Higher Chronic Absenteeism Threatens Academic Recovery from the COVID-19 Pandemic

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Abstract—The broad and substantial educational harm caused by the COVID-19 pandemic has motivated large federal, state, and local investments in academic recovery. However, the success of these efforts depends in part on students' regular school attendance. Using newly collected data, I show that the rate of chronic absenteeism among U.S. public-school students grew substantially as students returned to in-person instruction. Specifically, between the 2018-19 and 2021-22 school years, the share of students chronically absent grew by 13.5 percentage points—a 91-percent increase that implies an additional 6.5 million students are now chronically absent. Enrollment loss, COVID-19 case rates, and school masking policies are not associated with the state-level growth in chronic absenteeism. This suggests the sharp rise in chronic absenteeism reflects other important barriers to learning (e.g., declining youth mental health, academic disengagement) that merit further scrutiny and policy responses.

The substantial, negative effects of the COVID-19 pandemic on multiple indicators of well-being and development among children in the United States are increasingly well-documented. For example, evidence of deteriorating youth mental health recently motivated a coalition of leading health organizations to declare a national emergency as well as the publication of a rare public-health advisory from the U.S. Surgeon General (1, 2). Additionally, recently released federal testing data also show that pandemic declines in student achievement in mathematics and reading largely erased the gains of the previous twenty years (3). This evidence has motivated an unprecedented federal investment of nearly $190 billion to support schools and students in academic recovery from the pandemic. Tracking data indicate that schools are often using these resources to offer new in-school learning opportunities such as tutoring and summer programs as well as to fund specialist support staff (4).

However, the effectiveness of these investments relies in part on the expectation that students—particularly those that are most educationally vulnerable—can access these supports through consistent school attendance. More generally, consistent school attendance is an educationally consequential behavior. Both correlational and quasi-experimental studies find that student absences have negative effects on several academic and longer-run economic outcomes (5,6).

In this report, I present and examine new and comprehensive data on how the prevalence of chronic absenteeism changed in U.S. public schools over the pandemic. Chronic absenteeism, defined as missing 10 percent or more of school for any reason, is a compelling and widely used index for a diverse variety of barriers to student learning. The underlying causes that contribute to chronic absenteeism include both out-of-school factors related to economic disadvantage and health as well as in-school factors such as school climate, safety, and practices related to instruction, discipline, and student supports (7).

A large majority of U.S. states now collect annual data on chronic absenteeism and use this measure as a key performance indicator in school-accountability systems mandated by the federal Every Student Succeeds Act (8). I gathered these state-level data for both the 2018-19 and 2021-22 school years by canvassing websites for state departments of education and state "report cards," contacting state officials, and filing public-records requests. These two time periods provide information on both the last full school year untouched by the pandemic and the most current data available after schools returned to in-person instruction almost universally. This effort resulted in complete data for 40 states and the District of Columbia. These locations both used a common definition of chronic absenteeism and had data available for both school years (SI Appendix). They also serve over 92 percent of all K-12 public-school students in the U.S.

Findings

Figure 1 illustrates, for each location, the chronic-absenteeism rates for the 2018-19 and 2021-22 school years. Notably, every state experienced increased chronic absenteeism with the magnitudes varying from 4 to 22 percentage points. During the 2018-19 school year, the chronic-absenteeism rate, weighted by the K-12 public-school enrollment in that year, averaged 14.8 percent. In the 2021-22 school year, as students returned to in-person instruction, this average grew to 28.3 percent. This increase of 13.5 percentage points represents 91-percent growth relative to the pre-pandemic value. A paired t-test rejects the null hypothesis that these state-level changes were zero ($P < 0.001$). Given that the public-schools in the 50 states and the District of Columbia served roughly 48 million students in the 2021-22 school year, these results imply that an additional 6.5 million students became chronically absent during the recent return to in-person instruction.

The large and broad increases in chronic absenteeism suggest many students are failing to re-engage in schooling as in-person instruction returned. However, this growth could more specifically reflect how families responded to increases in pandemic-related illnesses and infection risk during the

