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School-Based Health Centers and Socioeconomically Disadvantaged Students

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SCHOOL-BASED HEALTH CENTERS AND SOCIOECONOMICALLY DISADVANTAGED STUDENTS

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Abstract

School-based health centers (SBHCs) improve health equity by increasing access to primary care and eliminating many barriers that underserved students often face. Convenience, confidentiality, and cost are just some of the benefits of this school-based care. Medical services offered by SBHCs include treatment for minor injuries and illnesses, chronic disease management, and preventative care services such as well-child visits, immunizations, obesity screenings, reproductive and sexual health care, vision screenings, and oral health care. SBHCs initiate programs in schools and the community to promote healthy behaviors, like more physical activity, better nutrition, and prevention and early intervention of substance use. Students' mental health needs can also be met through SBHC utilization. Research suggests that SBHCs may impact academic outcomes and the overall learning environment. In order to successfully reach underserved youth, we must examine who is utilizing SBHCs and identify the most effective service delivery models. Collaboration between SBHC staff, school nurses, administrators, and teachers is integral to the success of SBHC programs. Finally, schools must find innovative ways to fund and staff SBHCs and make use of available resources to expand health services for all students. Through SBHCs, we can eliminate barriers and alleviate health disparities for socioeconomically disadvantaged adolescents.

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CHAPTER I: INTRODUCTION

The purpose of this chapter is to explain the relationship between health and education and describe the prevalence of chronic health conditions in children. It will also examine how low socioeconomic status can impact access to health care and briefly discuss the history of school-based health centers. This will lead to the research questions that will be addressed in this literature review.

Health and Education

"If medical researchers were to discover an elixir that could increase life expectancy, reduce the burden of illness, delay the consequences of aging, decrease risky health behavior, and shrink disparities in health, we would celebrate such a remarkable discovery" (Freudenberg & Ruglis, 2007, p. 1). They go on to say that there is "robust epidemiological evidence" of said elixir: education. There is no question about the strong relationship between health and education. A child who is struggling with physical or mental health problems can't focus on learning. They may have to miss school due to symptoms, appointments, medical procedures, and emergency room visits.

Numerous studies show that students who are healthy are able to perform better academically, leading to more opportunities in life, but poor health may lead to low academic achievement. Thus begins a cycle that's difficult to break, as Freudenberg and Ruglis (2007) describe. Lower levels of education can be associated with worse health outcomes, more risky behaviors, and lower earning potential. Those with lower incomes tend to have less access to healthy food, medical care, health insurance, and

safe housing. Poor living conditions may increase one's reliance on social services and the use of emergency health services rather than preventive health services. Incarceration and homelessness are also more likely for these groups of people. Health and education are inextricably linked.

Chronic Health Conditions in Youth

About one in four youth experience chronic health conditions, and it is these students who also struggle with academic outcomes such as absenteeism, school dropout, concentration, and grades (Miller et al., 2016). Some of the preventable or treatable health problems that these children experience include asthma, obesity, diabetes, epilepsy, dental disease, adolescent pregnancy, and mental health conditions. Many of these needs have high medical care costs and, when untreated, can contribute to difficulties with health and other outcomes in adulthood.

These topics are at the forefront of conversations concerning the health of our nation's youth. In schools, it is common to see physical activity and nutrition initiatives to promote healthy choices and prevent obesity. Mental health is one of the most critical issues in the fields of health and education alike. Guo et al. (2008) point out the need for mental health services by noting the numerous lives that have been lost due to school shootings and suicides, which should serve as "a wake-up call for our society to provide appropriate and essential mental health-care services for students" (p. 778). This leads to the question of how to effectively provide these services to those who need it the most and identify the barriers that students often face.

Socioeconomically Disadvantaged Children

Many underserved youth across the country lack financial resources to access necessary health care. “Socioeconomically disadvantaged,” “low socioeconomic status (SES),” and “low-income” are some of the terms used to describe this population of adolescents. In 2020, according to the United States Census Bureau, there were approximately 11.6 million children living in poverty, with disproportionately high rates of poverty for children of color (2021b, p. 16), and 4.3 million children without health insurance (2021a, p.10). People of color and low-income populations are more likely to be uninsured, face barriers to accessing care, and have higher rates of cardiovascular disease, hypertension, asthma, and diabetes (Vaughn et al., 2014). Growing up in a low-income family increases the possibility of experiencing “scarcity of food, poor nutrition, violence, inadequate education, and… the absence of social networks” which can all increase the likelihood of mental illness (Patel et al., 2007, p. 1304). While these children often have the greatest need for health services, they tend to be inadequately covered. This is where school-based health centers come in.

History and Definition of School-Based Health Centers

It is difficult to pinpoint an exact time for the beginning of school-based health. Keeton et al. (2012) make reference to the public health nursing movement as early as the 1900s and the first “school nurse” in 1902. Some of the first SBHCs began in the late 1960s and early 1970s, including a family planning and prenatal care program in St. Paul, Minnesota, high schools, which served as a model for future school-based services (Love et al., 2019). There were around 120 SBHCs in the United States by 1988, and private

funding expanded the number during the 1990s. Public and private funds, as well as increased awareness and support, have contributed to the current number, over 2,500 SBHCs, located in forty-eight states, the District of Columbia, and Puerto Rico (Love et al., 2019).

School-based health centers sometimes referred to as school-based health clinics, provide much needed medical and mental health care in schools. These services focus on prevention, early identification, and treatment of health conditions. SBHCs are staffed by qualified health care professionals who may supplement the care that children currently receive or serve as the child's primary source of care. SBHC staff collaborate with school administrators, school nurses, teachers, and other school staff. SBHCs are located in or near schools, where students already spend the majority of their time and offer convenient, confidential services in a safe, trusted environment. These programs often serve socioeconomically disadvantaged youth, students of color, and others who are disproportionately affected by chronic health conditions and who lack access to health care (Hussaini et al., 2021). The School-Based Health Alliance describes school-based care as:

> a powerful tool for achieving health equity among children and adolescents who unjustly experience disparities in outcomes simply because of their race, ethnicity, or family income. It's also a commonsense idea gaining currency across the country: place critically needed services like medical, behavioral, dental, and vision care directly in schools so that all young people, no matter their zip code, have equal opportunity to learn and grow (n.d.).

Research Questions

The research is clear that SBHCs have the potential to impact students positively. The goal of this literature review is to explore the following questions:

1. How do SBHCs increase access to primary care and provide health care services for underserved populations, specifically socioeconomically disadvantaged youth?
2. What is the impact on the overall health of students, along with other possible academic and environmental outcomes?

As Gardiner (2020) states, “the development and use of SBHCs capitalizes on the symbiotic relationship of [the fields of health and education] ... creating one solution to close the achievement gap and work toward the ultimate goal of decreasing socioeconomic disparities in health” (p. 293). Educators and health care professionals must take advantage of the opportunity to reach all students through the use of school-based health centers.

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

Chapter two reviews the published literature on school-based health centers, or SBHCs. It will examine the ways in which SBHCs increase access to primary care and describe the various types of services provided. It will also provide information about academic and environmental outcomes, utilization, and service delivery models. This literature was located through searches of ERIC, Academic Search Premier, EBSCO MegaFILE, and Google Scholar. Searches were narrowed to include empirical studies from peer-reviewed journals with publication dates of 2005-2022 and by using the following keywords: “school-based health centers or clinics,” “elementary or secondary,” “low-income or socioeconomic,” “underserved or disadvantaged or at-risk” and “effectiveness or achievement or efficacy.”

SBHCs Increase Access to Primary Care

School-based health centers increase access to care for adolescents. Twelve comprehensive school health centers in Alameda County, California were part of a study by Soleimanpour et al. (2010) to further evaluate the impact on students’ access to care, satisfaction, and physical and mental health outcomes. The health centers were located at one middle school and eleven high schools. The multimethod evaluation used provider-reported clinical data and pre-post client survey data as well as focus group data from the 2006-2007 school year to the 2008-2009 school year.

Provider-reported clinical data showed that the majority of clients were female, and the population was racially diverse (Soleimanpour et al., 2010). It was also found

that the number of clients increased from 6,624 during the first year to 7,410 the last year. Clients made an average of 5.4 visits each in the final year of the study, and visits were for the following services: 33% medical care, 27% mental health, 25% first aid, and 15% group visits. Of initial first aid visits, 22% returned for medical, mental health, or group visits, and 42% of mental health service clients also received medical services (Soleimanpour et al., 2010).

In addition, significant improvements were reported for nine out of twelve mental health concerns: anxiety or nervousness; depression or sadness; eating disorders; grief, loss, or bereavement; oppositional, defiant behavior, or anger management problems; relationship issues or conflict; self-injury; substance abuse; and suicidal ideation or attempt (Soleimanpour et al., 2010). Identity issues, school behavior or academic performance issues, and posttraumatic stress disorder did not show significant improvements.

Through pre and post client surveys, researchers found that the school health center was the most commonly reported source for medical care, family planning services, and counseling. Another notable finding was that 94% reported getting needed information and resources, 88% got help sooner than they would have otherwise, and 80% got access to services they otherwise wouldn't have received. A variety of health behaviors and academic indicators were also reportedly improved through the use of the school health center, including sexual health behaviors, nutrition and exercise, staying in school, and stress and anxiety management (Soleimanpour et al., 2010).

