Literature Review: Evidence-Based Practices for School-Based Health Centers

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Definitions: *School-based health centers (SBHCs or centers)* are health clinics that provide primary care services to students associated with elementary, middle, high school, or other mixed grade campuses. Some SBHCs also provide services for behavioral health, reproductive health, dental care, and other health and wellness-related issues. School-based health centers might also serve school faculty or staff, student families, or community members. There are four models for SBHCs*:* a traditional SBHC is on school campus; a school-linked SBHC is at another site linked through the school; a mobile SBHC is a van or bus parked near or on the school campus; and in telehealth SBHC models, primary care providers are available remotely.

Primary care consists of acute care, immunizations, wellness exams, health screenings (including vision, dental and/or hearing), health education, and treatment of chronic conditions. *Reproductive health* includes, but is not limited to, contraceptives, parenting supports, and STD testing. *Behavioral health* services may include diagnoses, counseling, substance abuse treatment, and medication-assisted treatment (MAT).

An SBHC *sponsor* is a health care service organization that partners with an SBHC and provides an array of administrative and clinical services. A sponsor typically has an MOU with the center wherein the sponsor's responsibilities are defined. Types of sponsors may include community health centers, Federally Qualified Health Centers, community health departments, academic medical centers, behavioral health services, hospitals, or physician practices (SBHA, 2014).

A *Federally Qualified Health Center* (FQHC) is a community-based health care provider that qualifies for reimbursement and funding from the Health Resources and Services Administration (HRSA), from Medicare and Medicaid, and is also able to receive grants from the federal government. In order to be considered an FQHC, a center must deliver services to an underserved population, provide care on a sliding fee scale, and operate under a governing board of directors that includes patients.

Target Population: Students from pre-kindergarten through 12th grade. Some SBHCs extend services to a combination of school faculty and staff, families, students from other schools, and local community members.

Description: In their study of 20 years of SBHC expansion, Love, et al., (2019) note that SBHCs were developed in the late 1960s and early 1970s in urban areas to support family planning and teenage pregnancy prevention. Documentation of the operation of SBHCs began in 1985 with the National School-Based Health Care Census (Census) of 31 SBHCs; in the latest available Census (2016-2017), 2,584 SBHCs were identified. Love et al., credit increased concerns about healthcare access and outcomes in underserved communities and the availability of SBHC-targeted philanthropic, state and federal funding as instrumental in the expansion of SBHCs over the last 30+ years.

Exploring the effects of SBHCs on health and education outcomes is not the focus of this literature review. However, it might be useful to revisit the array of potential outcomes one could expect from the successful implementation of evidence-based practices in the design and implementation of SBHCs. Knopf et al., (2016) conducted a systematic review of journal articles published through July 2014 to summarize the evidence for the effects of SBHCs on education and health-related outcomes. Forty-six studies (predominantly focused on on-site clinics serving urban, low-income and racial or ethnic minority high school students) resulted in 32 distinct outcomes associated with the presence and/or use of an SBHC. Noted *education benefits* include reduced suspension rates and high school non-completion rates, increased grade point averages and grade promotion. *Healthcare utilization improvements* include increased routine immunizations and use of other preventive services, and increased identification of a regular source of health care. Symptoms and incidents of asthma decreased and SBHCs were associated with substantial reductions in emergency room visits and hospital utilization for all conditions. *Reproductive health* findings include increased contraceptive use among females, decreased childbirth, and prenatal care improvements. The effects of SBHCs on

risky behaviors are mixed, with increased cigarette smoking but reductions in alcohol and other substance use. *Key effects modifiers* were also identified, including the *number of services offered* (SBHCS with 4 services had greater reductions in total emergency room utilization than those with 3 or fewer services), and the *hours of SBHC availability* (SBHCs accessible outside of regular school hours were associated with greater reductions in ED use compared to those accessible only during school hours) (p.8).

Limitations of the original 46 studies might include site selection bias, a lack of appropriate baselines or comparison groups, and various political or socioeconomic contexts for which statistical controls are absent (p.9). Knopf et al., conclude, "Despite methodological limitations, the breadth and consistency of the evidence…support the conclusion that SBHCs improve both educational and health outcomes" (2016, p.11).

