

The Future of Telehealth in School-Based Health Centers: Lessons from COVID-19

Anna Goddard, PhD, APRN, CPNP-PC, Erin Sullivan, MSPH,
Paula Fields, MSN, BSN, RN, & Suzanne Mackey, MPH

Introduction: In response to COVID-19, schools rapidly transitioned to virtual learning. School-based health centers (SBHCs) required immediate shifts from in-person to telehealth services to continue supporting students.

Method: A qualitative analysis of nationally-led “Listening and Learning” sessions by the School-Based Health Alliance revealed substantial innovation and expansion of telehealth services.

Results: Providers and sponsoring organizations shared challenges and mechanisms for troubleshooting barriers during online webinars to provide support, education, and resources to SBHCs.

Discussion: Lessons learned during the COVID-19 pandemic demonstrate the value of SBHCs, which continue to target barriers to health care access, protect the most vulnerable, and decrease the spread of disease. Telehealth implementation by SBHCs can support schools and communities, mitigate future strain on the health care system by continuing to keep youth from over-burdened emergency departments and provide needed mental health care. State and federal policy changes can ensure the continued provision of telehealth by SBHCs for disadvantaged youth. *J Pediatr Health Care.* (2020) XX, 1–6

Anna Goddard, Assistant Professor, Sacred Heart University,
Davis & Henley College of Nursing, Fairfield, CT.

Erin Sullivan, Senior Program Manager of Research and
Evaluation, School-Based Health Alliance, Washington, DC.

Paula Fields, Director of Programs and Consulting, School-Based
Health Alliance, Washington, DC.

Suzanne Mackey, Director, Policy, School-Based Health Alliance,
Washington, DC.

This project was partially supported by the Health Resources and Services Administration of the U.S. Department of Health and Human Services grant titled: Collaborative Improvement and Innovation Network on School-Based Health Services. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS, or the U.S. Government (grant no. U61MC31885; PI: Laura Brey).

Conflicts of interest: None to report.

Correspondence: Anna Goddard, PhD, APRN, CPNP-PC, Sacred Heart University, Davis & Henley College of Nursing, 5151 Park Ave., Fairfield, CT 06825; e-mail: goddarda@sacredheart.edu.
J Pediatr Health Care. (2020) 00, 1–6

0891-5245/\$36.00

Copyright © 2020 by the National Association of Pediatric Nurse Practitioners. Published by Elsevier Inc. All rights reserved.

<https://doi.org/10.1016/j.pedhc.2020.11.008>

KEY WORDS

School-based health centers, telehealth, telemedicine, COVID-19, school health

INTRODUCTION

The coronavirus disease 2019 (COVID-19) global health crisis caused widespread school closures across the United States, abruptly halting in-person school-based health center (SBHC) care for millions of children and adolescents. By mid-March 2020, most U.S. schools began a rapid transition to a virtual environment, forcing SBHC care to pivot to telehealth care modalities within days.

SBHCs provide health services to students as a collaboration between schools and community health organizations to support the health, well-being, and academic success of students. SBHCs provide a minimum of primary medical care but frequently also include integrated mental health care, social services, vision care, dentistry, and health education (Community Preventive Services Task Force, 2016; School-Based Health Alliance [SBHA], 2020a). Often established in predominantly low-income communities, most SBHCs employ multidisciplinary care teams to provide comprehensive services throughout the school day. SBHCs improve educational outcomes, including academic performance,

attendance, and graduation rates ([Community Preventive Services Task Force, 2016](#)). Increasing access to care by providing care directly at school, SBHCs achieve health equity among youth, particularly among those who experience health outcome disparities on the basis of race, ethnicity, and socioeconomic status ([Knopf et al., 2016](#); [Ran, Chattopadhyay, Hahn, & Community Preventive Services Task Force, 2016](#)).

The School-Based Health Alliance (SBHA) is a national nonprofit organization that provides support, promotion, and advocacy for U.S. policies and funding that support forward movement, growth, and sustainability for SBHCs ([SBHA, 2020a](#)). Every 3 years, the SBHA conducts a national census of SBHCs to capture the growth and evolution of centers across the country. The last completed 2016–2017 SBHC Census noted more than 2,584 SBHCs across 48 states, the District of Columbia, and Puerto Rico ([Love et al., 2017](#)). The pandemic halted the administration of the 2019–2020 survey.