Finally, the student focus group provided valuable data on reasons students liked the health center services, suggestions to improve student access, and clients' satisfaction. Students liked the confidentiality and convenience of health centers and that they were free and youth-friendly (Soleimanpour et al., 2010). Participants suggested ways to spread awareness of the clinic and to increase involvement in order to normalize going to the health center. Although school health centers are more convenient than going to other clinics, students suggested larger waiting rooms and more hours of operation to decrease waiting time and increase confidentiality.

School districts may use these findings to further understand the impacts of health centers and to execute their own plans for the delivery of services. Most importantly, as the authors stated, "this study contributes to the increasing understanding of the characteristics of effective health care programs that meet the diverse needs of adolescents as a means of diminishing barriers that contribute to health disparities" (Soleimanpour et al., 2010, pp. 1602-1603).

Greater Access for Underserved Students

Research has shown that SBHCs provide access to care for underserved students. In a study by Gruber et al. (2022), certain groups, including females, non-White, and low socioeconomic status students, were found to have worse health status and higher SBHC use. In addition, having low socioeconomic status predicted higher SBHC use in the first year and higher absenteeism in the second and third years (Gruber et al., 2022).

Parasuraman and Shi (2015) also sought to determine if there were differences in access based on sociodemographic or health status characteristics. Data was gathered from a study in 2002 called the “Healthy Schools, Healthy Communities” User Survey Study, which was the best representation of all federally funded SBHCs in the United States at that time. Researchers analyzed a sample of 414 adolescents aged twelve to seventeen from thirty-three individual SBHCs.

The findings support their hypothesis that regardless of demographics or socioeconomic status, SBHCs provide equitable care for adolescents (Parasuraman & Shi, 2015). There were no significant differences in access to care based on gender and few significant differences in regard to race/ethnicity or insurance status. Those with insurance reported that the SBHC was not their sole usual source of care, which aligns with research that shows insured youth go to doctor’s offices more often than community clinics. There were also no differences in reporting SBHCs as usual sources of care based on having asthma or being overweight. Those with diabetes were less likely to report the SBHC as their only source of care. This is to be expected given that diabetic care requires more specialized care, which would then be supported by the SBHC (Parasuraman & Shi, 2015).

Some limitations of the study were that only federally funded SBHCs were included, there was no comparison group, and health insurance coverage was the only indicator of socioeconomic status (Parasuraman & Shi, 2015). However, this study had many strengths. It included broad, health-related data reported by SBHC users, which offered a unique lens. It also showed how school nurses play a crucial role in

collaborating with SBHCs and advocating for students. They can facilitate mental health services, care for patients with chronic health conditions, and provide reproductive health services. The results of this study show that SBHCs provide equitable care for underserved students, regardless of sociodemographic characteristics.

Cost-Beneficial to Families and Society

Not only do SBHCs increase health care access for underserved students, but they also have positive impacts on families and the overall community. Guo et al. (2010) hypothesized that the gaps in health care disparities could be reduced by increasing access to primary care services; in addition, SBHCs would have a positive impact on net social benefit. To examine the effects of SBHCs, researchers matched schools with newly implemented SBHC programs and those without. The target population was students in K-12 who were enrolled in schools in the Greater Cincinnati, Ohio, area. Students were also enrolled in Ohio Medicaid or the State Children's Health Insurance Program (SCHIP) from the academic years 1997 through 2003.

Researchers used data from school enrollment files, SBHC encounter records, Ohio Medicaid claims, and surveys. The surveys gathered information from parents about travel distance from home to the hospital or clinic and hours spent for visits. Surveys of SBHC coordinators included questions about facility costs and health care grants received due to the SBHC program (Guo et al., 2010). SBHC programs were established in the fall of 2000, and services were available to all K-8 students.

The net social benefit of the SBHCs over the three years was estimated to be $1.35 million (Guo et al., 2010). This estimate was based on the comparison of the total

costs of providing a program or intervention and the total benefits from that program or intervention. Potential savings included mental and dental health care, hospitalizations, and prescription drugs. SBHC programs prevented the loss of parents' productivity, saving them time taken off of work for appointments and travel expenses. SBHCs also could have saved Medicaid roughly $35 per child per year (Guo et al., 2010).

Guo et al. (2010) found that African American students had lower health care costs than non-Black students at the beginning of the SBHC program, but the gap was closed after the implementation of the SBHC. Authors indicate that this is especially significant because nearly half of the population in the urban Cincinnati area is African American, and this is one way to reduce some of the health care access disparities (Guo et al., 2010). Additional vulnerable populations, such as adolescents from low-income families, were also able to receive health care that they may not have been able to access without SBHCs. Other unquantifiable benefits included the following: about 80% of students were able to return to class after SBHC visits, and early mental health care and dental care and better asthma management may reduce or prevent more costly care in the future (Guo et al., 2010).

Researchers noted limitations of the study being that they couldn't differentiate between students who were or were not treated by the SBHCs, and they couldn't assess students with other insurance plans or no insurance (Guo et al., 2010). In conclusion, the study found SBHCs to be cost-beneficial to society and address the racial and socioeconomic disparities in access to care, especially in students with mental health conditions or chronic diseases.

Wade and Guo (2010) used data from a Medicaid cost and utilization study and a health outcomes study by Wade et al. (2008b), which found a significant improvement in student-reported HRQOL (health-related quality of life) for SBHC users and will be discussed in more detail in the health-related quality of life section of this chapter. The purpose of this particular study was to see if there was a link between improved HRQOL stemming from SBHC use and lower Medicaid costs.

Researchers reexamined data from a longitudinal SBHC evaluation that spanned three school years, from 2000-2003, and linked Ohio Medicaid records. Of the 290 students used in the study, 31 had asthma, and 71 had mental health diagnoses, including attention deficit hyperactive, depressive, conduct, emotional, adjustment, and other disorders. The "annual total health care reimbursement per student was defined as the total dollar amount that Medicaid paid for emergency, inpatient, and outpatient care; physician encounters; mental health services; prescription drugs; laboratory procedures; and diagnoses during each school year" (Wade & Guo, 2010, p. 1612). HRQOL was measured using the Pediatric Quality of Life Inventory, which uses both student and parent reports.

In the mental health subgroup, there were no significant effects of HRQOL scores on Medicaid costs. In the asthma subgroup, HRQOL increases were significantly associated with total Medicaid cost decreases. Reductions in costs were found for every 1-point increase of parent-reported total HRQOL ($36.39; $P<.01$) as well as student-reported total ($8.94; $P<.05$) (Wade & Guo, 2010).

The significance of this association is that increases in pediatric HRQOL translate to decreases in Medicaid costs (Wade & Guo, 2010). It must be noted that this association was independent of SBHC status in this study. However, it supports previous work which showed significant improvements in student-reported HRQOL for SBHC users, and increases in HRQOL are associated with decreases in Medicaid costs. This research also supports the use of HRQOL as one outcome measure for SBHC evaluations.

SBHCs also have the potential to help students overcome common barriers to health care by decreasing hospitalizations and emergency department visits. "Hospitalization and emergency department (ED) visits are the most costly medical services in Medicaid programs, accounting for 23% to 30% of the total annual Ohio Medicaid expenditures from 1995-2000" (Guo et al., 2005, p. 270). School-based health centers can decrease the risks of hospitalization and emergency department visits for students with asthma. Guo et al. (2005) quantitatively assessed the impact of health centers based on multiple SBHC schools and non-SBHC comparison schools. This longitudinal quasi-experimental cohort study included 273 children in Kindergarten through 8th grade in Cincinnati area schools. Many students received free or reduced-price lunches, which indicates low family income, and they were enrolled in Ohio Medicaid or state CHIP (Children's Health Insurance Programs). Students with at least one medical claim with asthma diagnosis and at least one pharmacy claim of antiasthmatic medication were chosen for the study.

Based on the results of the study, the relative risks of hospitalization decreased 2.4-fold after the opening of SBHCs (Guo et al., 2005). Further, in SBHC schools, hospitalizations for asthma, mental health disorders, sinusitis, bronchitis, and pneumonia decreased significantly for students with asthma; this was not the case in the comparison schools. The relative risks of emergency department visits decreased by 33.5% after the SBHCs opened. The total number of ED visits decreased in the intervention group and increased in the comparison group. Hospitalization costs for children with asthma decreased from $1150 to $180 per child after the opening of SBHCs, an estimated difference of $970 per child. SBHCs "provided valuable primary care, such as prescription drugs for children with asthma, which may have resulted in lower hospitalization rates and ED visits" (Guo et al., 2005, p. 270).

This study noted that Cincinnati area schools with SBHCs have large proportions, ranging from 33-88%, of children who are African American and from lower-income families (Guo et al., 2005). Students with asthma benefit from the decreased hospitalizations and emergency department visits associated with SBHCs in schools. In another study, Guo et al. (2008) found similar results of lower hospitalization and emergency department costs for students with mental health problems, which will be discussed more in the mental health section of this chapter.

SBHCs Provide Many Types of Services

SBHCs provide a variety of services that address medical and mental health, reproductive and sexual health, and substance use, and they also offer educational programs and community outreach. In a 2012 study by Sisselman et al., SBHC

programming was examined at the elementary, middle, and high school levels. Fifty-five SBHC providers in New York City provided information via an online survey made up of open-ended questions about specific programming. Providers shared what they were proud of and success stories about how the SBHC has improved the learning environment and students' academic performance. They also shared information about staffing, hours of operation, the number of students served, and collaboration with principals, school nurses, and other school staff. Researchers examined patterns and themes that resulted from this data.

