



The Link Between School Attendance and Good Health

Mandy A. Allison, MD, MSPH, FAAP,^a Elliott Attisha, DO, FAAP,^b COUNCIL ON SCHOOL HEALTH

More than 6.5 million children in the United States, approximately 13% of all students, miss 15 or more days of school each year. The rates of chronic absenteeism vary between states, communities, and schools, with significant disparities based on income, race, and ethnicity. Chronic school absenteeism, starting as early as preschool and kindergarten, puts students at risk for poor school performance and school dropout, which in turn, put them at risk for unhealthy behaviors as adolescents and young adults as well as poor long-term health outcomes. Pediatricians and their colleagues caring for children in the medical setting have opportunities at the individual patient and/or family, practice, and population levels to promote school attendance and reduce chronic absenteeism and resulting health disparities. Although this policy statement is primarily focused on absenteeism related to students' physical and mental health, pediatricians may play a role in addressing absenteeism attributable to a wide range of factors through individual interactions with patients and their parents and through community-, state-, and federal-level advocacy.

STATEMENT OF THE PROBLEM

What Is Chronic Absenteeism?

Chronic absenteeism broadly refers to missing too much school for any reason, including excused and unexcused absences as well as suspensions. The US Department of Education's Office of Civil Rights has used a definition of missing 15 or more days over the course of a school year.¹ Most researchers and a growing number of states have defined chronic absenteeism as missing 10% (or around 18 days) of the entire school year. Some organizations suggest using 10%, because it promotes earlier identification of poor attendance throughout the school year. For example, identifying students who have missed just 2 days in the first month of school predicts chronic absence throughout the year.²

Chronic absence is different than truancy. The definition of truancy also varies but usually refers to when a student willfully misses school, and the

abstract

^aDepartment of Pediatrics, University of Colorado Anschutz Medical Campus, Adult and Child Consortium for Health Outcomes Research and Delivery Science, School of Medicine, University of Colorado, and Children's Hospital Colorado, Aurora, Colorado; and ^bDetroit Public Schools Community District, Detroit, Michigan

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DOI: <https://doi.org/10.1542/peds.2018-3648>

Address correspondence to Mandy A. Allison. E-mail: MandyAllison@ucdenver.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

To cite: Allison MA, Attisha E, AAP COUNCIL ON SCHOOL HEALTH. The Link Between School Attendance and Good Health. *Pediatrics*. 2019;143(2):e20183648

absence is “unexcused.”³ Although students who are truant may be chronically absent, focusing solely on truancy may miss those students who miss excessive amounts of school for “excused” reasons. Regardless of whether absences are unexcused or excused, chronic absenteeism typically results in poor academic outcomes and is linked to poor health outcomes.

Factors such as poverty, unstable housing conditions, poor parental health, and racial or ethnic minority status are associated with poor child health outcomes and are known in the medical and public health communities as social determinants of health.⁴⁻⁶ Students living in poverty are more likely than students from higher-income families to be chronically absent from school.^{7,8} Factors associated with chronic absenteeism include poorer overall health,^{9,10} unstable housing conditions,¹¹ transportation difficulties, and exposure to violence.¹² Students who change schools within the school year are also more likely to experience absenteeism.¹³ In addition, youth may be called on to care for sick family members or stay home with younger siblings when a parent or primary caregiver is sick or cannot take time off work, and this is more likely to occur among low-income families.¹⁴ Finally, authors of some studies have found that students from racial and ethnic minority groups and those who are English language learners are more likely to be chronically absent than students who are not in these groups.¹

Children with a history of maltreatment or exposure to major trauma, such as witnessing domestic violence or experiencing a natural disaster, are more likely than those without these exposures to experience absenteeism, truancy, school suspension, and school dropout.¹⁵⁻¹⁷ These children are also more likely to experience other risk

factors for chronic absenteeism, including poor mental and behavioral health, poverty, homelessness, and frequent school changes.^{15,16,18}

Children who are living in foster care are more likely to transfer schools within a year compared with the general school population; however, this effect is mitigated among children with more stable (3 months or longer) foster care placements.¹⁶ Although reliable data are lacking regarding the effect of immigrant or refugee status on school attendance, immigrant and refugee children are likely to have 1 or more risk factors for poor school outcomes, including poverty, racial or ethnic minority status, and exposure to major trauma.^{17,19}

Why Does Chronic Absenteeism Matter?

Chronic absenteeism can occur as early as preschool and kindergarten and has been shown to be related to future chronic absenteeism, grade retention, and poor academic achievement, particularly for social skills and reading.^{3,8,20,21} Among elementary school students, absenteeism is highest in kindergarten and first grade, then decreases until middle school. At least 10% of kindergarten and first-grade students miss a month or more of the school year.²¹ Absenteeism tends to increase again in middle school and high school, with an estimated 19% of all high school students being chronically absent.¹ A national map of chronic absenteeism based on the US Department of Education’s 2013–2014 Civil Rights Data Collection reveals wide geographic variation in chronic absenteeism and describes variations on the basis of race and ethnicity, with African American, Hispanic, American Indian, and Pacific Islander students experiencing higher rates of chronic absenteeism than their white and Asian American peers.²²

Students with poor attendance score lower than their peers who attend school regularly on national skills assessments, regardless of race or ethnicity.³ Chronic absenteeism can be a better predictor of school failure than test scores. In 1 study, students with high test scores who missed at least 2 weeks of school during the semester were more likely to have failing grades than students with low test scores who regularly attended school.²³ Chronic absenteeism as early as sixth grade is predictive of dropping out of school.³

The literature reveals that poor school performance is associated with poor adult health outcomes. Compared with adults with higher educational attainment, those with low educational attainment are more likely to be unemployed or work at a part-time or lower-paying job.²⁴ Those with lower educational attainment are less likely to report having a fulfilling job, feeling that they have control over their lives, and feeling that they have high levels of social support.^{24,25} This lack of control and social support is thought to be associated with poor health attributable to difficulty adhering to healthy behaviors, psychological processes such as depression, and biological processes such as increased inflammation and reduced immune system function.²⁶ Adults with lower educational attainment are also more likely to smoke and less likely to exercise, which are directly linked to poor health outcomes.^{24,25} Not earning a high school diploma is associated with increased mortality risk or lower life expectancy.²⁷ Conversely, obtaining advanced degrees and additional years of education are associated with a reduced mortality risk.²⁷ Over the past 20 years, disparities in mortality rates based on educational attainment are worsening for preventable causes of death.²⁸

Chronic absenteeism is associated with engaging in health risk

behaviors, including smoking cigarettes or marijuana, alcohol and other drug use, and risky sexual behavior, such as having 4 or more sexual partners.²⁹ For every year a student delays alcohol or drug use, his or her odds of regular school attendance in subsequent quarters increase.³⁰ Students' experiences of teenage pregnancy, violence, unintentional injury, and suicide attempts are associated with chronic absenteeism.³¹⁻³³ Roughly 30% to 40% of female teenage dropouts are mothers, with teenage pregnancy being the number 1 cause of high school dropout for adolescent female students.³⁴ Poor school attendance is also associated with juvenile delinquency; in 1 study of youth in Mississippi from 2003 to 2013, authors found that those with chronic absenteeism had 3.5-times higher odds of being arrested or referred to the juvenile justice system.³⁵

