Chronic Absence Patterns and Prediction During Covid-19: Insights from Connecticut





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Overview

Monitoring chronic absence is widely recognized as an essential tool for reducing educational inequity. The recent shift to distance and/or hybrid learning during the Covid-19 pandemic disrupted the collection and utilization of attendance data across the country. Putting in place consistent, reliable and actionable data has been a major challenge for states and school districts.

This report describes how Connecticut took steps to collect consistent attendance data by learning model (or mode), and publicly released data in a timely manner during the pandemic. For example, the Connecticut State Department of Education (CSDE) agreed upon a standard definition of attendance — showing up to school for half of a day — to ensure consistency with prior year data and across learning modes. CSDE also invested in frequent collection and public reporting of attendance and chronic absence data throughout the 2020-21 school year. As a result, Connecticut is uniquely positioned to analyze how patterns of chronic absence differ across learning modes, grades and student groups.

The report offers key insights from the analysis of Connecticut's chronic absence data that can inform Covid-19 educational recovery efforts and attendance initiatives. It shares lessons learned from Connecticut and recommends steps that other states can take to improve their data systems and ensure actionable data for the next school year.

I. Why Monitoring Chronic Absence Matters for Reducing Educational Inequity

Prior to the pandemic, 8 million students were chronically absent (missing 10% of school) in the 2017-18 school year. Chronic absence rates in 2017-18 were higher for groups hardest hit during the pandemic by poor health, economic hardship and unequal access to schooling.¹

Research on in-person learning shows that chronic absence has a wide-ranging impact on student outcomes including lower academic achievement, ^{2,3,4,5,6} a higher probability of high school dropout, ^{6,7} and worse social emotional outcomes. ⁴ The adverse impact was greatest for students living in poverty who are less likely to have the resources to make up for lost learning time in the classroom and more likely to experience multiple systemic barriers to getting to school. ⁸

Studies conducted prior to the pandemic also reveal the importance of noticing and addressing, as early as possible, when absences are adding up. Missing more than two days in September predicts higher levels of chronic absence for that school year. Mounting evidence finds that each additional day of missed school contributes to worse educational outcomes. 10,11,12,13

Chronic absence, calculated throughout the school year, can serve as an early warning sign that particular or groups of students and families need additional engagement and support. It can be used to indicate when a school, district or community is struggling to put in place positive conditions for learning, such as physical and emotional health and safety; a sense of belonging, connection and support; academic challenge and engagement; and adults and peers with social emotional competence.¹⁴

II. Monitoring Attendance and Chronic Absence During the Pandemic

While monitoring absenteeism remains essential, the shift to distance and hybrid learning has dramatically affected the ability to collect and use high quality, reliable attendance data.

Prior to Covid-19, attendance in the United States was taken at least once a day and was consistently measured by marking when a student physically showed up to school. In early 2020, there was a dramatic decrease in attendance data collection, with only 27% of districts taking attendance when school buildings closed and classroom instruction shifted to being offered remotely.¹⁵

A national scan of state attendance policies conducted by Attendance Works found that significant challenges continue to exist. In January 2021, only 31 states plus the District of Columbia required attendance to be taken. What constitutes attendance for distance learning is highly variable across and even within states. In many places, a wide variety of measures can be used to count students as present during distance learning. They range from showing up to a virtual class, to submitting an online assignment, to logging on to the learning management system or having a two-way interaction with an adult at school. Attendance Works was unable to gather information on whether states collected attendance data by learning mode.

III. Connecticut: Investing in Timely Attendance Data During the Pandemic

As a part of its comprehensive response to the pandemic, the Connecticut State Department of Education (CSDE) invested significantly in frequent and consistent attendance and chronic absence data collection and reporting throughout the 2020-21 school year. CSDE took a number of key steps, including:

- Maintaining a standard definition of attendance (i.e., showing up to school for half of a day) across learning modes to ensure consistency with prior year data.
- Publishing <u>guidance</u> on how to support attendance during hybrid and remote learning which included the state's definition of attendance.
- Collecting attendance data monthly versus at the end of the year.
- Requiring attendance data to be reported separately for in-person and remote learning.
- Releasing monthly data reports that compare current year attendance and chronic absence to prior year statistics on its website, which allows data to inform the work of a variety of stakeholders and to be reviewed for accuracy. Overall, chronic absence has increased statewide from 12.2 % to over 20% during the current school year.

