

Exploring Implementation of Attendance Supports to Reduce Chronic Absenteeism in the Providence Public School District

A Publication of the National Center for Education Evaluation and Regional Assistance at IES



Exploring Implementation of Attendance Supports to Reduce Chronic Absenteeism in the Providence Public School District

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September 2021

In recent years Rhode Island’s Providence Public School District (PPSD) has put initiatives in place to reduce high chronic absenteeism. This study explored attendance supports aimed at reducing chronic absenteeism that PPSD schools implemented in the 2018/19 school year. Although some schools had attendance supports in place before 2018/19, in 2018 the district added new requirements for schools to address chronic absenteeism. The study investigated what attendance supports were most commonly implemented with fidelity in 2018/19 by schools in which chronic absenteeism decreased between 2017/18 and 2018/19. Schools in which chronic absenteeism decreased implemented text messaging, phone calls, and mentorship programs with fidelity more frequently than schools in which chronic absenteeism increased. The study also looked more closely at one support in particular—text messaging to parents and guardians of students—to examine how implementation varied across schools. Some schools used a targeted approach for contacting parents and guardians of students who might be at risk for chronic absenteeism, translating content to reach parents and guardians in their preferred language; this could create opportunities to reach parents and guardians in ways that other attendance supports do not. Descriptive analyses showed that during the 2018/19 school year the use of attendance-related text messaging increased more quickly in schools in which chronic absenteeism decreased between 2017/18 and 2018/19 than in schools in which chronic absenteeism increased, where the use of attendance-related text messaging remained flat.

Why this study?

Rising chronic absenteeism rates are putting students in Rhode Island’s Providence Public School District (PPSD) at academic risk. Chronically absent students miss at least 10 percent of instruction days during the school year, including excused and unexcused absences and out-of-school suspensions (see box 1 for definitions of key terms; Providence Public School District, 2018). High absenteeism rates are associated with lower student academic achievement and higher dropout rates (Gottfried, 2014; Neild et al., 2007). Although PPSD has worked to combat these negative outcomes by implementing multiple chronic absenteeism initiatives, the chronic absenteeism rate has remained above 30 percent in the past few years. The districtwide chronic absenteeism rate increased from 33 percent in 2015/16 to 38 percent in 2016/17 (Cigna, 2017). In addition, more than half of students enrolled in PPSD schools for all school years between 2012/13 and 2016/17 were chronically absent in at least one of those school years (Cigna, 2017). Consistent with national trends, PPSD also experiences higher chronic absenteeism rates in upper secondary grades than in elementary grades (Attendance Works, 2016; Balfanz & Byrnes, 2012; Gottfried, 2017; for more background on chronic absenteeism trends, see the literature review in appendix A; for more information on chronic absenteeism trends in PPSD across grade levels, see table C3 in appendix C).¹

For additional information, including background on the study, technical methods, and supporting analyses, access the report appendixes at <https://go.usa.gov/xFzZw>.

1. In this report grades K–5 are considered elementary grades, and grades 6–12 are considered secondary grades. In the 2017/18 school year the average chronic absenteeism rate was about 13 percentage points higher in secondary schools than in elementary schools (see figure B1 in appendix B).

Box 1. Key terms

Attendance supports

Attendance team. Defined by Providence Public School District (PPSD) as a group, often comprising several school staff and the school principal, that meets to analyze and understand attendance data. Attendance teams monitor trends in the student population, identify students who are chronically absent, and address their needs.

Leveraged partnerships. Defined by PPSD as partnerships in which schools can collaborate strategically with community organizations to support student attendance. Examples include PPSD school partnerships with City Year, Inspiring Minds, Turn Around Arts, and Providence After School.

Mentorship program. A program in which caring adults take an interest in the needs of a student at risk for continued chronic absenteeism.

Nudge letters. Letters, mailed home to families, that contain information about student absences. PPSD's Student Attendance Policy states that once a student has five unexcused school absences, the school must notify parents and guardians in writing and by phone.

Parent engagement specialists. PPSD employees who are assigned to schools to build administrator and educator capacity in developing strong relationships with parents and guardians. Parent engagement specialists are assigned to specific schools for one year. The focal content areas of their work can vary, but chronic absenteeism is a priority for many schools.

Phone calls. Phone calls about student absences that are made to parents by an automated "robo-call" system and by personal outreach from school staff. Schools are encouraged to establish consistent processes for maintaining parent and guardian contact information and for following up on absences. PPSD's Student Attendance Policy states that once a student has five unexcused school absences, the school must notify parents and guardians in writing and by phone.

Text messaging. An engagement tool for schools that includes a messaging option to connect school administrators or educators with parents. The platform provides parents and guardians the option to have texts translated to and from one of more than 80 languages. Text messages sent to parents and guardians are translated into the requested language, and parents' and guardians' replies to the school are translated from the requested language.

Text-messaging measures

Attendance-related text messages per month per student. The number of attendance-related text messages sent each month divided by the number of students enrolled in the school. The average number of attendance-related text messages per month per student from September 2018 to May 2019 was used to sort schools into three groups: low-, moderate-, and high-use schools. Low-use schools sent 0–0.01 attendance-related text message per month per student, moderate-use schools sent 0.01–0.17, and high-use schools sent 0.19–6.14.

Overall text messages sent per month per student. The number of all types of text messages (attendance related and non-attendance related) sent to parents and guardians each month divided by the number of students enrolled in the school. The average number of overall text messages per month per student from September 2018 to May 2019 was used to sort schools into three groups: low-, moderate-, and high-use schools. Low-use schools sent an average of 1.3 text messages per month per student, moderate-use schools sent an average of 2.8, and high-use schools sent an average of 6.7.

Attendance-related text-messaging events. The number of instances in which a school staff member engaged parents and guardians on an attendance-related issue via the text-messaging platform. Texts that were targeted to one parent or guardian and texts that were distributed to all parents and guardians with a student flagged as chronically absent were both counted as a single text-messaging event.

Targeted text messages. Text messages sent to parents or guardians of individual students or specific subgroups of students. For example, a text message could be sent only to grade 10 students or only to students who have missed more than 10 days of school. Targeted text messages can be either attendance related or non-attendance related.