Causes of School Absenteeism

Students may be frequently absent from school for a wide variety of reasons. In the publication, "The Importance of Being in School: A Report on Absenteeism in the Nation's Public Schools," Balfanz and Byrnes³⁶ describe 3 broad categories of causes: "(1) students who cannot attend school due to illness, family responsibilities, housing instability, the need to work or involvement with the juvenile justice system; (2) students who will not attend school to avoid bullying, unsafe conditions, harassment and embarrassment; and (3) students who do not attend school because they, or their parents, do not see the value in attending school, they have something else they would rather do, or nothing stops them from skipping school."³⁶ An additional category (ie, "myths") is also thought to cause problem absenteeism. Myths include when students and their families do not realize that missing just 2 days a month can be a problem, think that it is a problem only if absences are

unexcused, or do not think absences are a problem for younger children in preschool through grade school.¹⁴ Finally, school suspension and expulsion, as early as preschool, have increasingly been identified as causes of chronic absenteeism that disproportionately affect African American students and students with emotional and behavioral disorders and attention-deficit/hyperactivity disorder.³⁷⁻⁴²

Most studies of health-related causes of school absence have been conducted by authors focusing on a specific health condition and determining whether that condition is associated with missing school. Common health conditions that have been associated with school absenteeism include influenza infection,^{43,44} group A streptococcal pharyngitis,⁴⁵ gastroenteritis,⁴⁶ fractures,⁴⁷⁻⁴⁹ poorly controlled asthma,⁵⁰⁻⁵⁴ type 1 diabetes mellitus,⁵⁵ chronic fatigue,^{56,57} chronic pain⁵⁸⁻⁶² (including headaches and abdominal pain), seizures,⁶³ poor oral health,⁶⁴⁻⁶⁷ dental pain,^{68,69} and obesity.⁷⁰⁻⁷³ Experienced clinicians know that mental health conditions may present with physical health complaints, including some of those listed above that have been associated with frequent absences. Few studies have been conducted to identify groups of children with higher absenteeism and lower absenteeism and determine which health conditions are most prevalent among those with higher absenteeism.⁷⁴ Therefore, it is a challenge to clearly define which health conditions cause more absenteeism than others. In addition, although more data are needed, the data that exist and the authors' clinical knowledge suggest that the most common health-related causes of school absenteeism likely vary among communities.

Although occasional absences attributable to health conditions can be expected, absences can quickly

add up and lead to chronic absenteeism if a child experiences multiple health conditions, unrecognized or undertreated conditions, or lack of access to care. Absenteeism attributable to physical health conditions can be compounded by the presence of mental or behavioral health conditions and socioeconomic factors.

Children with disabilities are more likely to be chronically absent than children without disabilities.¹ Similarly, children and youth with special health care needs tend to have more school absences than children without.⁷⁵⁻⁷⁷ School performance, including absenteeism, of children and youth with special health care needs has been shown to be affected by risk and protective factors at the child, family, and system levels (eg, socioeconomic factors, the presence or absence of care coordination, and school climate and accommodations).^{75,76,78-80} Children with moderate-to-severe autism spectrum disorder may be at particular risk for disruptive behaviors that affect their own and other students' learning. Students with autism spectrum disorder who display disruptive behaviors at school may be more likely to be excluded or absent from school.^{81,82}

School absenteeism has been associated with mental health conditions and substance use disorders.⁸³⁻⁸⁶ Longitudinal cohort studies have revealed that conduct disorder and depressive symptoms can lead to frequent absenteeism and, conversely, that frequent absenteeism can lead to conduct disturbances and depressive symptoms.⁸⁷ Youth who are truant, defined as willfully refusing to attend school, are more likely than youth who attend school regularly to be diagnosed with oppositional defiant disorder, conduct disorder, depression, and tobacco, alcohol, and marijuana abuse.

Studies have been used to examine school absenteeism by using a socioecologic model considering individual-, family-, and school-level factors. Authors of these studies have found that individual factors (such as hyperactivity, conduct problems, and poor perceived health), family factors (such as low maternal education and high levels of unemployment), and school factors (such as not feeling safe or not feeling treated with respect at school) all contributed to students' poor attendance.⁸⁸ Issues that are likely to be brought up during a visit to a health care provider include bullying, gender identity and sexuality, and adverse childhood experiences (ACEs). In-person and electronic bullying have been shown to be associated with school absenteeism.⁸⁹ Lesbian, gay, bisexual, transgender, queer, and questioning youth have been shown to be at risk for poor school connectedness, and poor school connectedness is a risk for poor attendance.⁹⁰ Finally, students with higher numbers of ACEs are more likely to have chronic absenteeism than students with fewer ACEs.⁹¹

EVIDENCE FOR PHYSICAL AND MENTAL HEALTH INTERVENTIONS TO IMPROVE SCHOOL ATTENDANCE

Many organizations are making multidisciplinary efforts to promote school attendance at community, state, and national levels. Although the body of evidence about effective interventions to improve school attendance is growing, high-quality evaluation has been limited by the lack of routine measurement of chronic absenteeism and differences in how schools and local educational agencies measure and define absenteeism and attendance.³⁶ Several national organizations and collaborations are working to promote school attendance by bringing together stakeholders from diverse sectors, including education, law enforcement, juvenile justice,

public health, and health care. Summaries of additional evidence and information about strategies to promote school attendance and address chronic absenteeism are available from these organizations and are listed in the Additional Resources section below.

Infection Prevention

Interventions used to improve hand hygiene practices in schools include increased frequency of hand-washing and use of hand sanitizers. It is suggested in a 2016 review of 18 randomized controlled trials that hand hygiene interventions can be used to promote good hand hygiene practices among children and school staff and can be used to reduce the incidence of respiratory tract illness symptoms, symptoms attributable to influenza, and school absenteeism.⁹² Evidence was mixed for hand hygiene interventions to reduce absenteeism attributable to gastrointestinal tract illness.⁹² The effects of school-based infection prevention measures have been best studied for influenza. In addition to studies of hand hygiene interventions,⁹³ school-located influenza vaccination programs have been shown to reduce school absenteeism during influenza season.⁹⁴ Finally, school immunization requirements have been shown to increase immunization coverage in the community, and high levels of coverage are necessary for the prevention of outbreaks of vaccine-preventable diseases that could lead to school absenteeism.⁹⁵

School Nurses

School nurses play a significant role in student success and attendance. The American Academy of Pediatrics (AAP) and the National Association of School Nurses recommend a minimum of 1 full-time professional school nurse in every school, recognizing that the ideal nurse-to-student ratio varies depending on the needs of the student population.^{96,97} Healthy People 2020 includes goals to

have a school nurse-to-student ratio of 1:750 in elementary and secondary schools.⁹⁸ School nurses have the expertise to identify and intervene on health issues that may affect the learning environment and are critical team members for ensuring that students' individualized education programs, 504 plans, or health care plans are appropriately designed and implemented.^{96,97,99} Given the complexity of studying nursing services in the school setting and the paucity of research funding and researchers studying school nursing services, data regarding the effect of school nurses on school attendance are limited. One study revealed that 95% of students seen by a school nurse for illness or injury are able to return to class compared with 82% of students seen by an unlicensed school employee.¹⁰⁰ Studies have also revealed that the addition of full-time school nurses reduces illness-related absenteeism among children with asthma compared with children with asthma in schools with part-time school nurses.^{101,102} One literature review revealed that school nurses can improve attendance among students with chronic absenteeism and that lower nurse-to-student ratios were associated with improved school-level attendance rates.¹⁰³ Many schools have nurse coverage only part-time, and some schools do not have nurse coverage at all¹⁰⁴; therefore, a health aide or other school personnel may provide some school health services. The services provided by health aides or other school personnel are essential when a nurse is not available, but these other providers typically do not have nursing training.

