Fall 12-13-2023

Policy Review and Recommendation for Secondary Education NP-Led Clinics in the Southeastern United States

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DOI: https://doi.org/10.46409/sr.ZUPU3670

Policy Review and Recommendation for Secondary Education

NP-Led Clinics in the Southeastern United States

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This Manuscript Partially Fulfills the Requirements for the

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Date of Final Approval: December 13, 2023

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Abstract

Secondary-level education involves adolescent children aged 11-12 years to 18-19 with unique healthcare needs. Their healthcare is of significant importance as they are transitioning to adulthood, and a majority of them lack access to primary healthcare needs. Advanced Practice Registered Nurses/Nurse Practitioners (APRNs/NPs) provide high-quality, cost-effective, and evidence-based care to people across the lifespan, and there is minimal utilization of their services in meeting the primary care needs of adolescents at the secondary school level. The purpose of the policy project was to determine if current policies and practices related to school health services in three southeastern states of the United States are achieving the primary healthcare goals of adolescents and to make recommendations for policy revisions. The Centers for Disease Control (CDC) Policy Process (POLARIS) framework and the Johns Hopkins Evidence-Based Practice for Nurses and Healthcare Professionals Model (JHNEBP) were used to appraise literature and to guide policy evaluation. The review included the best practice recommendations from CDC, HHS, and School-Based Health Alliance (SBHA). The themes include SBHCs as a proven and accepted strategy, sponsorship for SBHCs, staffing structure for School-based health centers (SBHCs), Nurse practitioners as providers, the reproductive and sexual health of adolescents, the mental health of adolescents, and healthcare delivery models. School health services are provided through either traditional school health services with school nurses or SBHCs or in combination in all these three states and are at different stages. Based on the findings, policy briefs are developed for each of the three states to include Nurse Practitioners as primary healthcare providers.

Keywords: secondary education, Nurse Practitioners, Advanced Practice registered nurses, APRNs, NPs, school health services, School-based health centers, policy

Policy Review and Recommendation for Secondary Education NP-Led Clinics in the Southeastern United States

Adolescents are a group of healthy but highly vulnerable populations due to their high risk-taking and impulsive behaviors (CDC, 2022; WHO, n.d). A multitude of innovations have been implemented and are under implementation or are under consideration to improve the health of adolescents in our country. Ninety-one percent of the 42 million adolescents in the US attend secondary-level schools (CDC, 2022). Registered nurses provide traditional school health services. In addition, school-based health clinics, which started in 1986, are crucial in maintaining and promoting adolescent children's health and wellness while they chase their academic aspirations and prevent many health issues. School-based health centers (SBHCs) are a proven strategy to improve health-related and educational outcomes (CDC, 2022; Knopf et al., 2018; Kjolhede, 2021, WHO). With advancements in nursing education and practice, Nurse Practitioners (NP) are well-placed in the healthcare pyramid as mid-level providers. Studies have repeatedly shown that NP-led clinics positively impact health outcomes, patient satisfaction, and access to care (Kuzma & Peters, 2016; Randall et al., 2017).

According to the 2016-2017 National School-Based Healthcare Census, there are 2584 SBHCs in 48 states, the District of Columbia, and Puerto Rico, which is a rapid expansion, especially in the last three decades. The latest National School-Based Healthcare Census of 2022 accounts for more than 3900 SBHCs in the country (Soleimanpour et al., 2022). Thus, SBHCs provided healthcare access to more than 6.3 million school kids, which shows that a significant gap in healthcare access still exists (National School-Based Healthcare Census, 2019). Staffing of SBHCs varies widely, including pediatricians, nurse practitioners, nurses, occupational therapists, and other providers (Gustafson, 2005). Kuzma and Peters (2016) opined that NPs are highly effective in providing youth-friendly care and are good advocates for youth-friendly practices. This project proposed developing a comprehensive policy

recommendation for NP-led school-based health clinics at the secondary school level to improve health outcomes.

Significance of the Practice Problem

Adolescence is between childhood and adulthood, from 10-19 years (WHO, n. d). In the US, secondary-level education involves children aged 11-12 to 18-19 years, most of whom are enrolled in high school grades nine through twelve (National Center for Educational Statistics [NCES], n. d). According to NCES (2023), in fall 2021, 15.4 million students enrolled in grades 9 to 12 in public schools. Adolescents are a relatively healthy age group with rapid physical, mental, and psychosocial growth and development. During the transitional period from childhood to adulthood, adolescents engage in many high-risk and impulsive behaviors, which in turn lead to many healthcare problems such as unintentional injuries, violence, teenage pregnancy, sexually transmitted infections, HIV/AIDS, substance abuse, alcohol use, mental health issues, and suicide and suicidal ideations (WHO, 2022).

Nurse Practitioners (NPs) provide services in various healthcare delivery areas such as adults, primary care, acute care, gerontology, psychiatric and mental health, pediatrics, and multiple other specialty areas (American Association of Nurse Practitioners [AANP], 2022). Since the inception of the Nurse Practitioner program in 1965 and advances in nursing education and Practice, the number of licensed nurse practitioners in the country has increased to more than 355,000 (AANP, 2022) and is on the rise. However, the utilization of nurse practitioners in primary healthcare delivery at the school level is minimal. Budget constraints, variations in practice authority, governance structure, lack of integration of multiple healthcare providers, and lack of adequate education and training for nurse practitioner graduate students to work in school-based clinics are some of the barriers to getting NPs to man school-based health clinics or centers (IOM Committee on School Health, 1997).

A health system is mandated in all schools as schools bring in a large cohort of school children and adults as staff. This population needs first aid, management of medical

emergencies, prevention of injuries and communicable diseases, immediate management of acute conditions, and facility for routine medication administration to children of various age groups (IOM, 1997). Although the concept of School health services with nurses originated in 1902, the first National school health program with School Nurse Practitioners (SNPs) started in the 1970s in the US, providing primary care services in collaboration with pediatricians with the support of the Robert Wood Johnson Foundation (Schumacher, 2002; Terwilliger, 1994). School-based adolescent healthcare programs were initiated in 1986 by the Robert Wood Johnson Foundation, which accelerated the growth of school-based clinics (IOM, 1997). Sprigg et al. (2017) provide exceptional guidance on setting up sustainable school-based health centers from a funder's point of view.

Establishing an SBHC is a complex process with two essential components: a motivated healthcare provider and an interested school district (Sprigg et al., 2017). Even though many process issues were identified, over the following years, there was tremendous growth in the number of school-based health care (SBHC) established in the country. Those schools without SBHCs follow the traditional school health services available. There were 2584 SBHCs in 48 states, the District of Columbia, and Puerto Rico, according to the 2018 SBHC census, which has increased to over 3900 as per the 2022 SBHC census (Love et al., 2019; Soleimanpour et al., 2022). These SBHCs provide various healthcare services to school-aged children, such as immunizations and vision screenings, oral and dental health services, mental health and behavior risk assessment, management of acute and chronic health conditions, care coordination, and preventive health services (Love et al., 2019; Soleimanpour et al., 2022). School health services, as well as SBHCs, have also increased primary care access, improved school attendance, reduced emergency visits, reduced missed appointments due to transportation issues and parent availability, and reduced hospitalizations (Arenson et al., 2019; Love et al., 2019; Soleimanpour, 2010). Traditional school health services and school-based health clinics are two options to provide healthcare to students in the K-12 space. Implementing

traditional school health services with registered nurses or licensed practical nurses (LPN) and establishing SBHCs are at different stages in different states. SBHCs are not a replacement for traditional school health services. In 2021, the School-Based Health Alliance and the National Association of School Nursing (NASN) released a joint statement that "School Nursing and School-Based Centers working together for Student Success" (SBHA, 2021).