General findings from the study showed an average of 1,795 students enrolled at schools and that most SBHCs had a reception area, used an average of five rooms in the school, and were open seven to eight hours per day on weekdays (Sisselman et al., 2012). In regard to collaboration within the school, almost 60% of centers reported collaborating often or very often with the social worker, more than half with the principal, guidance counselor, and teachers, and 13% with the school nurse.

Sisselman et al. (2012) found that SBHCs also engaged with the outside community through sports and healthy cooking classes offered to students and parents after school and on weekends. SBHCs reached out to the community to determine specific needs, including asthma education and treatment and community efforts against child abuse. In another case, there was a large Chinese community that preferred alternative medicine techniques to Western medicine. A nurse practitioner who spoke the language of the community members was able to communicate with

them and work with community doctors. This was one of many ways that SBHCs addressed community needs.

General services provided by SBHCs include treatment for minor illnesses, vision screenings, dental care, sports physicals, mental health counseling, treatment for sexually transmitted diseases, asthma care, smoking cessation, obesity screening, and immunizations (Sisselman et al., 2012). SBHC providers also listed specific in-school activities such as an asthma lunch group, classroom presentations about reproductive health, a support group for diabetes management, and a workshop on stress and anger management. Providers believe that their services have contributed to a decrease in absences, lower teenage pregnancy rates, and increased involvement in sports. Healthy lifestyle and peer education programs were also described by SBHC providers as innovative ways to educate students and encourage healthy choices. These programs aimed to improve handwashing, encourage healthier eating, and provide information about sexual and reproductive health (Sisselman et al., 2012).

The authors noted that the effectiveness of peer education programs was one of the most noteworthy findings from the study (Sisselman et al., 2012). Previous research has shown that SBHCs help students manage health issues, but it has not supported the hypothesis that SBHCs help decrease risky adolescent behaviors. These anecdotal reports suggest that peer education and other new, creative programming may be effective. The authors suggested program evaluations be conducted to determine what makes specific programs successful and what areas need to be improved. Further research could lead to more information about how SBHCs have changed in the past

decade, and it could also provide ideas for addressing a wide range of student health needs.

Medical Health

SBHCs provide necessary medical services, including preventative care such as immunizations, well-child visits, screenings, assessments, and oral health care. They promote healthy behaviors, like more physical activity and better nutrition, and improve health-related quality of life.

Preventative. School-based health centers can reduce disparities in completion rates of adolescent immunization series for high-risk populations, as suggested by the findings of Federico et al. (2010). They compared rates for immunizations delivered at SBHCs to those at community health centers (CHCs). Using a large sample size of more than 17,000 adolescents ages 12-18, researchers obtained data for patients who received care through the Denver Health System, which includes eight CHCs and 12 SBHCs. Some patients visited both types of clinics, so they were assigned one based on which one they used most often. Based on vaccine records, researchers considered patients to be “up to date” if they had received the recommended number of vaccinations. Variables included age, number of visits, primary language, race/ethnicity, gender, payer source, and site of care.

Between SBHCs and CHCs, patients in this study were found to be similar in age, and there were no differences for hepatitis A or MCV4 vaccinations. There were, however, significant differences in other categories. For example, CHC users were more likely to be female and up to date for tetanus/diphtheria vaccinations. Those who used

SBHCs were more likely to have multiple visits, be Hispanic, and be uninsured. They were also more likely to be up to date for hepatitis B, Tdap, varicella, measles/mumps/rubella, HPV for patients 16-18 years old, and HPV/Tdap/MCV4 for females aged 16-18 years old (Federico et al., 2010).

Most notably, patients were more likely to receive single-dose vaccines and to complete a series that required multiple doses if they primarily used SBHCs (Federico et al., 2010). This is significant because SBHC users were also more likely to be uninsured. The large urban population served by the clinics is primarily Latinx and non-English speaking, and they mostly have public insurance or are uninsured. These are typically barriers to accessing proper health care, and it was found that SBHCs may play a key role in helping patients overcome some of those obstacles.

While community health centers play a key role in providing access to health care, school-based health centers offer unique advantages. Schools are a consistent and convenient location for students in which they often feel safe and comfortable. SBHCs can educate families on the benefits and importance of vaccines, even when patients perceive themselves to be in good health. These sites can track and provide reminders to help ensure adolescents are staying up to date on necessary immunizations.

Additionally, SBHCs can increase screenings and assessments, especially for low-income students. Hussaini et al. (2021) examined the effects of SBHC enrollment on the achievement of National Performance Measures (NPMs) and the use of mental health services among socioeconomically disadvantaged youth. The National School-Based Health Alliance's five core clinical performance measures include: "(a) annual well-child

visit, (b) annual risk assessment, (c) body mass index (BMI) assessment and nutrition and physical activity counseling, (d) depression screening and follow-up plan for a positive screen, and (e) chlamydia screening" (Hussaini et al., 2021, p. 715). This study used a retrospective cohort of 13- to 18-year-old students at Delaware public high schools from 2014-2016. These students had Medicaid claims and were categorized as enrolled or not enrolled in an SBHC. Using Medicaid claims and actual visit codes allowed researchers to gather more quantifiable data than relying on surveys and self-report measures.

Hussaini et al. (2021) found support for their hypothesis in that there was greater health care utilization, as evident from NPMs and mental health services, among Medicaid-insured youth enrolled in SBHCs compared to Medicaid-insured youth who were not enrolled in SBHCs. Medicaid-insured SBHC-enrolled youth had more office visits and were more likely to receive: a well-child visit and mental health visit; physical activity and nutrition counseling; an annual risk assessment; BMI screenings; and screenings for STIs and chlamydia. A limitation of this study is that it can be difficult to determine bias in Medicaid claims data due to errors and variations in coding. This study was significant because it was the first to examine these outcomes at a state level. In addition, by restricting the sample to only those insured by Medicaid, they were able to make recommendations specific to low-income students and suggest that SBHCs can increase screening and assessments in these populations.

Healthy behaviors. In order to further understand SBHCs and their effects on children's health, McNall et al. (2010) conducted a study of middle and high school

students to analyze the impact that SBHCs have on a range of health outcomes and health behaviors. Using a prospective cohort design, researchers gathered data through the Child Health and Illness Profile - Adolescent Edition (CHIP-AE) survey, which measures physical, mental, and social aspects of health in children ages 11-18 years old. Specifically, the domains include satisfaction with health, physical discomfort, emotional discomfort, physical activity, and nutrition. Cohorts consisting of 744 middle and high school students in Michigan were surveyed over two consecutive school years, 2006-2007 and 2007-2008.

There were no school-level effects, but there were individual-level effects. This means that students were not more likely to show health outcomes based solely on the fact that their school had a health center, but there were differences between students who used the SBHC and those who did not. This identification of users and non-users in this study is valuable because some other studies have not differentiated between the two.

The study found that health center users reported significantly greater satisfaction with health and more health-promoting behaviors, including more physical activity and greater consumption of healthy food, than non-users (McNall et al., 2010). This association is notable because of national concerns about childhood obesity. SBHC use may influence healthy lifestyles, including more physical activity and better nutrition, which could help reduce obesity among youth in the United States.

It could be expected that greater satisfaction with health would be associated with less physical discomfort. Although there were no differences in physical discomfort

based on user status overall, female SBHC users did report lower physical discomfort than non-users (McNall et al., 2010). In the area of emotional discomfort, there were no significant differences between users and non-users.

The outcomes of this study support other studies' findings, including those of Wade et al. (2008b), in that SBHC use is associated with the overall sense of health and healthy behaviors. Efforts should be made to increase awareness and use of SBHCs in order to promote children's health. Further research on the frequency of SBHC use and the types of services used will enhance these efforts.

Health-related quality of life. As previously mentioned, Wade et al. (2008b) examined the effects of school-based health centers on the health and health-related quality of life among elementary and middle school students. They hypothesized that there would be a positive effect on student health and improvements in health over time. For this study, four elementary schools with newly implemented SBHCs and four elementary comparison schools were chosen. Schools were matched for rural/urban and state, percentage of nonwhite students, and percentage of free or reduced-price lunch-eligible students. HRQOL, health-related quality of life, was measured annually by student- and parent-reported scores.

Results from the three-year longitudinal study showed a significant improvement in student-reported HRQOL for the SBHC user group compared with the comparison school group (Wade et al., 2008b). Parents did not appear to rate the health of their children differently across school groups. An additional, unexpected finding by Wade et al. was a high level of attrition due to student mobility. This was especially notable

among students who were Black and urban and had lower household incomes (Wade et al., 2008b). Unfortunately, high mobility may make it difficult to receive consistent healthcare, and SBHCs provide these services for this population of children.

The majority of SBHC research has been based on middle and high school students, but not as much on children in primary grades. The findings from this study contribute to the current research on younger populations of students and the benefits of SBHCs. The positive effects of SBHCs are "even more pronounced on psychosocial health, which could translate into more positive long-term benefits in learning, cognitive development, and mental health" (Wade et al., 2008b, p. 248). The effects are especially noticeable in children who often encounter barriers to healthcare, such as students without private health insurance and those from lower-income households.

Oral health. Lack of access to comprehensive oral health care is among many of the disparities in health care, especially for children in high-need communities, which is why some school-based health centers even provide dental care. Carpino et al. (2017) assessed the effectiveness of a school-based dental clinic on the oral health of children who lack access to dental care. Knowing that poor oral health can affect many aspects of a child's life, researchers sought to learn more about dental clinics in schools and how they impact students.