School-Based Health Centers

School-based health centers (SBHCs) have been shown to improve education outcomes, including grade point average and high school graduation,¹⁰⁵ and have been recommended by the Community Preventive Services Task Force to

improve both education and health outcomes in low-income communities.¹⁰⁶ SBHCs provide health services to students who otherwise may have been sent home or missed school because of illnesses and injuries or attending medical appointments for management of chronic health problems. School-based health services can include preventive services, dental services, and mental or behavioral health services.¹⁰⁷ Research has shown SBHCs can reduce absenteeism. Authors of a study of SBHC users in Seattle found that those who used the clinic for medical purposes had a significant increase in attendance over nonusers.^{108,109} African American male SBHC users were 3 times more likely to stay in school than their peers who did not use the SBHC. Authors of 2 studies in New York found that students enrolled in SBHCs had more time in class, better attendance, and fewer hospitalizations attributable to asthma.^{110,111} Authors of another study found a 50% decrease in absenteeism and 25% decrease in tardiness for high school students who received school-based mental health services.¹¹² Overall, SBHCs have been shown to improve school attendance for students who use SBHCs for physical and mental health care, with greater improvement for those using SBHCs for physical health.^{108,110,113}

Mental Health Care

Authors of a recent review of children's mental health services provided in schools or in other community-based or clinic settings found that educational outcomes, including school attendance, are infrequently measured.¹¹⁴ The authors of this review did suggest that mental health treatment was associated with improved overall educational outcomes for children. Investigators found that providing cognitive behavioral therapy for students identified with "school

refusing" can improve attendance as well as anxiety and depressive symptoms.^{115,116} "Trauma-informed schools" are schools in which the adults in the school community are prepared to recognize and respond to those who have been affected by trauma.¹¹⁷ These schools are focused on the life experiences of a student and how the experiences may affect the student's behavior and performance at school. In addition, these schools provide individual mental health interventions for students and/or link students and families to services in the community. Although research in this area is new and ongoing, a trauma-informed approach at schools appears to reduce school suspensions and expulsions and improve attendance and school performance.¹¹⁷ Overall, more evidence is needed, specifically regarding the effectiveness of school-based mental health services and trauma-informed approaches for improving school attendance.^{118,119}

School Policies and Programs

Policies that promote a positive school climate can promote attendance.¹²⁰ As defined by the National School Climate Center, "School climate refers to the quality and character of school life. School climate is based on patterns of students', parents' and school personnel's experience of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures."¹²¹ The concepts of school climate and school connectedness are closely related, and research reveals that students who feel a connection with their school are more likely to attend and less likely to engage in risky behaviors.³² The Centers for Disease Control and Prevention (CDC) has identified specific strategies to improve school connectedness.¹²² The CDC also provides technical guidance regarding prevention of youth violence, including bullying, for

schools and communities. This guidance suggests strategies including universal school-based programs for strengthening youth skills, connecting youth to caring adults and activities through mentoring and after-school programs, and creating protective community environments including a positive school climate. It is suggested in evidence that these strategies can be used to reduce youth violence and, in turn, improve school connectedness, attendance, and academic success.¹²³ Although many of these strategies are directed toward education professionals in the schools, they include engaging with community partners such as health care professionals. Some researchers suggest rewarding students for good attendance with parties, gift certificates, or other types of special recognition results in higher attendance rates.¹²⁴

Parent Interventions

Schools that communicate effectively with all parents, regardless of language or culture, provide parents with a specific school contact person who can address their questions and concerns, and provide workshops about school attendance for parents have higher attendance rates.^{124,125} Strong parental monitoring and parental involvement (eg, when a parent knows whether his or her child is attending school) are related to lower levels of delinquency, which is associated to better school attendance.¹²⁶ In 1 study conducted in 2014–2015 among students in kindergarten through 11th grade in Philadelphia, authors indicated that simply informing parents of their children's absences from school can help reduce subsequent absenteeism; this may be partly because parents have misbeliefs about how much their child has been absent.^{14,127} Schools that build strong partnerships with families and the community have shown improved student attendance.¹²⁵ In addition to school

nurses and other members of the school health team, school counselors can play a key role in developing these partnerships.^{128,129}

Coordinated School Health

The CDC's Whole School, Whole Community, Whole Child model provides a framework for health and educational professionals to promote students' health and academic achievement.^{130,131} The components of this model are health education; physical education and physical activity; nutrition environment and services; health services; counseling, psychological, and social services; social and emotional climate; physical environment; employee wellness; family engagement; and community involvement. Although not all of these components have been studied in relation to school attendance, authors of a recent comprehensive summary of the literature indicate that each component plays a role in improving children's academic performance.¹³² Aspects of nutrition services (breakfast at school); health services (nursing services); counseling, psychological, and social services (school-based mental health care); social and emotional school climate (school connectedness); physical environment (full-spectrum lighting, reduction of physical threats, indoor air quality); family engagement; and community involvement have all been associated with improved school attendance.¹³²

RECOMMENDATIONS

Pediatricians could address school attendance in their office-based practices and communities and/or states or nationally as advocates using a tiered approach. The office-based approaches could include members of the health care team, such as front office staff, medical assistants, nurses, or care coordinators, to reduce the burden on the pediatrician.

Tier 1

These office-based and advocacy approaches promote school attendance for all youth.

Office-Based

- Routinely ask at preventive care visits and sick visits about the number of absences a student has experienced. Consider adding questions about the number of missed school days in the previous month and the name of the school each patient is currently attending in templates in the paper or electronic medical record;
- Encourage parents to bring copies of their child's report card or share data available from their child's online school information system during preventive visits. These data sources usually include information about school absences and tardiness;
- Praise patients and caregivers when patients are regularly attending school, meaning they miss no more than a day per month on average;
- Talk about the effects of school absences on school performance and future wellness. Talk about how absences can add up. Stress the value of developing strong attendance habits as early as preschool;
- Support parents in addressing barriers to attendance;
- Ask families of children with chronic health issues, such as asthma, allergies, and seizures, if they have an action plan at school. Help complete school action plans so that families feel secure sending their children to school. When needed, work with the school nurse to adjust the action plan when there is a change in a patient's condition. Some states and national organizations or foundations have developed standardized forms for asthma,¹³³ allergy,¹³⁴ and seizure action plans¹³⁵;
- Encourage families to share their concerns about their children's health with their school nurse;
- Assist families in documenting and interpreting their children's medical needs or disability for an individualized education program or 504 plan to help them establish services to optimize learning opportunities^{99,136};
- Promote school attendance by using handouts, posters, or videos in your waiting area (see links to resources below), working with community partners (eg, during September Attendance Awareness Month campaigns: <http://awareness.attendanceworks.org/>), and communicating via your practice Web site or social media;
- Educate yourself and your office staff about the appropriate and inappropriate reasons to exclude a child from school. Additional information about appropriate school inclusion and exclusion criteria can be found in the following publications from the AAP: *Managing Infectious Disease in Child Care and Schools: A Quick Reference Guide*¹³⁷ and the chapter on school health in the *Red Book: 2015 Report of the Committee on Infectious Diseases*¹³⁸;
- Provide firm guidance on when a child should stay home if sick and how to avoid absences from minor illness or anxiety (links to resource below);
- Learn about resources in the community and connect families with resources that can improve the well-being of the entire family (eg, family counseling, food pantries, housing assistance) as described in more detail in the "Poverty and Child Health in the United States" policy statement¹³⁹; and
- Routinely ask about whether your patients have experienced out-of-school suspension or expulsion and assist patients and families affected by suspension and expulsion (more