The southeastern states of the US are Arkansas, Louisiana, Missouri, Alabama, Tennessee, Kentucky, Virginia, North Carolina, South Carolina, Georgia, and Florida. This project aimed to review school health services in three of the eleven southeastern states of the US. Association of State and Territorial Health Officials [ASTHO] (n.d.) data sets provide the governance structures of all the states of the US. Governance structures mainly look at the relationships between state health agencies and regional or local public health departments in a state, as these can impact the roles, responsibilities, and authorities across different levels of government in the delivery of healthcare (CDC, 2022). There are four categories of governance structures for states: centralized, decentralized, mixed, and shared. In shared governance, state employees or employees of local government lead the local health units. Arkansas, Missouri, South Carolina, Louisiana, Alabama, and Virginia follow a centralized or largely centralized governance structure. North Carolina follows decentralized, Florida, Georgia, and Kentucky follow shared, and Tennessee follows a mixed governance structure (CDC, November 25, 2022). The current project selected and reviewed three states (Florida, Georgia, and Kentucky) that follow a shared governance structure. Additionally, regarding the scope of NP practice, Florida and Georgia follow restricted practice authority, and Kentucky follows reduced practice authority (AANP, 2023).

Purpose of the Policy Evaluation

Adolescents are a group of healthy and vulnerable populations with high-risk and impulsive behaviors and thereby end up with many health-related conditions. The majority of them attend secondary-level education in the US. School health services are one of the

efficient, innovative, and cost-effective interventions to prevent health problems and promote optimum health for adolescents when they transition to young adulthood (CDC, 2022). School-based health centers (SBHCs) are a newer concept that started in the 1960s. The number of SBHCs providing school health services is increasing in the country. The inception of NPs has made significant changes in healthcare delivery in the country. Many studies have proven that NPs provide comprehensive, efficient, cost-effective, and evidence-based patient care across the lifespan (AANP, 2020). More states are offering full practice authority for NPs, which can increase healthcare access, increase job satisfaction and career advancements for NPs, reduce the cost of healthcare, and bring changes in the healthcare delivery and market (AANP, 2023). However, the utilization of NPs as the primary care providers in school health centers needs to be better established, and staffing for school health centers is not optimal to meet the increasing healthcare needs of school-going children, especially with complex health needs.

The population of interest in the policy evaluation is the Nurse Practitioners practicing as primary care providers in the three Southeastern states of the US. This policy project aimed to review and evaluate the existing evidence and policies guiding the utilization of nurse practitioners in school health services. This policy evaluation project had three objectives. The first was an appraisal of available literature on familiar themes of best practices in the delivery of school health services by NPs. The second was to review school health policies and practices in three Southeastern states with shared governance, particularly on the secondary education level. Thirdly, develop a comprehensive policy recommendation for NP-led clinics in secondary education by comparing the variances for better access and achievement of direct and indirect outcomes. The guiding objectives for the current policy evaluation were

To review current literature for best practices of NPs in school health services

To apply the Centers for Disease Control (CDC) Polaris evaluation framework in the appraisal of NP scope of practice policies and school health provider policies in three southeastern states of Florida, Georgia, and Kentucky by August 2023.

To utilize the CDC Polaris framework to develop an evidence-based, comprehensive policy for NP-led school health services in secondary education by November 2023.

Policy Problem Statement

School health services to adolescents, if provided at an optimal level, can impact their health and thus can make great strides in preventing and managing adolescent health problems and help for a healthier transition to build a healthier adult for the country. Nurse practitioners are an approved group of advanced practice providers who can provide safe, effective, cost-effective, high-quality, and youth-friendly preventive and promotive healthcare services (CDC, 2022; AANP, 2020). Their services should be more utilized to a cohort of the adolescent population through the secondary school level. This policy project evaluated and compared the existing scenario of school healthcare services and policies in three Southeastern states of the US and developed an evidence-based practice policy recommendation on NP-led clinics in secondary education space to improve healthcare access and outcomes of adolescent health. The PICOT question for this project was as follows. In nurse practitioners practicing as advanced practice providers within the Southeastern United States region (P), how does the development of a comprehensive policy recommendation for NP-led clinics in the secondary education space (I) compare to existing variable approaches within the Southeastern Region of United States (C) improve care access and direct or indirect outcomes as endorsed by the literature (O)?

Population: The population of interest is nurse practitioners providing care as advanced practice providers in the primary care area in three Southeastern states. Evidence shows that NPs provide youth-friendly, effective, high-quality services. Secondary school students are adolescents transitioning to young adulthood and require comprehensive healthcare services.

Intervention: Development of a policy recommendation based on the available evidence to propose NP-led school health clinics at the secondary school level.

Comparison: Evaluation of current school health practices and school health policies, especially at the secondary education level in three Southeastern states of the US.

Outcome: Increased NP-led school health clinics in secondary-level schools. NP-led clinics provide cost-effective, efficient, youth-friendly services where secondary-level students can access and receive appropriate care. NPs also proved to be better healthcare advocates for state and national policies for adolescent health. NPs also provide health education and appropriate referrals to other consultants (Kuzma & Peters, 2016).

Utility of Policy Review

Strong research evidence supports modern healthcare delivery in all areas of clinical practice. Evidence-based practice has been the main backbone of many clinical guidelines, nursing practices and education, and healthcare delivery. To achieve the expected outcome, healthcare providers should develop, review, and revise policies and guidelines for healthcare delivery based on evidence (Oliver et al., 2014; Stevens K, 2013). Reviewing current practices and policies related to school health service delivery was beneficial to analyze whether the practices are up-to-date and based on the best available evidence.

SBHC initiative started in the 1960s, and the development of the first school NP program also started during that time (Gustafson, 2005; Scudder et al., 2007). Even after more than fifty years, the availability of SBHCs and School NPs is not a national phenomenon. Moreover, in May 2021, the School-Based Health Alliance (SBHA) released a joint statement with the NASN on "School Nursing and School-based health centers in the United States working together for student success" (SBHA, 2021). In addition, the Institute of Medicine (IOM) and National Council for the State Boards of Nursing (NCSBN) in 2010 recommended the model of Full Practice status for Nurse Practitioners to improve access to care for populations across the lifespan and underserved populations (IOM, 2011). Adolescents are a unique cohort who require comprehensive and specialized care. Having NP-led school health clinics at the secondary school level is an additional avenue for NPs to work and show their expertise, guide

the younger generation to healthy persons, and transition them to adult healthcare services. These NPs can act as liaisons to other community organizations that work to improve the health of adolescents (Kuzma & Peters, 2016). This policy project aimed to inform and engage important stakeholders for buy-in and incorporate more NP-led school health centers at the secondary school level within school premises.

The key stakeholders are healthcare providers, mainly nurse practitioners, adolescents, nurses, mental health counselors, school administrators, policymakers, parents or guardians, and community organizations. The policy brief aims to improve healthcare access and prevent adolescent healthcare problems.

Analytical Framework

This proposed project used the Center for Disease Control and Prevention's [CDC] Policy Analytical Framework. CDC follows a systematic way of developing policies to identify and manage public health concerns and analyze policies to recognize their possible health impact, feasibility, and economic and budgetary impact. There are five domains of the CDC policy analytical framework: "identification of the problem, policy analysis and development, strategy and policy development, policy enactment and policy implementation" (CDC Polaris Framework, 2015). These are explained in detail in the CDC resources (POLARIS) on policy development (CDC, 2019). Each domain of the policy analytical framework includes multiple steps and involvement of key stakeholders, a literature review for adequate evidence, education on various elements, and evaluation methods. These steps are finetuned for the effective development and implementation of health policies (CDC, 2019). This project utilized these five domains, especially the first three: problem identification, policy analysis, and strategy and policy development.