Blast text messages. Text messages sent to parents and guardians of all students in a school’s population. Because parents and guardians can opt out of text messages, text messages sent to more than 80 percent of the school population were flagged as blasts. Blast text messages can be either attendance related or non–attendance related.

Other terms

Chronic absenteeism. Missing at least 10 percent of instruction days during the school year, including excused and unexcused absences and out-of-school suspensions. For this study’s purposes, school chronic absenteeism rates were sorted into three categories—low, medium, and high—based on the percentage of the student population that was chronically absent. Schools with low rates were those in which less than 30 percent of students were chronically absent, schools with medium rates were those in which 30–40 percent of students were chronically absent, and schools with high rates were those in which more than 40 percent of students were chronically absent. These criteria were developed based on examination of the data and in consultation with PPSD.

Elementary schools. In Rhode Island, schools that serve students in kindergarten–grade 5.

Fidelity of implementation. A measure of the extent to which the attendance support was carried out according to district-level criteria. PPSD conducted interviews with administrators in all the district’s schools about the attendance supports they implemented. PPSD categorized schools’ use of each type of attendance support into three levels of fidelity (low, moderate, and high) based on criteria that described how the use of each attendance support looked at each level. For example, for leveraged partnerships, schools received a low rating if they reported having no external partners leveraged for attendance purposes; a moderate rating if they reported existing partnerships, but the strategy and purpose of the partnerships was not clear to all members of the school community; and a high rating if their partnerships were integrated with school strategy, well known by staff, and involved partners in attendance teams and decisionmaking. Additional information on the fidelity of implementation criteria for each type of attendance support is in appendix B.

Multilingual learner students. Defined by PPSD as students who are eligible to receive English learner services in schools.

Secondary schools. In Rhode Island, schools that serve students in grades 6–12. This category includes both middle and high schools.

Note: Definitions for the school attendance supports were drawn from guidance in the PPSD Student Attendance Policy (Providence Public School District, 2018) and from the study team’s personal communication with PPSD (2020).

Chronic absenteeism is a complex issue that is correlated with many factors beyond grade level. Research has shown that these factors—for example, the unequal distribution of school and community resources—are often systemic (Nauer et al., 2014). As such, reducing chronic absenteeism requires a comprehensive strategy that targets these systematic factors (Balfanz et al., 2016). Many states, including Rhode Island, view better data collection systems as a starting point for developing effective strategies to reduce chronic absenteeism and recognize the need to include chronic absenteeism indicators in their Every Student Succeeds Act (ESSA) plans. Rhode Island’s ESSA plan requires each school district to set and work to achieve annual goals for reducing chronic absenteeism.

To comply with the state’s ESSA plan, PPSD amended its Student Attendance Policy in 2018 to require schools to track and address chronic absenteeism. PPSD requires schools to establish a process and to designate staff who identify and track excessive absenteeism, early dismissals, and tardiness; contact students with attendance problems and their parents and guardians; create appropriate attendance supports to address excessive absences; and set annual attendance goals through the school improvement planning process.

PPSD encourages schools to use a variety of attendance supports to address chronic absenteeism. These include schoolwide supports such as attendance teams, leveraged partnerships, and parent engagement specialists, along with targeted supports such as attendance letters, phone calls, and student mentorship programs. Prior research suggests that targeted attendance supports such as sending attendance letters and strengthening relationships between schools and families can reduce chronic absenteeism (Epstein & Sheldon, 2002; Rogers & Feller, 2018). Attendance teams that use data to inform delivery of supports can be effective particularly when they include staff members who regularly interact with parents and guardians (Durham & Connolly, 2017). Student mentorship programs and community partnerships increase the number of trained adults who can connect with individual students to target their

specific attendance-related needs (Balfanz & Brynes, 2013; Maynard et al., 2014). Parent engagement has been shown to be a crucial factor in student attendance, and strategies that increase communication between parents and school staff have also reduced chronic absenteeism rates (Epstein & Sheldon, 2002; Robinson et al., 2018). PPSD hopes to better understand how often each support is being deployed with fidelity in order to update its Student Attendance Policy and to offer schools further guidance on how to provide supports to reduce chronic absenteeism.

PPSD implemented a specific, evidence-based approach to parent engagement—text messages about child attendance—in all district schools in 2018/19 (Heppen et al., 2020; Smythe-Leistico & Page, 2018).² The text-messaging platform allows school administrators and other staff members to send and receive messages to and from parents and guardians about their child’s attendance or other school-related matters. Messages can be sent to the parents and guardians of the entire school population, of specific groups of students, or of individual students. The platform also provides school and district officials access to timely attendance, absence, and truancy data as records are updated. To date, PPSD does not know how schools with different characteristics use text messaging and for what purposes. Given the amount of data recorded by the text-messaging system, including the number and topics of text messages sent, this study provided an opportunity to explore how schools deployed this attendance support.

The study findings will provide PPSD a better understanding of the supports that schools are using with fidelity, and PPSD plans to use the results to inform revisions to its Student Attendance Policy. The findings will also provide insight on the attendance supports most commonly deployed by schools in which chronic absenteeism decreased in order to guide other PPSD schools in selecting supports to reduce chronic absenteeism. Further, PPSD’s Office of Research, Planning and Accountability will review the findings and develop new recommendations for how schools can use existing resources efficiently to reduce chronic absenteeism.

This study also has national relevance given that more than 16 percent of students across the United States were chronically absent in the 2015/16 school year (U.S. Department of Education, 2016). Although many districts and schools across the country use a variety of supports to address chronic absenteeism, there is limited research on the types of supports being implemented, the fidelity of implementation for those supports, and the types of schools that implement each type of support. This study adds to the research base on schools’ use of attendance supports.

Research questions

This study addressed two main research questions, each with two subquestions that explored relationships of interest (see box 2 for an overview of data sources, sample, and methods).

1. What attendance supports did PPSD schools implement with fidelity during the 2018/19 school year?
 - 1a. Are there differences in the use of attendance supports between schools with higher chronic absenteeism rates and schools with lower chronic absenteeism rates?
 - 1b. Are there differences in the use of attendance supports between schools in which chronic absenteeism decreased between the 2017/18 and 2018/19 school years and schools in which chronic absenteeism increased?
2. Which types of PPSD schools were most likely to be frequent users of text messaging as an attendance support?
 - 2a. In what ways did schools use attendance-related text messaging to communicate with parents and guardians of individual students or groups of students versus all students in the school?
 - 2b. Are there differences in the use of attendance-related text messaging between schools in which chronic absenteeism decreased between the 2017/18 and 2018/19 school years and schools in which chronic absenteeism increased?