For this study, Carpino et al. (2017) collected data from the medical records of participants who had two or more encounters with the school-based dental clinic from 2012-2015. These participants consisted of 293 students at a Kansas City, Missouri, college preparatory charter school. In order to quantify participation in the program,

Carpino et al. (2017) divided the number of encounters by the months of participation and multiplied by 100 in order to calculate "encounter intensity." The dependent variables were: the percentage change in decay, the percentage change in restorations, and the change in treatment urgency (Carpino et al., 2017).

The findings from this research by Carpino et al. (2017) support the current body of literature which suggests that "incorporating dental care into an existing school-based health center resulted in improved oral health in an underserved population of children while overcoming barriers that typically restrict access for at-risk populations" (p. 186). Results showed reductions in decay, increases in restorations, and decreases in referrals. Overall, students benefited from the dental care received at the school-based clinic. This is significant because oral health impacts students' overall health, as well as performance in school and quality of life (Carpino et al., 2017).

Due to the dental clinic being staffed by dental and dental hygiene students, there is a risk of mistakes or differences in opinion, but the same two supervisors oversaw all care (Carpino et al., 2017). The dental students' minimal experience and slower pace also resulted in more visits, which the authors state could have affected the encounter intensity. Additionally, there were a large number of students not using the dental clinic, and it is unlikely they were receiving care at another location. This suggests a need for increased outreach in the community and collaboration with the school nurse to provide more oral health education (Carpino et al., 2017). School nurses play an integral role in the overall success of school-based dental clinics by communicating with

the dental staff, administrators, and parents and by making referrals and educating students.

These programs sometimes referred to as School-Based Comprehensive Oral Health Service (SBCOHS) programs, can be an effective way to help bring much-needed care to underserved children. Trudnak Fowler et al. (2018) conducted an independent evaluation of nine SBCOHS programs that were the recipients of a grant by the Maternal and Child Health Bureau and integrated into existing school-based health centers.

The populations served by the SBCOHS programs had relatively low earnings and low rates of health insurance and were made up of immigrants and ethnic and racial minorities. Almost 45% of patients had dental caries when they first enrolled, showing a high need for care (Trudnak Fowler et al., 2018). There was also an increase in the number of patients: 5,197 in the first year and 9,750 in the fourth year. Over time, prevention services increased and treatment services declined, which indicates a high need and that prevention reduced the need for treatment (Trudnak Fowler et al., 2018).

"This project demonstrates that children's access to comprehensive oral health care can be expanded and sustained through SBHCs" (Trudnak Fowler et al., 2018, p. 1006). The study also confirmed that the communities served by these programs were in great need of oral health care.

Mental Health

SBHCs are uniquely accessible to students, and studies have shown that students with mental, emotional, and behavioral health needs utilize SBHCs. In the study by Parasuraman and Shi (2015), almost half of students reported at least one mental

health-related concern, and over one quarter reported a serious emotional health concern. One of the most concerning findings from the study was that there were significant unmet needs for those with mental health or emotional concerns. Barriers to health care may have been due to inadequate referral and follow-up mechanisms or a lack of mental health care integrated into SBHC services. At the time of this study, over three-quarters of SBHCs provided mental health care, but these needs continue to be reported as unmet, especially among females and underserved adolescents. Researchers found that despite having access to services through an SBHC, adolescents may still encounter barriers to fulfilling mental health needs, which shows that improvements must be made to the integration of mental health services (Parasuraman & Shi, 2015). Researchers can continue to evaluate the effectiveness of SBHCs and reveal unmet needs.

Amaral et al. (2011) added to the literature that shows SBHCs may reach students with serious mental health needs, which often go unmet, and these health centers may fill a need for adolescents with public or no health insurance. As few studies have done, they sought to use rigorous controls for age, gender, ethnicity, and health status while using a large sample size. They wanted to identify independent factors that predict SBHC use and the mental health characteristics of students who utilize SBHCs. Additionally, they wanted to understand the roles of insurance and utilization of other health services in SBHC usage (Amaral et al., 2011).

Researchers gathered data from 4,640 ninth and eleventh graders who completed the California Healthy Kids Survey from the fall of 2000 to the spring of 2005.

These students attended one of four schools in Alameda County, California. Students identified as SBHC users and non-users, and variables included demographic characteristics, mental health indicators, experiences with difficult events in the past year, current substance use, and access to health care. Controls, including grade, school attended, gender, ethnicity, and self-reported health status were used to identify factors that independently predicted SBHC use.

After controls were applied, data did not show that students were more or less likely to use the SBHC if they had experienced frequent nervousness or stress. Students who reported feelings of depression and trouble sleeping “every” or “almost every” day in the past 30 days were more likely to seek SBHC services than students who experienced those feelings less frequently, and those who considered suicide in the past year were 112% more likely to have used SBHC mental health services (Amaral et al., 2011). Other predictive factors of SBHC use included parental divorce/separation, loss of a close friend or relationship, having trouble getting along with family or neighbors, breaking up with a boy-/girlfriend, having serious health problems, and cigarette, marijuana, and alcohol use.

When controlling for demographic factors, general SBHC utilization was not related to students’ health insurance status. There was, however, an increased likelihood of students specifically seeking mental health services based on health insurance; those with government assistance were 63% more likely to seek mental health services than those with private health insurance (Amaral et al., 2011). Those who reported using cash, a free clinic, or had no way to pay were 64% more likely to use

mental health services than those with private insurance. Unfortunately, there was no data showing students' number of SBHC visits, so researchers could not examine different levels of usage or the impact of frequency. This research also does not show health outcomes resulting from SBHC use. Overall, students with a variety of difficult life events were more likely to seek SBHC services, and those who tend to engage in risky behaviors, such as drug use, may receive necessary preventative or early interventions from SBHCs.

In order to learn more about the effects of SBHCs on the accessibility of mental health services and costs, Guo et al. (2008) completed a longitudinal quasi-experimental time-series repeated measures design study of children in the Greater Cincinnati, Ohio area. These students in Kindergarten through 8th grade were also enrolled in Ohio Medicaid or State Children's Health Insurance Program (SCHIP) from academic years 2001-2003. Researchers hypothesized that SBHCs and increased access to mental health services would decrease the need for hospitalizations and emergency room visits, as Guo et al. found in their 2005 study of children with asthma. They also hypothesized that the total health expenses would decrease or remain unchanged over time as a result of preventative care rather than more costly reactive care. The final hypothesis was that pediatric health-related quality of life would increase (Guo et al., 2008).

The students identified for this study had mental health diagnoses which included ADHD and depressive, conduct, emotion, and adjustment disorders. The final study sample consisted of 25 students in schools with SBHCs who used the centers, 45 students in schools with SBHCs who did not use the centers, and 39 students in non-

SBHC schools (Guo et al., 2008). These three groups were compared before and after SBHC program implementation. Staff at SBHCs included at least one nurse practitioner and a collaborating physician; mental health and psychiatric referrals were provided at four SBHCs; three provided behavior and mental health assessments and crisis intervention; and individual counseling and on-site social workers or counselors were provided at two locations (Guo et al., 2008). Data was collected from documented SBHC encounters, Ohio Medicaid claims, and child and parent pediatric HRQOL.

Researchers found the proportion of students who accessed mental health-care services increased more in SBHC intervention schools (over 5%) than in non-SBHC schools (less than 3%). Students in SBHC schools showed significantly lower total health-care costs and lower costs of mental health services than students in non-SBHC schools. The hypotheses that "access to primary health care through SBHCs would change patterns of use from more expensive, reactive-type care to more preventative, primary care" and that these patterns would "reduce overall Medicaid costs or be cost-neutral" were both supported (Guo et al., 2008, p. 774). While pediatric HRQOL showed some improvements over time and may improve due to SBHC programs, the results were not statistically significant enough to propose any firm conclusions; therefore, the third hypothesis was only partially supported.

While this study showed that SBHCs could improve accessibility, increase utilization, and lower costs of mental health services, there is a lack of research on whether these services are effective and contribute to improved outcomes. Soleimanpour et al. (2010) found improvements in mental health outcomes, including

anxiety, depression, and suicidal ideation, but the absence of a comparison group left questions about whether mental health outcomes may have improved regardless of services. Paschall and Bersamin (2018) hypothesized that increased availability of mental health services would be associated with improved outcomes relative to other schools and that females, who are more likely to experience depressive episodes and utilize these services, would benefit from the increased availability.

The study consisted of 168 public schools in Oregon; 25 had SBHCs, and 14 of those had an increased availability of mental health services (Paschall & Bersamin, 2018). The increase in services meant 11 additional mental health provider FTEs, which is a mean of 0.8 FTE per SBHC. Students in the eighth and eleventh grades completed the Oregon Healthy Teens Survey in 2013 and 2015. The survey included questions about depressive episodes, suicidal ideation, and suicide attempts in the past year.

Results showed that students at SBHC schools with increased availability of mental health services were less likely to report depressive episodes, suicidal ideation, and suicide attempts than in other schools (Paschall & Bersamin, 2018). The reduction in the likelihood of these events was found in comparison to schools without SBHCs and also to other schools with SBHCs (that did not increase the availability of mental health services). There were no differences among student demographic groups, suggesting that the increase in services benefitted males and females alike, as well as socioeconomically disadvantaged students and other subgroups (Paschall & Bersamin, 2018). This study is significant because it had a large sample size, and it examined the

increase in availability rather than simply comparing SBHC schools to non-SBHC schools, as in other studies.