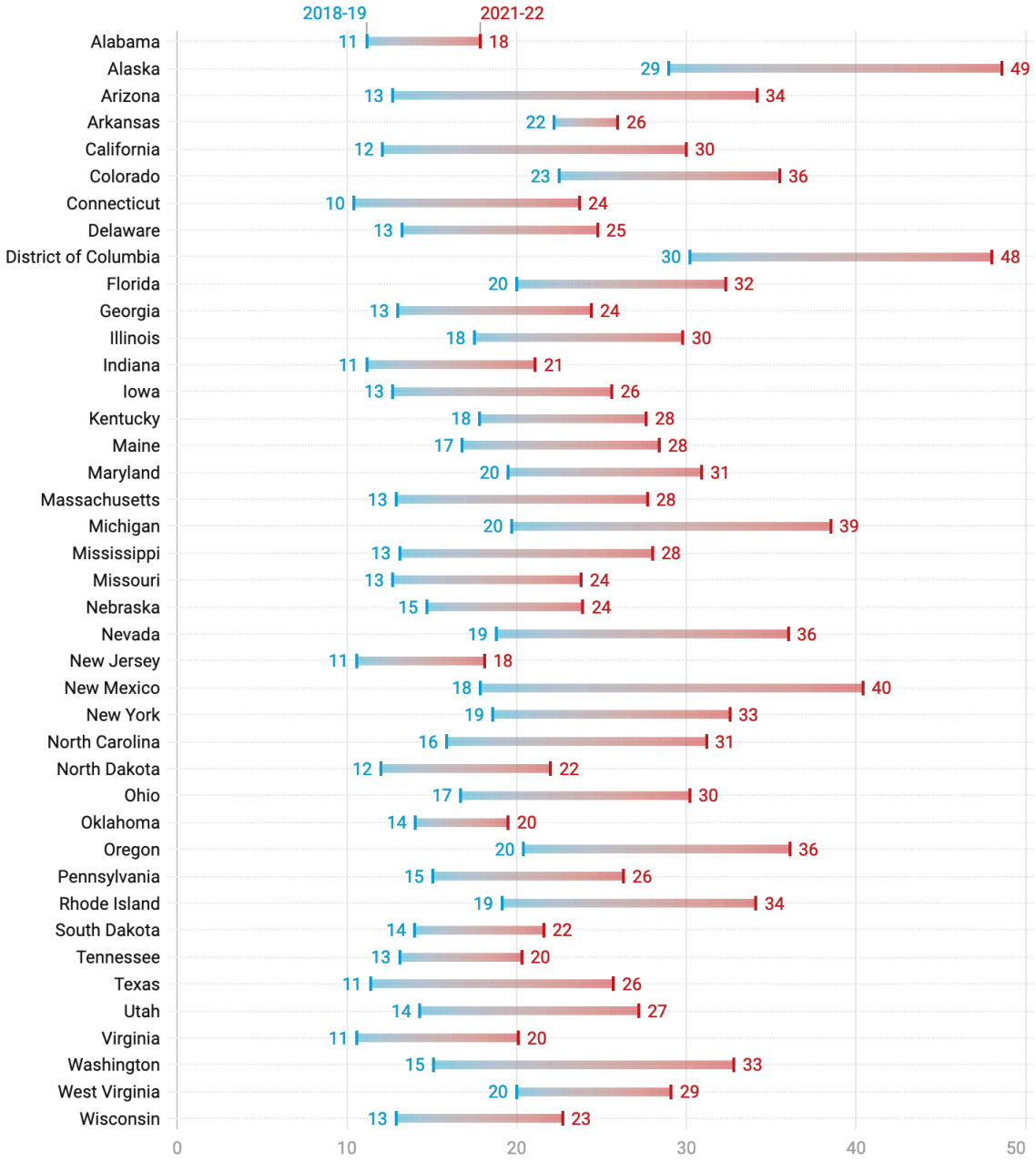

Figure 1—Chronic-Absenteeism Rates by State, 2018-19 and 2021-22

return to classrooms (9). To assess this, I matched the state-level growth in chronic absenteeism (Figure 1) with a state-level measure of COVID-19 cases per person during the 2021-22 school year (SI Appendix). The correlation coefficient between chronic-absenteeism growth and this infection rate is 0.18 and statistically indistinguishable from zero ($P = 0.2615$). Relatedly, the growth in chronic absenteeism could also reflect how school-attendance decisions responded to state regulations of masking during the return to classrooms. While most states made no explicit policy about masking, 16 states required masking in classrooms while 8 states explicitly banned such requirements (SI Appendix). The growth in chronic absenteeism (Figure 1) was on average similar across states with different masking requirements. Specifically, an ANOVA indicates that the state-level growth in

chronic absenteeism (Figure 1) did not have a statistically significant relationship with these policy choices ($P = 0.2803$).

Another potential challenge to interpreting the growth in chronic absenteeism (Figure 1) concerns enrollment loss. Between the 2018-19 and 2021-22 school years, U.S. public-schools experienced historically unprecedented enrollment declines of 2.3 percent. This decline, which varied considerably across states, was related to factors such as demographic change, a response to remote-only instruction, and a shift to private schools and homeschooling (10). If this enrollment loss occurred differentially among those who were not likely to be chronically absent, it would bias the observed growth in chronic-absenteeism rates upward.

