



School-Based Health Centers and Pediatric Practice

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School-based health centers (SBHCs) are unique health care settings for our nation's school-aged children and adolescents. SBHCs represent the collaboration between the health and school communities to support the health and mental health needs and the academic achievements of children and adolescents, particularly students with health disparities or poor access to health care. SBHCs improve access to health care services for students by decreasing financial, geographic, age, and cultural barriers. This policy statement provides an overview of SBHCs, including the scope of services as well as some of the documented benefits and challenges. This policy statement also reviews the role of SBHCs in working with the pediatric medical home and provides recommendations that support the coordination of SBHCs with pediatric primary care providers and the pediatric medical home.

BACKGROUND

School-based health centers (SBHCs) are unique health care settings for school-aged children and adolescents that have been proven to improve access to care, improve health outcomes, and reduce health disparities.^{1,2} Conveniently located in schools or on school grounds, SBHCs provide primary care services that address the physical and mental health needs of students. SBHCs represent a collaborative commitment with the school community to support the health and academic success of children and adolescents.³

Significant growth in the number of SBHCs in the United States over the last 2 decades is evident in the most recent data from the National School-Based Health Care Census report conducted by the School-Based Health Alliance (SBHA) in 2016–2017.⁴ According to that report, there are 2584 SBHCs that serve students and communities in 48 of 50 states and the District of Columbia and Puerto Rico.⁴ The number of SBHCs has more than doubled since 1998.⁴ Currently, 46% of SBHCs are in urban communities, 36% are in rural areas, and 18% are in suburban

abstract

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communities.⁴ The growth of SBHCs in rural and suburban areas has outpaced that in urban settings since 2008.⁴ According to the 2016–2017 SBHA census report, 17% of SBHCs are located in high schools, 40% are located in elementary schools, 13% are located in middle schools, and 30% are located in schools with unique grade combinations, such as kindergarten through grade 12.⁴

SBHCs were developed as the scope of school health expanded. The Robert Wood Johnson Foundation, instrumental in the promotion of the SBHC model, continues its support today by funding the Center for Health and Health Care in Schools.^{5,6} Recognizing that healthier students made better learners, pediatric and nursing health professionals initially pioneered school health services in an effort to address the unmet health care needs of schoolchildren.^{7,8} As the scope of school health services expanded, schools began to provide several critical health services, including triage and management of medical emergencies; medication delivery; services for youth with special health care needs; referral for common health problems, such as injury, asthma, and mental and emotional difficulties; and health screenings.^{3,9–11} SBHCs provide a “health care ‘safety net’ for children and adolescents who are uninsured or underinsured or represent special populations who do not regularly access health care.”³

As SBHCs have evolved over time, the recommendations for best practices for SBHCs have also evolved. Guidelines include community needs assessment, coordination of care with the medical community, and measurement of performance indicators reflecting the effect of SBHC services on students’ health and academic outcomes.^{12–15}

According to the SBHA, the 7 core competencies of SBHCs are¹⁶ as follows:

- access: the SBHC ensures students’ access to health care and support services to help them thrive; SBHCs are located in schools or on school grounds and work within the school to become a part of the school;
- student focus: the SBHC team and services are organized around health issues that affect student well-being and academic success;
- school integration: the SBHC integrates the education and environment to support the school’s mission of student success;
- accountability: the SBHC routinely evaluates its performance against accepted standards of quality to achieve optimal outcomes for students;
- school wellness: the SBHC promotes a culture of health across the entire school community;
- systems coordination: the SBHC coordinates across relevant systems of care that share in the well-being of its patients; and
- sustainability: the SBHC employs sound management practices to ensure a sustainable business.

ROLE OF THE SBHC IN INCREASING ACCESS TO HEALTH CARE

SBHCs serve a critical role in increasing access to quality comprehensive and coordinated primary care for children and adolescents, especially underserved, at-risk, and stressed children and adolescents.^{1,2} SBHCs are health care centers for students in prekindergarten through 12th grade and are ideally located on-site in the school, thereby decreasing geographic or transportation barriers to health care.^{1,2} Recently, the number of SBHCs has increased in rural areas.⁴ Demonstrated to be effective in the higher-density urban

community, SBHCs in rural areas face challenges because of the low population density.¹⁷ However, for some rural communities with limited or no medical providers, SBHCs can potentially increase access to medical services for students.