Limitations of this study include "other changes in availability of mental health services in schools or communities," student responses "may have been subject to social desirability and recall bias;" and the survey measures "are intended for population-based epidemiologic surveys and do not meet standards for clinical diagnosis" (Paschall & Bersamin, 2018, p. 49). Researchers note that more studies are needed to determine if these findings can be replicated. There should also be further research to identify effective strategies for reaching at-risk students through SBHCs, examine what services are being provided and their effectiveness, and how to improve services. Nevertheless, Paschall and Bersamin (2018) found that an increase in the availability of mental health services in school-based health centers may have a positive impact on students' overall emotional health.

A study of secondary schools in New Mexico during the 2011-2012 school year examined patterns of SBHC care and service use and identified patterns and service differences between frequent and infrequent users (Koenig et al., 2016). SBHC visits were grouped into four categories, including behavioral health, reproductive and sexual health, acute care, and checkups. Students from the fifty-nine schools in the study were categorized as *frequent users* if they utilized their school's SBHC four or more times during the school year and *infrequent users* if they had one to three visits that year.

Koenig et al. (2016) found that about two-thirds of SBHC visits were for behavioral health and reproductive and sexual health needs. Behavioral health

diagnoses included adjustment reaction disorders, depression disorders, and anxiety disorders. Checkups accounted for about 11% of visits, and acute care visits were about 5%. It was also found that about one-fourth of the students were frequent users; these users were more likely to receive services for behavioral health, reproductive and sexual health, or acute care. Frequent users were also more likely to be female and to be Native American. Compared to White students, Hispanic and Native American students were more likely to receive behavioral health and checkup services.

Due to confidentiality reasons, there may have been some data that was not collected or properly coded. There also may have been differences in the availability of services among schools. However, many of the findings were consistent with other studies and can be used to better understand and improve how SBHCs deliver preventative and early intervention behavioral health services to high-need populations.

Substance Use

For some students, SBHCs may have an impact on substance use behaviors. A 2017 study by Bersamin et al. examined whether the effects of SBHCs on substance use behaviors differed by race/ethnicity, sex, and socioeconomic status. They hypothesized that the presence of SBHCs would be more strongly and inversely associated with substance use risk behaviors among students of color compared to white students and among low-income youth compared to higher SES youth. The California Healthy Kids Survey included questions related to lifetime use of cigarettes, vaping devices, alcohol, and marijuana and use in the past thirty days. The data, based on participants from 504

traditional high schools, showed an inverse association between SBHC access and past 30-day alcohol use, binge drinking, and cigarette and e-cigarette use among African American students. Among Asian youth, access to an SBHC was negatively associated with cigarette and marijuana use relative to white students. Additionally, SBHC exposure was negatively associated with alcohol use and binge drinking among lower SES youth. No relationships were found between SBHC access and sex (Bersamin et al., 2017).

One minority group that did not show differential associations between substance use behaviors and SBHC presence was Hispanic/Latinx students, which could be for a variety of reasons. SBHCs may need to seek guidance from the Latinx community and partner with Latinx health organizations to enhance outreach efforts and raise awareness among this demographic group. In addition, messaging and services may need to be provided in Spanish for families.

This study did not have data related to SBHC visits or specific services. Bersamin et al. (2017) note that other factors may have influenced the findings of this study, such as SBHC staff targeting specific populations of students in their outreach efforts or the increased likelihood of teachers making referrals for certain groups of students based on race/ethnicity or socioeconomic status. The main strength of this study was that it showed SBHCs might have an impact on adolescent substance use behaviors, most importantly, for youth in some ethnic minority groups and students of lower SES, which is critical to reducing health disparities.

By addressing these health disparities, SBHCs may increase educational opportunities for underserved students. The use of school-based health centers may improve students' health and emotional well-being, which indirectly impacts their academic performance and the overall learning environment.

Academic

Better health plays a role in academic achievement, contributing to improved attendance, GPA, dropout rates, and college preparedness. Walker et al. (2010), Gruber et al. (2022), Van Cura (2010), Bersamin et al. (2016), and Kerns et al. (2011) studied the impact of SBHCs on these academic outcomes.

Attendance and grade point average. The two purposes of a study by Walker et al. (2010) were to examine if school-based health center use was a predictor of academic outcomes for high school students and whether SBHC medical and mental health service use differentially impacted academic outcomes. Researchers hypothesized that the use of health services would have a positive impact on academic outcomes, which consisted of school attendance rates, discipline referrals, and grade point average. They also hypothesized that medical use would have a positive relationship with attendance, and mental health use would have a positive relationship with attendance, discipline, and GPA.

Walker et al. (2010) collected data from a linked school district and SBHC database for all enrolled youth in the Seattle school district from September 2005 through January 2008. The study sample consisted of a user group, defined as youth

who initiated contact with an SBHC in their first trimester of ninth grade, and a non-user group, which was all youth who did not initiate SBHC use during the study period. In order to remove bias, both groups were statistically matched using a propensity score to control for user differences and self-selection factors (Walker et al., 2010).

The results indicate that SBHC use is significantly associated with GPA and attendance gains (Walker et al., 2010). They found differences in the effects based on the type of use; specifically, strong associations were found between medical use and increases in attendance, while mental health use was more strongly associated with increases in GPA. Discipline incidents, measured by the number of suspensions and expulsions, were not found to be associated with SBHC use.

The findings of this study were consistent with previous studies and support strategies for future SBHC research, although the lack of detailed information about the types of treatment received limits the researchers' ability to give specific recommendations for SBHC service implementation (Walker et al., 2010). Conclusions from this data should be limited to higher-risk youth because they are the ones typically referred to SBHCs and tend to have greater academic difficulties. Though the authors note this as a limitation for drawing conclusions, it aligns with the primary mission of SBHCs, which is to provide much-needed services for underserved youth and those at risk for social and educational failures.

Gruber et al. (2022) also studied the impacts that SBHC use had on attendance. Using data from McNall et al. (2010) and their evaluation of SBHCs in Michigan, the final sample consisted of high school students from six different schools with SBHCs, many of

which qualified for free or reduced-price lunch. Gruber et al. (2022) hypothesized that the use of SBHCs would predict less absenteeism and have a positive impact on physical activity and health status over time. They also wanted to determine if the relationship between SBHC use and absenteeism would be mediated by physical activity and health status over time. While none of the hypotheses were supported, it was found that having low socioeconomic status predicted higher SBHC use in the first year and higher absenteeism in the second and third years (Gruber et al., 2022).

Their findings build on other studies that have examined the relationships between specific types of SBHC use and academic outcomes. This is also one of the few studies that examine relationships longitudinally over multiple years, and researchers suggest that SBHC use may have a short-term impact on attendance or that the relationships are complex (Gruber et al., 2022). It would also be beneficial to analyze different types of SBHC use, how many visits are needed to have an effect, and the wide variety of absence reasons. The relationship between SBHCs and attendance is still unclear and warrants additional research in order to link specific services to specific outcomes.

Attendance data alone does not give researchers specific information about the impact of SBHCs because it is difficult to distinguish absences for non-health reasons. Van Cura (2010) looked specifically at early dismissal rates and loss of seat time among students enrolled in SBHCs and compared them to those who received traditional school nursing services. Van Cura (2010) defined early dismissal as “a health-related event during the school day that required a student to leave school before the end of the

school day" and seat time as "the time students were available in school to learn or to access support services" (p. 373). She used a quasi-experimental method with a nonequivalent control group design and compared students from two urban high schools in western New York.

The experimental group (students enrolled in the SBHC at school A) was compared with students who were not enrolled in the SBHC at school A and students in school B (which did not have an SBHC). Students who were enrolled in the SBHC were significantly more likely to return to class and not to be dismissed early from school than students who received only traditional nursing services (Van Cura, 2010). Students not enrolled in an SBHC lost three times as much seat time as students who were enrolled in an SBHC. This supports the research that SBHCs can improve attendance by preventing students from leaving school early or going to a community health care provider.

While these findings can not be generalized to other schools and represent a narrow time frame, more studies should be performed using these same specific measures. By improving students' physical and emotional health and increasing the amount of time a student is available to learn, schools may see improved academic outcomes in students who utilize SBHCs, especially in schools that serve at-risk youth with limited access to care (Van Cura, 2010).

College preparation. Bersamin et al. (2016) examined how the presence of school-based health centers can impact academic achievement and college preparation efforts. Other researchers have studied the relationships between SBHCs and academic outcomes such as attendance and GPA; these measures typically reflect long-term paths

of academic achievement. Bersamin et al. (2016) further researched college preparation efforts, including ACT, SAT, and AP class participation. They state, “test taking and enrollment in college preparatory courses are indicative of active engagement in processes occurring in high school” (Bersamin et al., 2016, p. 243).

A total of 296 California high schools were used in this study - 99 schools with SBHCs and 197 without SBHCs. Educational and demographic data were collected from the California Department of Education website. Propensity score matching was used to reduce differences between the schools, and only regular/traditional high schools with an enrollment of at least 100 ninth through twelfth graders were analyzed (Bersamin et al., 2016).

The results showed mixed findings in that college preparation efforts were positively associated with SBHC presence, but academic achievement was not (Bersamin et al., 2016). The presence of SBHCs in schools can contribute to the overall school culture, which may include high expectations by adults, connectedness, and engagement; these outcomes are looked at in greater depth in the Learning Environment section of this chapter. Bersamin et al. (2016) suggest that school and SBHC staff may collaborate to provide support and motivation for college preparation.

This study focused only on traditional high schools, which the authors note as a limitation. They also mention that data could have included more detailed information about additional variables as well as specific services and interventions. Further research should be conducted to examine if the type of service use contributes to

specific outcomes, the impact of SBHC access throughout elementary and middle school, and how SBHCs can impact the learning environment (Bersamin et al., 2016).