However, the correlation coefficient between the growth in chronic-absenteeism and the percent change in enrollment is -0.21 and statistically indistinguishable from zero ($P = 0.1779$). Furthermore, a bounding exercise demonstrates that the empirical relevance of this enrollment decline can only be negligible (SI Appendix). Specifically, under the extreme assumption that enrollment loss only occurred among those who are not chronically absent, the implied increase in the measure chronic-absenteeism rate is roughly one percentage point or less over a range of plausible values for the magnitude of the enrollment loss and the baseline chronic-absenteeism rate.

Another factor that might influence the state-level variation in the growth of chronic-absenteeism involves measurement differences. While the states in Figure 1 share a definition of chronic absenteeism as missing 10 percent or more of school, they differ in how they identify a valid day of attendance (11). Most states require a half-day of attendance or more, while other, while others use hourly or period-based measures or allow this to be determined in a local or unclear manner (SI Appendix). However, the state-level growth in chronic absenteeism (Figure 1) was similar across states with different definitions of an attendance day. Specifically, an ANOVA cannot reject the hypothesis that these state differences are unrelated to the growth in chronic absenteeism ($P = 0.8048$). Additionally, a regression of the state-level growth in chronic absenteeism on all of these measures (i.e., the COVID-19 case rate, the percent loss in enrollment, and binary indicators for state masking policies and attendance definitions) cannot reject the hypothesis that they are jointly insignificant ($P = 0.5912$).

Discussion

The evidence presented here indicates that chronic absenteeism grew sharply among students across the U.S. as schools returned to in-person instruction. The exact causes of this striking growth are unclear. However, the evidence that this growth is unrelated to several observed factors (i.e., COVID-19 infection rates, state masking requirements, enrollment loss, and attendance definitions) suggests the potential importance of other substantive barriers to learning (e.g., declines in youth mental health, academic engagement, and access to transportation).

The limited, early evidence that high chronic-absenteeism rates continued through the just-completed 2022-23 school year also suggests the continuing importance of these large increases and their underlying causes. Specifically, two states—Massachusetts and Connecticut—currently report tracking data on chronic-absenteeism rates for most of the just-completed 2022-23 school year. Those rates (24.5 percent and 21.0, respectively) remain high at roughly twice their pre-pandemic values. A recent survey of 21 school districts also found that chronic absenteeism remains high (12).

Notably, the subgroup data available for several states also indicate that the pandemic growth in chronic absenteeism exacerbated pre-existing inequalities. Specifically, these increases, though similar across male and female students, were comparatively large among economically disadvantaged students as well as Black students and Hispanic students

The evidence presented here suggests the imperative both to understand the sources of the rise in chronic absenteeism and to address it with well-implemented, evidence-based policies and

practices. Intervention studies suggest that chronic absenteeism can be reduced through both preventative school-wide efforts and more intensive and targeted initiatives that identify and support chronically absent students (13).

Examples of effective school-wide strategies include providing engaging, culturally relevant instruction and school-based supports such as free meals, health care (e.g., asthma management), and social services. Another particularly promising school-wide practice is to engage and inform families about their child's school attendance. Doing so through carefully worded postcards and text messages is particularly notable as a low-cost and scalable strategy. For students who are chronically absent, early detection and more intensive engagement through home visits and mentoring programs have also shown positive results. Undertaking these different approaches at scale is likely to require focused leadership as well as financial support as local districts anticipate the "fiscal cliff" of expiring federal support for pandemic recovery.

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Supporting Information for "Higher Chronic Absenteeism Threatens Academic Recovery from the COVID-19 Pandemic"

Sample Construction and Variables

This study necessarily excluded ten states for different reasons. Four states (Hawaii, Montana, New Hampshire, and Wyoming) use alternative definitions of chronic absenteeism. Notably, these measures also show increases similar to those reported here where available for both time periods. Two states (Minnesota and South Carolina) have not yet reported their 2021-22 measures while 2018-19 data were unavailable for three states (Idaho, Kansas, and Louisiana). And Vermont does not include chronic absenteeism in its school-accountability system and does not produce a comparable chronic-absenteeism rate. In addition to publicly available reports, these data reflect public-records requests and informal communication with state officials, which also contributed to quality-control checks. For example, we learned that Alaska's currently reported chronic-absenteeism rate for the 2021-22 school year (i.e., 51.42 percent) is actually the share *not* chronically absent.

To identify COVID-19 cases during the 2021-22 school year, I relied on weekly counts of new COVID-19 cases reported by the Centers for Disease Control and Prevention for each state (1). Specifically, I aggregated by state the weekly counts of COVID-19 cases over the period from August 1, 2021 through May of 2022. I converted these state-level counts to a rate using U.S. Census Bureau's Vintage 2022 estimates of the state resident population as of July 1, 2021 (2). I relied on a news article to identify state masking requirements (i.e., mask mandate, no policy, masking mandates banned) for the 2021-22 school year (3). Nevada only mandated masking in counties with populations over 100,000. As this covered the vast majority of the state's population, I coded Nevada as a mask-mandate state.