SBHCs also increase access to care by addressing financial barriers.^{3,17} For uninsured and underinsured students, SBHC services are available at minimal out-of-pocket cost. SBHCs help enroll these eligible students in much needed health insurance, such as Medicaid or the Children’s Health Insurance Program.³ Because SBHCs are generally located in low-income urban areas and in communities with a high proportion of historically disadvantaged populations, this source of student health care and health education may be an effective means of advancing health equity.^{1,2}

SBHCs increase adolescent use of health care. Many teenagers, especially male teenagers, are reluctant to seek health care in a traditional medical setting because of cost, confidentiality concerns, and parental involvement.^{18–20} By providing convenient and confidential care in a familiar setting with supportive staff, SBHCs reduce barriers to care for adolescents, particularly in the areas of sexual and reproductive health, substance use, and mental health issues.^{21–26} In one study by Stone et al²⁷ in the San Francisco school district, SBHC users reported a caring relationship with program staff. In another study by Allison et al²⁸ in the Denver Public Schools area, adolescent SBHC users were more likely to have received a health maintenance visit, more likely to have received vaccines, and less likely to have used emergency care than other users. SBHC users were also less

likely than other users to be insured.²⁸

SBHCs increase access to care, which is beneficial to all stakeholders. Parents and caregivers benefit with the knowledge that their child can receive health care without leaving school and that this care is covered at no or low cost. School leaders and the school community benefit because the students' health care needs are addressed on-site and there is a reduction in missed class time and absenteeism.^{29,30} Employers of parents and caregivers appreciate that there are reduced employee productivity losses because of missed work time to care for sick children or transport them to medical settings.²⁹ SBHCs help students with special acute and chronic medical and mental health concerns, with the goal to improve their ability to academically succeed in the classroom.^{31,32} SBHCs can partner with schools to improve academic outcomes by potentially reducing absenteeism and suspension with the provision of mental health and substance use services. In one urban school district study, the use of SBHCs for medical concerns was associated with an increase in attendance and the use of SBHCs for mental health concerns was associated with an increase in grade point average.³¹

SERVICES PROVIDED BY SBHCs

The range of services provided by SBHCs is dependent on the sponsors' resources as well as the needs of the community. At the minimum, SBHCs provide health care services, which may include health maintenance supervision or well-child care, immunizations, and/or laboratory services. Some SBHCs may provide a wider range of preventive and psychosocial services, including hearing and vision screening, vision services (eg, provision of corrective

lenses), reproductive health services, mental health services, social services, health education, and oral health services. Mental health services may include screening, counseling, and substance use disorder services.

Three staffing models exist in SBHCs.^{3,29,33} In one model, a single clinician, such as a nurse practitioner or a physician assistant, may provide primary care services. Another staffing model includes staff who provide primary care and mental health services. Finally, a third staffing model provides medical and mental health with expanded services that involve an interdisciplinary team of social workers, health educators, and dental providers. All these SBHC models can provide age-specific and age-sensitive specialized health care for students. Sponsors independent of the school system, such as federally qualified health centers, hospitals, academic medical institutions, medical centers, or departments of health, also provide these services.²⁹

Services are usually available during school hours. The majority of SBHCs (75%) are open and provide services during all regular school hours.⁴ Enrollment in the SBHC generally requires parental permission.^{1,29,32} Additional permission typically would be necessary for the treatment of specific conditions. The child may be able to consent for certain types of health care services, such as reproductive health, as provided by state law. Limited consents for specific types of health care services, such as reproductive health care, may be available to individual students only, again, as regulated by state and local guidelines.^{1,32}

Sixty-five percent of all SBHCs provide primary care and mental health services.⁴ The percentage of

all SBHC sites that report expanded services is 41%.⁴ Expanded services may include health education, nutritional counseling, reproductive health, and oral health.⁴ Expanded specialized programs may be directed toward prevention or treatment of a specific medical condition, such as asthma or obesity, or a social determinant of health, such as food insecurity or discrimination. Expanded mental health services may include specific areas of need, such as substance use disorder treatment and comanagement with the medical provider for co-occurring medical disorders.

