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What We Know about School-Based Health Centers: Literature on Outcomes, Cost Impact, Implementation, and Sustainability

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What We Know about School-Based Health Centers: Literature on Outcomes, Cost Impact, Implementation, and Sustainability

Abstract

Many children lack access to adequate healthcare in the United States. School Based Health Centers (SBHC) are a useful resource for accessing those needed services. The purpose of this study is to evaluate the available research for the strengths of SBHCs with improving health outcomes and health equity, cost impact of SBHCs, and best practices for implementing and sustaining an SBHC. The focus of this study was on reviewing the current literature on the impact of SBHCs on improving health equity, health outcomes, cost impact, and to establish best practices for implementing and sustaining an SBHC. Although the current literature is limited, there is a strong consensus that SBHCs improve health outcomes and health equity, are cost-effective, and there are strategies that can make implementing and sustaining an SBHC a success.

Keywords

school-based health centers, health equity, implementation, sustainability

Introduction

According to the organization Children's Health Fund, more than 20 million children in the United States lack access to adequate healthcare [1]. Many barriers have been identified that contribute to this problem. Parents report barriers related to cost, navigating services, lack of trust in services, and a lack of providers [2]. Children and youth report barriers to stigma, confidentiality, lack of access, and a lack of knowledge on how to access services [3]. School-based health centers (SBHC) can decrease these barriers and improve access to healthcare for school-aged children.

The number of SBHCs have doubled between 1989 and 2016 [4]. Even with this increase, there is limited research regarding many aspects of SBHCs. The research that is available acknowledges the positive impact that SBHCs have on improving health equity [5]. The purpose of this study is to evaluate the available research for the strengths of SBHCs with improving health outcomes and health equity, cost impact of SBHCs, and best practices for implementing and sustaining an SBHC.

According to Love et al., the number of SBHCs doubled from 1,135 in 1989 to 2,584 in 2016 [4]. The authors found that in 2016, 51% of SBHCs were sponsored by Federally Qualified Health Centers (FQHC), an increase from 19% in 1989. The study suggested that FQHCs partnering with SBHCs expanded the safety net in the community by providing needed healthcare services. SBHCs decrease barriers that children experience with accessing health care services by being located on a school campus. SBHCs can reach disadvantaged children that may not have another way to access healthcare. Current research demonstrates the positive impact of SBHCs on improving health equity and health outcomes.

Methods

For this study, a literature review was done to examine the current research on SBHCs. Advanced search was utilized in PubMed using “school-based health centers OR SBHC” and the following specifiers: (“mental health OR behavioral health”), (“health outcomes OR mental health outcomes”), (“healthcare access” OR “health equity”), (“implementation OR planning”), (“funding OR policy”), and (“planning OR developing”). Inclusion criteria included peer-reviewed studies that focused on health outcomes/health equity, cost impact of SBHCs, and developing and sustaining SBHCs. Articles chosen for this study only needed one of the topics in the inclusion criteria to be included due to the limited research available that included all topics. Exclusion criteria included studies completed prior to 2010 and studies that did not address the topics listed in the inclusion criteria.

Results

The search resulted in three literature reviews that met the criteria to be included in this study. Due to the author of this study accessing databases through a university system, the results may not have included all the research articles available in journals outside the university system. Due to the limited number of studies that met the inclusion criteria for this study, the articles were analyzed for additional sources that were relevant to this study. References were chosen that were included in the sources that related to the current study. Reviewing the articles for additional sources resulted in six additional sources that met the inclusion criteria for this study. The nine studies were reviewed and placed in the following categories: health equity/health outcomes, cost impact, and implementation/sustainability (Table 1).

Table 1.

Topic	Number of Articles	Sources
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Health Equity/Health Outcomes	5	Arneson et al. (2019) Bains & Diallo (2016) Knopf et al. (2016) Paschall & Bersamin (2018a) Paschall & Bersamin (2018b)
Cost Impact	2	Guo et al. (2010) Ran et al. (2016)
Implementation/Sustainability	2	Johnson et al. (2020) Sprigg et al. (2017)

The sources that were chosen for this study were both qualitative and quantitative. The sources were reviewed, and the author analyzed commonalities and differences among the sources. The limited research that is available on SBHCs may impact the results of this study. As SBHCs continue to expand, it would be beneficial to focus on expanding the research available on SBHCs. This study will focus on what the current research shows regarding SBHCs impact on health outcomes and health equity, cost impact of SBHCs, and discuss effective strategies for implementing and sustaining an SBHC.