detail in the “Out-of-School Suspension and Expulsion” policy statement).⁴²

Population-Based

Pediatricians are encouraged to be advocates and supporters of children’s health. Available opportunities may include the following:

- Work with AAP chapter leaders to advocate at the school, school district, state school board, and state legislative levels for policies and interventions known to promote school attendance. These interventions can include policies and approaches that promote a positive school climate and avoid suspension and expulsion.^{42,121} Advocate for funding to ensure adequate numbers of school support personnel, including school nurses and school counselors, and for school-based medical, oral, and behavioral health services^{96,140};
- Encourage and collaborate with community leaders (faith leaders, public officials, businesses) to develop and deliver consistent and coordinated community-specific and culturally salient messages that inform the public about the importance of regular school attendance at all ages, starting in early childhood;
- Educate and collaborate with school professionals about appropriate and inappropriate reasons for exclusion (eg, some schools continue to exclude children with head lice from school despite a strong, evidence-based recommendation to avoid exclusion from school for head lice).¹⁴¹ AAP chapter leaders and the Council on School Health can provide assistance in these efforts;
- Support school districts’ efforts to improve children’s and families’ access to health insurance and medical services;

- Serve as a school physician or on a school board, school or school district health services advisory committee, or wellness committee to develop policies and practices that promote school attendance¹⁴²;
- Work with your state school board, department of education, or school districts (local educational agencies) to encourage schools to consistently collect and share data with public health and health care providers on chronic absence by grade, school, and neighborhood, because chronic absence is often an indicator that children and families are struggling with health-related issues. Develop and promote strategies that encourage data sharing and are compliant with existing privacy laws;
- Work with schools to identify physical and mental health conditions that are significantly contributing to school absenteeism among their students and help identify interventions to address these conditions; and
- Encourage public health departments to compare chronic absence data and available health metrics to identify where collaborative action would be helpful.

Tier 2

In addition to the approaches described in tier 1, pediatricians can use the following office-based interventions for patients who are missing 2 or 3 days of school per month (~10% of total school time):

- Prevent, identify, and treat physical and mental health conditions that are contributing to school absences. Collaboration with school and mental health professionals is essential in the treatment of youth with psychosomatic symptoms that result in poor school attendance;
- When possible, identify psychosocial risk factors and health factors among a patient’s caregivers that may be contributing to the patient’s

school absenteeism and refer the caregiver to appropriate resources in the community;

- Avoid writing excuses for school absences when the absence was not appropriate and avoid backdating to justify absences;
- Strongly encourage patients who are well enough to attend school to return to school immediately after their medical appointments, so they do not miss the entire day;
- Avoid contributing to school absences. In concordance with the medical home concepts of providing accessible, continuous, and family-centered care, consider offering extended office hours and encourage families to make preventive care appointments and follow-up appointments for times outside of regular school hours¹⁴³;
- Communicate and collaborate with school professionals and community partners to manage the health conditions of your patients with chronic absenteeism. The school nurse is usually the best first contact.⁹⁶ The AAP publication *Managing Chronic Health Needs in Child Care and Schools*¹³⁶ is a reference that may be particularly useful in the child care or preschool settings, where a school nurse or child care health consultant may not be readily available; and
- Encourage parents of students with excessive absences to seek a formal school team meeting (often termed a school study team) to discuss how the school and family can cooperate to address the issue. Specifically, parents can request that their student be considered for participation in their school’s behavioral intervention system.¹⁴⁴

Tier 3

In addition to the approaches described in tiers 1 and 2, pediatricians can use the following

office-based interventions for patients who have severe chronic absenteeism and are missing 4 or more days of school per month (~15% of total school time):

- Encourage the school or school district to provide services such as intensive case management and mentorship, communicate and collaborate with professionals providing support services in school, and serve as your patient's advocate and medical expert; and
- Children are eligible for home or hospital educational services from the public schools if they have a legitimate medical reason for absences. The use of these services should be clearly justified on the basis of the patient's medical presentation. The goal should be for these services to be time limited. Communicate and collaborate with school professionals to decide whether out-of-school instruction is appropriate, develop a time line for out-of-school instruction, develop a reentry plan, and identify whether an alternative to out-of-school instruction is appropriate.

ADDITIONAL RESOURCES

Organizations Addressing School Attendance

- America's Promise Alliance, Grad Nation (<http://www.americaspromise.org/program/gradnation>);
- Attendance Works (<http://www.attendanceworks.org/>);
- Everyone Graduates Center (<http://www.every1graduates.org/>);
- Healthy Schools Campaign (<https://healthyschoolscampaign.org/>);
- National Center for Education Statistics, Every School Day Counts (<https://nces.ed.gov/>); and

- National Center for School Engagement (<http://schoolengagement.org/>).

Links to Resources to Share With Patients and Parents

- Handouts to give to parents (<http://www.attendanceworks.org/resources/handouts-for-families/>);
- Video to show in waiting room (<http://www.attendanceworks.org/tools/for-parents/bringing-attendance-home-video/>); and
- Mobile-friendly Web site geared to preteenagers, teenagers, and their parents (<https://getschooled.com/dashboard>).

LEAD AUTHORS

Mandy Allison, MD, MSPH, FAAP
Elliott Attisha, DO, FAAP

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STAFF

Madra Guinn-Jones, MPH
Stephanie Domain, MS

ABBREVIATIONS

AAP: American Academy of Pediatrics
ACE: adverse childhood experience
CDC: Centers for Disease Control and Prevention
SBHC: school-based health center

REFERENCES

1. US Department of Education Office for Civil Rights. 2013-2014 civil rights data collection, a first look. 2016. Available at: <http://www2.ed.gov/about/offices/list/ocr/docs/2013-14-first-look.pdf>. Accessed November 16, 2016
2. Baltimore Education Research Consortium. Why September matters: improving student attendance. 2014. Available at: <http://baltimore-berc.org/wp-content/uploads/2014/08/SeptemberAttendanceBriefJuly2014.pdf>. Accessed November 16, 2016
3. Ginsburg A, Jordan P, Chang H. Absences add up: how school attendance influences student success. 2014. Available at: https://www.attendanceworks.org/wp-content/uploads/2017/05/Absences-Add-Up_September-3rd-2014.pdf. Accessed December 21, 2018
4. Larson K, Russ SA, Crall JJ, Halfon N. Influence of multiple social risks on children's health. *Pediatrics*. 2008; 121(2):337–344
5. Cutts DB, Meyers AF, Black MM, et al. US housing insecurity and the health of very young children. *Am J Public Health*. 2011;101(8):1508–1514
6. Schickedanz A, Dreyer BP, Halfon N. Childhood poverty: understanding and