Furthermore, the project used the Johns Hopkins Evidence-Based Practice (JHEBP) for Nurses and Healthcare Professionals Model for the policy process. Problem-solving processes and clinical decision-making experts worldwide use JHEBP to appraise literature. JHEBP uses a

three-step practice question approach, which is evidence translated to incorporate the latest findings from research and incorporate them as best practices into patient care. JHEBP for nurses and healthcare professionals has recently revised and incorporated the duration of each process, interdisciplinary communication, and collaboration based on feedback from all over the world (Dang et al., 2022). The CDC Polaris framework was supported by applying JHEBP to identify the latest surfaced evidence or literature and appraise their relevance to the problem and policy options.

Evidence Search Strategy, Results, and Evaluation

Investigators use available data and evidence to build each domain of the analytical framework of a policy project. Information is available in different formats from various sources, such as research evidence from published case studies, cross-sectional studies, randomized control studies, and qualitative studies (Bramer et al., 2018). After finalizing the question under study and identifying the keywords that can help get the different elements of the question, a systematic multi-database search strategy was used to get the results. A PICOT question is the best way to depict the different elements of the research problem. The best available evidence was obtained and identified using a multi-database search strategy.

Search Strategy

The project used the University of St. Augustine for Health Sciences Library to assist with the literature search. The databases searched are PubMed, the Cumulative Index of Nursing and Allied Health Literature (CINAHL), and ProQuest. In addition, the review project also collected articles from Google Scholar and the AdventHealth medical library using the exact keywords. The keywords used in all database searches include "school-health," "school-health centers", "school-based health centers", "school-health clinic", "secondary education", "high school", "adolescents", teen health centers, "adolescent health", "nurse practitioners", "NP-led", "benefits", "outcomes", effect", "policy". For finalizing the policy project, the project manager used these Medical Subject Headings (MeSH) terms in the PubMed search and other

databases. These keywords with the primary Boolean operator "AND" were consistently used in all databases. Inclusion criteria included school health-related articles with Nurse Practitioners as providers published in English in the last ten years in the US or from the southern US. Types of studies included systematic reviews, reviews, case reports, case-control, cross-sectional studies, and qualitative studies.

In addition, the project also utilized electronic searches to seek federal and state regulatory practices and policies and CDC recommendations relevant to school health delivery. This inquiry resulted in 7 sources, including the CDC, WHO, American School Health Association, Center for School, Health, and Education, under the American Public Health Association (APHA), School-based Health Alliance (SBHA), and National Association of School Nurses (NASN). Guidelines, standards, and recommendations were retrieved and reviewed from these organizations. Moreover, school health sites of state public health departments of the three selected states, Florida, Georgia, and Kentucky, were also searched to educate on state-based school health practices and policies. Very limited to negligible articles for the three individual states were obtained from the database searches.

Results

In PubMed, 22 articles and in CINAHL, 110 articles resulted from this inquiry. The search was limited to the USA, and adolescent or school health-related articles obtained 14 and 13 articles, respectively. The project manager tried to obtain full-text articles for relevant articles through the St. Augustine University of Health Sciences and AdventHealth library requests when they were unavailable through database search. ProQuest used filters for scholarly journals. They obtained 202 articles. With filters for US-based, school health, adolescent-related, and nurse practitioner-related articles, the search limited the numbers to 22. The search obtained 49 articles and seven articles from an electronic search on guidelines and practice from all three database searches. After removing 15 duplicates, it yielded 41 articles for the review project. The literature search eliminated studies with elementary schools and

elementary-age school children to include studies for the relevant demographic population for the project. The search eliminated 30 articles after removing duplicates, studies on other age groups, and reviewing for best practice evidence and ones without full text. This resulted in 11 studies to appraise the literature. The combined literature search produced 18 sources for this policy project proposal. (Figure 1)

Evaluation

The project used the JHNEBP Model synthesis process and tool to recommend evaluating the literature for the levels of evidence (Dang et al., 2022). Based on the reviewed literature on school-health-based articles, most were reviews or systematic reviews that were level 2 and above. Evidence included WHO, CDC, National School Health Alliance, APHA reports, systematic reviews, observational studies, and experimental and quasi-experimental studies.

Based on the JHNEBP criteria, of the 17 papers reviewed, one study was Level 1 and Grade A, and one was Grade B. Also, there were 5 Level V grade A articles. There were significantly fewer articles on NP-led school health services, as they are still evolving. The tables in Appendix A and B show search results with quality and grade of evidence with significant findings.

Critical Appraisal of the Evidence with Themes

School health services started in the 1960s in the US and are still evolving. The number of school-based health centers is increasing in the country. Late middle schools and mainly high schools provide adolescent health services, focusing on vulnerability and high-risk behaviors. (CDC, 2022; Kuzma & Peters, 2015; WHO, 2021). Youth-friendly adolescent health services provided through SBHCs in the school premises are stressed across reports and studies to increase access to primary healthcare services. School-based health centers are proven strategies to increase adolescents' healthcare access and improve their health and educational outcomes. (AFT, n.d; CDC, 2022; WHO, 2021). The chief adolescent health care

services include managing and preventing injuries and accidents, substance abuse, reproductive and sexual health, mental health services, immunizations, chronic disease management, and preventive services, including education and counseling.

The establishment of SBHCs is not uniform in all states and varies from state to state. Effective implementation of school health services needs the involvement of many stakeholders and organizations (Love et al., 2019; WHO, 2021). Major themes identified are SBHC as a well-accepted strategy to improve adolescent health, sponsorship of SBHCs, staffing structure of SBHCs, NPs as providers, funding for SBHCs, services provided through SBHCs, care delivery models such as telehealth, parental involvement and engagement, care transition and continuation after high school. For this policy review, the major themes identified are SBHC, a proven strategy, operation, staffing, and services provided through School-based health centers at the high school level.

SBHCs are a proven and accepted strategy.

Schools provide a significant cohort of children of various ages with different vulnerabilities. The main aim of school health is to create healthy children with better educational achievements. American Academy of Pediatrics (AAP) recommends that School health services through school-based health centers are a proven strategy to provide health services to uninsured, underinsured, specific populations with poor access to healthcare services, which the CDC and WHO substantiate (CDC, 2015; Gustafson, 2005; WHO, 2021). Many studies have proven that SBHCs or school health services increase healthcare access to many underprivileged children and improve health and educational outcomes, benefiting families and society financially. Benefits of optimal school health include reduced ED visits and hospitalizations, reduced asthma symptoms, better STI screenings, screening and prevention of major chronic health conditions, reduced absenteeism, improved grade point average (GPA), improved mental health, early detection of many health conditions, to list some (AFT, n.d;

Arenson et al., 2019; Boonstra, 2015; CDC, 2022; Kjolhede et al., 2019; Knopf et al., 2016; Leroy et al., 2017; Love et al., 2019; WHO, 2021).

Sponsorship for SBHCs.