The articles in this umbrella literature review were analyzed using the procedure outlined by Papatheodorou [6]. This type of review was chosen to give a succinct report on the current literature that is available for SBHCs regarding the topics that this paper focused on. The author analyzed different sources to find consensus around important considerations for developing a SBHC that can be utilized by school districts and its partners that are interested in developing an SBHC.

This author found consensus in the literature that to implement an SBHC, a needs assessment should be completed to assess the needs of the community, develop a plan to meet those needs, develop a business plan, and identify relevant partners [7]. Federally Qualified Health Centers (FQHC) are ideal partners for FQHCs due to higher Medicaid reimbursement

rates, shared values, and trust within the community [8]. Funding is a critical piece of developing an SBHC. The Affordable Care Act and the Children's Health Insurance Program has allowed for expansion of Medicaid in many states and has been beneficial for implementing and sustaining SBHCs [8]. State funding should also be sought for implementing an SBHC. Funding is important for implementation of an SBHC and is crucial for sustainability of an SBHC.

Discussion

Addressing Health Disparities and Health Equity

Knopf et al. examined 46 studies on SBHCs that provided services in low-income areas, and their impact on health equity [5]. The study found that SBHCs decreased barriers to care for racial and ethnic minorities. Many of the patients receiving services at an SBHC had no healthcare home prior to receiving services at the SBHCs. The authors found that SBHCs that had extended hours, and provided a variety of services, showed the most promise for improving health equity, educational outcomes, and health outcomes. This research supported findings of other studies that SBHCs improve health outcomes. The authors discussed the societal impact that SBHCs have, even for non-users of the SBHC, by improving vaccination rates, improving contraception use, and decreasing the need for hospital admissions and emergency room visits. Preventable illnesses will decrease due to the increase in vaccination rates provided by SBHCs. Other research supports the hypothesis that SBHCs improve health outcomes, improve health equity, and are worth the cost.

Arneson et al. reviewed studies that were completed between January 2000 and December 2018 that related to health outcomes, cost-benefit, and health equity [9]. Following an extensive review, this study focused on the impact of SBHCs on financial, physical health, mental health, and educational outcomes. One focus of this study was on policy initiatives and

structures that impact SBHCs. The authors reported diverse funding sources for SBHCs that involve state and federal governments, private foundations, partner organizations, and school districts. The authors found that local, state, and federal grants offset the losses that SBHCs experience from providing services that are not reimbursable or serving uninsured patients. Additional funds often come from partners such as hospitals and schools. A much smaller portion of funding for SBHCs comes from private sector donations such as foundations or corporations. The authors found SBHCs use four patient revenue sources including, fee for service, capitated payments for primary care, pay for performance, and capitated payment for care coordination. Another focus of the review was on physical health and mental health outcomes of services provided at SBHCs. The authors found that SBHCs show success in treating asthma, obesity, and improving teen prenatal care. The authors found that SBHCs show success in reducing depressive episodes and suicide risk. Additional studies support the hypothesis that SBHCs are cost effective.

Cost Impact

Ran, et al. reviewed 22 studies that focused on the intervention cost of SBHCs [10]. Intervention cost was defined as the initial start-up cost and the cost of ongoing operations. The authors found the benefits of the SBHCs far outweighed the intervention cost. Benefits were defined as “healthcare cost averted, productivity, and other loss averted”. The authors found that healthcare costs that were averted were related to hospitalizations, pharmacy costs, unplanned pregnancies, and referrals. The authors found that productivity and other losses averted were related to a loss of productivity, school time, travel cost, and ambulance cost. This study found that Medicaid cost and hospital cost decreased due to the services from SBHCs. The study found that SBHCs led to net savings to Medicaid that were between \$30 to \$969 per visit and \$46 to

\$1,166 per user. Additional research has focused on the cost benefit of addressing health disparities with SBHCs.