- preventing the adverse impacts of a most-prevalent risk to pediatric health and well-being. *Pediatr Clin North Am*. 2015;62(5):1111–1135
7. Carlson JA, Mignano AM, Norman GJ, et al. Socioeconomic disparities in elementary school practices and children's physical activity during school. *Am J Health Promot*. 2014;28 (suppl 3):S47–S53
 8. Chang HN, Romero M. *Present, Engaged, and Accounted for: The Critical Importance of Addressing Chronic Absence in the Early Grades*. New York, NY: National Center for Children in Poverty; 2008
 9. Hughes DC, Ng S. Reducing health disparities among children. *Future Child*. 2003;13(1):153–167
 10. Bloom B, Dey AN. Summary health statistics for U.S. children: National Health Interview Survey, 2004. *Vital Health Stat 10*. 2006;(227):1–85
 11. Rafferty Y. The legal rights and educational problems of homeless children and youth. *Educ Eval Policy Anal*. 1995;17(1):39–61
 12. Ramirez M, Wu Y, Kataoka S, et al. Youth violence across multiple dimensions: a study of violence, absenteeism, and suspensions among middle school children. *J Pediatr*. 2012;161(3):542–546.e2
 13. The University of Utah Utah Education Policy Center. Research brief: chronic absenteeism. 2012. Available at: www.attendanceworks.org/wordpress/wp-content/uploads/2014/04/UTAH-Chronic-AbsenteeismResearch-Brief-July-2012.pdf. Accessed November 16, 2016
 14. Ad Council. California attendance parent survey results. 2015. Available at: <https://oag.ca.gov/sites/all/files/agweb/pdfs/tr/toolkit/QuantitativeResearchReport.pdf>. Accessed December 21, 2018
 15. Downer JT, Booren LM, Lima OK, Luckner AE, Pianta RC. The Individualized Classroom Assessment Scoring System (inCLASS): preliminary reliability and validity of a system for observing preschoolers' competence in classroom interactions. *Early Child Res Q*. 2010;25(1):1–16
 16. Romano E, Babchishin L, Marquis R, Fréchette S. Childhood maltreatment and educational outcomes. *Trauma Violence Abuse*. 2015;16(4):418–437
 17. Porche MV, Fortuna LR, Lin J, Alegria M. Childhood trauma and psychiatric disorders as correlates of school dropout in a national sample of young adults. *Child Dev*. 2011;82(3):982–998
 18. Fantuzzo JW, Perlman SM, Dobbins EK. Types and timing of child maltreatment and early school success: a population-based investigation. *Child Youth Serv Rev*. 2011;33(8):1404–1411
 19. Block K, Cross S, Riggs E, Gibbs L. Supporting schools to create an inclusive environment for refugee students. *Int J Inclusive Educ*. 2014;18(12):1337–1355
 20. Connolly F, Olson LS. Early elementary performance and attendance in Baltimore city schools' pre-kindergarten and kindergarten. 2012. Available at: <https://files.eric.ed.gov/fulltext/ED535768.pdf>. Accessed December 21, 2018
 21. Bruner C, Discher A, Chang H. Chronic elementary absenteeism: a problem hidden in plain sight. November 2011. Available at: <https://www.edweek.org/media/chronicabsence-15chang.pdf>. Accessed December 21, 2018
 22. US Department of Education. Chronic absenteeism in the nation's schools: the geography of chronic absenteeism. 2016. Available at: <https://www2.ed.gov/datastory/chronicabsenteeism.html#three>. Accessed January 30, 2018
 23. Allensworth EM, Easton JQ. What matters for staying on-track and graduating in Chicago public high schools. 2007. Available at: [https://consortium.uchicago.edu/sites/default/files/publications/07 What Matters Final.pdf](https://consortium.uchicago.edu/sites/default/files/publications/07%20What%20Matters%20Final.pdf). Accessed December 21, 2018
 24. Ross CE, Wu C-I. The links between education and health. *Am Sociol Rev*. 1995;60(5):719–745
 25. Rogers RG, Hummer RA, Everett BG. Educational differentials in US adult mortality: an examination of mediating factors. *Soc Sci Res*. 2013;42(2):465–481
 26. Uchino BN. Social support and health: a review of physiological processes potentially underlying links to disease outcomes. *J Behav Med*. 2006;29(4):377–387
 27. Lawrence EM, Rogers RG, Zajacova A. Educational attainment and mortality in the United States: effects of degrees, years of schooling, and certification. *Popul Res Policy Rev*. 2016;35(4):501–525
 28. Miech R, Pampel F, Kim J, Rogers RG. The enduring association between education and mortality: the role of widening and narrowing disparities. *Am Sociol Rev*. 2011;76(6):913–934
 29. Eaton DK, Brener N, Kann LK. Associations of health risk behaviors with school absenteeism. Does having permission for the absence make a difference? *J Sch Health*. 2008;78(4):223–229
 30. Engberg J, Morral AR. Reducing substance use improves adolescents' school attendance. *Addiction*. 2006;101(12):1741–1751
 31. Gottfried MA. Chronic absenteeism and its effects on students' academic and socioemotional outcomes. *J Educ Stud Placed Risk*. 2014;19(2):53–75
 32. Hawkrigg S, Payne DN. Prolonged school non-attendance in adolescence: a practical approach. *Arch Dis Child*. 2014;99(10):954–957
 33. Barnett B, Arroyo C, Devoe M, Duggan AK. Reduced school dropout rates among adolescent mothers receiving school-based prenatal care. *Arch Pediatr Adolesc Med*. 2004;158(3):262–268
 34. Freudenberg N, Ruglis J. Reframing school dropout as a public health issue. *Prev Chronic Dis*. 2007;4(4):A107
 35. Robertson AA, Walker GS. Predictors of justice system involvement: maltreatment and education. *Child Abuse Negl*. 2018;76:408–415
 36. Balfanz R, Byrnes V. *The Importance of Being in School: A Report on Absenteeism in the Nation's Public Schools*. Baltimore, MD: Johns Hopkins University Center for Social Organization of Schools; 2012:4–9
 37. Council of State Governments Justice Center; Public Policy Research Institute at Texas A&M University. Breaking schools' rules: a statewide study of how school discipline relates to students' success and juvenile justice involvement. 2011. Available at: https://csgjusticecenter.org/wp-content/uploads/2012/08/Breaking_Schools_Rules_