- Reviewing district data submissions on an ongoing basis and reaching out to districts with questions, concerns and suggestions for improving data quality.
- Offering districts an opportunity to submit corrected data for prior months.
- Creating recurring virtual learning communities to help districts and schools review the data, and to share and learn about best practices for implementing a multi-tiered approach to improving attendance.
- Establishing a state team to review the data, research best practices and coordinate the work across departments.

Making these shifts was not easy and required a significant commitment on the part of local districts as well as CSDE. The pandemic required districts to pivot quickly to ensure they could offer distance learning and monitor if students were showing up for class. On top of managing the complicated logistics of operating schools during a pandemic, districts needed to update attendance guidance, adapt their student information systems, and equip staff, especially teachers, to track attendance across multiple forms of participation in learning opportunities.

Though challenging, the payoff is clear. Establishing data consistency, timeliness and relevance allows CSDE and local districts to use their data as a diagnostic tool. By examining how patterns of chronic absence differ across learning modes, grades and student groups, the state can gain key insights into which student groups experienced the greatest instructional losses during the pandemic, and the extent to which chronic absence remains a critical early warning sign of academic risk.

Analyzing Connecticut's Attendance and Chronic Absence Data

Because the data is available on an ongoing basis, CSDE was able to conduct this analysis before the end of the current school year. This timing allows CSDE to use the analysis to inform the state's Covid-19 education relief efforts and school attendance initiatives for the 2021-22 school year.

For this brief, staff at the CSDE, (in consultation with Kevin Gee, Associate Professor, University of California, Davis, and Hedy N. Chang, Executive Director, Attendance Works), used attendance data to examine two main issues:

- 1. Patterns of Chronic Absence by Learning Model. We examine two questions: What did rates of chronic absence look like across three learning modes (i.e., in-person, remote, hybrid)? What did chronic absence look like for key student subgroups and across grade levels?
- 2. The Predictive Value of Chronic Absence. We examine three questions: How well did chronic absence function as an early warning indicator for absences later in the school year? Did chronic absence in fall 2020 predict chronic absence in winter 2021? Did different racial and ethnic groups face different probabilities of being chronically absent?

The term "chronically absent" is used to refer to students who miss 10% or more of school during designated time periods. This analysis focused on two periods: fall (September 2020 to November 2020) and winter (January 2021 to March 2021). The 10% rate is calculated by

dividing the total days of attendance by the total days of membership, where:

- Days in attendance is the number of days an enrolled student was considered "in attendance" for each of the periods.
- Days of membership is the number of days a student was enrolled in a district for each period. There were about 55 membership days in fall (September to November) and 57 membership days in winter (January to March).

Learning Model Classifications and Attendance Data Collection

For this analysis, students were classified into one of three learning modes based on how many days they were scheduled to attend school in person.

Learning Model	Membership Days in Person	
Predominantly in-person	greater than 75%	
Hybrid	25% to 75%	
Predominantly remote	0% to less than 25%	

Attendance data was collected monthly. A student was considered "present" if they attended for half of the school day in any setting. As this CSDE guidance shows, for remote students, the .5 day can be based upon time spent in synchronous classes or meetings, time logged in electronic learning systems, and/or submission/completion of assignments.

The data represents approximately 477,000 students. By learning mode, 13% of total students were in-person, 48% hybrid and 38% remote. By race and ethnicity, students were 50% white, 28% Hispanic or Latino, 13% Black or African American, and 9% for all other racial and ethnic groups (American Indian or Alaska Native, Asian, Native Hawaiian, other Pacific Islander or two or more Races). Finally, 16% were students with disabilities, 8% were English learners and 43% qualified for free or reduced-price meals. Table A1 in the methodology section provides numerical student sample sizes for Figures 1 through 6. See the methodology section on page 13 for additional details.