Guo, et al. compared four SBHC school districts with two non-SBHC school districts [11]. The purpose of the study was to evaluate the cost benefit of SBHCS and the impact on addressing health disparities. The study focused on school-aged children that were also enrolled in Medicaid. The data sources this study utilized were Medicaid claims, SBHC encounter records, school enrollment files, and surveys from parents and the SBHC coordinators. The authors found an increase among utilization of healthcare services among African American students for those in districts with SBHCs. This research showed an increase in Medicaid spending on primary care services provided by the SBHCs and a decrease in Medicaid spending on emergency room visits and hospitalizations. The researchers found that SBHCs had a significant impact on reducing Medicaid spending. The researchers also found that SBHCs had a significant impact on addressing health disparities by providing services to students that were not previously receiving services. The authors found that SBHCs were cost-beneficial to the families in the districts, the students in the districts, and society. Parents took less time off work and children spent less time out of school due to receiving services at an SBHC. Research supports the hypothesis that SBHCs are beneficial to the populations they serve; additional research identifies strategies to implement and sustain a successful SBHC.

Implementation and Sustainability

Johnson et al. evaluated the implementation and sustainability of SBHCs in three disparate communities [7]. The authors noted four key factors in an SBHCs success including, community need and support, financial sustainability, evidence of having a positive impact on health and health cost, and closely following successful models. The authors found that after

securing grant funding, SBHCs needed to develop a community advisory group consisting of parents, school personnel, politicians, healthcare professionals, and other community stakeholders. The study identified additional steps for implementing an SBHC as conducting a needs assessment to identify health needs, developing strategies to address those needs, identifying the location of the SBHC, and developing a business plan. The school district partnering with a sponsoring agency is an important consideration in developing an SBHC.

Johnson et al. identified Federally Qualified Health Centers (FQHC) as being a valuable sponsoring agency of SBHCs due to the mission alignment of serving the underserved and having access to federal funds [7]. FQHCs also receive a higher reimbursement rate than private providers from Medicaid for services provided. The authors found that SBHCs require outside funding for three years to become sustainable. This study discussed the importance of data collection on health outcomes and clinic utilization during the implementation phase. The authors found the most common challenges for implementation were timelines, lack of resources, determining Medicaid eligibility, staffing, and building trust within the community. The authors identified a critical component for sustainability was for the SBHC to fully integrate with the school community. Additional research supports best practices for creating a sustainable SBHC.

Sprigg, et al. focused on identifying relevant partners, developing a business plan, and policies that impact sustainability of SBHCs [8]. The authors found that finding the right partners, adhering to an established planning process, collaboration between stakeholders, and implementing guidelines for productivity showed the most promise of producing a sustainable SBHC. This research suggests that an FQHC is an ideal partner for an SBHC due to having higher Medicaid reimbursement rates. The authors found that partnering with a school district that has a minimum of 500 Medicaid eligible patients would improve the likelihood of

sustainability. Having the support of school administrators and staff was found to be important components of having a sustainable SBHC. The authors found that identifying the needs of the community was important during the planning year and should be done by gathering data and meeting with students, parents, and others in the community. The authors reported that identifying patients and hiring staff should occur early in implementation of an SBHC. Once implementation has occurred, funding is important for sustainability.

Sprigg, et al. discussed the benefit of having multiple funders for sustainability including foundations that focus on specific services such as vision or dental [8]. The research found that conducting well-child checkups was a valuable strategy for sustainability due to the higher Medicaid reimbursement rate. This article discussed that the expansion of Medicaid through the Affordable Care Act and the Children's Health Insurance Program has been beneficial for the sustainability of SBHCs. The authors discussed the importance of seeking state funding to decrease the pressure of strictly providing billable services. Organizations that have a mission of supporting SBHCs are a valuable resource for developing and sustaining an SBHC.

The School-Based Health Alliance focuses on advocacy and consulting for development and sustainability of SBHCs [12]. This organization advocates at the local, state, and federal level for policies and funding to support SBHCs. There is a focus on collecting and evaluating data on all aspects of SBHCs. This organization sets the standard for SBHCs and suggests SBHCs conduct annual well-child visits, risk assessments, screening for body mass index, and providing nutrition counseling. This organization is connected to many foundations that provide technical support and funding for SBHC implementation.

Research supports the value of SBHCs on improving health outcomes and health equity. The research also supports the cost savings to the Medicaid system and to society. Further

research is needed to evaluate the impact on improving mental health and a variety of physical health conditions. The evidence is clear that SBHCs are worth the cost and effort. A school district partnering with an FQHC, with a shared vision to improve the health of their students and community can lead to an invaluable resource of an SBHC.