- Report_Final.pdf. Accessed August 29, 2017
38. Michail S. Understanding school responses to students' challenging behaviour: a review of literature. *Improv Sch.* 2011;14(2):156–171
 39. Skiba RJ, Horner RH, Chung C-G, Rausch MK, May SL, Tobin T. Race is not neutral: a national investigation of African American and Latino disproportionality in school discipline. *Sch Psychol Rev.* 2011;40(1):85–107
 40. U.S. Department of Education. School climate and discipline: know the data. 2016. Available at: <https://www2.ed.gov/policy/gen/guid/school-discipline/data.html>. Accessed August 29, 2017
 41. Achilles GM, McLaughlin MJ, Croninger RG. Sociocultural correlates of disciplinary exclusion among students with emotional, behavioral, and learning disabilities in the SEELS national dataset. *J Emotional Behav Disord.* 2007;15(1):33–45
 42. Council on School Health. Out-of-school suspension and expulsion. *Pediatrics.* 2013;131(3). Available at: www.pediatrics.org/cgi/content/full/131/3/e1000
 43. Graitcer SB, Dube NL, Basurto-Davila R, et al. Effects of immunizing school children with 2009 influenza A (H1N1) monovalent vaccine on absenteeism among students and teachers in Maine. *Vaccine.* 2012;30(32):4835–4841
 44. King JC Jr, Beckett D, Snyder J, Cummings GE, King BS, Magder LS. Direct and indirect impact of influenza vaccination of young children on school absenteeism. *Vaccine.* 2012;30(2):289–293
 45. Pfoh E, Wessels MR, Goldmann D, Lee GM. Burden and economic cost of group A streptococcal pharyngitis. *Pediatrics.* 2008;121(2):229–234
 46. Prazuck T, Compte-Nguyen G, Pelat C, Sunder S, Blanchon T. Reducing gastroenteritis occurrences and their consequences in elementary schools with alcohol-based hand sanitizers. *Pediatr Infect Dis J.* 2010;29(11):994–998
 47. Hyman JE, Gaffney JT, Epps HR, Matsumoto H. Impact of fractures on school attendance. *J Pediatr Orthop.* 2011;31(2):113–116
 48. Sesko AM, Choe JC, Vitale MA, Ugwonalie O, Hyman JE. Pediatric orthopaedic injuries: the effect of treatment on school attendance. *J Pediatr Orthop.* 2005;25(5):661–665
 49. Hyman JE, Jewetz ST, Matsumoto H, Choe JC, Vitale MG. Risk factors for school absence after acute orthopaedic injury in New York city. *J Pediatr Orthop.* 2007;27(4):415–420
 50. Meng YY, Babey SH, Wolstein J. Asthma-related school absenteeism and school concentration of low-income students in California. *Prev Chronic Dis.* 2012;9:E98
 51. Mizan SS, Shendell DG, Rhoads GG. Absence, extended absence, and repeat tardiness related to asthma status among elementary school children. *J Asthma.* 2011;48(3):228–234
 52. Basch CE. Asthma and the achievement gap among urban minority youth. *J Sch Health.* 2011;81(10):606–613
 53. Shendell DG, Alexander MS, Sanders DL, Jewett A, Yang J. Assessing the potential influence of asthma on student attendance/absence in public elementary schools. *J Asthma.* 2010;47(4):465–472
 54. Dean BB, Calimlim BM, Kindermann SL, Khandker RK, Tinkelman D. The impact of uncontrolled asthma on absenteeism and health-related quality of life. *J Asthma.* 2009;46(9):861–866
 55. Parent KB, Wodrich DL, Hasan KS. Type 1 diabetes mellitus and school: a comparison of patients and healthy siblings. *Pediatr Diabetes.* 2009;10(8):554–562
 56. Bakker RJ, van de Putte EM, Kuis W, Sinnema G. Risk factors for persistent fatigue with significant school absence in children and adolescents. *Pediatrics.* 2009;124(1). Available at: www.pediatrics.org/cgi/content/full/124/1/e89
 57. Crawley E, Sterne JA. Association between school absence and physical function in paediatric chronic fatigue syndrome/myalgic encephalopathy. *Arch Dis Child.* 2009;94(10):752–756
 58. Logan DE, Simons LE, Carpino EA. Too sick for school? Parent influences on school functioning among children with chronic pain. *Pain.* 2012;153(2):437–443
 59. Gorodzinsky AY, Hainsworth KR, Weisman SJ. School functioning and chronic pain: a review of methods and measures. *J Pediatr Psychol.* 2011;36(9):991–1002
 60. Logan DE, Simons LE, Kaczynski KJ. School functioning in adolescents with chronic pain: the role of depressive symptoms in school impairment. *J Pediatr Psychol.* 2009;34(8):882–892
 61. Saps M, Seshadri R, Sztainberg M, Schaffer G, Marshall BM, Di Lorenzo C. A prospective school-based study of abdominal pain and other common somatic complaints in children. *J Pediatr.* 2009;154(3):322–326
 62. Logan DE, Simons LE, Stein MJ, Chastain L. School impairment in adolescents with chronic pain. *J Pain.* 2008;9(5):407–416
 63. Aguiar BV, Guerreiro MM, McBrien D, Montenegro MA. Seizure impact on the school attendance in children with epilepsy. *Seizure.* 2007;16(8):698–702
 64. Seirawan H, Faust S, Mulligan R. The impact of oral health on the academic performance of disadvantaged children. *Am J Public Health.* 2012;102(9):1729–1734
 65. Piovesan C, Antunes JL, Mendes FM, Guedes RS, Ardenghi TM. Influence of children's oral health-related quality of life on school performance and school absenteeism. *J Public Health Dent.* 2012;72(2):156–163
 66. Jackson SL, Vann WF Jr, Kotch JB, Pahel BT, Lee JY. Impact of poor oral health on children's school attendance and performance. *Am J Public Health.* 2011;101(10):1900–1906
 67. Blumenshine SL, Vann WF Jr, Gizlice Z, Lee JY. Children's school performance: impact of general and oral health. *J Public Health Dent.* 2008;68(2):82–87
 68. Thikkurissy S, Glazer K, Amini H, Casamassimo PS, Rashid R. The comparative morbidities of acute dental pain and acute asthma on quality of life in children. *Pediatr Dent.* 2012;34(4):e77–e80
 69. Guarnizo-Herreño CC, Wehby GL. Children's dental health, school performance, and psychosocial well-being. *J Pediatr.* 2012;161(6):1153–1159