2. Seven schools (three elementary schools and four secondary schools) were involved in a three-month trial of the platform before districtwide implementation. This study did not analyze text-messaging data from the trial and is thus unable to characterize schools’ use of the system during the trial.

Box 2. Data sources, sample, and methods

Data sources. The study used four types of data, all provided by the Providence Public School District (PPSD; see table B1 in appendix B for a list of all variables):

- *Student absenteeism.* Monthly and annual school-level chronic absenteeism rates for the 2016/17, 2017/18, and 2018/19 school years.
- *School-level demographics.* For each school, the percentages of students by race/ethnicity, eligibility for the National School Lunch Program (a proxy for socioeconomic status), Individualized Education Program status, and multilingual learner status for the 2017/18 and 2018/19 school years. Schools were sorted into two grade span categories: elementary (grades K–5) and secondary (grades 6–12).
- *School-level implementation of attendance supports.* School-based attendance support data for the 2018/19 school year, collected and coded by PPSD to capture schools’ reported use of attendance teams, leveraged partnerships, parent engagement specialists, nudge letters, automated phone calls to parents and guardians, mentorship programs, and text messaging.
- *School-level text-messaging measures.* A raw data file of text messages sent by schools to parents and guardians through the text-messaging platform for the 2018/19 school year.

Sample. The sample included 39 PPSD schools: 22 elementary schools and 17 secondary schools (7 middle schools and 10 high schools). The analytic sample is smaller than the population of PPSD schools because four schools that district leaders identified as special case or charter schools were excluded. Across all the schools in the study, an average of 65 percent of students were Hispanic, 16 percent were Black, 9 percent were White, 84 percent were eligible for the National School Lunch Program, 15 percent had an Individualized Education Program, and 31 percent were multilingual learner students (see table B2 in appendix B for full demographic characteristics by school grade level).

Seven of the schools in the analytic sample participated in a three-month trial of the text-messaging program. Trial schools were chosen based on the expectation that they were willing to deploy the text-messaging system and provide feedback to the district. Descriptive analyses show that trial schools used the messaging system for both attendance-related and non-attendance-related text messages during the study period (see appendix C for analysis details). Sensitivity analyses revealed a consistent pattern of results regardless of whether trial schools were included in or excluded from the analytic sample (see tables C1 and C2 and figures C2–C4 in appendix C).

Methodology. To illustrate patterns of chronic absenteeism in PPSD schools based on the analytic sample, the study team conducted descriptive analyses, including calculating frequencies and percentages for use of each type of attendance support with moderate or high fidelity and average chronic absenteeism rate. The team compared attendance support use between schools with higher chronic absenteeism rates and those with low rates and between schools in which chronic absenteeism rates decreased between 2017/18 and 2018/19 and those in which it increased.

The study team also examined schools’ text-messaging data to create four measures to evaluate use of text messaging as an attendance support: the number of attendance-related text messages per month per student, the number of text messages per month per student (overall measure of texting use), the proportion of attendance-related text messages that were targeted to individual students or subgroups of students, and the number of attendance-related text messages sent in a language other than English (for additional details on these measures, see appendix B). These measures did not adjust for school chronic absenteeism rate (see the Limitations section below). Descriptive statistics on use of text messaging are included in appendix C. Chronic absenteeism rates from the 2017/18 and 2018/19 school years were compared to evaluate whether chronic absenteeism increased or decreased in each school. Text messaging is intended to complement other attendance supports that schools are implementing and is used for family-engagement purposes beyond attendance. Only 8 percent of text messages sent during the 2018/19 school year were attendance related. Sensitivity analyses found that findings related to text messaging were generally consistent between overall and attendance-related text messages.

Limitations. A primary limitation of this study is that the documented patterns and relationships are descriptive, which means that one cannot assume that a school’s use of certain supports or level of text-messaging use caused changes in that school’s chronic absenteeism rates. Further, the descriptive measures used to characterize schools’ use of text messaging did not adjust for school chronic absenteeism rate or other school characteristics. The relationship between chronic absenteeism and text messaging is not assumed to be one directional—that is, a school’s absenteeism rate could influence how much it uses texting, or how much a

school uses texting could influence its absenteeism rate—and could be influenced by a variety of factors. Therefore, the findings should not be interpreted to mean that text-messaging use directly affects chronic absenteeism rates. The findings are intended only to illustrate how PPSD schools engage with the text-messaging system and how patterns of use warrant further investigation. This study is a first step in exploring the complex relationship between use of attendance supports and chronic absenteeism. Another limitation is that the measures representing schools’ use of each attendance support are based primarily on self-report data by school administrators. Finally, the district experienced a bus strike and teacher contract negotiations at the beginning of the 2018/19 school year that resulted in a higher than average chronic absenteeism rate at the beginning of that school year.

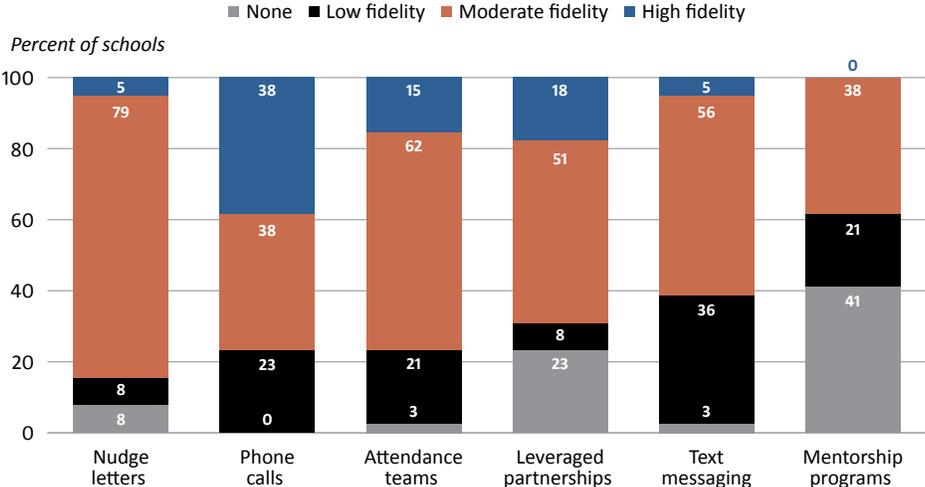
Findings

This section summarizes the findings on PPSD schools’ use of attendance supports with moderate or high fidelity.³ Implementation of attendance supports was sorted into three levels of fidelity (low, moderate, and high) based on criteria that described how the use of each attendance support looked at each level.⁴ Additional findings on attendance support implementation, including comparisons by school grade level (table C3) are in appendix C.