Elementary and middle schools have the majority of SBHCs or school health centers. A school health nurse, assisted by a licensed practical nurse (LPN), a school health aide, or a UAP, typically operates most of those SBHCs or school health centers distributed to elementary and middle schools. Only 17% of the SBHCs were for high schools (Love et al., 2018). Based on the 2022 census, a higher percentage (i.e., 48%) of students received adolescent and youth development activities (Soleinpour et al., 2022). Even though there is an increase in adolescent services, a significant gap exists. The most common sponsors for SBHCs are Community health centers or FQHCs, followed by hospitals and community health systems, local health departments, academic medical centers, behavioral health organizations, and physician group practices. Currently, Federally Qualified Health Centers (FQHCs) administer 51% of SBHCs, and 80% of FQHCs do not have SBHCs, which shows an incredible opportunity for partnership and growth. Over these two decades, the sponsorship for SBHCs through FQHCs increased, whereas sponsorship through the local health departments, hospitals, school health systems, or private organizations was stable. A standard sponsorship program for SBHC is still under debate due to federal mandates, opportunities, and funding-related barriers (APHA, 2017; CDC, 2022; Love et al., 2019). Multiple sponsorship options are discussed (APHA, 2017). Streamlining the sponsorship process for SBHCs would lead to great success in establishing SBHCs nationwide to cover all high schools.

Staffing Structure for SBHCs

SBHCs should be led by a provider, either a physician/pediatrician, nurse practitioner, or a physician assistant supported by mental health professionals, nurses, medical assistants, oral health specialists, nutritionists, and the like (Love et al., 2019; CDC, 2022). An RN or licensed practical nurse or unlicensed assistive personnel remotely supervised by physicians, nurse

practitioners, or physician assistants staff many school health centers. A standard staffing structure for a school-based health center would help establish SBHCs with little financial burden. As per SBHA and AAP, an ideal staff mix of SBHC includes advanced practice practitioners (NP or PAs), licensed clinical social workers, medical assistants, and front office staff as the core staff and other support staff, including dentists, dental hygienists, school psychologists, nutritionist, optometrists, health educator, and community outreach worker (SBHA, 2023; GADOE.org, 2023; Gustafson, 2005).

Nurse Practitioners as Providers

The nation is seeing a significant healthcare transition, and one area is the change in healthcare provider structure in primary care and specialty areas. The increase in nurse practitioners and increased effectiveness and acceptance of NP-provided care provide a better opportunity for an optimal staffing structure for SBHCs. NPs with a diverse capability to function in multiple areas would be a better fit as a provider in the SBHCs for adolescents (Htay & whitehead, 2021; Kuzma & Peters, 2015; Leroy et al., 2017; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020). NPs are proven to provide youth-friendly healthcare services to adolescents. In 80% of SBHCs for elementary school children, NPs provide primary care. Extending their youth-friendly services to vulnerable adolescents can attain better acceptance of the services by the adolescents to increase their satisfaction (Htay & whitehead, 2021; Kuzma & Peters, 2015; Leroy et al., 2017; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020).

Reproductive and Sexual Health of Adolescents

Reproductive and sexual health is a vital part of normal adolescent growth and development, which includes biological sex, gender roles and identity, sexual orientation, sexual behavior, and reproduction. In the public health sphere, experts give much importance to reproductive health issues as the primary health concern for adolescents. These issues mainly include teenage pregnancies, menstrual problems, and sexually transmitted infections. STIs such as Gonorrhea, chlamydia, HPV, and HIV are a significant burden among adolescents and

young adults between the age of 15-24 years. Teenage pregnancies are the primary reason for female school dropouts (Arenson et al., 2019; CDC, 2022; Kuzma & Peters, 2015; McLean-Grant et al., 2016; Raphael et al., 2022; Tenfelde & Garfield, 2020; WHO, 2021). Teenage pregnancies may be due to and can lead to many social determinants of health. SBHCs can provide sexual and reproductive health services to adolescents; however, many of the SBHCs are unable to provide reproductive and sexual health services due to prohibitive and restrictive policies and parental misinformation (Florida statutes, 2023; T. Dominguez, Personal communication October 31, 2023). Reproductive and sexual health is an important area that needs further political and societal engagement and involvement. Adolescents need high-quality, youth-friendly, confidential healthcare services for the prevention and treatment of sexual and reproductive health problems, which NPs can provide through SBHCs without them losing school hours. CDC provides many resources to healthcare employees, students, and parents as guidelines and recommendations on sexual and reproductive health for teens (CDC, 2022). SBHCs can provide reproductive and sexual health services (unless they involve physical assessment or tests) via telehealth, which has been increasing recently (CDC, 2022; Love et al., 2019; Kuzma et al., 2019).

The mental health of adolescents

Major mental health disorders reported among adolescents are anxiety, depression, substance use disorders, attention deficit hyperactivity disorders, eating disorders schizophrenia, and mood and personality disorders (CDC, 2023; HHS, 2023; KFF, 2023; Knopf et al., 2016). HHS (2023) notes that among US adolescents, 49% have had some form of mental health disorder at some point in their lives. In October 2021, AAP, along with two other organizations declared a mental health emergency in the country. Georgia Department of Behavioral and Developmental Disabilities reported that in 2019, nearly 40,000 students attempted suicide and 1 in 8 teens suffered from depression. There is a jump to 49% of mental health issues in Georgia. One in 6 children between 6-17 years, experience mental health

disorders and 40,000 adolescents in Kentucky suffer from depression (KFF, 2021). Florida also reported a higher prevalence of mental disorders, such as anxiety, depression, and suicidal attempts among adolescents. The percentage of middle and high school children who reported depression has grown from 22.4 in 2010 to 34.3% in 2021 (FloridaHealthCharts.gov, 2023).

Healthcare Delivery Models

The school health census of 2016-17 showed that there is a significant shift in the healthcare delivery model from traditional face-to-face encounters to telehealth, and the recent pandemic gave a boost to that as well (CDC, 2022; Love et al., 2019; Nelson et al., 2020; WHO, 2021). The use of telehealth services through SBHCs or school health centers rose from 1% in 1998-1999 to >12% in 2016-2017. (CDC, 2022; Love et al., 2019; Nelson et al., 2020; WHO, 2021). Telehealth is an evolving field in school health and needs further studies to evaluate its efficacy in adolescent health problems.

Policy Review Recommendation Statement

Based on the literature review, the themes identified are consistent with the ideas or themes established and recommended by various authorities to provide healthcare to adolescents. Consistent with the strength of the evidence and the themes identified, developing a policy brief was essential and inevitable to include nurse practitioners as providers through school health services or SBHCs at the high school level. More data were collected and analyzed from the three Southeastern states selected regarding current practices and policies and to study plans for school health. The project manager, built policy recommendations after reviewing and appraising a total of 18 articles, which included reports, one RCT, experimental and quasi-experimental studies, one systematic overview of systematic review, systematic reviews, and studies on various elements related to school health. The following table includes the quality and quantity of literature evidence.