Strolin-Goltzman et al., analyzed the relationship between school connectedness and GPA found that as GPA increased, so did student connectivity to school (2014). SBHCs have also been found to reduce suicidal ideation, depression, stress, and anxiety (Arenson et al., 2019). SBHCs were associated with increased use of contraceptives, increased vaccinations, increased access to mental health services, and decreased emergency department use (Love et al., 2019). Guo et al., study found that SBHCs reduced transportation and pharmacy costs, decreased emergency visits, and increased use of mental health services. The results also showed that SBHCs helped close the gap in health care costs for African Americans (2010).

Other studies have explored various SBHC use patterns and health and education outcomes. In a limited qualitative study, minority males are more likely to receive mental health services in SBCHs than other community settings (Bains et al., 2014). Availability of mental health services at SBHCs was associated with significant reductions in the likelihood of depressive episodes, suicidal ideation and suicide attempts among adolescents in 14 Oregon public schools (Paschall and Bernsamin, 2018). Walker et al. conducted a longitudinal study of 14 SBHCs in Seattle from the fall 2005 – fall 2007 semester. Students in the study were ninth graders, 444 of which initiated SBHC use in fall 2005 and 1,861 of whom did not use the SBHC during the study. They found that GPA and attendance were effected depending on the type of service for which students were seen: students who used medical services had an increase in attendance rates and those who were seen for mental health issues had increases in their GPAs (2010). SBHCs also provide a benefit to those with health insurance by providing an on-campus location. These students are more likely to see a doctor or have a check-up at a SBHC than those seeing a primary care provider off site (Arenson et al., 2019).

SBHCs in New Mexico. There are 73 SBHCs in New Mexico. Data from the 48 SBHCs funded by the New Mexico Department of Health, Office of School and Adolescent Health (OSAH) for the 2017-2018 school year show the centers were used by 18,609 patients for a total of 56,566 visits. Within age, ethnicity and gender subpopulations, majorities of patients were 14-18 years old (55%), Hispanic (63%), and female (59%) (Apex 2019). Sixty-one percent of all visits were for primary care, 35% for behavioral health and 4% for oral health. Among the primary care visits, 58% were for acute care, 27% for reproductive health care, and about 15% of visits were for wellness exams and sports physicals (New Mexico Alliance for School-Based Health Care [NMASBHC], 2019).

For their study of frequent users of SBHCs in New Mexico, Koenig et al., examined medical claims/encounter data from 59 SBHCs located in secondary schools. The analytic sample was 26,379 unduplicated visits from 7,885 14-19 year old SBHC users during the 2011-2012 school year. Most of the visits were for behavioral health (42%) and reproductive and sexual health (22.9%). About 25% of the students visited SBHCs four or more times in the school year; these were identified as frequent users. Frequent users were more likely to be female than male, American Indians than other races, and 16-17 years old rather than younger or older students (2015).

SBHCs in Bernalillo County/Albuquerque. According to the NMASBHA web directory, there are 14 SBHCs in Albuquerque[1][2], 12 of which are contracted through OSAH. The two non-OSAH affiliated centers are the Atrisco Heritage

[1] East San Jose (ESJES) and Emerson (EES) Elementary Schools; Grant (GMS), Van Buren (VBMS), Washington (WaMS), and Wilson (WiMS) Middle Schools; Albuquerque (AHS), Atrisco Heritage (ATHS), Highland (HHS), Manzano (MHS), and Rio Grande (RGHS) High Schools; and the Native American Community Academy (NACA), South Valley Academy (SVA) and RFK (RFK) Charter Schools.

[2] These data may be subject to change as soon as mid-July 2019. NM DOH's Request for Proposals for New School-Based Health Centers closed in May, 2019 and successful respondents are being notified at the time of this report.