Schools most frequently used nudge letters, phone calls, and attendance teams with moderate or high fidelity of implementation

About 85 percent of schools in the analytic sample used nudge letters with moderate or high fidelity (figure 1). Phone calls and attendance teams were also frequently used with moderate or high fidelity (by 77 percent of schools). These findings are in line with PPSD’s Student Attendance Policy requirement that schools use nudge

Figure 1. The percentage of schools implementing attendance supports with moderate or high fidelity was highest for nudge letters, phone calls, and attendance teams and lowest for mentorship programs, 2018/19



Note: n = 39 schools. Parent engagement specialists do not appear in the figure because fidelity was assumed to be high. The criteria for fidelity of implementation for each attendance support were created and coded by the Providence Public School District. The criteria consisted of a set of characteristics that defined how the use of each attendance support looked at each level. Percentages might not sum to 100 because of rounding.

Source: Authors’ analysis of attendance support data from the Providence Public School District, 2018/19.

3. Because the reasons for low fidelity of implementation on any single attendance support might be attributable to reasons within or outside a school’s control, PPSD was interested in the types of supports most commonly implemented with moderate or high fidelity.
 4. The criteria for fidelity of implementation for each attendance support were created and coded by PPSD. The criteria consisted of a set of characteristics that defined how the use of each attendance support looked at each level. Examining schools that reported moderate or high fidelity of implementation provided more variation than looking at a binary score of whether each attendance support was implemented (see figure B2 and related discussion in appendix B).

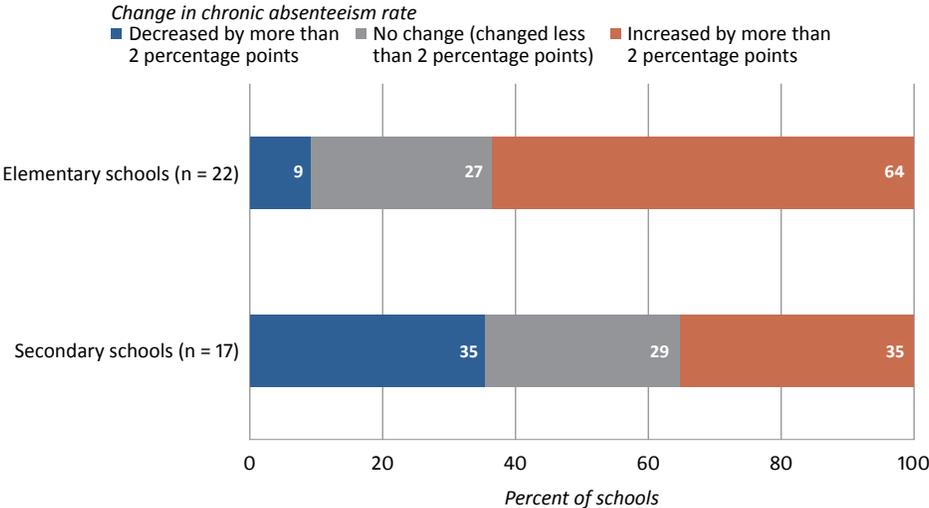
letters, phone calls, or both to communicate student absences to parents and guardians (Providence Public School District, 2018). More than 60 percent of schools used the district’s text-messaging platform as an attendance support with moderate or high fidelity. Mentorship programs were less frequently implemented with moderate or high fidelity (38 percent). Only 15 percent of schools were assigned a parent engagement specialist during the 2018/19 school year due to resource limitations. For the purpose of analysis, schools were assumed to have high fidelity of implementation for the parent engagement specialist if one was assigned.

Schools in which chronic absenteeism decreased between 2017/18 and 2018/19 implemented phone calls, mentorship programs, and text messaging more frequently than schools in which chronic absenteeism increased

Chronic absenteeism rates decreased by more than 2 percentage points between the 2017/18 and 2018/19 school years in 8 (21 percent) of the 39 schools in the analytic sample (see table C5 in appendix C). Six secondary schools (35 percent of secondary schools) experienced a decrease of more than 2 percentage points in chronic absenteeism rates compared with two elementary schools (9 percent of elementary schools; figure 2). None of the eight schools in which chronic absenteeism decreased by more than 2 percentage points had participated in the text-messaging trial.

Chronic absenteeism rates increased by more than 2 percentage points between the 2017/18 and 2018/19 school years in 20 (51 percent) of the 39 schools in the analytic sample (see table C6 in appendix C). A greater proportion of elementary schools (64 percent) than of secondary schools (35 percent) experienced an increase of more than 2 percentage points in chronic absenteeism rates (see figure 2). Of the 20 schools in which chronic absenteeism increased, 5 had participated in the text-messaging trial (see tables C5 and C6 in appendix C for detailed information on the attendance supports implemented by schools in which chronic absenteeism decreased and schools in which it increased).⁵

Figure 2. The chronic absenteeism rate increased by more than 2 percentage points between 2017/18 and 2018/19 in nearly two-thirds of elementary schools and over one-third of secondary schools



Note: Percentages might not sum to 100 because of rounding.

Source: Authors’ analysis of attendance support data from the Providence Public School District, 2017/18 and 2018/19.

5. Elementary schools might have seen smaller decreases in chronic absenteeism because of bus strikes and teacher union negotiations at the beginning of the 2018/19 school year. These events might have had a lingering effect on the chronic absenteeism rates of elementary school students (study team communication with PPSD, 2020).