SBHCs serve to increase school connectedness, the concept that students believe the adults and peers in their school care about them as individuals as well as about their learning.^{34,35} The staff of the SBHC serves as a resource to the entire school community and often coordinates school health services as well as assists school wellness promotion efforts. By implementing the recommendations of *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents* into clinical practice for health examinations, SBHCs are better able to address the main components of health supervision (disease detection, disease prevention, health promotion, and anticipatory guidance) with the entire school community.^{3,36} With this level of involvement, SBHCs also promote the principles of the Whole School, Whole Child, Whole Community model. The Whole School, Whole Child, Whole Community model has 10 components, including health education; physical education and physical activity; nutrition environment services; health services; counseling, psychological, and social services; social and emotional climate; physical environment; employee wellness;

family engagement; and community involvement. It is a coordinated school health program designed to address the health and education needs of the whole child and to promote and support healthy lifestyles for the students, teachers, staff, and community.³⁷⁻³⁸

EFFECTIVENESS OF SBHCS IN IMPROVING OUTCOMES

The effectiveness of SBHCs in improving health outcomes and reducing health disparities has clearly been demonstrated in the literature. Studies have demonstrated improved health outcomes with specific medical conditions and increasing access to mental health services. The literature has shown that SBHCs reduce health disparities by providing services to students from diverse racial and socioeconomic backgrounds, particularly the underinsured or uninsured child.^{2,39} The Community Preventive Services Task Force, established by the US Department of Health and Human Services to identify population health interventions scientifically proven to improve the quality of life, recommends the implementation and maintenance of SBHCs in low-income communities on the basis of a systematic review of the impact of SBHCs on educational and health outcomes.^{17,40}

Preventive Health Care

Studies have shown that SBHCs increase use of preventive health services. In a study comparing access and quality of health services among students attending an urban high school with an SBHC compared with students attending a high school without an SBHC, students with access to the SBHC were more likely to report having a regular health care provider, awareness of confidential services, support for health services in their school, and

willingness to use those services. Users of the SBHC reported higher quality of care compared with nonusers or students in the comparison school. The presence of comprehensive health services via the SBHC led to improved access to health care and improved quality of care.⁴¹ In another study demonstrating improved prevention services, recalling students for SBHC appointments was effective in improving immunization rates for all vaccines recommended for adolescents.⁴²

Reproductive Health

The literature supports the concept that SBHCs improve access to reproductive health services and remain an important component in adolescent pregnancy prevention. A study by Minguez et al⁴³ demonstrated that students with access to comprehensive reproductive health services via an SBHC reported greater exposure to reproductive health education and counseling and greater use of hormonal contraception. In another study, sexually active female students received specific reproductive health care and were more likely to have used a hormonal contraceptive method if their school had an SBHC.⁴⁴ In a study comparing an SBHC that dispensed hormonal contraceptive on-site with an SBHC that referred students to an off-campus family planning clinic, the on-site SBHC dispensing hormonal contraception was associated with a lower pregnancy rate than the SBHC referring female students for hormonal contraception.⁴⁵ The availability and provision of emergency contraception in an SBHC also improves access to reproductive health services.⁴³⁻⁴⁷ Provision of reproductive health services in SBHCs remains a subject of controversy in some communities. However, in one study of

stakeholders, there was strong support for the inclusion of reproductive health services in SBHCs.⁴⁸

Mental Health

Literature shows that schools are ideal settings for mental health intervention. School-based mental health interventions, including the area of substance use services, offer an opportunity to reach the greatest number of affected youth who otherwise may not receive behavioral health care.⁴⁹ A study in California comparing the mental health risk profile and health use of SBHC users and nonusers demonstrated that SBHCs play a role in identifying and addressing mental health concerns that might otherwise go unmet, especially among adolescents with public or no insurance.⁵⁰ Studies have shown that SBHCs may be important sites to address bullying, violence, and suicide prevention⁵¹⁻⁵³ and to promote mental health and overall wellness.⁵⁴ One study in Oregon schools with SBHCs showed that an increase in mental health services availability was associated with relative reductions in reported depressive episodes and suicidal ideation among adolescent students.⁵³