The section below describes key findings from this analysis of Connecticut's chronic absence data.

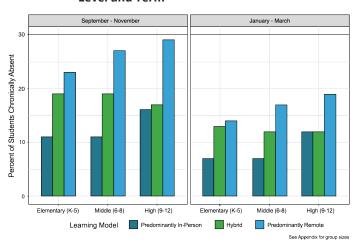
Finding 1. Chronic absence was most prevalent among predominantly remote students and least prevalent among in-person students, with rates for hybrid students falling in between. This pattern held for each school-level and term. (See Figure 1).

Finding 2. Chronic absence rates declined between September-November and January-March across all three learning modes. (See Figure 1).

This decline is especially noticeable since prior to the pandemic districts often reported that attendance is highest when school begins. One potential explanation is that this decrease in chronic absenteeism rates in January-March reflects the rise in districts offering predominantly in-person instruction. Throughout the year, data showed that attendance during in-person days was better than on remote instructional days. The percent of districts offering in-person learning increased from approximately 50% of districts in mid-January to 70% of districts by the end of March. The reduction in chronic absence could also reflect the results of intentional efforts to partner with students and families to address attendance barriers. Connecticut, for example, invested heavily in improving access to technology and connecting families to needed resources (food, health, economic supports and social services). Some districts also used their data to encourage students with poor attendance to shift to in-person learning.

Finding 3. The gap in chronic absence rates between inperson and hybrid students was less pronounced for high school students relative to elementary or middle school students. (See Figure 1).

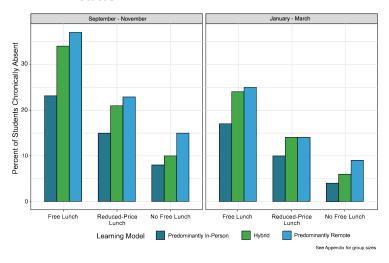
Figure 1. Chronic Absence Across Learning Models By School Level and Term



Finding 4. Chronic absence rates were higher for students who were receiving free or reduced-price lunch, Black or Hispanic, English learners, identified as having a disability and male. These gaps persisted between fall and winter. (See below.)

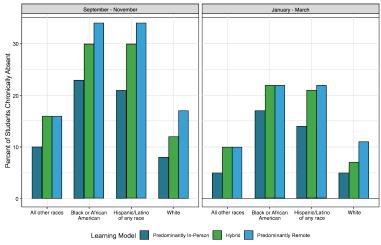
a. Students who qualified for free or reduced-price lunch had chronic absence rates that were two to three times higher than for students who did not, revealing a strong and continued connection between chronic absence and poverty. Find Connecticut data for prior years in the state EdSight portal.

Figure 2. Chronic Absence by Free and Reduced-Price Lunch
Status



b. Black /African American as well as Hispanic/Latino students had chronic absence rates during the fall and winter that were two to three times higher compared to rates for either white students or students from all other races. These disparities reflect patterns found in data collected by Connecticut prior to the pandemic.

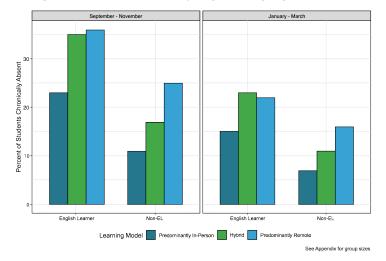
Figure 3. Chronic Absence by Race and Ethnicity



See Appendix for group sizes

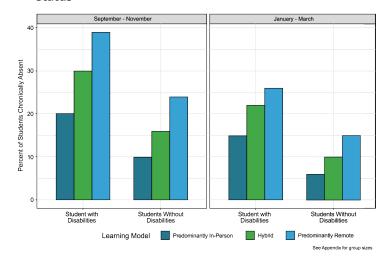
 English learners were significantly more likely to be chronically absent than their English-speaking peers, though differences decreased slightly during the winter.

Figure 4. Chronic Absence by English Language Learner Status



d. Students with disabilities had substantially higher rates of chronic absence than students who did not.