Table 1

Quality and Quantity of Literature Evidence

Level	Grade A	Grade B	Grade C
I	1	1	
II	3		1
III	1	3	1
IV	2		
V	4	1	

Adolescents are a vulnerable group of populations who are transitioning from their childhood to adulthood and have many health-related risks along with academic plans and expectations. Based on the review, the school-based health center is an accepted, evidence-based, and scientifically proven strategy to provide better healthcare access to all children in schools, including adolescents across the country and even more than half a century after its inception in the US, still the number of SBHCs are not meeting the need, especially for adolescents or those in high school level (AFT, n.d; Arenson et al., 2019; Boonstra, 2015; CDC, 2022; Kjolhede et al., 2019; Knopf et al., 2016; Leroy et al., 2017; Love et al., 2019; Richardson & Juszczak, 2008; WHO, 2021). The total number of SBHCs increased to 2584 per the 2016-17 School-Based Health Alliance census; the latest census showed >3900 SBHCs in the country (Love et al., 2018; Soleinpour, 2022). Studies have consistently shown that NPs provide adolescent/youth-friendly, comfortable healthcare and keep a trusted relationship with their patients. The main thrust of the studies is sexual and reproductive health issues and services and their importance and preventive methods in most systematic reviews. Another one is mental health issues and early detection and screening. The extensive evidence supporting patient-friendly quality care provided by NPs across all ages is considered for policy recommendation

(Daley et al., 2019; Htay & whitehead, 2021; Kuzma & Peters, 2015; Leroy et al., 2017; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020). Telehealth is changing the trend in healthcare delivery, and it can increase access to adolescents by providing confidentiality, privacy, and trusted relationships. Telehealth through school health centers is still under study as it is an evolving concept after the recent pandemic. More studies are required to determine an optimum service delivery model for adolescents through school health centers (CDC, 2022; Love et al., 2019; Nelson et al., 2020; WHO, 2021). Sponsorship, funding, location, and organization structure of SBHCs are some other themes that need further studies as these vary from state to state, and many external factors affect the same. The above themes are checked for the selected states to develop policy recommendations.

Policy Analysis and Evaluation Results

The project utilized CDC's policy analysis framework POLARIS for nurse practitioner (NP)-led school health care to improve adolescents' access to preventive and promotive healthcare and thereby to a successful transition to adulthood. This framework helped to improve the strategic approach to identify and endorse policy solutions (CDC, 2015). After identifying the problem, the project manager used three steps of the CDC Policy Analysis POLARIS framework: 2A to identify and describe policy options, 2B to assess policy options, and 2C to prioritize policy options, which eventually led to strategy and policy development (CDC, 2015). The project manager used the identified themes to develop policy options and evaluated them using the policy analysis table to check their public health impact, feasibility, and economic and budgetary impact. Then, we prioritized the policy options accordingly. Identification of stakeholders is another step in this policy proposal. Key stakeholders in the school-based health centers are school administrators, adolescents, their parents, the SBHC planning group, the SBHCs, local healthcare providers, NPs, local health agencies, local health departments, local school boards, payors, and policymakers.

Based on the CDC governance structure, the three southeastern states selected for this project are Kentucky, Georgia, and Florida. All three states follow a shared governance structure. Governance structure means structures mainly look at the relationships between state health agencies and regional or local public health departments in a state, as these can impact the roles, responsibilities, and authorities across different levels of government in the delivery of healthcare (CDC, 2022). For the current project, the policy documents looked up include school health policies from the Department of Education and Department of Health and Human Services (HHS), CDC guidelines, state School health policies of Kentucky, Florida, and Georgia, AANP policies on NP standards and Board of Nursing scope of practice documents. These policy documents are publicly available, not institution-based, and do not require permission.

Problem Identification

The problem identified for the project is "Policy review of current school health-related policies and recommendation for Secondary Education NP-Led Clinics in the Southeastern United States."

Policy Analysis

The policy analysis inspected school health and school-based health alliance policies and the Department of Education and Department of Health policies on school health in three southeastern states: Florida, Georgia, and Kentucky. A state-wise comparison table for NP practice authority, school health policies, and current Practice (Appendix D &E) shows similarities and differences. The practice authority of NPs and school health policies by various agencies and organizations are publicly accessible. This made the process easy in the sense of negating the need for permissions. However, researching multiple documents is extensive to identify the correct documents for the review process. Additionally, delays in getting some data and a lack of some pertinent data made it difficult to come to the proper conclusion.

School Health Policy

All three states have traditional school health services initiated in 1902, with nurses providing healthcare services, and they continue in these three states. Each government has state policies to ensure school health services. Though the essential health services provided to students are similar, there are differences in providing specific health care services. Essential health services include basic preventive student healthcare examinations (medical history, general appearance, and assessment of growth and development), vision and hearing screenings, vaccinations, dental screenings, vaccinations, health education, assistance in the management of the chronic health conditions of students such as asthma, diabetes, seizure disorders, allergies and/ other chronic conditions which need constant support and medication administration, referrals, asthma, and anaphylaxis medication administration, maintenance of student health records, additionally, school health providers give health education including sex education, care for mental health conditions, handle concussion assessment or management, managing suicidal ideations and gender transitions. The recommended core staff of SBHCs are NPs, Physician assistants (PAs), social workers, and other ancillary staff with physician oversight. Of the three states, Kentucky DOE and Georgia DOE partnered with CDC to provide school-based health services (CDC, 2023). SBHCs operate in a few high schools in Florida with the local partnership with the community. However, the SBHC concept needs to be acknowledged in the Florida legislature or by Florida DOE and DOH (Florida legislature, 2023; Florida DOE, 2023; Florida School Health Services Act, 2023).

CDC released the Whole School, Whole Community, Whole Child (WSCC) framework in 2014 to address children's health, in schools. Deciding, placing, and practicing school health policies and practices can help students grow healthy, prevent chronic diseases, and promote the health and well-being of children, ultimately enabling them to become successful adults. (CDC, 2023). Health Resources and Services Administration (HRSA), an agency under the Department of Health and Human Services (HHS) aimed at increasing equitable access to

healthcare to diverse communities, provide financial support to start and strengthen school-based health services and resource guides to manage various healthcare conditions of children through SBHCs (HHS.gov, 2022). These resources are for four priority areas: school health services, emotional well-being, healthy out-of-school time, and school administrator support and action for healthy schools, based on the WSCC model per CDC (CDC, 2023)—the HHS funds most of the programs, implemented through private or non-governmental organizations. HHS grants of up to $425,000 were given to eligible applicants to establish school-based healthcare interventions (Grants.gov, 2023). CDC provides evidence-based policies and guidelines on acute and emergency care, core coordination, chronic disease management, and family engagement. HHS also provides evidence-based resources and recommendations for various interventions through School-based health services (HHS, 2022).

Apart from policies from HHS and CDC, many other national organizations hold a stake in school health and assist in developing and implementing policies and programs related to school health services. NASN provides an information dissemination system, defines roles and standards for school nurses, and provides training to school nurses (IOM, 1997). The American School Food Service Administration (ASFSA) ensures healthy meals and nutrition education for all children. School Nutrition Association (SNA) is another crucial nonprofit organization providing high-quality, low-cost meals to students nationwide and advocating for and providing healthy school meals. Organizations like the National Association of School Psychologists, the American School Counselor Association, and the National Association of Social Workers provide position statements and standards for each profession. American School Health Association (ASHA) plays a significant role in conducting studies on all these related service providers and publicizing them to local and state education and health agencies. American Academy of Pediatrics (AAP) plays a crucial role in school health services in collaboration with the community health system and national representatives from the school health services

sector. Periodically, AAP updates and publishes a school health manual, "School Health: Policy and Practice," to ensure quality health and allied services to school children (IOM report, 1997). Moreover, each state Department of Health (DOH) and Department of Education (DOE) collaborate to adopt and implement the HHS and CDC policies for school healthcare services based on the need and resources. The state DOE provides final approval of any school health-related policies and programs.