Chronic Conditions Such as Asthma and Obesity

Literature demonstrates that SBHCs are a setting for innovative asthma quality improvement initiatives, demonstrating reduction in activity restriction attributable to asthma and a significant reduction in emergency department visits for asthma.¹⁵ SBHCs are also ideal settings to address obesity and to initiate a weight management intervention because they are on-site and able to address and engage the student community.⁵⁵⁻⁵⁸

School Performance

Academic benefits include improved school performance, grade promotion, and high school completion.^{2,59,60} In a study by Kerns et al,³¹ SBHC use was associated with a reduction in the drop-out rate in a large urban school district, especially by students believed to be at high risk for dropping out of school. By reducing barriers to health care, SBHCs reduce school absenteeism and time missed from school.^{30,32} SBHCs help to identify and support any social or emotional sources of stress that interfere with students' academic achievement.³²

SBHCS AND THE MEDICAL HOME AND THE ROLE OF THE PEDIATRICIAN

SBHCs support the principles of the medical home model, as defined by the American Academy of Pediatrics,⁶¹ which refers to delivery of medical care that should be accessible, continuous, comprehensive, family centered, coordinated, compassionate, and culturally effective.^{32,62} In one study conducted in a large low-income urban population, SBHCs met the criteria of the medical home from adolescents' and parents' perspectives.⁶³ For students who do not have access to a medical home and do not have the involvement of a community pediatrician, SBHCs may indeed become the primary source of health care for youth. In other cases, the SBHC can assist in linking the student and his or her family to a medical home. For students who do have access to a medical home, pediatricians and SBHCs may collaborate and coordinate care to promote linkages so that services are provided when school is not in session and to avoid duplication or fragmentation of care.³

In the implementation and planning phase of an SBHC, the SBHC may

conduct school community needs assessments and collaborate with a health care sponsor to address the community's documented needs and avoid duplication and fragmentation of care.³ Sponsors have included community pediatricians who provide care to underserved children in their communities by establishing SBHCs as satellites of their practices with financial support from grants and contracts. Pediatricians, as sponsors, may partner with a school to establish the SBHC as an extension of their pediatric medical home by the provision of direct patient care or by the supervision of health care. This partnership is beneficial to the SBHC because the pediatric practice provides a continuum of access to care, especially after school hours. Using SBHCs as an extension of their pediatric practices, pediatricians can assist as the connection between the SBHC and the community.²⁹ Sponsors also include local hospitals that can provide prearranged after-hours and school vacation coverage and financial support for SBHCs. This arrangement can be beneficial to local hospitals because services provided in SBHCs can reduce hospital costs by preventing unnecessary emergency or urgent care visits and hospitalizations as well as by enrolling students in public forms of health insurance. As the concept of the medical home matures, the role of SBHCs can also evolve into this model as a collaborating partner or possibly as a medical home.⁶⁴ SBHC sponsors may consider engaging in a regional or formal national patient-centered medical home (PCMH) recognition process. From 2017 to 2019, the National Committee for Quality Assurance had offered a PCMH recognition process specifically for SBHCs.^{65,66} During this time, SBHC sponsors were able to engage in a

national PCMH recognition process. One report noted that of 1212 SBHCs reporting to the 2013–2014 National SBHA Census, 143 (12%) achieved state or regional PCMH accreditation and 203 (17%) received national PCMH accreditation from the National Committee for Quality Assurance, the Accreditation Association of Ambulatory Health Care, or The Joint Commission.⁶⁷ In another study, SBHCs were measured for PCMH attributes and were found to be doing well with implementing certain elements of the PCMH model, specifically care management, access, and quality dimensions.⁶⁸ Limited financial resources in SBHCs make applying for PCMH status a difficult prospect and may explain why more SBHCs do not apply.⁶⁸