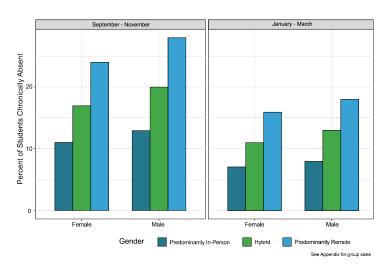
Figure 5. Chronic Absence by Students with Disabilities Status





e. Males were slightly more likely to be chronically absent than their female peers.

Figure 6. Chronic Absence by Gender



Connecticut's monthly reports also found that attendance is worse if a student has multiple high needs (e.g., lived in poverty, had a disability, and spoke a language other than English).

Finding 5: The patterns and grades most affected by absenteeism differed by learning model.

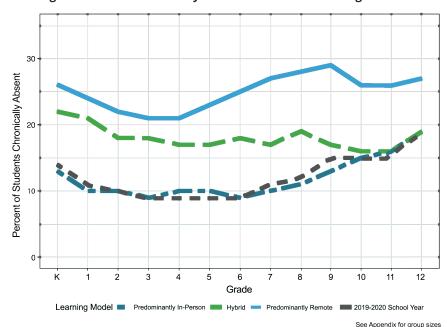
For in-person students, the pattern in chronic absence rates between grade levels displays the same U-shape typically seen prior to the pandemic, with higher rates among kindergarteners relative to fifth graders, and then increasingly higher rates for 6th through 12th graders.

In contrast, for hybrid students, chronic absence rates declined between 8th and 11th grades. For remote students, rates were lowest for 3rd and 4th graders, but successively increased for middle schoolers up until 9th grade. The rate for 10th graders then declined below that of 9th graders. In all, the highest chronic absence rates for inperson students were for 12th graders; for hybrid, kindergarteners, and for remote, 9th graders. (See Figure 7).

Finding 6: Patterns of chronic absence by learning mode and grade were not the same across racial and ethnic groups. For Black/
African American students across all learning modes, rates were highest for in-person 11th graders and lowest for in-person 6th graders. In contrast, for Hispanic/Latino students, rates were highest for 9th grade remote students and lowest for 6th grade in-person students.

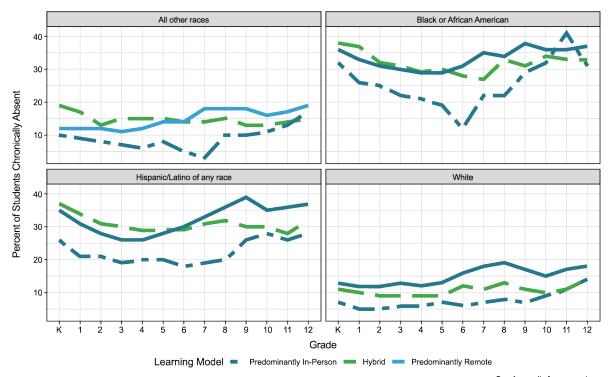
For Hispanic/Latino students, Black/African American students and students of all other races, chronic absence rates for hybrid students were above rates for remote students for each grade level in kindergarten through 5th grade. This pattern then reversed: beyond 6th grade, rates for remote students were above that for hybrid students.

Figure 7. Chronic Absence by Grade Level: Across Learning Models



For white students, chronic absence reached the highest levels for both in-person and hybrid students in 12th grade. White remote learners experienced the highest rates of chronic absence of all three learning modes, with the highest rates among 8th grade remote learners. (See Figure 8).

Figure 8. Chronic Absence by Grade: Racial and Ethnic Group Differences



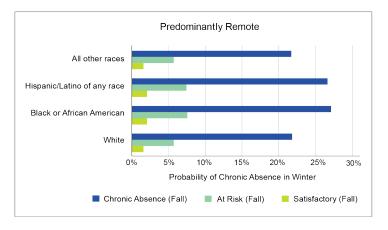
See Appendix for group sizes

Finding 7: Students were predicted to have a higher chance of winter chronic absence if, in the fall, they were chronically absent, compared to peers with satisfactory attendance (i.e., missed less than 5% of total school days).