The purpose of this study was to examine the current research that evaluates the impact of School Based Health Centers (SBHC) with improving health outcomes and health equity, cost impact of SBHCs, and best practices for implementing and sustaining an SBHC. This topic is important because more than 20 million children in the U.S. do not have access to needed healthcare services [1]. This study found that SBHCs are a way to address that statistic. Although the current literature is limited, there is a strong consensus that SBHCs improve health outcomes and health equity, are cost-effective, and there are strategies that can make implementing and sustaining an SBHC a success.

Researchers have found SBHCs improve health outcomes and health equity. SBHCs improve health equity especially amongst racial and ethnic minorities by improving access to care through local accessibility for students [5,9]. SBHCs provide healthcare services to patients that have not had a previous healthcare home [11]. SBHCs improve health equity by removing barriers that prevent children from receiving services [2,3].

Improved health equity leads to improved health outcomes when examining SBHCs by improving vaccination rates, contraception use, and providing preventative care [5]. SBHCs have been effective in treating asthma, obesity, reducing depressive episodes, and reducing suicide risk [9]. SBHCs have effectively reduced substance use, suicide attempts, and suicidal ideation among youth [13, 14].

SBHCs have shown promise in improving mental health equity by reducing disparities in children needing mental health services [15]. Nearly one in six children meet criteria to be diagnosed with a mental health disorder and almost half of these children do not receive mental health treatment [16]. Students receiving mental health services at an SBHC have a higher likelihood of receiving a follow up visit than students only receiving medical services [17]. Students with a mental health diagnosis that receive mental health services from an SBHC have been shown to have improved attendance and improved grades [18, 19].

In addition to improving health equity and health outcomes, SBHCs are a cost-effective strategy to provide healthcare services. SBHCs show a strong promise in reducing Medicaid spending [11]. SBHCs reduce Medicaid spending by reducing emergency room visits and hospital stays [5]. SBHCs are cost-effective for people not receiving services at an SBHC due to the societal impact of increasing vaccination rates to address preventable illnesses [5]. SBHCs are cost-effective for the families that are served by decreasing the need for parents to take time off work for an appointment and removing transportation cost [11]. The benefits of SBHCs are significant. This author found agreement in the literature regarding best practices for implementing and sustaining an SBHC.

Seeking state funding for sustaining an SBHC can be useful to decrease the pressure of only providing billable services [8]. Having diverse funding sources is critical to sustainability of an SBHC. This can include state funding, organizations focused on supporting SBHCs, and organizations that focus on a specific aspect of healthcare such as dental or behavioral health [8]. Partnering with an FQHC is beneficial to sustainability due to higher Medicaid reimbursement rates [8]. In addition to funding, fully integrating into the school community and having support

of school administration and faculty are critical to sustaining an SBHC [7]. Integrating into the school community will establish trust and lead to referrals from school personnel [7].

There is a need for more funding to develop SBHCs. Policymakers should recognize the benefits of SBHCs and focus on providing more funding for this valuable resource. Education should be provided for districts, policymakers, and healthcare organizations to understand the benefit of SBHCs. This information can be disseminated in educational journals, medical journals, child development journals, and social work journals due to its relevance to each field.

Further research is needed to explore the effectiveness of additional healthcare services at FQHCs through original data collection. Most of the literature only focuses on the physical health services provided at SBHCs. Future research can explore the mental health services, integrated services, and auxiliary services that are often provided by SBHCs. Future research could focus on the experiences of starting an SBHC and the barriers that exist. Qualitative and quantitative research could identify states that support development of SBHCs and the experience of starting an SBHC. The research is limited and there are numerous research opportunities regarding SBHCs.

This literature review found several studies that speak to the value of SBHCs, and the results are relevant for school districts, health care agencies, and policy makers. This study is applicable to any entity that has an interest in supporting, implementing, or sustaining an SBHC. There are strong arguments that SBHCs do save money and help children access much needed healthcare. Policymakers would be remiss by not allocating funds and regulations that support development of SBHCs. School districts in underserved communities can improve the health of their students and community by implementing SBHCs. FQHCs can expand their mission of serving the underserved by partnering with districts to create SBHCs.

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