The involvement of community pediatric primary care providers in school health, especially in SBHCs, can be beneficial to both the school community and the medical community. Pediatricians may benefit from the collaboration with school leaders so that they may better understand their patient in the context of a school setting and may better provide health recommendations that can be adopted feasibly in the patient's natural settings, including schools. Pediatricians can provide the guidance and oversight needed in school health services and school wellness promotion efforts. The role of the pediatrician can include serving on state and district school boards, participating in local school health advisory councils, and providing direct clinical services as the school physician or through SBHCs. Pediatricians can collaborate with the advanced practice clinicians who typically staff the SBHCs and can work with SBHCs to improve communication with the primary care medical community. Pediatricians can

also provide the expertise needed to assist SBHCs in care coordination.^{3,69}

OPPORTUNITIES

There are numerous opportunities in the field of school health and SBHCs. SBHCs serve as a unique educational training setting for learners such as residents and medical students.²⁹ It has been shown in the literature that when residents and medical students are exposed to school health during residency, there is an increased likelihood that they will be more aware of and become more involved in school health later in their practice.^{70,71}

On the basis of the current SBHA census, the number of SBHCs using electronic health records (EHRs) is growing.⁴ Use of an EHR will bring new opportunities (as well as challenges) and could be particularly helpful in implementing the medical home model. The use of an EHR can potentially improve accessibility and coordination of medical records outside of SBHC hours of operation. EHRs have the potential for linking SBHCs and the patients who use them to community pediatricians, to other health systems, to health information exchanges, and to other primary care providers.³³

The expansion of telehealth technology services can help to address the geographic barriers that have limited the growth of SBHCs in rural communities. One-fifth of all SBHCs have at least one provider available through telehealth services.⁴ The percentage of telehealth-exclusive SBHCs, defined as no primary care provider physically on-site, increased from 1% in 2013–2014 to 12% in 2016–2017.⁴ SBHCs using telehealth technology are increasing the variety of services they provide, including mental health, nutrition services, and access to pediatric

subspecialists.⁶⁴ For telehealth technology services to be effective, the telehealth presenter should be someone trained in equipment use and the regulations of the Health Insurance Portability and Accountability Act (HIPAA). The telehealth services should be affiliated with a health system, such as a pediatric office, an academic institution, or a hospital, that can provide standards and guidelines for use and expanded health services for students. The increased use of telehealth technology services remains a great opportunity for SBHCs.⁶⁴

SBHC services complement and extend the work of the school nurses, who are responsible for the entire population of students. SBHCs provide a referral site for students without another medical home. Some SBHCs may provide primary nursing services, and other SBHCs may be integrated with school nursing services.⁷² As articulated in the Whole School, Whole Child, Whole Community model, these alliances are crucial to the provision of a wide range of student health services.

CHALLENGES

There are multiple challenges facing SBHCs. One major challenge in any school health program, including SBHCs, involves the concept that health and education systems do not always share the same priorities.³ There is a logical interface between health and education. Children cannot learn if they are not healthy, not present to receive instruction, and not connected to the school socially and emotionally. SBHC providers and community pediatricians can bring together the health and education sponsors with a common goal of better outcomes for children.^{3,23,73,74}

Pediatricians dedicated to initiating a new SBHC may find barriers related to the time commitment involved in engaging appropriate stakeholders, conducting needs assessments, developing the business and/or financial plan, and identifying funding sources. Existing school health advisory councils within the majority of schools or districts can assist in these activities and reduce the burden.^{3,13,73,75} Additionally, the SBHA has been a resource to pediatricians and an advocate for the implementation and ongoing operation of SBHCs.⁷⁶

To support the medical home model, communication among the stakeholders (school, SBHCs, and community primary care providers) needs to occur from the planning stages to the operational stages.^{3,12,77} Lines of communication between the SBHC and community primary care providers need to be established to discuss shared patients. Communication is equally important when an SBHC closes. To protect the students it serves, an SBHC should have a communication process to ensure continuity of care and transfer of medical records.