School health services are traditionally provided primarily by registered nurses. Some schools have only a licensed practical nurse (LPN) or unlicensed assistive personnel (UAP) whose expertise is questionable and raises safety and liability concerns in schools. These LPNs or UAPs report to an RN covering at least 3-4 schools. This staff structure varies within and across states; School clinics do not follow a uniform staff structure (Florida Health, 2022). Of the 67 counties in Florida, the number of schools per RN varies from 0.5 to 28, and the number of students per RN also varies widely, i.e., 353 to 20,000. Some of the significant reasons are increasing legislative mandates, insufficient funding, an increasing number of students with complex medical conditions, the complexity of care, ongoing RN shortages, increasing nurse-student ratios, the complexity of care provisions, and geographical and population distribution (Florida Health, 2022). Kentucky already has an established Medicaid school-based health service that has been running for two decades. SBHCs are getting established and still rising in Kentucky, with NPs or PAs as the primary care practitioners. School-based health centers are on the rise in Georgia, with community partnerships through various primary care organizations in the state. Most of them operate in rural areas of Georgia (Georgia School-based Health Alliance [GASBHA], n.d). Georgia started the first school health center at Whitefoord Elementary School in southeast Atlanta, Georgia (GASBHA, n.d). A study by Adams and Johnson (2000) has shown that SBHC impacts reducing Medicaid expenses and increasing the use of primary care services by school children, especially adolescents. Appendix F shows the three states' current school health policies and services.

NP Scope of Practice

The National Council for State Board of Nursing (NCSBN) consensus model describes four roles for APRNs, one of which is Certified Nurse Practitioner (CNP) who can practice across six population foci, which are family/individual across the life span, neonatal, pediatrics, women health/gender-related or psych/mental health, and adult-gerontology area (NCSBN, 2008). Nurse Practice Act defines the NP scope of Practice. It is governed by the Board of Nursing (BON) of each state as State legislature gives authorization to BONs to create rules and regulations specific to the nursing profession, define the scope of Practice by following the laws enacted by the legislature (Tony-Butler & Martin, 2023; Weisen, 2023). Other laws and regulations by other boards also impact the scope of practice and practice authority. Each state enforces the Nurse Practice Act as the law. One of the components of the NP scope of Practice is the NP regulatory structure. A review of the regulatory structure of NPs of these three states found that Georgia and Florida share the same practice, i.e., restricted NP practice authority. Restricted practice authority means NPs must work under a supervising physician for all or any of their scope of Practice. NPs cannot act as independent practitioners even if they have extensive autonomy in some NP functions. Kentucky has reduced practice authority (Appendix E). Reduced practice authority means NPs must need a lifelong collaborative agreement with another healthcare provider, typically a physician. NPs have a reduced ability to engage in at least one element of NP practice, such as signing a death certificate (AANP, 2022; Weisen, 2023). While doing this project, lobbying by the AANP and state NP organizations to achieve full practice authority is underway, and that may affect the regulatory structure scope of Practice of NPs in various states. Currently, AANP has no policies related to school health (D. Cassarino, personal communication, October 20, 2023). Kaiser Family Foundation (KFF) (2023) statistics show that of the three states, Florida has the highest number of active NPs, 32,058, followed by Georgia, i.e., 10,474, and Kentucky with 5765 NPs. The table (Appendix E) shows the scope of Practice of NPs in the three states:

Strategy and Policy Development

This policy analysis identified the following themes: SBHCs as a proven and accepted strategy, sponsorship of SBHCs, staffing structure of SBHCs, NPs as providers, the reproductive and sexual health of adolescents, the mental health of adolescents, and healthcare delivery models. The project manager addressed the themes to develop and scrutinize policy recommendations to enlighten policymakers in school boards and health departments for establishing or strengthening NP-led school health services for adolescents. Based on the evidence, this policy brief (Appendix F, G & H) recommends the utilization of APRNs/NPs as providers of school health services through SBHCs.

Policy Enactment

The recommendations are politically and economically feasible as there NPs and funding available from HHS and other local, state, and federal funds. The project manager presented the policy recommendations to pertinent stakeholders of each state to ensure policy enactment. The evidence-based policy recommendations offered stakeholders a clear picture of the multifaceted benefits of NP-led school health clinics for adolescents at secondary level education.

Policy Implementation

The project manager used the policy briefs to educate, advocate, and work with stakeholders and policymakers for NP-led school health clinics at the secondary school level. Of the three states, Florida is the one state that more or less lacks any policy related to school-based health centers. Potential barriers that may arise are the practice authority of NPs, lack of support from school lobbyists, and possibly physician groups who are already collaborating with school health services.

Kentucky

Kentucky follows a shared governance structure based on the CDC health department governance structure. As per the AANP state practice authority, Kentucky has reduced practice

authority requiring physician relationship/collaboration for prescriptive authority (AANP, 2023; NCSL, 2023). Kaiser Family Foundation statistics (2023) state that Kentucky has 5765 professionally active NPs. Kentucky Medicaid recognizes APRNs as approved Medicaid providers. To enroll and bill for Medicaid, APRNs should have a license from the Kentucky Board of Nursing and need enrollment as Medicaid active providers. Even though NPs are recognized as primary care providers, only 5.5% of NPs work in primary care in Kentucky (University of Kentucky, 2016).

Kentucky ranked 41st in America's health rankings (2023), and almost half of the population lives in rural areas. Consequently, most Kentucky students are in rural schools (Ky.gov, 2022). In 2019, Kentucky did a state plan amendment to enroll local education agencies as Medicaid health service providers and thus bill Federal Medicaid for school-based health services, including mental health services (CLASP.org, 2020). In 2020, there were more than 250 SBHCs were functioning, which is still not covering the entire state (Kentucky Health News, 2022). Traditional school health services as well as Medicaid school-based health services are provided by NPs or PAs, physicians or RNs in the rest of the areas and a true statistic is not available for either of these, let alone for adolescent care. School-based health centers operate in partnership with Community Health Centers and do not replace a child's primary care provider, but rather address the gaps in accessing necessary primary healthcare and mental health services (Kentucky Department of Education, 2023). Students who are active Medicaid participants are billed to Medicaid for the services received commercial insurance holders are charged a higher amount and uninsured students are charged a minimal fee (Kentucky DOE, 2023). SBHCs and School health services complement each other in Kentucky.

Barriers to providing school health services are RN shortage, lack of funding from the state to decrease RN shortage, reduced practice authority of NPs, lack of statewide coordination, lack of telehealth services, lack of collaboration with local healthcare providers, inadequate data on school health services and school-based health services.

Georgia

Georgia follows a shared governance structure based on the CDC governance structure. Georgia is a restricted practice state for NPs in which a physician relationship is required for Practice and prescriptive authority (NCSL, 2023). As per KFF data (2023), Georgia has 10474 professionally active NPs. Georgia Medicaid also identifies APRNs as Medicaid providers. NPs are one of the approved Ordering, prescribing, and referring (OPR) providers as per the Georgia Department of Public Health (2013). To qualify as a certified NP in Georgia, NPs should obtain Georgia Board of Nursing licensure and renew the license every 2 years.

Georgia ranks 37th in America's Health Rankings (2023). Though Georgia's landmass is mostly rural, only 1/5th of the population lives there. Thus, Georgia is getting highly urbanized and the majority of the population lives in urban areas. Traditional school health program is run by school nurses and LPNs licensed by the Georgia Board of Nursing and they provide services outlined by the Department of Education. Georgia DOE has accepted the benefits of SBHCS and is in the process of obtaining grants from HHS and other foundations and agencies to establish SBHC in all schools. SBHCs complement traditional school health services and are manned by a multidisciplinary team of professionals such as NPs, PAs, physicians, dentists, dental hygienists, nutritionists, and behavioral health workers. Georgia School-Based Health Alliance (GASBHA, n.d) provides all support for SBHC start-up and planning. HHS grants and other community health organizations provide funding for SBHCs. At the high school level, NPs provide care to pregnant students, sexual health education and testing for sexually transmitted infections, sports, annual and driving physicals, and managing complex injuries and illnesses (GASBHA, n.d).