Center for Family & Community Health at Atrisco Heritage High School and the First Choice Health Care SBHC at Rio Grande High School. Nationally, about 10% of public schools have SBHCs: 40% provide access to elementary age children, 30% to middle or high school age students, and about 30% to youth in other grade combinations (Love et al., 2019). In Albuquerque, roughly 8% of public schools have SBHCs: 14% provide services to elementary age children, 29% to middle school students, 36% to high school youth, and about 21% to youth in other grade combinations. (Calculated from NMASBHC, 2019a)

The focus of all SBHCs is early intervention and preventive healthcare, although the demographics of the school population, school type, location, and community needs can dictate the type of services provided. The School-Based Health Alliance suggests, "the SBHC team and services are organized explicitly around relevant health issues that affect student well-being and academic success". (School-Based Health Alliance [SBHA], 2014). The *Directory of School-Based Health Centers in New Mexico, 2019* (NMASBHC, 2019) offers some insight into the operations of, and services provided by, 13 of the 14 Bernalillo County/APS SBHCs (data for Emerson Elementary are missing), summarized in Table 1 below.

Table 1: Summary of Selected Operations and Service Categories for Bernalillo County/APS SBHCs

Category	SBHC Services
Number of Days Open	All the high school and RFK SBHCs are open 5 days a week, Monday – Friday. All elementary and middle school SBHCs are open 2 days a week (days vary). SVA and NACA are open four and three days, respectively.
Hours Open	SBHC hours approximate the school day with the exceptions of AHHS, which is open until 5 p.m.; ESJES, open until noon; and WiMS is open until 1 p.m.
Open during the Summer	SBHCs at AHHS, RGHS and NACA are open during the summer.
Populations Served	11 SBHCs offer services to more than their students. Six serve student families Four serve faculty and staff Seven will see students from other districts or schools Only 1 (AHHS) is open to community members.
Services Offered	All 13 SBHCs provide primary care and behavioral health services Reproductive health services are available in all the SBHCs except ESJES Immunizations are available at 11 SBHCs LGBTQ support services are available at 10 of the centers Six SBHCs offer dental services Two of the SBHCs (AHS and RGHS) have an on-site pharmacy With the exception of ESJES, all SBHCs offer 4 or more services
Sponsorship	Six SBHCs are sponsored by UNM School of Medicine Department of Pediatrics/Division of Adolescent Medicine. First Nations Community Health sponsors three SBHCs Owens Administrative and Health Supports sponsors two SBHCs First Choice Community Health sponsors 1 SBHC. Atrisco Heritage HS is a combined UNM Family Health Center and SBHC and sponsored by the UNM Health Sciences Center.

Research Summary: The focus of this literature review is evidence-based practices for the management and service delivery of SBHCs.

General Practices

Keeton et al, 2012, found several commonalities among SBHC models. In general, they were located on school campuses, offered a comprehensive range of services tailored to the physical and behavioral health needs of the students, used a multidisciplinary team of providers, provided clinical services through a qualified health providers, required a written parental consent for the full scope of services, and were governed by an advisory board consisting of community representatives, parents, youth, and family organizations. Placing a center on a school campus was important in reducing the disparity in healthcare among minority, low-income youth.

Keeton et al., also found that most SBHCs are only open during school hours so students receive less continuous and coordinated care. One proposed solution is formally linking services in the community, such as the center's sponsor or community clinic, to the student/family. Logistically, electronic records are vital to ensure continuity and coordination of care, and save employee time(2012). Larson et al., also found that having parental consent for treatment forms on file at the beginning of the school year protected student privacy, helping to building student trust in the clinic (2017).

In New Mexico, for the 2017-2018 school year, 68% of centers were open 3 days a week or fewer (OSAH Status Report 2017-2018, 2019). In Bernalillo County, 46% of SBHCs indicate they are open 3 days a week or fewer and only one school has service hours that extend beyond the school day (NMASBHC, 2019).

Primary Care

As it relates to primary care, Keeton et al., reported that the majority of SBHCs offer "comprehensive health assessments, vision, hearing, and other screening services, and immunizations" with general health examinations occurring most often (2012, p. 8). About 84% of centers provided oral health education but many lacked the necessary resources to provide dental treatment (<25%) and most refer students to community providers. To address this gap in services, Keeton et al., suggest collaborating with schools and dental residents/students to provide dental services to SBHC students. Minority children or those with low-income backgrounds are at higher risk than their peers for dental disease due to lack of access or money. Love et al., note that access to SBHCs improves oral health outcomes and reduces emergency dental care visits (2019).