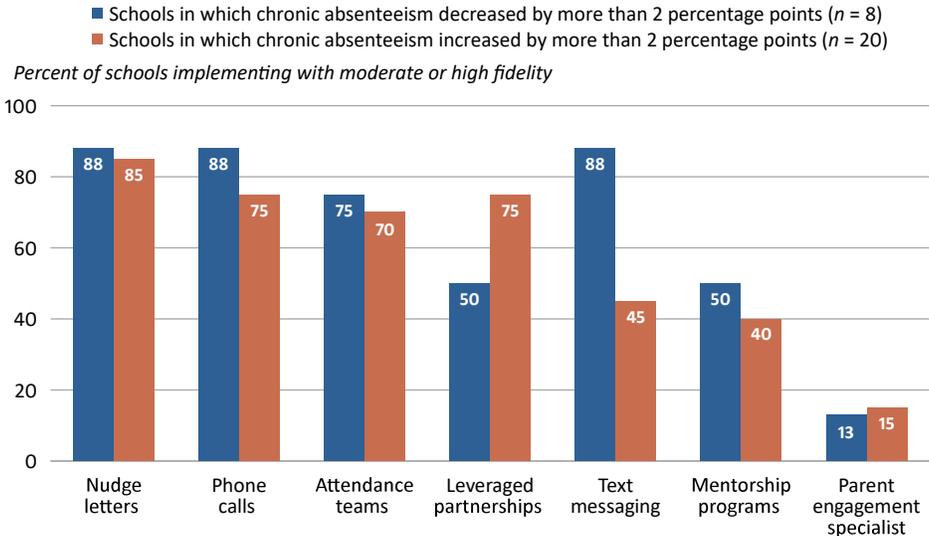
The year-to-year change in chronic absenteeism rates in schools that implemented two or more supports was negligible, though rates increased by an average of 5 percentage points in two schools that implemented only one support (see table C7 in appendix C). However, some supports were more prevalent among schools in which chronic absenteeism decreased than among schools in which it increased. Schools in which chronic absenteeism decreased used phone calls, mentorship programs, and text messaging with moderate or high fidelity especially more frequently than schools in which chronic absenteeism increased; all differences were greater than 5 percentage points. Schools in which chronic absenteeism decreased between 2017/18 and 2018/19 might be using text messaging differently than schools in which chronic absenteeism increased. About 88 percent of schools in which chronic absenteeism decreased implemented text messaging with moderate or high fidelity compared with 45 percent of schools in which chronic absenteeism increased (figure 3). It is worthwhile to examine the details of how schools might be tailoring implementation of attendance supports to their chronic absenteeism rates, school characteristics, and the needs of students and their parents and guardians.

Nearly all schools used text messaging, but schools with higher chronic absenteeism rates and secondary schools, especially secondary schools with higher proportions of multilingual learner students, used text messaging for attendance-related purposes more than other schools

The findings in this section consider a specific support—text messaging—to investigate how implementation varied across schools. The text-messaging data provide a useful opportunity for further investigation because they are measures derived from aggregating the raw text messages sent by school staff rather than subjective reports of implementation by school administrators and staff and because nearly all schools used the text-messaging platform. In general, schools with higher chronic absenteeism send more attendance-related text messages. This serves as one indication that many schools are using the system as intended with respect to student absenteeism.

About 97 percent of schools reported using the text-messaging system, but only 62 percent of schools used the system with moderate or high fidelity (see figure B2 in appendix B). Six of the seven trial schools were in the moderate- or high-fidelity category, suggesting that the district’s expectation of these schools to engage with the system and provide feedback carried over to their implementation during districtwide use.

Figure 3. Schools in which chronic absenteeism decreased between 2017/18 and 2018/19 implemented text messaging with moderate or high fidelity more often than schools in which chronic absenteeism increased



Note: Data on implementation of attendance supports are for the 2018/19 school year.

Source: Authors’ analysis of attendance support and school absenteeism data from the Providence Public School District, 2017/18 and 2018/19.

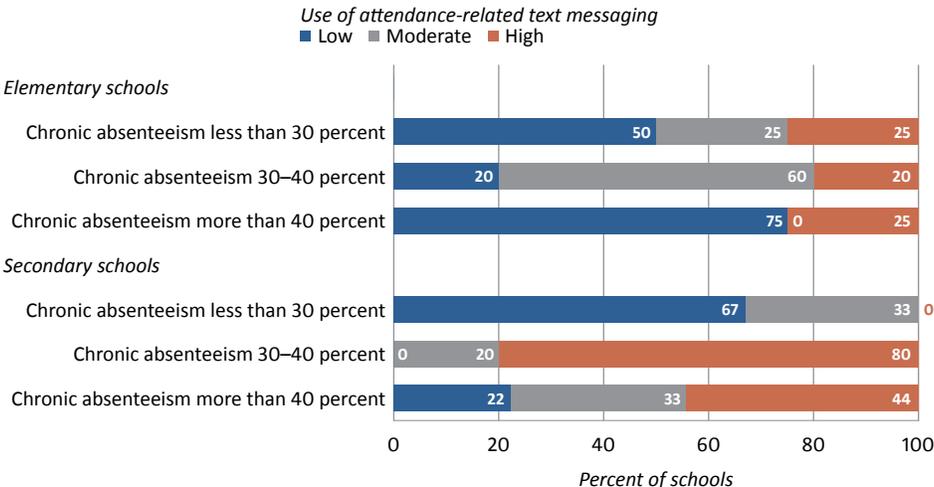
Schools with higher chronic absenteeism rates were more likely to have used the text-messaging platform with moderate or high fidelity. About 77 percent of schools with chronic absenteeism rates above 40 percent used the text-messaging platform with moderate or high fidelity compared with 33 percent of schools with chronic absenteeism rates below 30 percent (see table C9 in appendix C). The proportion of secondary schools that used the text-messaging platform with moderate or high fidelity (88 percent) was more than twice the proportion of elementary schools that did (41 percent; see table C4 in appendix C).