In response to school closures during the COVID-19 pandemic, the SBHA organized virtual “Listening and Learning” sessions, providing a platform for SBHC providers, administrators, and sponsors across the United States to share how they quickly transitioned to support students’ health. The purpose of this advocacy-based case report is to describe the ideas and innovations shared during these sessions from which other SBHCs in the United States and the broader health care community can benefit. SBHCs can use these lessons learned to address health inequalities both during and after the pandemic. These findings can also help support policy implications for the sustainability of nationwide telehealth use both pre- and post-COVID-19.

SIGNIFICANCE

SBHCs deliver comprehensive health care to students who, in many circumstances, would not otherwise receive it ([Knopf et al., 2016](#)). More than 89% of SBHCs provide health care access to vulnerable children who attend Title I designated schools (those that receive federal financial assistance because of a high percentage of students from low-income families; [Love et al., 2017](#)). An average of 70% of the 6.3 million students in the United States with access to an SBHC are eligible for free or reduced cost lunch. The rapid increase in unemployment and potentially ongoing recession resulting from COVID-19 are likely to dramatically increase the number of students and schools eligible for Title 1 status.

SBHC expansion helped close the care continuum gap for the most difficult-to-reach youth. The first SBHCs were established in the 1960s in response to a pediatric primary care shortage. Between 1985 and 1998, SBHCs grew from just 31 sites across 18 urban communities to more than 1,135 centers in the country ([Keeton, Soleimanpour, & Brindis, 2012](#); [Kirby, 1985](#)). The most recent census of SBHCs identified 2,584 SBHCs across the United States, providing care to 6,344,907 students in 10,629 schools ([Love, Schlitt, Soleimanpour, Panchal, & Behr, 2019](#)).

This expansion also included a shift in service delivery. Between 1998 and 2014, the percentage of SBHCs operating under a traditional model (care accessed at a fixed site on a school campus) decreased from 90 to 82, and the field saw an increase in school-linked sites (care accessed at a fixed site near the school campus, 4%), mobile sites (care accessed in a mobile van near the school campus, 3%), and telehealth exclusive sites (care accessed virtually at school from remote providers, 12%; [Love et al., 2017](#); [Love et al., 2019](#)). Telehealth exclusive SBHCs tend to serve rural areas (56% as of 2017), but at least 20% of all SBHCs, regardless of the delivery model, use telehealth to provide some services, providing an additional 165,762 students access to care ([Love et al., 2019](#)).

During the coronavirus outbreak, many SBHCs were able to transition to complete telehealth service delivery quickly, but others faced difficulty in telehealth implementation for some or all services. Many SBHCs affiliated with a federally qualified health center (FQHC), hospital or medical center, or health department redeployed medical staff to COVID-triaging, testing, and treatment facilities while mental health staff transitioned to telebehavioral care. Other SBHCs reported closing altogether. However, for SBHCs that successfully transitioned to or continued providing care via telehealth platforms, students were able to continue receiving much needed primary and behavioral health services in the months immediately following COVID-related school closures, when stress and uncertainty created environments in which youth needed support more than ever.

METHODS

To support the field of school-based health care through unprecedented times, the SBHA immediately began preparation and implementation of the “Listening and Learning” online meeting series, offered at no cost to SBHC practitioners or sponsor organization staff. Sessions held between April and May 2020 included three sessions for SBHC clinical providers and three for sponsor and administering organization staff, each focusing on telehealth, reentry, and mental health. Before each “Listen and Learning” session, the SBHA e-mailed event and registration information to the 18,142 contacts in their database. Each session was limited to 150 participants. Staff-focused sessions were restricted to SBHC providers only, and operations-focused sessions were restricted to SBHC sponsor organization staff. Participants represented 41 states. See [Table 1](#).