There is a wide range of medical and mental health services that can potentially be provided to students in an SBHC. For some SBHCs, the provision of specific health services has been restricted. Some SBHCs are prohibited from dispensing contraception.³

There is significant evidence in the literature that SBHCs reduce the cost to the health system by decreasing use of the emergency department and can decrease hospitalizations, reduce absenteeism, and reduce parental productivity losses.^{1,2} In an economic evaluation conducted by the Community Preventive Services Task Force of the US Department of Health and Human Services, the

economic benefit of SBHCs exceeded the intervention operating cost. SBHCs have been shown to result in a net savings to Medicaid because of a reduction in emergency department use for services provided to youth with asthma.²

Despite this economic benefit, the development of a financially sustainable business model remains an ongoing challenge for SBHCs. SBHCs generally require multiple funding sources to remain financially solvent.^{4,76} Most SBHCs serve uninsured or underinsured patients, who may additionally require case management or social support that may be inadequately reimbursed by insurance.⁴ With potential changes in the Patient Protection and Affordable Care Act, additional start-up and ongoing funding in addition to insurance billing and reimbursement is necessary.^{3,13,76}

Confidentiality is another continuous challenge to the provision of services in an SBHC. Privacy concerns can be a barrier to communication and access to health care. Confidentiality for adolescents and health information access and transfer are challenges regulated by HIPAA and the Family Educational Rights and Privacy Act (FERPA). Since 2008, the US Department of Education and the US Department of Health and Human Services have provided guidance in the implementation of HIPAA and FERPA privacy laws.⁷⁸ As the use of EHRs and other clinical applications increase in SBHCs, HIPAA and FERPA privacy laws introduce complexity as the need to safeguard protected health information is balanced with the need to increase access to care and increase communication. The SBHA and American School Health Association have developed guidelines and recommendations in the area of confidentiality.^{3,16,33,79}

RECOMMENDATIONS

To achieve the best health and educational outcomes for school-aged children and adolescents, pediatricians remain a key role in SBHCs in the following areas:

1. Medical home model: Pediatricians involved with the development and management of SBHCs should recommend care coordination practices that promote patient access to a medical home, with attention to communication between health care providers across settings. Pediatricians should share their expertise to assist not already PCMH-accredited SBHCs to adopt practice changes in support of the medical home model.
2. Coordination of care: SBHCs and community primary care providers should be in communication to facilitate coordination of care and to avoid duplication and fragmentation of care. Use of an EHR-compatible form or a paper form, such as the American Academy of Pediatrics emergency information form for children with special health care needs,⁸⁰ should be used, with the goal of strengthening communication. Communication between the community-based pediatric practices and the SBHC is essential in the provision of high-quality, safe, and effective health care, especially in the areas of urgent care and referrals.
3. Clinical services: Pediatricians can support SBHCs and community schools by increased involvement, including providing clinical services, supervising trainees, serving as the SBHC's consultant or medical director, or serving as an SBHC sponsor.
4. School health advisory councils: Pediatricians can advocate for the development of school health advisory councils or participate on established school health advisory councils. These school health advisory councils provide a setting for analyzing and discussing newly emerging trends in health and social behavior and community conditions that might influence student health and academic success and for planning, developing, and monitoring school health services, including SBHCs. Pediatricians remain an essential voice in these school health advisory councils to advocate for best outcomes for the children and adolescents in their community.
5. Funding: With limited financial resources, SBHCs help address the health inequities of underinsured and uninsured children and adolescents. Pediatricians have a unique voice and perspective to advocate for funding for SBHCs from national, state, and local entities so that SBHCs may continue to reduce health inequities and expand services in support of the medical home model.
6. Advocacy: Pediatricians have a responsibility to advocate for programs that reduce health disparities and advance health equities for children and adolescents. Because SBHCs help pediatricians address health inequities attributable to poverty and racial and/or ethnic bias in their local communities, it is important for pediatricians to advocate for legislation that supports SBHCs to maintain them and keep them operational.

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ABBREVIATIONS

EHR: electronic health record
 FERPA: Family Educational
 Rights and Privacy Act
 HIPAA: Health Insurance
 Portability and
 Accountability Act
 PCMH: patient-centered medical
 home
 SBHA: School-Based Health
 Alliance
 SBHC: school-based health center

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