Secondary schools with chronic absenteeism rates of 30 percent or higher had the highest rates of attendance-related text messaging. About 80 percent of secondary schools with chronic absenteeism rates of 30–40 percent were in the high-use attendance-related text-messaging group (figure 4). About 44 percent of secondary schools with chronic absenteeism of above 40 percent were in the high-use attendance-related text-messaging group. In contrast, few elementary schools with higher chronic absenteeism rates were in the high-use attendance-related text-messaging group. Even elementary schools that had chronic absenteeism rates of 30 percent or higher fell disproportionately into the low- and moderate-use attendance-related text-messaging groups, suggesting that use of attendance-related text messaging was better predicted by grade configuration than by chronic absenteeism rates (see tables C8 and C9 in appendix C). It is not surprising that schools with higher chronic absenteeism sent more attendance-related text messages; this is an indicator that the system was being used as intended.

Secondary schools used text messaging for attendance-related communications more frequently than elementary schools. Secondary schools with chronic absenteeism rates of 30 percent or higher sent an average of at least one attendance-related text message per month per student (figure 5; see also table C10 in appendix C). Elementary schools with chronic absenteeism rates of 30 percent or higher averaged fewer than 0.1 attendance-related text message per month per student. Elementary and secondary schools with chronic absenteeism rates of less than 30 percent sent very few attendance-related text messages (fewer than 0.1 per month per student).

Secondary schools with higher proportions of multilingual learner students were more likely to be in the high-use attendance-related text-messaging group. About 33 percent of students in secondary schools with high use of attendance-related text messaging were multilingual learner students compared with 18 percent of students in

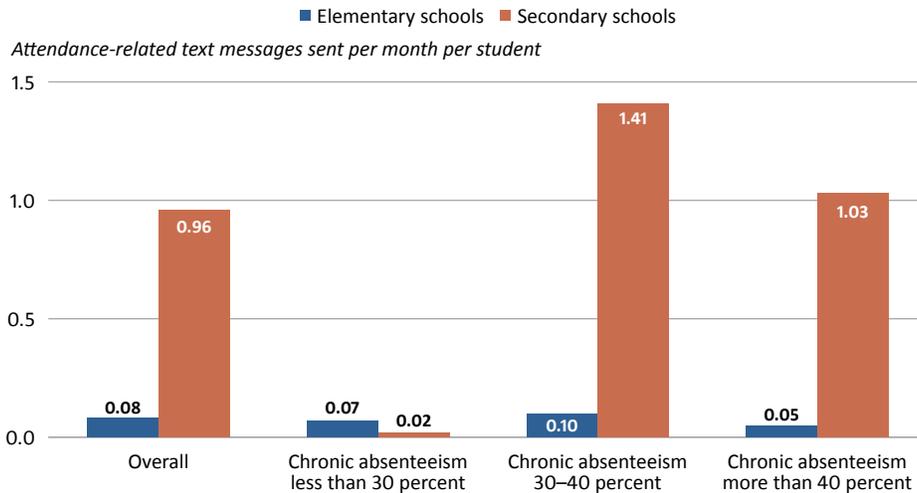
Figure 4. The majority of schools with high use of attendance-related text messaging were secondary schools with chronic absenteeism rates of 30 percent or higher, 2018/19



Note: Low-use schools sent 0–0.01 attendance-related text message per month per student, moderate-use schools sent 0.01–0.17, and high-use schools sent 0.19–6.14. Percentages might not sum to 100 because of rounding.

Source: Authors’ analysis of attendance-related text-messaging and school absenteeism data from the Providence Public School District, 2018/19.

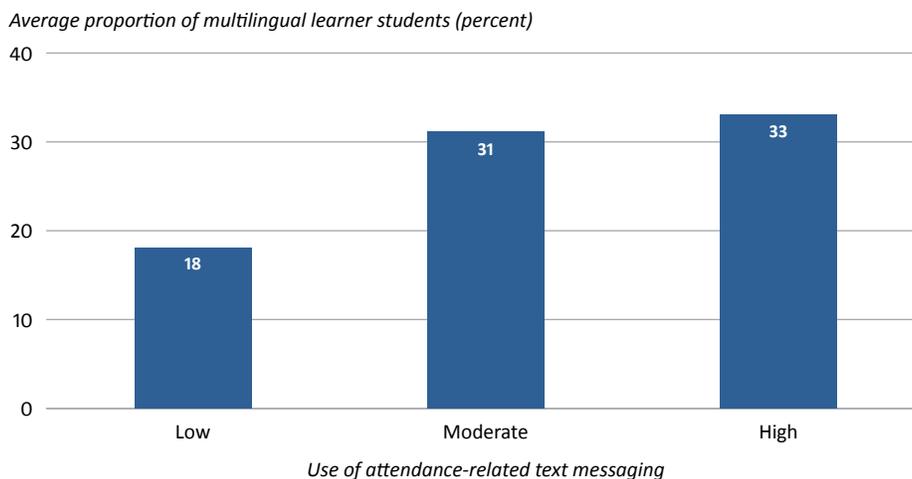
Figure 5. In general, secondary schools sent more attendance-related text messages per month than elementary schools, 2018/19



Source: Authors’ analysis of text-messaging and school absenteeism data from the Providence Public School District, 2018/19.

secondary schools with low use of attendance-related text messaging (figure 6). Chronic absenteeism was not associated with the proportion of multilingual learner students in a school. These results suggest that secondary schools with high percentages of multilingual learner students might see text messaging, which allows messages to be translated to and from parents’ and guardians’ preferred language, as an especially valuable communication option. The translation feature allows for communication in languages other than English and might make the text-messaging platform an efficient tool for communicating with parents and guardians that speak languages other than English in the home.

Figure 6. Secondary schools with higher proportions of multilingual learner students were more likely to have high use of attendance-related text messaging, 2018/19



Note: Low-use schools sent 0–0.01 attendance-related text message per month per student, moderate-use schools sent 0.01–0.17, and high-use schools sent 0.19–6.14. Results were the same when all messaging, not just attendance-related text messaging, was considered. See appendix C for details.

Source: Authors’ analysis of text-messaging and school absenteeism data from the Providence Public School District, 2018/19.