This was the first study to establish a positive association between SBHCs in high schools and efforts toward college preparation. These results support the idea that SBHCs impact more than health outcomes; they may also support learning, achievement, and college preparation (Bersamin et al., 2016).

School dropout. By providing greater access to health care, school-based health centers can help prevent student dropout and should be used as one possible prevention strategy. Kerns et al. (2011) conducted a study of urban public school students from 9th grade through graduation to determine if there was an association between school-based health center use and school dropout. Using the public school database, researchers gathered information on academic outcomes and demographic characteristics. They also used the department of public health database for data on SBHC use.

Between 2005 and 2009, 53% of the 3,334 students in the sample used the SBHC, and those students were categorized into four groups based on the frequency of use per semester: none, low use, moderate use, and high use (Kerns et al., 2011). The majority of visits were for medical services. The clinics were open before, during, and after school and provided a full range of primary health care and mental health services. Students were given routine risk assessments with an overall focus on prevention, especially of nonacademic barriers to school success (Kerns et al., 2011).

Findings showed a strong relationship between SBHC use and dropout rates, especially for students who were at higher risk for dropout (Kerns et al., 2011). Interestingly, at-risk students were more likely to use the SBHC and more likely to benefit academically from SBHC use. Low to moderate SBHC use was related to a 33% lower likelihood of high school dropout compared with non-users. The health centers were found to play a preventative role for students in terms of unplanned pregnancies, untreated STDs, and undiagnosed illnesses, such as strep infections. While the aforementioned may be barriers to learning, access to care through the SBHC allows students to overcome those challenges and possibly increase their overall achievement.

This study provided invaluable information to stakeholders as it was the first to examine the longitudinal relationship between SBHC use and time to drop out by using an entire school district as the sample (Kerns et al., 2011). Findings should be used by school districts to make decisions regarding SBHCs and to understand the many ways in which they benefit students. As the authors note, “Promoting the wellness of at-risk populations and keeping these groups of students connected to educational opportunities addresses inequities in health outcomes and disparities in academic achievement” (Kerns et al., 2011, p. 622).

Learning Environment

SBHCs make comprehensive healthcare more accessible for children by providing care at school, and the ability to access quality care can impact students’ learning environment. In a quantitative study, Strolin-Goltzman (2010) gathered information about school-based health centers (SBHCs) and the positive effects they have on the

overall learning environment. She hypothesized that the presence of school-based health centers would provide a more optimal learning environment than schools without health centers.

Researchers used secondary data from the 2007 Board of Education Learning Environment Survey (LES) of a large northeastern U.S. city. Students, parents, and teachers from all the public schools in this area were surveyed, and the sample size chosen for this study was 416 out of 1,373 schools. The survey measured overall consumer satisfaction with the learning environment, which consisted of four different domains: academic expectations, schoolwide communication, student engagement, and safety and respect. While controlling for poverty, enrollment, school type, special education, and English-language learners, the data was analyzed to determine the relationship between being from a SBHC school and overall satisfaction.

Strolin-Goltzman (2010) found some evidence that the presence of an SBHC is shown to be associated with greater satisfaction on 3 out of 4 of the learning environment domains. The three domains were: academic expectations, school engagement, and communication. Parents and students consistently rated the learning environments higher in schools with SBHCs than without. Teachers showed no differences in how they rated the environments. Strolin-Goltzman (2010) suggested that schools and teachers primarily focus on the attainment of academic success, while SBHCs focus on improved access to health care and positive health outcomes, which could indicate the need for greater collaboration in order to connect the two.

Strolin-Goltzman (2010) brought forth a limitation of this study, being that there may have been uncontrolled differences in leadership or in the student body. It can't be stated that having an SBHC caused a better learning environment, but there is a correlation. Researchers noted a strength of this study, which is that school-based health centers may actually contribute to better communication and engagement with students and parents due to the extra support they offer outside of actual medical services. For example, many SBHC liaisons offer weekend classes geared towards nutrition and exercise, which may increase student and parent perception of connectedness to the school (Strolin-Goltzman, 2010).

The study suggests that having medical services offered within the school setting may improve attendance and the amount of time in the classroom (Strolin-Goltzman, 2010). Further, SBHCs in school could allow students, especially those who are lower-performing, to have fewer barriers that affect their ability to learn and achieve academic goals. Overall, the data support the idea that school-based health centers may have positive effects on schools due to the services they provide and also for their contribution to a better learning environment.

School connectedness. Strolin-Goltzman et al. (2014), Bersamin et al. (2019), and Stone et al. (2013) studied how SBHCs may play a role in increasing school connectedness and positively affect academic performance. The CDC defines school connectedness as "the belief held by students that adults and peers in the school care about their learning as well as about them as individuals" (Centers for Disease Control and Prevention, 2018). Studies have shown positive associations between school

connectedness and academic performance, attendance, behavioral health problems, and risky behaviors.

Strolin-Goltzman et al. (2014) collected data on 793 elementary, middle, and high school students in a large northeastern metropolis. Of those students, 61% were SBHC users. In-person surveys were administered to students and parents to collect information on demographics, SBHC usage, satisfaction with SBHC usage, and school connectedness. The three factors of school connectedness were *school bonding*, *school attachment*, and *commitment to educational future*. School records were also used to gather administrative data such as demographics, grades, attendance, tardiness, and grade promotion.

Based on the findings by Strolin-Goltzman et al. (2014), school-based health center use was found to be significantly associated with school connectedness in each of the three factors. In *school bonding*, SBHC users showed much higher scores than non-users, reporting that they looked forward to and enjoyed being at school (Strolin-Goltzman et al., 2014). SBHC users also reported higher levels of *school attachment*, indicating that they felt adults were available and cared about them and that they respected the health professionals. The authors note that these findings could be related to the adult support that users are able to access through the health center. SBHC users also showed significant differences in the area of *commitment to educational future*, reporting that they felt supported in reaching their goals, succeeding in school, and going to college (Strolin-Goltzman et al., 2014).

SBHC users had higher GPAs and higher percentages of students promoted to the next grade level. Attendance was not significantly different between users and non-users, but users had higher levels of tardiness than non-users. The authors suggest a need for more research on attendance and tardiness in relation to SBHCs. In addition, school connection and attendance were positively related to GPA and promotion to the next grade level.

In another study of school connectedness, Bersamin et al. (2019) examined the effects of SBHCs on student subgroups, including socioeconomic status. Students in 7th, 9th, and 11th grade from 503 high schools completed the California Healthy Kids Survey during the 2013-2014 school year, from which researchers developed three subscales of school connectedness: caring relationships with a school-based adult, high expectations by a school-based adult, and meaningful participation at school. It was found that the schools with SBHCs had a lower percentage of White students and a higher percentage of students who were eligible for free or reduced-price lunch.

The first of two hypotheses were not supported; youth who attended schools with SBHCs did not show higher levels of school connectedness than students who attended schools without SBHCs. There was, however, support for the second hypothesis: the relationship between SBHCs and school connectedness will be stronger among low SES youth, regardless of SBHC use. Results showed that an SBHC presence significantly increased adult caring, adult expectations, and meaningful participation for students of lower SES compared to students of the same SES level in schools without an SBHC (Bersamin et al., 2019). Regardless of use, SBHCs can have a positive effect overall

on school connectedness and may improve health and academic outcomes for at-risk youth.

One limitation of this study is that the proxy for socioeconomic status was based on parents' educational attainment, which can be influenced by other factors such as race, ethnicity, sex, and age. Researchers note that this study is a necessary starting point for future research which should now focus on examining what specific strategies are effective in promoting school connectedness.

Stone et al. (2013) further examined the relationship between student-reported SBHC use and caring relationships with program staff. They also explored the relationship between SBHC use and school assets or how students perceive their environments. This consisted of the presence of caring adults, high behavioral expectations, and opportunities for meaningful participation.

Through the 2009 California Healthy Kids Survey, Stone et al. (2013) were able to collect data based on 7,314 students from fifteen schools in the San Francisco Unified School District. They used propensity scoring methods to adjust for potential bias. Students responded to a question on the survey to indicate how often they visited the school health center, or Wellness Program, for information or services. The survey also included items relating to caring adult relationships, high expectations, and meaningful participation at school (Stone et al., 2013).

The results of this study were consistent with other literature in that there was a positive relationship between SBHC use and school assets (Stone et al., 2013). In their observations, they found the strongest effects for students who reported more than ten

Wellness Program visits, which "is encouraging given that on average, these students showed risky pretreatment characteristics, and it may suggest minimum 'doses' at which SBHC utilization shows effects on these outcome domains" (Stone et al., 2013, p. 531). In addition, the study found that SBHCs provide access to caring adult relationships.

The authors noted that some of the relationships they observed could have been impacted by other omitted variables, such as other types of service use in school or the community (Stone et al., 2013). They also suggest a need for more research on the nature, type, and frequency of service use and how specific student subgroups respond to services. Overall, the results of this study showed evidence that school-based health center use is related to some student-reported academic outcomes.

SBHC Utilization and Effective Service Delivery Models

While SBHCs are effective in providing services for underserved youth, it's important to understand who is utilizing SBHCs and examine the types of services they receive. Schools may also encounter challenges in service delivery, funding, and staffing, prompting them to examine the options that best meet the needs of their school community.