70. Li Y, Raychowdhury S, Tedders SH, Lyn R, López-De Fede A, Zhang J. Association between increased BMI and severe school absenteeism among US children and adolescents: findings from a national survey, 2005-2008. *Int J Obes*. 2012;36(4):517-523
71. Baxter SD, Royer JA, Hardin JW, Guinn CH, Devlin CM. The relationship of school absenteeism with body mass index, academic achievement, and socioeconomic status among fourth-grade children. *J Sch Health*. 2011; 81(7):417-423
72. Rappaport EB, Daskalakis C, Andrel J. Obesity and other predictors of absenteeism in Philadelphia school children. *J Sch Health*. 2011;81(6): 341-344
73. Shore SM, Sachs ML, Lidicker JR, Brett SN, Wright AR, Libonati JR. Decreased scholastic achievement in overweight middle school students. *Obesity (Silver Spring)*. 2008;16(7):1535-1538
74. Jones R, Hoare P, Elton R, Dunhill Z, Sharpe M. Frequent medical absences in secondary school students: survey and case-control study. *Arch Dis Child*. 2009;94(10):763-767
75. Forrest CB, Bevans KB, Riley AW, Crespo R, Louis TA. School outcomes of children with special health care needs. *Pediatrics*. 2011;128(2):303-312
76. Bethell C, Forrest CB, Stumbo S, Gombojav N, Carle A, Irwin GE. Factors promoting or potentially impeding school success: disparities and state variations for children with special health care needs. *Matern Child Health J*. 2012;16(suppl 1):S35-S43
77. Reuben CA, Pastor PN. The effect of special health care needs and health status on school functioning. *Disabil Health J*. 2013;6(4):325-332
78. O'Connor M, Howell-Meurs S, Kvalsvig A, Goldfeld S. Understanding the impact of special health care needs on early school functioning: a conceptual model. *Child Care Health Dev*. 2015;41(1):15-22
79. Willits KA, Troutman-Jordan ML, Nies MA, Racine EF, Platonova E, Harris HL. Presence of medical home and school attendance: an analysis of the 2005-2006 national survey of children with special healthcare needs. *J Sch Health*. 2013;83(2):93-98
80. Turchi RM, Berhane Z, Bethell C, Pomponio A, Antonelli R, Minkovitz CS. Care coordination for CSHCN: associations with family-provider relations and family/child outcomes. *Pediatrics*. 2009;124(suppl 4): S428-S434
81. Fitzpatrick SE, Srivorakiat L, Wink LK, Pedapati EV, Erickson CA. Aggression in autism spectrum disorder: presentation and treatment options. *Neuropsychiatr Dis Treat*. 2016;12: 1525-1538
82. Pas ET, Johnson SR, Larson KE, Brandenburg L, Church R, Bradshaw CP. Reducing behavior problems among students with autism spectrum disorder: coaching teachers in a mixed-reality setting. *J Autism Dev Disord*. 2016;46(12):3640-3652
83. Egger HL, Costello EJ, Angold A. School refusal and psychiatric disorders: a community study. *J Am Acad Child Adolesc Psychiatry*. 2003;42(7): 797-807
84. Bernstein GA, Garfinkel BD. School phobia: the overlap of affective and anxiety disorders. *J Am Acad Child Psychiatry*. 1986;25(2):235-241
85. Gase LN, Kuo T, Collier K, Guerrero LR, Wong MD. Assessing the connection between health and education: identifying potential leverage points for public health to improve school attendance. *Am J Public Health*. 2014; 104(9):e47-e54
86. Hallfors D, Vevea JL, Iritani B, Cho H, Khatapoush S, Saxe L. Truancy, grade point average, and sexual activity: a meta-analysis of risk indicators for youth substance use. *J Sch Health*. 2002;72(5):205-211
87. Wood JJ, Lynne-Landsman SD, Langer DA, et al. School attendance problems and youth psychopathology: structural cross-lagged regression models in three longitudinal data sets. *Child Dev*. 2012;83(1):351-366
88. Ingul JM, Klöckner CA, Silverman WK, Nordahl HM. Adolescent school absenteeism: modelling social and individual risk factors. *Child Adolesc Ment Health* 2012;17(2):93-100
89. Steiner RJ, Rasberry CN. Brief report: associations between in-person and electronic bullying victimization and missing school because of safety concerns among U.S. high school students. *J Adolesc*. 2015;43:1-4
90. Seelman KL, Forge N, Walls NE, Bridges N. School engagement among LGBTQ high school students: the roles of safe adults and gay-straight alliance characteristics. *Child Youth Serv Rev*. 2015;57:19-29
91. Stempel H, Cox-Martin M, Bronsert M, Dickinson LM, Allison MA. Chronic school absenteeism and the role of adverse childhood experiences. *Acad Pediatr*. 2017;17(8):837-843
92. Willmott M, Nicholson A, Busse H, MacArthur GJ, Brookes S, Campbell R. Effectiveness of hand hygiene interventions in reducing illness absence among children in educational settings: a systematic review and meta-analysis. *Arch Dis Child*. 2016;101(1): 42-50
93. Stebbins S, Cummings DA, Stark JH, et al. Reduction in the incidence of influenza A but not influenza B associated with use of hand sanitizer and cough hygiene in schools: a randomized controlled trial. *Pediatr Infect Dis J*. 2011;30(11):921-926
94. Hull HF, Ambrose CS. The impact of school-located influenza vaccination programs on student absenteeism: a review of the U.S. literature. *J Sch Nurs*. 2011;27(1):34-42
95. Committee on Practice and Ambulatory Medicine; Committee on Infectious Diseases; Committee on State Government Affairs; Council on School Health; Section on Administration and Practice Management. Medical versus nonmedical immunization exemptions for child care and school attendance. *Pediatrics*. 2016;138(3):e20162145
96. Council on School Health. Role of the school nurse in providing school health services. *Pediatrics*. 2016;137(6): e20160852
97. National Association of School Nurses. School nurse workload: staffing for safe care (position statement). 2015. Available at: <https://www.nasn.org/advocacy/professional-practice-documents/position-statements/ps-workload>. Accessed December 21, 2018
98. Office of Disease Prevention and Health Promotion. Healthy people 2020. ECP-5.