Schools used a targeted approach to texting with parents and guardians about students' absenteeism

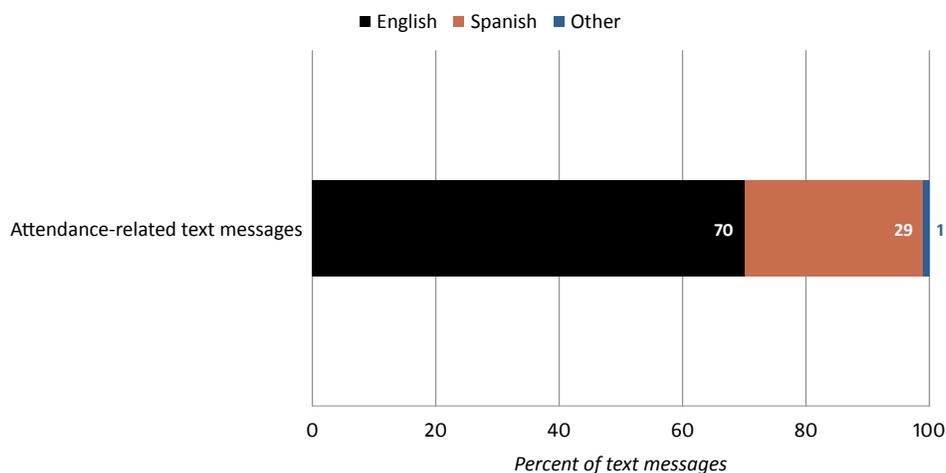
Nearly all (99.5 percent) attendance-related text-messaging events were targeted to the parents and guardians of specific students. Text messages could be distributed to recipient groups of any size, including to the parents and guardians of the whole school population, of a group of students, or of an individual student. Only 0.5 percent of attendance-related text-messaging events were sent as blast messages (see table C12 in appendix C).

Targeted text messages did not necessarily go to the parents or guardians of a single student but might have been sent to a small subset of parents and guardians—for example, the parents and guardians of students who had been absent more than five times. The average targeted attendance-related text-messaging event was sent to 2.8 percent of a school population's parents and guardians, equivalent to the parents and guardians of 14 students in a school of 500 students (see table C12 in appendix C). A typical attendance-related text message might have read "You are receiving this message because your child has been absent 10 or more days this school year" or "We are reaching out to let you know that your child was not present in their first period class."

Nearly a third of attendance-related text messages that schools sent were in a language other than English; the vast majority were in Spanish. About 29 percent of attendance-related text messages were sent in Spanish, and 1 percent were sent in another language other than English (figure 7). Other languages included Arabic, Haitian Creole, and Kiswahili (each accounting for about 0.25 percent of text messages).

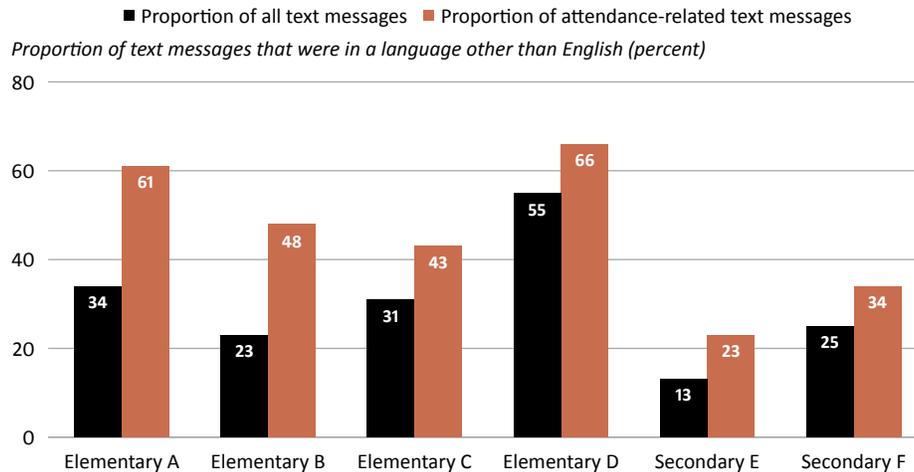
Although elementary schools sent fewer text messages than secondary schools, some used the text-messaging platform to target attendance-related text messages to parents and guardians who spoke languages other than English. Elementary schools were less common among the high-use text-messaging group, accounting for only 5 of 13 schools that sent higher numbers of attendance-related text messages per student per month (see table C11 in appendix C). However, analyses of how schools used the text-messaging platform's translation feature suggest that, for some elementary schools the platform might be an important tool for communicating about attendance with parents and guardians who do not speak English. Six schools—five of them elementary schools—sent a disproportionate fraction of their attendance-related text messages, as opposed to their overall text messages, in a language other than English (figure 8; see also table C13). Other factors fail to clearly explain this pattern; the five elementary schools had neither the highest proportions of multilingual learner students nor the highest chronic absenteeism rates, though chronic absenteeism might have been most prevalent among the schools' multilingual

Figure 7. Nearly a third of attendance-related text messages sent through the text-messaging platform were in a language other than English; the vast majority of these were in Spanish, 2018/19



Source: Authors' analysis of text-messaging data from the Providence Public School District, 2018/19.

Figure 8. Five of the six schools that used the text-messaging platform to target attendance-related text messages to parents and guardians who spoke a language other than English were elementary schools, 2018/19



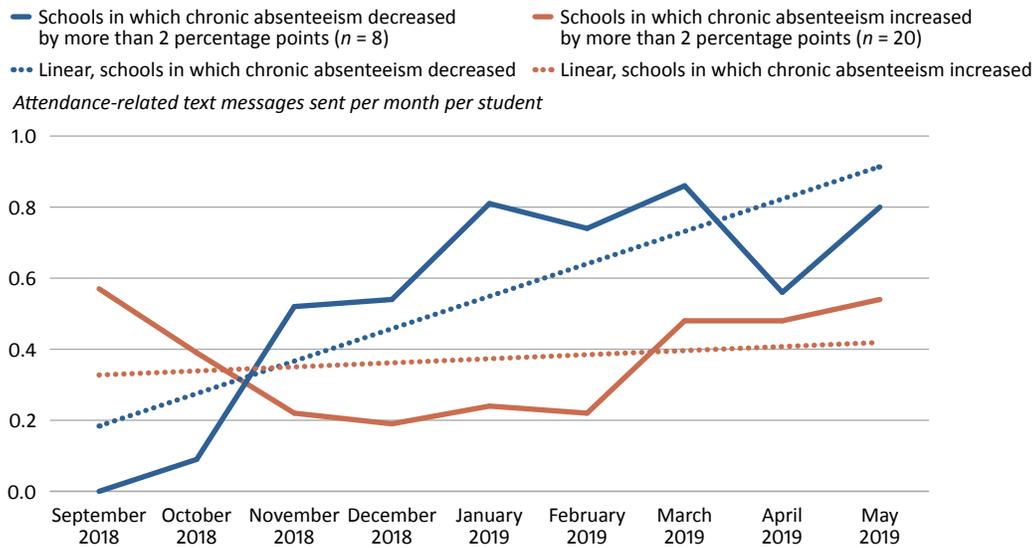
Source: Authors' analysis of text-messaging data from the Providence Public School District, 2018/19.

learner students. These findings indicate that although most elementary schools were not prolific users of text messaging, some used the text-messaging platform in highly targeted ways. More data are needed to better understand the factors underlying the disproportionate translation of attendance-related text messages in some schools.