Hosted through the virtual platform Zoom and lasting between 60 and 90 min, sessions were semistructured with two to three probing questions related to the session topic. Before each session began, the moderator disclosed the plan to record and disseminate the discussion. Participants answered questions through Menti, an online survey platform, and responses were displayed in real-time on their screens through data visualizations. Respondents were also encouraged to share responses and thoughts through the Zoom chat function. The moderator read interesting

TABLE 1. Participant summary of school-based health center (SBHC) listening and learning sessions, lessons during COVID-19

Session and date	Listening and learning topic SBHCs in the time of COVID-19	Participants (N)
Session 1 April 28, 2020	Telehealth: sponsor organizations and administrators	80
Session 2 April 30, 2020	Telehealth: primary care and behavioral health clinicians	113
Session 3 May 5, 2020	Reentry: SBHC sponsor organizations and administrators	50
Session 4 May 7, 2020	Reentry: primary care and behavioral health clinicians	77
Session 5 May 19, 2020	Mental health: sponsor organizations and administrators	48
Session 6 May 21, 2020	Mental health: primary care and behavioral health clinicians	62
		Total: 308

Note. COVID-19, coronavirus disease 2019.

responses aloud and asked those participants to identify themselves and verbally elaborate on what they had written.

Key themes were determined from the compilation of two-person manual transcription of the audio recordings and qualitative two-rater thematic coding of audio recordings, Menti responses, and chat box responses. Recognized limitation of analysis includes convenience sampling that may not be representative of all SBHCs and possibly excluded staff from closed or resource-limited sites. The large group setting may have thwarted participant discussion. The inductive analysis process limited by an unconscious application of prior knowledge, and preexisting knowledge may have influenced the resulting themes and topics.

This evidence-based improvement project aimed to increase knowledge on organizational systems' response during the COVID-19 pandemic and provide benefit for clinicians and administrators in the school-health field. This project gathered information about organizational practices and did not require institutional review board review.

RESULTS

Through creative responses that emerged throughout the coronavirus quarantine, SBHCs remained a leading resource for students to get patient-centered care directly at home via telehealth. Many SBHC organizations executed immediate shifts in care delivery modalities, largely consisting of reimagining primary and mental health care using telehealth platforms. Emerging challenges quickly highlighted the need for policy changes with health care delivery, including reimbursement for telehealth services. [The technology platforms included Doxy, swyMed, FaceTime, Google Classroom, Skype, Zoom, Google Voice, and phone calls.](#) The Listening and Learning sessions revealed three emerging telehealth delivery models during the COVID-19 outbreak: launching telehealth services, expanding existing telehealth services, and altering existing telehealth services and protocols. See [Table 2](#).

Launching Telehealth

Many participants disclosed that launching telehealth was in itself innovative for their centers, as they had not offered virtual care before the pandemic and needed to pivot quickly to continue to provide services.

Expanding Telehealth

SBHCs that did provide telehealth before the pandemic reported expanding or shifting the delivery model in response to COVID-19, including offering services to the broader community if they previously only served students attending an SBHC school. SBHCs expanded their telehealth services to include acute care, mental health-focused visits with therapists and telepsychiatry if needed, and primary care visits. Notable examples include one SBHC that began a collaboration with an in-person pediatric obesity specialty clinic to launch telehealth to rural student populations. Hawaii SBHCs reported immediate telehealth access to a nurse practitioner for all students enrolled in school, with real-time referral to behavioral health providers if needed. Another provider reported conducting "senior transition" visits via telehealth, which involved reviewing and updating medical charts with graduating seniors to ensure a seamless transition to adult care.

Altering Telehealth Delivery

Another common theme reported included altering service delivery. To minimize in-person exposure time, providers employed telehealth for triaging or collecting a medical history before an in-person visit. Other examples include SBHCs transitioning in-person therapy sessions to telebehavioral visits. SBHC providers reported that an increased number of acute care telehealth visits resulted in referrals to the emergency room than would have if they were conducted in-person. For example, emergency room referrals occurred when patients reported acute abdominal pain and appendicitis could not be ruled out by examination, or when asthmatics reported troubled breathing. In addition,

TABLE 2. Emerging school-based health center (SBHC) telehealth delivery models

Telehealth model	SBHC telehealth innovations
Launching telehealth	<ul style="list-style-type: none"> • Providing primary care telemedicine • Providing telebehavioral health
Expanding telehealth	<ul style="list-style-type: none"> • Expansion of services to include telemedicine, telebehavioral health, or teledentistry • Expanding clientele served outside of the school • Collaboration with specialty clinics (e.g., obesity specialty)
Altering telehealth	<ul style="list-style-type: none"> • Increase in telehealth visits (e.g., 15 visits/month to 857 visits/month) • Telehealth COVID-19 screening before in-person care • Telehealth screening visits before physical examinations • Existing patients moved from in-person to telehealth visits • Lower threshold for patient referrals to in-person care • More frequent follow-up with patients (e.g., “touchpoints”) • Mail-home STI kits with telehealth follow-up • Telehealth “senior transition” visits to adult care • Primary care providers doing mental health visits • Telehealth reproductive health counseling and prescriptions • Changing SBHC hours into the evening