Utilization

Whitaker et al. (2019) gathered specific information about the various types of services, such as behavioral health counseling, general counseling, or medical services, and if there were any unique predictors. Further, the study sought to determine relationships between service utilization and sociodemographic, academic, and

psychosocial distress factors. In order to understand the general approach to interventions, Whitaker et al. (2019) chose to center their study on data from one high school in northern California for the 2012-2013 school year. They gathered information through administrative data on SBHC service utilization, student responses to an epidemiological survey, and educational records, including indicators of academic performance and sociodemographic characteristics.

Results showed that although SBHC users and non-users did not differ by age or free and reduced-price lunch status, there were differences "related to race, special education eligibility, English proficiency, depressive symptoms, previous year GPA and attendance, violence victimization and perpetration, and substance use" (Whitaker et al., 2019, p. 554). For all types of SBHC service utilization, previous year GPA and attendance were the most consistent differences between users and non-users. For behavioral health and general counseling, African American and Latinx students were more likely to utilize services (Whitaker et al., 2019).

Based on the findings from this study, it can be concluded that there were differences between users and non-users of SBHC services at this high school. These differences were related to demographic characteristics, psychosocial risk and protective factors, and academic needs. There were also patterns in specific service utilization related to race and special education participation. The authors noted that there are very important differences among users, and using only student demographic and school performance characteristics may not be sufficient in identifying and referring youth to SBHC services (Whitaker et al., 2019).

Another study sought to identify the characteristics of students who utilized the SBHCs and the characteristics of the visits themselves. Wade et al. (2008a) examined patterns across urban and rural elementary and middle schools in Southwestern Ohio and Northern Kentucky. These eight school districts had newly implemented SBHCs in the 2000-2001 school year, and the enrollment and medical encounter data were tracked over the course of three school years using an online database. There was a total of 13,046 students in Kindergarten through 8th grade who attended the schools (Wade et al., 2008a).

Of the students who attended these schools, researchers found that 57.2% were enrolled in their SBHCs, and 59.3% of those students used the SBHC at least once during the study period (Wade et al., 2008a). The total number of visits increased during the three years, with the largest increase for mental health visits. While the urban school districts had greater SBHC enrollment, rural districts had higher rates of utilization. Those who had higher enrollment, as well as utilization, included Black students, students with public or no health insurance, and students with asthma or attention deficit disorder (Wade et al., 2008a).

Researchers also sought to identify sources of referrals, the most frequent resulting diagnoses, and the factors associated with students being sent home or back to class for each SBHC visit. In rural districts, parents referred more children to SBHCs than parents in urban districts. It was found that teachers referred more Black students and students with asthma, public or no health insurance, or acute illnesses; almost half, 41.6%, of all referrals came from teachers (Wade et al., 2008a). The most frequent

resulting diagnoses for visits were respiratory and health supervision, which includes physicals, follow-ups, and wellness checks; visits for mental health issues increased substantially in year three (Wade et al., 2008a). Data showed that students in 85.2% of cases were sent back to class, and 14.8% were dismissed from school, and the percentage of students returning to class steadily increased over the three-year period.

Wade et al. (2008a) were unable to examine the total health-care utilization profiles of these students, such as whether their overall medical use changed from prior to the implementation of the SBHC or if they accessed medical services outside of the SBHCs. In addition, the differences in structure and staffing between each SBHC made it difficult to draw conclusions about services and staffing models. However, the study supported previous findings that SBHCs provide health care access for disadvantaged groups of students - those with public or no health insurance and Black students - and these groups were found to be more likely to utilize the SBHCs in their schools. Students in rural areas may benefit from the increased convenience of health services for which they may otherwise need to travel to urban areas to receive. SBHCs may also reduce school absences for children with chronic health problems by offering convenient, on-site services and providing preventive care.

Anyon et al. (2013) wanted to understand why recent studies have shown that Black and Latinx students tend to be overrepresented in high school SBHC service use, while White and Asian students are underrepresented in proportion to the general school population. They examined if this was due to differences in health risks and needs, or perhaps there was racial bias in referrals or cultural stigmas against behavioral

health treatment. Researchers hypothesized that these differences in SBHC use would be evident even after controlling for students' health risks and school-level demographic characteristics.

Using data from the Youth Risk Behavior Survey (YRBS) in the spring of 2007, the final study sample consisted of 1,700 students from nine large, diverse, urban school districts with SBHCs that emphasize prevention and early intervention for behavioral health problems (Anyon et al., 2013). The YRBS is an epidemiological questionnaire that surveys health risks, including depressive symptoms and suicidality, substance use, sexual activity, and asthma, which are consistent with SBHC target areas. Results showed, after controlling for school racial composition, Black and Latinx students were still more likely than Asian students to use SBHCs and used them more often (Anyon et al., 2013).

This study used a limited number of schools, and the results are only generalizable to similarly designed SBHC programs that serve a comparable population. There are implications for Asian students, whose use may be influenced by cultural or contextual factors. Overall, the positive relationship between health risk factors and SBHC use is consistent with previous research, supporting the idea that SBHCs are responsive to the needs of many students. This study suggests that SBHCs may reduce observed barriers for Black and Latinx students in accessing behavioral health services, while efforts must be made to improve access and services for Asian students. As Whitaker et al. (2019) state, there needs to be more research on the specific student characteristics that predict service use in order to improve the selection of students

referred to SBHCs and minimize bias, therefore allowing schools to better serve students and increase the impact of SBHCs.

Service Delivery Models, Funding, and Staffing

School health delivery models may change to meet the needs of the students, the district, and the community. School districts, faced with budget cuts, are often required to come up with creative solutions to address the issues of funding, staffing, and available resources. Trudnak Fowler et al. (2018) assessed School-Based Comprehensive Oral Health Service (SBCOHS) programs based on efficacy, integration, and sustainability; although this study focused on oral health care, key principles can be extended to all school-based health centers.

The efficacy of each program was largely based on having highly capable staff and increased enrollment (Trudnak Fowler et al., 2018). The study showed that staff who worked well together and with other school staff could strongly influence the success of the program. Spreading information to students, parents, and teachers and ensuring the return of completed paperwork was also effective in increasing enrollment and contributing to the overall success of the program.

SBCOHS programs were integrated successfully when there was collaboration between key stakeholders and communication with SBHC staff, the school nurse, and the principal (Trudnak Fowler et al., 2018). They found that cross-referencing with the SBHC for referrals and sharing health records electronically between medical and dental staff was also helpful. Challenges included sharing spaces, scheduling, school staff turnover, and teachers prioritizing class time over health appointments.

Adequate funding was key to the sustainability of the oral health programs. Trudnak Fowler et al. (2018) followed up with the programs six months after the grant period, and all were still in operation and thought they'd be able to sustain the program for at least the near term. Strategies included hiring dental students/interns, getting insurance reimbursement, and applying for additional grants. By establishing strong partnerships, developing positive relationships with staff, and improving communication, these programs were successful in providing oral health services to underserved populations (Trudnak Fowler et al., 2018).

To add to the literature on various models and their effectiveness, Becker and Maughan (2017) researched emerging models of school health service delivery, specifically those not employed by education. Without information about these new approaches, it can be difficult for schools to fully understand their options. The school nurses and other staff that participated in the interviews represented school health delivery models of various "size, age, employers, staffing configurations, and funding sources" (Becker & Maughan, 2017, p. 418). The one characteristic that was most common between models was that ten of the eleven participants reported providing services to underserved lower socioeconomic populations. Types of staff in the various models include registered nurses, licensed practical nurses/licensed vocational nurses, or unlicensed assistive personnel (Becker & Maughan, 2017). School-based health centers located in or close to the school may also provide care for students, as well as telehealth, which uses videoconferencing for primary care services (Becker & Maughan, 2017).

Becker and Maughan (2017) found that school nurses may be employed by local hospitals, public health departments, and government agencies. Data showed that funding might come from a variety and combination of sources, including but not limited to schools, public health departments, local hospitals, and Medicaid. In addition, the authors note, “As budgets tighten in health and education, looking for creative solutions to combine sources may be a useful strategy and increase buy-in from multiple agencies” (Becker & Maughan, 2017, p. 420).

Often, more money, resources, and staff equate to the expansion and improvement of health services for students. The study found that school nurses were able to provide day-to-day care, medication needs, case management, health education, screenings, and crisis intervention as a result of having more staff. Other benefits revealed by the study include increased communication and collaboration between public health departments, health providers, and the school as well as improved community outreach. The challenges of new service models were noted as school nurses not feeling connected to the school and unclear roles and expectations (Becker & Maughan, 2017).

The authors acknowledged the small sample size and the possibility of omitted or unknown information as limitations to the study. Therefore, this research may serve as a basis for future studies to expand upon and examine the complexities of various health delivery models, their impacts, and differences in outcomes (Becker & Maughan, 2017). The needs of each school and community are unique, making it important to evaluate the options and find what will best meet the needs of students.

CHAPTER III: DISCUSSION AND SUMMARY

Summary of Literature

School-based health centers increase access to primary care for adolescents by eliminating many of the barriers that students often face. Given the convenience and confidentiality of these centers, it's understandable why they are often the most common source of care for students (Soleimanpour et al., 2010). Health disparities among certain groups, including those with low socioeconomic status, may be partially alleviated by SBHC use (Gruber et al., 2022; Parasuraman & Shi, 2015). Consequently, by increasing health care access and providing preventative, rather than more costly, reactive care, it can also be expected to see a decrease in costs, both for Medicaid and for families. With a decrease in hospitalizations and emergency department visits, Medicaid may save an estimated $35 per child per year; as a result of students utilizing SBHC services, parents save time taken off of work and travel expenses (Guo et al., 2005; Guo et al., 2010; Wade & Guo, 2010).