2016. Available at: <https://www.healthypeople.gov/2020/topics-objectives/topic/educational-and-community-based-programs/objectives>. December 21, 2018
99. Lipkin PH, Okamoto J; Council on Children with Disabilities; Council on School Health. The individuals with disabilities education act (IDEA) for children with special educational needs. *Pediatrics*. 2015;136(6). Available at: www.pediatrics.org/cgi/content/full/136/6/e1650
 100. Pennington N, Delaney E. The number of students sent home by school nurses compared to unlicensed personnel. *J Sch Nurs*. 2008;24(5):290–297
 101. Telljohann SK, Dake JA, Price JH. Effect of full-time versus part-time school nurses on attendance of elementary students with asthma. *J Sch Nurs*. 2004; 20(6):331–334
 102. Rodriguez E, Rivera DA, Perloth D, Becker E, Wang NE, Landau M. School nurses' role in asthma management, school absenteeism, and cost savings: a demonstration project. *J Sch Health*. 2013;83(12):842–850
 103. Maughan E. The impact of school nursing on school performance: a research synthesis. *J Sch Nurs*. 2003; 19(3):163–171
 104. Willgerodt MA, Brock DM, Maughan ED. Public school nursing practice in the United States. *J Sch Nurs*. 2018;34(3): 232–244
 105. Knopf JA, Finnie RK, Peng Y, et al; Community Preventive Services Task Force. School-based health centers to advance health equity: a community guide systematic review. *Am J Prev Med*. 2016;51(1):114–126
 106. Community Preventive Services Task Force. School-based health centers to promote health equity: recommendation of the Community Preventive Services Task Force. *Am J Prev Med*. 2016;51(1):127–128
 107. The School-Based Health Alliance. 2013-2014 census report of school-based health centers. 2015. Available at: www.sbh4all.org/school-health-care/national-census-of-school-based-health-centers/. Accessed September 5, 2017
 108. Walker SC, Kerns SE, Lyon AR, Bruns EJ, Cosgrove TJ. Impact of school-based health center use on academic outcomes. *J Adolesc Health*. 2010;46(3): 251–257
 109. McCord MT, Klein JD, Foy JM, Fothergill K. School-based clinic use and school performance. *J Adolesc Health*. 1993; 14(2):91–98
 110. Van Cura M. The relationship between school-based health centers, rates of early dismissal from school, and loss of seat time. *J Sch Health*. 2010;80(8): 371–377
 111. Webber MP, Carpinello KE, Oruwariye T, Lo Y, Burton WB, Appel DK. Burden of asthma in inner-city elementary schoolchildren: do school-based health centers make a difference? *Arch Pediatr Adolesc Med*. 2003;157(2): 125–129
 112. Gall G, Pagano ME, Desmond MS, Perrin JM, Murphy JM. Utility of psychosocial screening at a school-based health center. *J Sch Health*. 2000;70(7): 292–298
 113. Geierstanger SP, Amaral G, Mansour M, Walters SR. School-based health centers and academic performance: research, challenges, and recommendations. *J Sch Health*. 2004; 74(9):347–352
 114. Becker KD, Brandt NE, Stephan SH, Chorpita BF. A review of educational outcomes in the children's mental health treatment literature. *Adv Sch Ment Health Promot*. 2014;7(1):5–23
 115. King NJ, Tonge BJ, Heyne D, et al. Cognitive-behavioral treatment of school-refusing children: a controlled evaluation. *J Am Acad Child Adolesc Psychiatry*. 1998;37(4):395–403
 116. Pina AA, Zerr AA, Gonzales NA, Ortiz CD. Psychosocial interventions for school refusal behavior in children and adolescents. *Child Dev Perspect*. 2009; 3(1):11–20
 117. McInerney M, McKlinton A; Education Law Center. Unlocking the door to learning: trauma-informed classrooms & transformational schools. 2014. Available at: <https://www.elc-pa.org/resource/unlocking-the-door-to-learning-trauma-informed-classrooms-and-transformational-schools/>. Accessed December 21, 2018
 118. Daly BP, Sander MA, Nicholls EG, Medhanie A, Vanden Berk E, Johnson J. Three-year longitudinal study of school behavior and academic outcomes: results from a comprehensive expanded school mental health program. *Adv Sch Ment Health Promot*. 2014;7(1):24–41
 119. Kang-Yi CD, Mandell DS, Hadley T. School-based mental health program evaluation: children's school outcomes and acute mental health service use. *J Sch Health*. 2013;83(7): 463–472
 120. Thapa A, Cohen J, Guffey S, Higgins-D'Alessandro A. A review of school climate research. *Rev Educ Res*. 2013; 83(3):357–385
 121. National School Climate Center. What is School Climate? 2016. Available at: <https://www.schoolclimate.org/about/our-approach/what-is-school-climate>. Accessed December 21, 2018
 122. Centers for Disease Control and Prevention. School Connectedness: Strategies for Increasing Protective Factors Among Youth. Atlanta, GA: US Department of Health and Human Services; 2009. Available at: www.cdc.gov/healthyyouth/protective/pdf/connectedness.pdf. Accessed December 21, 2018
 123. David-Ferdon C, Vivolo-Kantor AM, Dahlberg LL, Marshall KJ, Rainford N, Hall JE. *A Comprehensive Technical Package for the Prevention of Youth Violence and Associated Risk Behaviors*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2016
 124. Epstein JL, Sheldon SB. Present and accounted for: improving student attendance through family and community involvement. *J Educ Res*. 2002;95(5):308–318
 125. Sheldon SB. Improving student attendance with school, family, and community partnerships. *J Educ Res*. 2007;100(5):267–275
 126. Monahan KC, VanDerhei S, Bechtold J, Cauffman E. From the school yard to the squad car: school discipline, truancy, and arrest. *J Youth Adolesc*. 2014;43(7): 1110–1122
 127. Rogers T, Feller A. Reducing student absences at scale by targeting parents' misbeliefs. 2018. *Nature Human*

- Behaviour. doi: 10.1038/s41562-018-0328-1
128. Epstein JL, Van Voorhis FL. School counselors' roles in developing partnerships with families and communities for student success. *Prof Sch Couns*. 2010;14(1):1–14
 129. American School Counselor Association. The school counselor and school-family-community partnerships. 2010. Available at: https://www.schoolcounselor.org/asca/media/asca/PositionStatements/PS_Partnerships.pdf. Accessed August 29, 2017
 130. Centers for Disease Control and Prevention. Whole School, Whole Community, Whole Child (WSCC) Model. 2018. Available at: <https://www.cdc.gov/healthyyouth/wscclmodel.htm>. Accessed December 21, 2018
 131. Lewallen TC, Hunt H, Potts-Datema W, Zaza S, Giles W. The Whole School, Whole Community, Whole Child model: a new approach for improving educational attainment and healthy development for students. *J Sch Health*. 2015;85(11):729–739
 132. Michael SL, Merlo CL, Basch CE, Wentzel KR, Wechsler H. Critical connections: health and academics. *J Sch Health*. 2015;85(11):740–758
 133. National Association of School Nurses. Asthma. 2017. Available at: <https://www.nasn.org/nasn/nasn-resources/practice-topics/asthma>. Accessed August 29, 2017
 134. National Association of School Nurses. Food allergies and anaphylaxis. 2017. Available at: <https://www.nasn.org/nasn/nasn-resources/practice-topics/food-allergies>. Accessed August 29, 2017
 135. Epilepsy Foundation. Seizure action plan. 2008. Available at: https://www.epilepsy.com/sites/core/files/atoms/files/seizure-action-plan-pdf_0.pdf. Accessed August 29, 2017
 136. Donoghue EA, Kraft CA. *Managing Chronic Health Needs in Child Care and Schools: A Quick Reference Guide*, 2nd ed. American Academy of Pediatrics; 2018
 137. Shope TR, Aronson SS, eds. *Managing Infectious Diseases in Child Care and Schools: A Quick Reference Guide*. 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2013
 138. Committee on Infectious Diseases American Academy of Pediatrics. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015
 139. American Academy of Pediatrics; Council on Community Pediatrics. Policy statement: Poverty and Child Health in the United States. *Pediatrics*. 2016; 137(4):e20160339
 140. American School Counselor Association. *ASCA National Model: A Framework for School Counseling Programs*. 3rd ed. Alexandria, VA: American School Counselor Association; 2012. Available at: <https://schoolcounselor.org/Ascanationalmodel/media/ANM-templates/ANMExecSumm.pdf>. Accessed August 29, 2017
 141. Devore CD, Schutze GE; Council on School Health and Committee on Infectious Diseases, American Academy of Pediatrics. Head lice [published correction appears in *Pediatrics*. 2015;136(4):781–782]. *Pediatrics*. 2015;135(5). Available at: www.pediatrics.org/cgi/content/full/135/5/e1355
 142. Devore CD, Wheeler LS; Council on School Health; American Academy of Pediatrics. Role of the school physician. *Pediatrics*. 2013;131(1):178–182
 143. Medical Home Initiatives for Children With Special Needs Project Advisory Committee; American Academy of Pediatrics. The medical home. *Pediatrics*. 2002;110(1 pt 1):184–186
 144. Positive Behavioral Interventions & Supports. Positive Behavioral Interventions & Supports. 2016. Available at: <https://www.pbis.org>. Accessed December 21, 2018

The Link Between School Attendance and Good Health

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Pediatrics 2019;143;

DOI: 10.1542/peds.2018-3648 originally published online January 28, 2019;

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Pediatrics 2019;143;

DOI: 10.1542/peds.2018-3648 originally published online January 28, 2019;

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