Note. COVID-19, coronavirus disease 2019; STI, sexually transmitted infections.
^a Technology platforms include Doxy, swyMed, FaceTime, Google Classroom, Skype, Zoom, Google Voice, and phone calls.

providers reported an increased frequency of student telehealth follow-up visits or “touchpoints.”

CARE DELIVERY STRATEGIES

SBHCs shared other creative strategies for delivering care. Several states reported mailing or delivering resources to students’ homes to assure equitable services. Montana SBHCs reported mailing worksheets and art supplies to students involved in brain spotting, dialectical behavior therapy, or expressive arts therapy as part of treatment. Maryland SBHCs mailed at-home testing kits for sexually transmitted infections. Patients would then return the kits for diagnosis and telehealth follow-up care.

Clinicians reported increased parent involvement. Although SBHC services increase access to care for students, parental involvement is often a challenge. However, parents became telepresenters during visits in a variety of ways. Shared experiences include parents using different phone applications to assist, such as the phone camera for assessments or using at-home thermometers and scales to assess and report vital signs. They assisted in counting respirations for providers as well as oropharynx flashlight illumination for telemedicine and teledentistry.

SBHC administrators and providers noted unique challenges to delivering care during the coronavirus quarantine. The need to collaborate with students’ caregivers increased when in-person care was not an option. Often, caregivers conducted risk assessments and increased contact frequency to mitigate potential patient crises. Clinicians reported shifting traditional office hours to meet family needs because adolescents were often only available in the evening when SBHCs are traditionally closed. Participants noted expressed concern related to ensuring adolescent confidentiality during telehealth visits. Some clinicians designated the student’s cell phone number as the primary contact in the medical record, specifically for confidentiality around reproductive health.

Other ideas included requesting the adolescent patient go for a walk or to the garage to interact through the Zoom app on their cell phone or through Doxy links.

DISCUSSION

To meet the evolving needs of schools, SBHCs must continue to incorporate telehealth services as part of their operational repertoire. Regardless of whether U.S. schools provide a hybrid (in-person and virtual) or fully virtual schooling for 2020–2021, school districts and administrators should allow SBHCs to stay open for limited in-person operations such as immunization and physical examination visits. The use of telehealth by SBHCs during the pandemic and other extraordinary circumstances can bridge the care-gap for students who need and rely on SBHCs as their primary source for health care.

The projected highest need for SBHC medical services in the upcoming school year are immunization updates and physical examinations. Social distancing throughout the quarantine created a record-breaking decline in immunizations for U.S. children, with a decrease of more than 2.5 million doses for routine, noninfluenza pediatric recommended vaccinations (Santoli et al., 2020). This critical decline leaves unvaccinated children at risk for other serious infectious diseases. The American Academy of Pediatrics (AAP; 2020) advised that for safe return to school after the extended quarantine, all students should be up-to-date on both immunizations and well-child examinations. AAP further stressed the importance of receiving annual influenza vaccinations to reduce winter disease spread.

Both AAP and the World Health Organization recognize the upcoming mental health support students will need, particularly for dealing with stress from the pandemic (AAP, 2020; World Health Organization, 2020). Consistent with the national quality indicators for SBHC care, both medical and behavioral health SBHC services should

provide integrated depression, anxiety, and substance use screenings as part of routine workflows (Love et al., 2019; SBHA, 2020b). Baseline behavioral health assessments captured through telehealth can allow the continuation of the SBHC pediatric safety net.

SBHC administrators should maintain accurate data on telehealth services provided. Telehealth delivery metrics will be vital for data-driven policy decisions in the upcoming months. SBHCs have historically been recognized for decreasing the strain on U.S. hospitals and emergency departments (Keeton et al., 2012). The continued demonstration by SBHCs to show return on investment through quality data reporting, particularly during strained resources because of COVID-19, will further highlight the need for continued funding.