When examined across learning models, the odds¹⁶ of being chronically absent in the winter were about **17 times higher** for students who were chronically absent in fall compared to those with satisfactory attendance (holding constant other factors including race/ethnicity, gender, English learner status, free and reduced-price lunch status, disability status, learning mode and school level). For in person students, the odds of being chronically absent in winter were **6.5 times higher** for students who were chronically absent in fall versus those with satisfactory attendance. For hybrid students, the odds were **16 times higher**, while for remote students, the odds were **23 times higher**.

Finding 8: Fall chronic absence led to higher predicted rates of winter chronic absence for Black/African American and Hispanic/Latino students. For example, as figure 9 shows, predominantly remote Black/African American and Hispanic/Latino students who were chronically absent in the fall, were even more likely than white students (27% vs. 22%), to be chronically absent in the winter. These patterns were similar for in-person and hybrid students. (See Figure 9).

Figure 9. Probability of Remote Chronic Absence in Winter by Fall Absence Categories: By Race and Ethnicity



As Connecticut continues to plan and implement its Covid-19 recovery efforts, officials will use the findings in this analysis to inform and guide decisions about which student groups need additional outreach and support.



The analysis can also provide insight into how the work can be tailored to reflect the realities experienced by students and families from different backgrounds.

In April 2021, informed by the monthly reports over the past year, Gov. Ned Lamont of Connecticut announced the establishment of the Learner Engagement and Attendance Program (LEAP), serving 15 districts. This analysis can be used in the implementation of LEAP, which seeks to increase home visits, promote participation in summer learning opportunities and create bridges back to school in the fall.

CSDE will leverage its virtual peer learning forums to share findings with all of the school districts in the state, and encourage discussion about the implications of these findings for local practices and allocation of resources. Equally important, CSDE will bring this data to the attention of its sister state agencies so that families of students who have been chronically absent receive physical and behavioral health supports, economic resources and social services if needed. Connecticut's approach recognizes that students missing out on class and dropping out of school is a challenge that affects the entire community, and that solutions require cross-sector collaboration.

V. Lessons for Other States and Localities

This analysis shows the enormous benefit of having access to timely and meaningful attendance data that can be disaggregated by learning mode, grade and student group. This type of data will continue to be essential in the coming year for monitoring which students need support, examining which modes of learning are working for which students, and assessing what is and what is not working. While most students are likely to return to in-person learning settings by the fall, many places across the country may still maintain and offer remote and/or hybrid learning options.

At the same time, it's unclear whether or not the attendance patterns in this analysis exist in other states and localities, especially since most other states did not adopt the same definition of a day of attendance and typically took a less stringent approach to marking attendance.¹

To develop the ability, similar to Connecticut's, to use data as a diagnostic tool, states should consider taking several actions. Ideally, states would adopt new policies and practices during the summer so that districts can abide by them as soon as students are back in class for the 2021-22 school year. We recommend the following steps:

- Require districts to take attendance daily for elementary students and by period for secondary students.
- Establish a consistent definition of a day of attendance across all learning modes. States should consider adopting a half (.5) day as the standard definition, especially because this definition was adopted by the federal government for the annual EDFacts data collection.
- 3. Ensure attendance is collected and reported separately for in-person and remote instruction.
- 4. Collect attendance and absence data for each day of instruction, and if possible, ask districts to submit it on a more frequent basis (e.g., on a monthly basis) to enable statewide analysis before the end of the year.



- 5. Build in state and district capacity to work collaboratively to review and audit data on an ongoing basis to ensure accuracy and consistency.
- 6. Publish publicly reported attendance and chronic absence data on a quarterly, if not monthly, basis.
- 7. Build district capacity to produce meaningful, realtime attendance data reports that reveal patterns by learning modes, grade levels and student groups.

If more frequent collection of data is not possible at a state level or viewed as a matter of local authority, then states can invest in strengthening the capacity of local school districts to collect consistent, high quality attendance data in real-time and regularly release easy-to-understand reports, disaggregated by learning mode and student groups. States can offer districts data templates, guidance and technical assistance to promote effective reporting. They can also convene and share best practices with districts, and the providers of student information systems and learning management systems. Finally, states and districts can leverage federal Covid-19 relief funding to invest in developing more robust realtime data systems and equipping staff with the skills to interpret and act upon the information. Learn more about using federal funding to improve chronic absence data collection in this blog post.