Mental Health

A 2016 study by Lai et al., compared three mental health care and primary care operational models used in SBHs: coordinated care, co-located care, and integrated care. Coordinated care consists of primary care and mental health providers working from separate sites referring clients to one setting or the other. The co-located model has specialty mental health clinics and primary care providers working at the same site but they are run as separate services. Integrated care is the combination of medical and mental health providers wherein they share treatment plans and other administrative systems. Lai et al., found that integrated models work best in minority, low-income communities and lead to "greater screening and early detection of mental illness" (Lai et al., 2016, p. 1331). Larson et al., found that integrating mental health services with primary care led to students feeling safer in seeking care because it was not immediately apparent which service they might be seeking (2017). Lai et al., also found there was a stigma among students about mental health. In order to reduce this, providers suggested integrating mental health services with primary care and developing student advisory committees with peer advocates who work to de-stigmatize mental health issues.

A national study that looked at data from 1,381 SBHCs found that 62% of those that provided mental health services *and* primary care were at schools with large student populations. More SBHCs with mental health services were found in high schools than in elementary schools. A majority of mental health centers with a mental health provider (85%) employed a licensed social worker, counselor or therapist. Unlicensed social workers, psychologists, alcohol and drug counselors, or psychiatrists staffed the remaining 15% of SBHC. At centers with mental health services, nutrition programs/weight management, emotional health and well-being, and suicide prevention were the most frequently sought service. About 44% of centers with mental health services prescribed and managed mental health medications (Larson et al., 2017). Whether SBHCs provided mental health services was found to be dependent upon the sponsoring agency.

Reproductive Health

Ethier et al., 2011, compared 12 urban California high schools, six of which did not have a SBHC and six that did. Their analysis of 2,603 sexually active students found that females with access to SBHCs are more likely than those without access to receive pregnancy or disease prevention care, have been screened for an STD, and to have used hormonal contraceptives, including emergency contraception at last sex. Despite having access to an SBHC, roughly a third of sexually active females used no form of contraceptives. Sexually active males with access to SBHCs were no more likely to receive reproductive health care services than those without access to SBHCs. "SBHCs clearly play an important role in prevention of teen pregnancy and STD for female students, providing access to sensitive services for which students can consent themselves. However, our data suggest that even with access to care on-site in school a significant portion of at-risk students remain underserved" (2011 p.565). The researchers suggest SBHCs include family planning services or link sexually active adolescents to community-

based services. In SBHCs that already offer reproductive health services, they recommend placing a greater emphasis on those services and fostering an understanding of the barriers to increasing male student usage.

Koenig et al., 2016, that found that young girls were more likely to have a reproductive health visit than a primary care or behavioral health visit. They recommend getting females engaged in primary and behavioral care by creating a "comprehensive and targeted" program wherein SBHC staff help ensure regular checkups. High school students were more likely than their younger counterparts to seek reproductive health services.

In the 2017-2018 school year in New Mexico, 83% of SBHCs provided reproductive health services and 21% of students received reproductive health services. Roughly a quarter of students who had access to a center and reported being sexually active did not use contraceptives (OSAH, 2019). In Bernalillo County, only the SBHC associated with an elementary school did not provide reproductive health services.

Confidentiality

Lai et al., 2016, conducted interviews with 43 mental health, primary care providers or care coordinators at 14 large, urban SBHCs. One finding was that HIPAA and FERPA laws present challenges when referring students to community-based services, in coordinating follow-up care, or in communicating between the center and community providers. Similarly, they found that there is a challenge when a student's care becomes part of their school record, to which parents may have access. One suggestion was to have parents sign a "universal consent form" that would cover SBHC and community services.

Serving Community and/or Faculty

Keeton et al., 2012, found that SBHCs serving the community and/or faculty provided early screening, follow-up care, referrals out, education on nutrition, exercise or stress, and assistance in enrollment for healthcare services. Reimbursement through third-party sources is unique to centers with a community hospital or health care organization sponsor or connection. A consideration when serving the community is that there may be a lack of sufficient resources to meet the demand for services. Also, being open during school hours may cause adults and children to seek care at the same time. This can jeopardize confidentiality and the youth's trust in the center. Recommendations include: referring or linking patients to community resources; using separate entrances to the center for adults and students; set schedules for adult access to the clinic; or having a center not directly attached to the school.