Finally, SBHC billing and coding departments should keep abreast of ongoing and upcoming changes to telehealth reimbursement with Centers for Medicaid and Medicare (CMS) policies. Commercial payer systems and fee schedules have routinely reflected CMS policies; telehealth reimbursement during COVID-19 was no exception. However, the delay of state adaptation to these codes in many instances requires precision and diligent monitoring for future SBHC reimbursement.

IMPLICATIONS FOR PRACTICE

Nationwide continuance of SBHC telehealth services will require ongoing federal and state support to remove regulatory barriers. Challenges before COVID-19 included cost and reimbursement policies, licensure, equipment issues and costs, incompatible electronic health records, and gaps in rural broadband (Lee, Karsten, & Roberts, 2020; Lin et al., 2018). Before the COVID-19 outbreak, start-up costs, specifically related to technology hardware, served as a major deterrent for under-resourced sites to launch telehealth services. SBHCs were able to pivot during the pandemic using free or low-cost communication mediums, serving students directly in their homes, and engaging parents as telepresenters, but it is unclear how and if these centers will be able to continue providing virtual care after the pandemic. Sites were able to meet delivery barriers with rapid resolve under emergency waivers, but advocacy for factors related to telehealth sustainability is needed.

A lack of coverage for traditional health facility and provider fees exists for telehealth reimbursement. During COVID-19, CMS provided state Medicaid programs with increased authority and flexibility to expand telehealth services and reimbursement, such as allowing telephonic care, removing cross-state licensing requirements, and allowing FQHCs and rural health centers to provide telehealth services as distant site providers. State decisions on specific policies varied. Although CMS stated that these actions are temporary to address the pandemic, expanded authority and flexibility must be permanently granted to the states to meet the increased needs of patients after the pandemic. These findings are consistent with the recommendations from the 2020 Taskforce on Telehealth Policy developed by the National Committee for Quality Assurance, the SBHA

for Connected Care, and the American Telemedicine Association (National Committee for Quality Assurance, 2020). Aligning with the consensus recommendations, removing these barriers for the field would contribute to the continued delivery of quality standards for telehealth nationwide.

States must opt to remove as many telehealth barriers as possible, particularly those that impede access to care, such as restrictions on audio/video communication and the inability for FQHCs to serve as distant site providers. Before the pandemic, more than half of all SBHCs across the country were sponsored by an FQHC, and the permanent removal of this barrier would significantly expand health care to children and adolescents in the long term (Love et al., 2017). Streamlining credentialing requirements for providers and re-examining state licensure policies to allow providers and patients to connect across states via telehealth will additionally mitigate access barriers and health disparities among youth (Lee et al., 2020).

This pandemic has highlighted the need for SBHCs across the nation and demonstrated the important role telehealth plays in facilitating equitable access to basic health care needs for vulnerable children and youth. Telehealth can specifically address the extensively documented health disparities among people of color and rural communities lacking proximity to a health center in their community (Lin et al., 2018). The U.S. Community Preventative Services Task Force, formed by experts from the Centers for Disease Control and Prevention, universities, and other government agencies, recognize SBHCs as an evidence-based intervention to address health inequities and recommend ongoing sustainability and continued implementation of SBHCs, particularly in low-income communities (U.S. Department of Health and Human Services, 2020). The removal of barriers to SBHC telehealth will further both the implementation and sustainability of services.

Conclusions

Challenging times also create opportunity. As states and local-communities prepare to reopen schools, SBHCs are pivoting to address these unique circumstances and challenges. Regardless of when in-person schools or SBHCs reopen, an increase in screenings and preventive measures should be expected, including screening students and staff for COVID-19 symptoms. SBHCs that rise to these challenges and include successful telehealth delivery will achieve sustainability (SBHA recognizes this need and is preparing a playbook to assist SBHCs in using telehealth in schools.). Helping organizations pivot SBHC services to telehealth can continue to provide convenient and much-needed care that many children and youth have relied on throughout primary and secondary schooling.

REFERENCES

- American Academy of Pediatrics. (2020). *In-person school during COVID-19*. Retrieved from <https://www.healthychildren.org/English/health-issues/conditions/COVID-19/Pages/Return-to-School-During-COVID-19.aspx>
- Apple Store. (2020 Dec 14). FaceTime. <https://apps.apple.com/us/app/face-time/id1110145091>. Accessed January 7, 2021.