Carpino et al. (2017), Federico et al. (2010), Hussaini et al. (2021), Sisselman et al. (2012), and Trudnak Fowler et al. (2018) describe the many types of medical services that are provided by SBHCs: treatment for minor injuries and illnesses, chronic disease management, such as asthma care, and preventative care services including well-child visits, immunizations, sports physicals, risk assessments, reproductive and sexual health care, and oral health care. Students often access their school's SBHC for various screenings: vision screenings, obesity screenings, and screenings for sexually transmitted diseases. In addition to these medical services, SBHCs can reach students in

school by offering healthy lifestyle programs and peer education groups or out of school through classes and other community outreach efforts. Studies have shown that SBHCs may play a role in promoting healthy behaviors and improving health-related quality of life (McNall et al., 2010; Wade et al., 2008b).

Mental, emotional, and behavioral health services offered by SBHCs may fill a need for many students, especially those from low-income families. Amaral et al. (2011) found that students with government assistance were more likely to seek mental health services than those with private insurance, and Guo et al. (2008) observed lower costs of mental health services, improved accessibility, and greater utilization in schools with SBHCs. Students showed a high need for mental health services, as discovered in the study by Parasuraman and Shi (2015), with almost half reporting at least one mental health concern and over one-fourth reporting a serious emotional health concern. Benefits of school-based mental health services include students being less likely to report depressive episodes, suicidal ideation, and suicide attempts, and improvements in anxiety and stress (Hussaini et al., 2021, Koenig et al., 2016; Paschall & Bersamin, 2018; Soleimanpour et al., 2010).

Access to an SBHC may also have an impact on substance use behaviors; Bersamin et al. (2017) found that SBHC exposure was negatively associated with alcohol use and binge drinking among the youth of lower socioeconomic status. Students who engage in risky behaviors, such as the use of alcohol, cigarettes, vaping devices, and marijuana, may benefit from prevention and early intervention programs offered by

SBHCs (Amaral et al., 2011; Bersamin et al., 2017; Sisselman et al., 2012; Soleimanpour et al., 2010).

By improving students' overall health, SBHCs have the ability to impact academic outcomes, such as attendance, GPA, dropout rates, and college preparation (Bersamin et al., 2016; Gruber et al., 2022; Kerns et al., 2011; Van Cura, 2010; Walker et al., 2010). Gruber et al. (2022) noted that having low socioeconomic status predicted higher SBHC use in the first year of their study and higher absenteeism in the second and third years. Walker et al. (2010) observed increases in attendance and GPA with medical use and mental health use, respectively. In a more detailed look at attendance data, Van Cura (2010) found that students who were enrolled in SBHCs lost less seat time and had lower rates of early dismissal than those not enrolled in SBHCs. In addition, Bersamin et al. (2016) suggest that SBHCs support college preparation efforts, including ACT and SAT test taking and college preparatory courses. In a 2011 study by Kerns et al., students with low to moderate SBHC use were 33% less likely to drop out of high school than non-users. "Promoting the wellness of at-risk populations and keeping these groups of students connected to educational opportunities addresses inequities in health outcomes and disparities in academic achievement" (Kerns et al., 2011, p. 622).

Finally, school-based health centers have been found to have positive effects on the overall learning environment. Strolin-Goltzman's (2010) findings indicate that SBHC presence is associated with greater satisfaction of academic expectations, school engagement, and communication. There is also a relationship between SBHCs and school connectedness (Stone et al., 2013; Strolin-Goltzman et al., 2014), which is even

stronger among students of lower socioeconomic status at schools with SBHCs than without (Bersamin et al., 2019).

In order to reach as many underserved youth as possible, we must understand who is utilizing SBHCs, how to increase access for all students, and what are the most effective service delivery models. Studies have shown that Black and Latinx youth, adolescents with asthma or attention deficit disorder, those with public or no health insurance, and students from rural school districts have higher rates of SBHC enrollment or utilization (Anyon et al., 2013; Wade et al., 2008a; Whitaker et al., 2019). Special education participation and previous year GPA and attendance also have an effect on SBHC use. This information indicates that SBHCs are successful in reaching at-risk youth, and it should also be used to improve the referral process and minimize bias. Collaboration and communication between SBHC staff, the school nurse, teachers, and administrators are integral to the success of SBHC programs (Trudnak Fowler et al., 2018). Schools must also find innovative ways to fund and staff SBHCs and make use of all available resources to expand and improve health services for all students (Becker & Maughan, 2017).

Limitations of the Research

The research pool was limited to include studies of school-based health centers serving students in elementary, middle, and high schools in the United States. Articles were not included if the research was specific to one race or ethnicity, as the purpose of this review was to understand the impact of SBHCs on all students of low socioeconomic status, regardless of race or ethnicity. Literature topics included access to health care,

services provided, the impact on academic and environmental outcomes, and effective service delivery models. Articles were not reviewed if the authors exclusively examined SBHC implementation strategies or used consumer opinions and satisfaction as sole measurements.

Each student, school, and SBHC is unique, which can make it difficult to generalize findings about the impact of SBHCs or give specific recommendations. Other contributing factors may have affected the results of each study, such as changes in health care outside of school, recall bias in student surveys, significant life events, SBHC staff targeting certain populations of students, and teacher referral bias. At times, the research was limited due to a small number of schools in the data pool, student data privacy, or variations and errors in record-keeping. Studies that used insurance claim data from Medicaid or other government assistance programs lacked information about students with other types of insurance. Some researchers noted the absence of details about treatments provided and the resulting diagnoses and outcomes of SBHC visits.

Implications for Future Research

In an effort to improve SBHCs, there needs to be further research to understand the various service delivery models and the range of services provided across SBHCs. Studies should measure differences in outcomes in order to assess which services are particularly effective and their impact on specific health risks. While some researchers utilized student self-report measures, future research should also incorporate more standardized and diagnostic measures. Additionally, researchers must examine how to improve the range and quality of services and find evidence-based strategies that result

in better outcomes. These strategies can be used to reach more students, provide better care, increase academic achievement, and improve the overall learning environment.

Several authors noted the importance of studying the predictors and implications of students' frequency of SBHC use. Some have wondered what dosage is necessary in order to see the desired outcomes. Future studies may seek to understand the impact of SBHC access across a student's school career, spanning from elementary through high school. One could even attempt to explore what students need to ensure a successful transition into adulthood after SBHC access ends. Additional longitudinal studies should be conducted using larger sample sizes consisting of SBHCs across the country and including non-traditional schools to see if findings can be replicated. Researchers should continue to investigate how cultural norms and family belief systems influence SBHC use. Finally, the literature needs to address the gaps in care and identify factors that contribute to racial and socioeconomic disparities.

Implications for Professional Application

Based on the findings of numerous studies, school-based health centers may have a positive impact on students' physical and mental health, which in turn affects their academic achievement. When students are not healthy, they are unable to learn and perform to their best ability. Whether a child is experiencing symptoms of physical illness or facing feelings of depression and anxiety, it is imperative that they have access to the services that can be provided through SBHCs. This is even more important for underserved students who typically face barriers to adequate health care access due to

socioeconomic or racial disparities. SBHCs can supplement the care that students receive outside of school, or they can serve as the primary source of care. By providing these services in the school setting where students already spend the majority of their time, SBHCs help to decrease time away from the classroom, therefore increasing opportunities for learning.

At my current school, we have school-based mental health services. I have seen the impact this has on students and families and how they benefit from these services. Students who go to the therapist typically miss an hour of class time at most. If they were to attend therapy outside of school, they would miss a greater amount of time, and parents would have to miss work to bring their children to appointments. Many parents' jobs do not allow them to take time off, and some families don't have adequate transportation. When making referrals, I've discussed with parents the convenience of having therapy right at school. They often express how thankful they are for this option, stating that they would be unlikely to initiate services for their child if they had to bring them to appointments somewhere else. Unfortunately, we've even had to put students on a waiting list to receive services because there is such a high need. We need to have more mental health resources, as well as medical care, available at my school and schools across the United States.

My school has a large percentage of students who are eligible for free and reduced-price lunch, which typically equates to being from low-income households. Students of low socioeconomic status can experience more health problems due to poor living conditions, fewer health-promoting resources in their neighborhood, inability to

pay for services, lack of transportation, and other disparities due to race or language. One student on my caseload, a seven-year-old boy who is Hmong, couldn't focus on learning because of a toothache. When he showed me his tooth, it was clear that he had a cavity that needed to be cared for immediately. The problem is that his guardian does not speak English and has financial difficulties. By making some phone calls to local dental clinics that offer free or low-cost services, I found one that also had a staff member who spoke Hmong! He was able to get an appointment later that week. If he had received preventive care or early intervention through an SBHC, he might not have had to endure all of this in the first place. This is just one example out of many in which students lack access to necessary care and would benefit from the services provided by a school-based health center.

Conclusion

Schools are uniquely positioned to provide equitable access to health care through SBHCs. It has been shown that students' physical and mental health directly impacts their academic performance. In addition, students of low socioeconomic status are disproportionately affected by health problems and encounter many barriers to receiving basic, necessary care. Although SBHCs can increase access to primary care, schools face challenges in funding and staffing these programs. It is crucial that stakeholders utilize this information when making decisions in regard to the allocation of resources and policies that impact schools. By targeting student health through school-based health centers, there will be numerous positive impacts on students and society as a whole.

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