Funding and Reimbursement

Arenson, et al., conducted a meta-analysis of literature written between 2000 and 2018 that discussed the importance of funding and reimbursement. "Nine in 10 SBHCs seek reimbursement for services from public and private health insurers. On average, SBHCs bill 4 different patient revenue sources, which cover one third (33.6%) of program costs. While fee-for-service remains the standard payment method for SBHCs (78.3%), some sites receive monthly or annual capitated payments for primary care (34.8%), "pay for performance" supplements (26.7%), or monthly or annual capitated payments for care coordination (18.8%)" (2019, p. 4).

Love et al., reviewed 20 years of data from SBHCs throughout the nation. SBHCs that were sponsored by federal health centers produced higher reimbursement rates from Medicaid. Additionally, federal health centers provide additional opportunities for state and federal funding, such as grant programs Furthermore, SBHCs operate by combining public and private insurance revenue, federal/state/local grants, school and district support, and private foundation grants (2019).

Guo et al., 2010, evaluated Medicaid reimbursement costs for 5,056 students across a total of 13 schools between 1997 and 2003. Seven schools had a SBHC and six schools did not. They reviewed school enrollment files, Medicaid claims databases, SBHC encounter records, and parents' and SBHC coordinators' survey data. They compared costs from schools with a SBHC to non-SBHC schools, such as the SBHC operation costs, patient and family costs, and start-up funds. Next, they compared benefits such as changes in students' health, savings created by the SBHC, health care savings, patient and family savings, and finally, improved attendance rates, access to care for minorities, and better performance in school. All these factors were assigned costs from which they calculated the net social benefit of the SBHCs to be an estimated $1.35 million.

Sponsorship

Love et al., used national data from the School-Based Health Alliance's National School-Based Health Care Census from 1998 to 2018, and found that FQHCs sponsored 51% of SBHCs. Hospitals or medical centers sponsored 48% of telehealth-model centers. As mentioned above, SBHCs with a FQHC sponsor receive higher reimbursement rates and allow more opportunities for state and federal funding. Keeton, et al., note that centers that are sponsored by a hospital or health care organization are the only SBHCs eligible to receive reimbursement through third-party sources.

Larson et al., found that 85% of centers with mental health service had state government funding and 63% of centers had managed care organization funding. Additionally, 86% of centers with mental health services serve students with Medicaid insurance. Community health centers may not focus on mental health or might differ in prioritization of services, therefore SBHCs looking to integrate mental health may struggle to find a community health center sponsor (2017).

Conclusion: Integration of primary care, behavioral and reproductive health services is one of the most vital parts of successful centers. Students are less likely to seek out behavioral healthcare or reproductive healthcare outside of an SBHC. Adjusting services based on community needs, demographics of the population, school type, its sponsor, and services within the community are also important.

SBHC hours of operation will differ depending on availability of resources but should strive to be open during the full school day and beyond. Outcomes in school will greatly increase if SBHCs are available during school, leading to higher attendance, higher GPAs and greater student to school/peers connections. Having separate entrances, scheduling practices, or an off-site center when serving the community will help maintain confidentiality and students' trust in the center. Working in tandem with centers' corresponding sponsor or with community resources leads to the best community outcomes (less emergency visits, more behavioral health visits).

Confidentiality in billing practices, student record keeping and among school peers and services is crucial in order for students to feel confident in the center and therefore seek care. Confidentiality laws may interfere with establishing continuous and coordinating care. SBHC sponsors play a large role in funding and reimbursement opportunities. The sponsor may also affect the availability of resources at an SBHC, such as scope of services, hours of operation and/or links within the community.

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Additional Resources:

More information on **Federally Qualified Health Centers (FQHCs**) can be found at: https://bphc.hrsa.gov/about/what-is-a-health-center/index.html . To find an FQHC in Bernalillo County, use the search tool here: https://findahealthcenter.hrsa.gov/.

For general information, see the School-Based Health Alliance website including SBHC: **scope of services**, or *core competencies* at: http://www.sbh4all.org/resources/core-competencies/; **sponsors** at: https://www.sbh4all.org/2014/09/school-based-health-center-sponsors/; and **data about selected characteristics** at: https://www.sbh4all.org/school-health-care/national-census-of-school-based-health-centers/.

For information specific to SBHCs in New Mexico, visit https://www.nmasbhc.org/