jan-21
27-Jan-21
WEEK

Figure 2



Community Case Rate
Student Case Rate
Staff Case Rate
CASE RATE (PER 100,000)
100
90
80
70
60
50
40
30
20
10
0
30-Sep-20
7-Oct-20
14-Oct-20
21-Oct-20
28-Oct-20
4-Nov-20
11-Nov-20
18-Nov-20
25-Nov-20
2-Dec-20
9-Dec-20
16-Dec-20
23-Dec-20
30-Dec-20
6-Jan-21
13-Jan-21
20-Jan-21
27-Jan-21
WEEK