Barriers to NPs providing school health services include restricted practice authority for NPs (AANP, 2022; Haney, 2023; NCSL, 2023), lack of establishment of SBHCs in all schools, lack of funding support, lack of statewide coordination, staff turnover in schools, RN shortage,

lack of adequate data on all SBHCs and their services, communication barriers between school health providers and school staff regarding student mental health concerns (Moore et al., 2022).

Florida

Florida also follows shared governance for public health as per the CDC governance structure. Florida has restricted Practice transitioning now. NPs require 3000 hours of collaborative Practice with a supervising physician before transitioning to independent practitioners (AANP, 2023; Florida Center for Nursing, 2020; NCSL, 2023). As per KFF (2023), Florida has the country's most licensed active NPs, i.e. 32,058 professionally active NPs. NPs are approved providers for Medicare and Medicaid in Florida (AHCA, 2022). According to Florida Center for Nursing (FCN), reports (2023), 27.3% of NPs work in Physician offices, 7.4% in ambulatory care, 4.6% in elderly care, and 4.5% work in community health, and 4% in urgent care and all of these encompass primary care as well.

Florida ranked 31st in America's Health rankings (2023). Florida has the highest number of NPs in the country (KFF, 2023). Florida is one of the three states with largest urban population (Census.gov, 2022). In Florida, the Department of Health or Department of Education employs school nurses, LPNs, and UAPs to provide traditional school health services. School health services are provided in collaboration with each county health department and school district board. School health services in Florida consist of three components: Basic school health services, Comprehensive school health services, and full-service schools (FloridaHealth.gov, 2023). Florida Policy Insitute (FPI, 2023) strongly advocates for Medicaid School-based services. In 2020, the Florida governor signed House Bill 81, to help schools access at least $51 million annually in additional federal funds for establishing SBHCs (FPI, 2023). Florida State Board of Education shall jointly establish full-service schools to provide school-based health and social services for high-risk student populations needing medical and social services with DOH after demographic evaluation (Florida statutes, 2023). Currently, SBHCs operate in two counties in Florida, one with a partnership with the county

school system and Florida Department of Health and the other run by Community Health Centers. Both are operating in High schools in those counties. In 2022, Florida DOE ended the sponsored Adolescent Youth Risk Behavior Survey, which collects data on mental health issues, substance use, and physical health problems of adolescents and young adults (CDC, 2022). However, Florida conducts its own Florida Youth Surveys, of which the reports are unavailable for 2023. Additionally, Parental rights in education legislation restrict health educators from teaching sensitive health-related topics (T. Dominguez, Personal communication, October 31, 2023).

Barriers for NPs to practice in School health are restricted practice of NPs, lack of DOE and DOH acceptance and establishments of SBHCs in the state (SBHA, 2023), absence of clear-cut job responsibilities mentioned about NPs as school health providers, RN shortage, lack of statewide legislation for SBHCs model staffing, parental rights in education legislation, lack of statewide data on SBHCs/school health, legal entanglement, and lower reimbursement for school health nurses (FloridaHealth.gov, 2023; FPI, 2023).

Policy Discussion and Recommendations

Based on the findings from various policy documents and appraised literature, the following findings were discussed. In the US, New York City initiated school health services and found that the program reduced absenteeism reduced contagious disease. School nurses provided healthcare services and all the states have adopted and recruited registered nurses, LPNs and UAPs to provide basic health services to school children. 1960s, saw a new approach called School-based or school-linked health services provided through school nurse practitioners for diagnosing and treating basic health problems of children in schools (IOM, 1997; Schumacher, 2002; Terwilliger, 1994). School based health alliance and National association for school nurses made a joint statement to complement each other for student success (sbh4all.org, n.d) and that movement is expected to make great strides in school health services to improve health outcome of children.

School health services are a widely discussed and researched topic in the country and worldwide and numerous studies have been conducted and are still going on in many areas of the country. Based on the literature search and synthesis the main themes identified for the purpose of this project are SBHCs as a proven and accepted strategy, sponsorship for SBHCs, staffing structure for School-based health centers (SBHCs), Nurse practitioners as providers, the reproductive and sexual health of adolescents, the mental health of adolescents, and healthcare delivery models (AFT, n.d; APHA, 2017; Arenson et al., 2019; Boonstra, 2015; CDC, 2022; GADOE.org, 2023; Gustafson, 2005; Htay & whitehead, 2021; Kjolhede et al., 2019; Knopf et al., 2016; Kuzma & Peters, 2015; Leroy et al., 2017; Love et al., 2019; SBHA, 2023; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020; WHO, 2021). These themes were widely supported by many other studies done in other states as well (CDC, 2015, Kjolhede et al., 2021; SBHA, n.d; WHO, 2021). State DOE and DOH of all these three studies are collaborating with each other and with other state and Federal agencies like HHS, CMS support school health services.

The concept of advanced practice nurses as providers for primary healthcare was established after the inception in the 1960s. Currently Nurse practitioners are accepted as mid-level practitioners in the healthcare sector and are well-placed in the healthcare hierarchy (Kuzma & Peters, 2016; Randall et al., 2017). Studies have repeatedly shown that NP-led clinics positively impact health outcomes, patient satisfaction, healthcare cost and access to care (AANP, 2022). The extent of their services is growing to various disciplines and specialties. The utilization of NPs in school health is also proven as an accepted strategy to provide youth friendly comfortable, convenient and confidential care to adolescents for preventative care in primary and mental health care services (CDC, 2015; Daley et al., 2019; GASBHA, n.d; Kuzma & Peters, 2016; Randall et al., 2017; Htay & whitehead, 2021; Leroy et al., 2017; Liu et al., 2020; SBH4all.org, n.d; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020)

School based health services are being followed in all three states, with a strong presence in Kentucky for more than two decades under Medicaid School-based services. Georgia DOE also strongly recommending and supporting opening up of SBHCs in the schools through community and local primary healthcare centers and with HHS grant and other state funding. School health services is mainly provided through traditional school health services in Florida and recent legislation to obtain HHS funding for opening school-based health services is currently ongoing.

Provision of established school health services either through traditional school health services or through school-based health centers/clinics include many barriers. They include staffing challenges of healthcare providers, such as physician shortage, NP/RN shortage, staff turnover in schools, lower reimbursement for school health nurses, policy and regulatory issues like restricted and reduced practice authority of NPs, problems with Medicaid enrollment, lack of establishment of SBHCs in all schools, logistical issues such as lack of statewide coordination, transportation challenges of students to nearby SBHCs, lack of adequate data on all SBHCs and their services, inadequate communication and awareness regarding benefits of SBHCs, integration issues like communication barriers between school health providers and school staff regarding student mental health concerns and sustainability challenges. When it comes to each state, local health department and local school districts, this is not an exhaustive list of barriers. There are more involved which are still need to be researched. Additionally, the establishment and operations of school-based health services and school health services are growing in varied phases. Acquiring funding alone will not clear all hurdles, but involves various factors and community and stakeholder participation at various levels from policy making, legislation, local administrative support etc. Policy briefs for each state which shows the background and policy recommendations is included in Appendix F, G & H

The project planned to do a literature search and synthesis of articles to find supporting evidence to the PICOT question for the project and did justification that evidence was strongly

supporting school health services and NP services, when combined would benefit the children under 18 years especially adolescents, even though studies were not from states under review. The project used CDC POLARIS framework for policy analysis and brought-forth policy briefs.