- Community Preventive Services Task Force. (2016). School-based health centers to promote health equity: Recommendation of the Community Preventive Services Task Force. *American Journal of Preventive Medicine*, 51, 127–128.
- Doxy.me. (2020 Dec 14). Doxy.me. <https://doxy.me/en/>. Accessed January 7, 2021.
- Google. (2020 Dec 14). Google for education. <https://edu.google.com/products/classroom/>. Accessed January 7, 2021.
- Google. (2020 Dec 14). Google voice. <https://voice.google.com/u/0/about>. Accessed January 7, 2021.
- Keeton, V., Soleimanpour, S., & Brindis, C. D. (2012). School-based health centers in an era of health care reform: Building on history. *Current Problems in Pediatric and Adolescent Health Care*, 42, 132–156 discussion 157-158.
- Kirby, D. (1985). *School-based health clinics: An emerging approach to improving adolescent health and addressing teenage pregnancy*. Washington, DC: Center for Population Options.
- Knopf, J. A., Finnie, R. K. C., Peng, Y., Hahn, R. A., Truman, B. I., Vernon-Smiley, M., . . . Community Preventive Services Task Force. (2016). School-based health centers to advance health equity: A community guide systematic review. *American Journal of Preventive Medicine*, 51, 114–126.
- Lee, N., Karsten, J., & Roberts, J. (2020). *Removing regulatory barriers to telehealth before and after COVID-19*. Washington, DC: Brookings.
- Lin, C. C., Dievler, A., Robbins, C., Sripipatana, A., Quinn, M., & Nair, S. (2018). Telehealth in health centers: Key adoption factors, barriers, and opportunities. *Health Affairs*, 37, 1967–1974.
- Love, H. E., Schlitt, J., Soleimanpour, S., Panchal, N., & Behr, C. (2019). Twenty years of school-based health care growth and expansion. *Health Affairs*, 38, 755–764.
- Love, H., Soleimanpour, S., Panchal, N., Schlitt, J., Behr, C., & Even, M. (2017). *2016-17 National school-based health care census*. Washington, DC: School-Based Health Alliance.
- Microsoft (2020 Dec 14). Skype. <https://www.skype.com/en/>. Accessed January 7, 2021.
- National Committee for Quality Assurance. (2020). *Taskforce on Telehealth Policy (TTP): Findings and recommendations*. Retrieved from <https://www.ncqa.org/programs/data-and-information-technology/telehealth/taskforce-on-telehealth-policy/taskforce-on-telehealth-policy-ttp-findings-and-recommendations/>
- Ran, T., Chattopadhyay, S. K., Hahn, R. A., , & Community Preventive Services Task Force. (2016). Economic evaluation of school-based health centers: a community guide systematic review. *American Journal of Preventive Medicine*, 51, 129–138.
- School-Based Health Alliance. (2020a). *About us*. Retrieved from <https://www.sbh4all.org/about/>
- School-Based Health Alliance. (2020b). *Quality counts: About the National Quality Initiative*. Retrieved from https://www.sbh4all.org/current_initiatives/nqi/
- Santoli, J. M., Lindley, M. C., DeSilva, M. B., Kharbanda, E. O., Daley, M. F., Galloway, L., . . . Weintraub, E. (2020). Effects of the COVID-19 pandemic on routine pediatric vaccine ordering and administration - United States, 2020. *MMWR Morbidity and Mortality Weekly Report*, 69, 591–593.
- swyMed. (2020 Dec 14). SwyMed. <http://swymed.com/>. Accessed January 7, 2021
- U.S. Department of Health and Human Services. (2020). *Task force recommends school-based health centers to promote health equity*. Retrieved from <https://www.thecommunityguide.org/content/task-force-recommends-school-based-health-centers-promote-health-equity>
- World Health Organization. (2020). *Mental health and psychosocial considerations during the COVID-19 outbreak*. Retrieved from <https://www.who.int/publications/i/item/WHO-2019-nCoV-MentalHealth-2020.1>
- Zoom (2020 Dec 14). Zoom. <https://zoom.us/>. Accessed January 7, 2021.