Appendix

Learning Models in CT

In the 2020-21 school year, schools across Connecticut are using one of three learning models (modes): (1) fully in-person, where all students attend school in-person on all days; (2) hybrid, where all students attend school in-person on some but not all days; or (3) fully remote, where all students receive instruction remotely through technology or other means on all days. Since reopening in late-August/early-September, many districts changed their learning modes during the year based either on a planned change (e.g., from hybrid to fully in-person) or on local health conditions (e.g., change to remote for two weeks due to increased positivity rate in the local community). The school reopen plans also allowed parents to opt their students into fully remote learning.

For the analyses presented in this brief, each student was first assigned a learning mode classification based on their membership days from the beginning of October through the end of March.¹⁷ Students were classified as follows: *predominantly in-person*, if greater than 75% of their membership days were in-person, *predominantly remote*, if less than 25% of their membership days were in-person, and *hybrid* otherwise.

Absenteeism Data Collection Schedule

The CSDE established two new data collections for chronic absence data: a weekly collection related to a district's learning mode and a monthly student-level attendance data collection to collect the number of days of membership and attendance for each student each month. The data have been disseminated on the <u>Supporting Student Participation</u> page of the CSDE website.

Defining Attendance

A new concept of "remote attendance" was introduced for the first time in the 2020-21 school year. While the definition of "in attendance" is unchanged (i.e., presence for at least half the school day), CSDE's guidance on how to track attendance on remote days expects districts to consider synchronous and asynchronous approaches to determine whether a student is "in attendance."

Specifically, a remote student can be considered as being "in attendance" on a particular day if the total time spent on one or more of the following activities equals at least half the school day: synchronous virtual classes, synchronous virtual meetings, time logged in electronic systems, and/or assignment submission/completion.

Attendance data were collected since the start of the school year. However, since September is a month of significant change in public education systems and data quality for new collections improves over time, CSDE did not mandate the separate reporting of in-person and remote days until October. To ensure greater consistency in attendance collection and reporting, the CSDE published guidelines and additional clarifications.

Table A1. Sample Sizes for Figures 1 through 6

	Learning Model		
Group	Predominantly In-Person	Hybrid	Predominantly Remote
Total	63555	230529	182840
White	42205	133687	60787
Black or African American	4065	23156	34126
Hispanic/Latino	11861	54134	67912
All Other Races	5424	19552	20015
Male	33236	121752	90051
Female	30311	108714	92734
Elementary	45932	101635	57328
Middle	10663	58218	44924
High School	6960	70676	80588
Free Lunch	14705	71305	88141
Reduced Price Lunch	3215	13495	13435
Special Education	10497	38181	26069
English Learner	3696	17082	19473

Endnotes

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- 16. Chronic absence was modeled using multilevel logistic regression where an indicator for winter chronic absence was regressed on three categories of absences in fall: chronic absence (>10%), at-risk (6-10%) and satisfactory (<5%). Satisfactory served as the reference category. Models controlled for: race/ethnicity, gender, English language learner (ELL) status, free and reduced-price meal (FRPM) status, disability status, learning model and school level.
- 17. While a student's learning model classification was based on their percentage of in-person days from October through March, attendance rates were calculated from the start of the school year. Since this study compared fall (i.e., September 2020 to November 2020) attendance rates with winter (i.e., January 2021 to March 2021) attendance rates, students who enrolled after November 30 were excluded from the analysis.





Attendance Works

(www.attendanceworks.org) is a national initiative dedicated to advancing student success and helping to close equity gaps by improving attendance policy, practice and research. Its website offers a rich array of free materials, tools, research and success stories to help schools and communities work together to reduce chronic absence.

The <u>Connecticut State Department of Education</u>, through leadership, curriculum, research, planning, evaluation, assessment, data analyses and other assistance, works to ensure equal opportunity and excellence in education for all students.