During the 2018/19 school year the use of attendance-related text messaging increased more quickly in schools in which chronic absenteeism decreased between 2017/18 and 2018/19 than in schools in which chronic absenteeism increased, where the use of attendance-related text messaging remained flat

The linear trend in the use of attendance-related text messaging showed a faster increase in use in schools in which chronic absenteeism rates decreased by more than 2 percentage points between 2017/18 and 2018/19 than in schools in which chronic absenteeism rates increased by at least 2 percentage points during the same period (figure 9; see also table C14 in appendix C). Schools in which chronic absenteeism decreased sent fewer than 10 attendance-related text message per 100 students in October 2018 but sent 86 such messages per 100 students in March 2019. In contrast, schools in which chronic absenteeism increased sent 39 attendance-related text messages per 100 students in October and only 50 such messages per 100 students in March 2019. The rate of change in attendance-related text messaging was nearly eight times greater in schools in which chronic absenteeism decreased than in schools in which it increased. The higher text-messaging rates in September and October in schools in which chronic absenteeism increased compared with schools in which it decreased might be because trial schools were clustered in this group; the practice they received using the text-messaging platform during the 2016/17 school year allowed them to begin 2017/18 with higher text-messaging rates (see figure C4 in appendix C for trends in non-trial schools). These analyses are not intended to evaluate the effectiveness of individual attendance supports or to advance a causal explanation of the relationship between implementation of these supports and changes in school chronic absenteeism rates. However, descriptive differences between schools in which chronic absenteeism decreased and schools in which it did not might highlight some patterns worthy of further exploration.

Figure 9. During the 2018/19 school year the use of attendance-related text messaging increased more quickly in schools in which chronic absenteeism decreased between 2017/18 and 2018/19 than in schools in which chronic absenteeism increased



Note: See table C14 in appendix C for details.

Source: Authors' analysis of text-messaging data from the Providence Public School District, 2017/18 and 2018/19.

Implications

District and school leaders can use these findings to inform guidance related to the selection and implementation of attendance supports for specific school contexts and student needs.

District and school leaders can explore barriers to high fidelity of implementation of attendance supports and communicate guidance to increase it

In this study nudge letters and phone calls home were consistently adopted with high fidelity. Because these supports can be quicker and easier to administer, they might be more affordable and of “lower lift” to implement than other support options. However, attendance teams—which might require more personnel and resources—were also implemented with moderate or high fidelity, at least among elementary schools. School leaders might consider whether it is strategic or advantageous to invest in higher-lift supports depending on the magnitude of their chronic absenteeism problem and whether schools face financial or resource-related barriers in implementing those supports according to their shared guidelines for fidelity.

A variety of reasons could explain why schools were unable to meet the district’s fidelity of implementation criteria for some supports. There might have been a change in school leadership, a lack of clarity in responsibilities, or a lack of resources to properly staff positions charged with follow-through on certain supports, among other factors. School and district leaders can ensure that schools understand the fidelity criteria and identify the types of challenges schools can address that might improve their multipronged approach to reducing chronic absenteeism. PPSD could incorporate the fidelity of implementation criteria into its Student Attendance Policy to articulate to schools how use of attendance supports should look. In this way PPSD could provide guidance on the elements of implementation that are believed to mitigate student attendance problems.

Further research is needed on which schools use attendance supports to decrease chronic absenteeism and why different supports might be more appropriate for some schools

More information is needed to understand why some types of schools implemented specific attendance supports and other types of schools gravitated toward different interventions. For instance, schools in which chronic absenteeism decreased showed different patterns of attendance support implementation than schools in which chronic absenteeism increased. Further exploration of why these patterns occur could shed light on how some types of supports might be perceived as more or less helpful or easy to implement for schools with certain characteristics that might also relate to their grade level, such as school size or number of school administrators on staff. This inquiry might also uncover novel use cases for supports not presently implemented in some types of schools and illuminate the guidance required to facilitate expanded or more intentional use of specific supports. For example, secondary schools with high chronic absenteeism might have lessons about their use of text messaging that could help elementary schools use that tool more effectively.

How families understand and use attendance supports could also be examined. Research indicates that chronic absenteeism in the elementary grades can be reduced by targeting parents' beliefs about attendance (Robinson et al., 2018); text messaging could prove a valuable tool for achieving this. Further, the current study's findings indicate that some schools use text messaging to reach parents and guardians who speak a variety of languages. Future work could demonstrate the value of text messaging for reaching families and the influence those messages have on parents' and guardians' beliefs about attendance. As previously indicated, chronic absenteeism is influenced by several systemic factors. For example, text messaging might increase families' awareness about attendance, but they still might need other supports to address attendance challenges such as transportation or access to health care. For that reason, it is critical to investigate the perceptions of these supports as valuable interventions by parents and guardians.

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REL 2021–099

September 2021

This report was prepared for the Institute of Education Sciences (IES) under Contract ED-IES-17-C-0008 by the Regional Educational Laboratory Northeast & Islands administered by Education Development Center. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

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Lavigne, H., Caven, M., Bock, G., Zhang, X., & Braham, E. (2021). *Exploring implementation of attendance supports to reduce chronic absenteeism in the Providence Public School District* (REL 2021–099). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands. <http://ies.ed.gov/ncee/edlabs>.

This report is available on the Regional Educational Laboratory website at <http://ies.ed.gov/ncee/edlabs>.