To identify K-12 public-school enrollment changes by state, I relied on Fall 2018 and Fall 2021 counts from different editions of the U.S. Department of Education's Digest of Education Statistics and converted these counts to a percent-change measure (4). How a state identifies a day of attendance for in-person learning is a 5-category variable (i.e., half-day or more; more than a half-day, an hourly or period-based measure, locally determined, and unknown) based on data collection by Attendance Works (5). Based on the language of their definitions, I coded Illinois, Vermont, and Virginia as using an hourly or period-based measure.

Bounding the Impact of Differential Attrition

One potentially confounding interpretation of this study's main finding is that the well-documented pandemic exodus from public schools contributed meaningfully to the broad and sharp increases in chronic absenteeism documented here. In particular, over this period (i.e., 2018-19 to 2021-22), K-12 public-school enrollment fell by over 2 percent nationally with particularly large declines in several states (e.g., a 5-percent decline in California). If these enrollment declines were differentially among those not likely to be chronically absent, it would impart a positive—and possibly confounding—bias to the changes reported here.

However, a simple bounding exercise illustrates how the maximum bias attributable to enrollment declines could only contribute negligibly to the dramatic increases in chronic absenteeism observed. Specifically, consider a scenario in which the chronic-absenteeism rates in pre and post periods are defined as:

$$C^{Pre} = \frac{n_1^{Pre}}{n_0^{Pre} + n_1^{Pre}} \quad (1)$$

$$C^{Post} = \frac{n_1^{Post}}{n_0^{Post}+n_1^{Post}} \quad (2)$$

where *n* represents the counts of students with subscripts indicating those who are chronically absent (1) and not (0) for a given period (i.e., pre or post). Now suppose that total enrollment fell by α percent over this period:

$$n_0^{Post} + n_1^{Post} = (1-\alpha)(n_0^{Pre} + n_1^{Pre}) \quad (3)$$

And make the highly conservative assumption that the students who left were only those who would *not* be chronically absent. This bounding assumption also implies that "post" count of students who are *not* chronically absent falls to:

$$n_0^{Post} = n_0^{Pre} - \alpha(n_0^{Pre} + n_1^{Pre}) = (1-\alpha)n_0^{Pre} - \alpha n_1^{Pre} \quad (4)$$

This assumption also implies that the count of students who are chronically absent students was unchanged:

$$n_1^{Pre} = n_1^{Post} \quad (5)$$

We can now identify what inflated value the "post" chronic-absenteeism rate, C^{Post}, would take under this scenario of maximum differential attrition by placing values from equations (3) through (5) in equation (2):

$$C^{Post} = \frac{n_1^{Pre}}{(1-\alpha)(n_0^{Pre}+ n_1^{Pre})} = \frac{1}{(1-\alpha)} C^{Pre} \quad (6)$$

Equation (6) indicates the values of C^{Post} for different values of α and baseline chronic-absenteeism rates, C^{Pre}. This expression makes it possible to explain the change in the chronic-absenteeism rate, under the most conservative assumption of attrition in terms of the rate of enrollment loss, α, and C^{Pre}.

$$C^{Post} - C^{Pre} = \frac{1}{(1-\alpha)} C^{Pre} - C^{Pre} = \frac{\alpha}{(1-\alpha)} C^{Pre} \quad (7)$$

For a broad range of plausible values, equation (7) implies that the maximum possible bias due to differential attrition is empirically negligible (see Appendix Table 1). For example, when both α and C^{Pre} are large (i.e., 0.05 and 0.20, respectively), the implied bias is only 1 percentage point, a small amount relative to the large changes documented in Figure 1. The intuition for this result is straightforward. When the share of students not chronically absent averages 80 to 90 percent, a bounding assumption that pushes this to 100 percent for attrition of up to 5 percent has a small impact.

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Appendix Table 1—Upper-Bound Values of the Chronic Absenteeism Rate After Differential Attrition

Baseline Chronic Absenteeism	Percent Decline in Enrollment				
	1%	2%	3%	4%	5%
5%	5.05%	5.10%	5.15%	5.21%	5.26%
10%	10.10%	10.20%	10.31%	10.42%	10.53%
15%	15.15%	15.31%	15.46%	15.63%	15.79%
20%	20.20%	20.41%	20.62%	20.83%	21.05%
25%	25.25%	25.51%	25.77%	26.04%	26.32%

Notes: This table shows the chronic absenteeism rates, for given baseline rates and enrollment losses under the bounding assumption that all attriters would not have been chronically absent. See equations (1) through (6) in the SI Appendix for details.