The limitations of the project were, inability to obtain latest and evolving policies from all these states and this is an ongoing project in all the three states: Kentucky, Georgia and Florida, inability to meet with officials personally or online due to time and employment constraints. Also, policies related to NP practice authority and scope of practice are also evolving and changing during the project time. There might be some conflicting findings owing to that.

Dissemination

The dissemination of the policy brief will help in educating the stakeholders and legislators about the studied problem and evidential support for the policy options and can lead to informed decision-making. The policy brief will be published internally through the University of St. Augustine for Health Sciences Library through the SOAR resources, and oral and poster presentations. The policy brief is externally disseminated as oral presentations, print media, and through publishing in journals. Journals under consideration are Journal of School Health, Journal of Adolescent Health, Journal of Nurse Practitioners, Journal of School Nursing, and the like. Publishing through journals will get a wider audience from the academic community and also future students interested in school health. Additionally, the policy brief can be disseminated through news, print, and social media to reach the general public and policymakers and also through one-on-one meetings, workshops, and seminars (in-state school boards, local health departments, and health agencies like Primary health care centers, state school health department). Parents of adolescents need to get information about teen-friendly SBHCs which can be achieved through print, news, and social media. An oral presentation in the health department during school health meetings is planned for next School health advisory committee to gain more audiences who are keen on school health-related activities.

Conclusion

The current project proposed to develop a policy brief on nurse practitioner-led school health services for adolescents in secondary education in three southeastern states of the US. Based on the literature review, it became clear that SBHC is a proven and accepted strategy for improving healthcare access and delivery to adolescents at the secondary level through school-based health centers. Major elements identified are the benefits of SBHCs, NPs as an acceptable and proven profession to be a primary care provider to populations across all age groups, major services provided through school-based centers, varying care delivery model or transition of tradition model care to telehealth services, others include sponsorship, staffing, location and funding of SBHCs, services provided through SBHCs such as reproductive and sexual health services, mental health services, etc. Based on this evidence a policy brief is developed for NP-led primary care services for adolescents through secondary-level education. Regardless of many barriers identified, state departments of education and health and federal government through various funding programs and guidelines advocate and support for establishing school-based health centers to cater to the varied healthcare needs of children of the nation.

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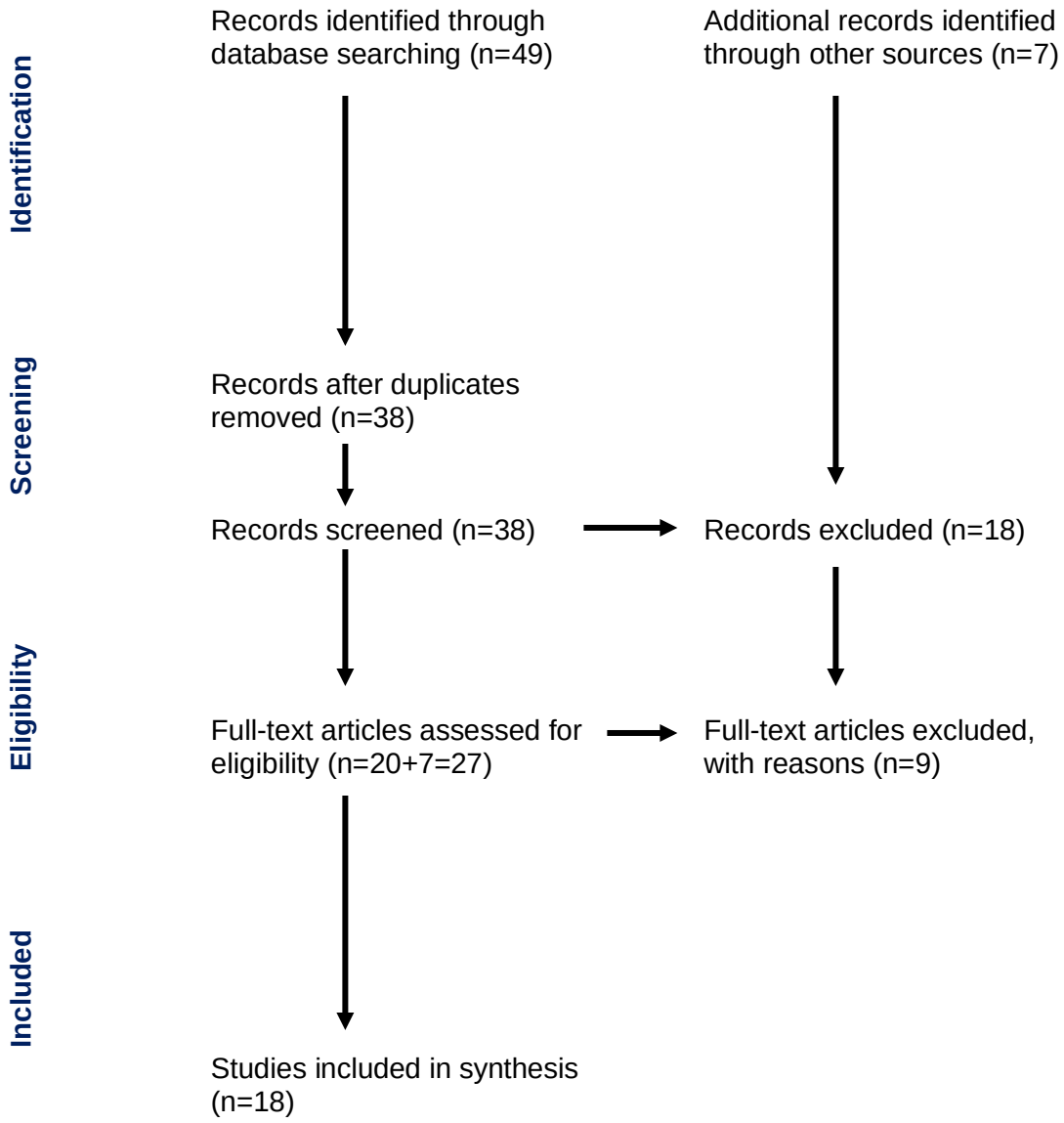
Table 1

Figure 1

PRISMA Flowchart



Note. Prisma flow chart

diagram from “Preferred Reporting Items for Systematic Reviews and Meta-analyses: The PRISMA Statement,” by D. Moher, A. Liberati, J. Tetzlaff, & D.G. Altman, 2009, Annals of Internal Medicine, 151(4), p.267 (http://dx.doi.org/10.7326/0003-4819-151-4-200908180-00135).

A

Table 2

Summary of Primary Research Evidence

Citation	Design, Level Quality Grade	Sample Sample size	Intervention Comparison	Theoretical Foundation	Outcome Definition	Usefulness Results Key Findings
WHO (2021)	Level V A	n/a	n/a	n/a	n/a	The Adolescent and Young Adult Health Unit of WHO provides ample guidelines and standards of care for adolescents and their vulnerability, healthcare problems, access to healthcare, and strategies to reduce gaps in healthcare access and delivery to adolescents. WHO provides global initiatives, policy briefs regarding increasing HPV vaccinations, workplace safety, and school health initiatives to better health and education outcomes.
CDC (2022)	Level V A	n/a	n/a	n/a	n/a	School-based health clinics have a crucial role in maintaining and promoting the health and wellness and prevention of many health issues in adolescent children. CDC provides policy and research briefs based on systematic reviews of studies conducted in various states and also provides guidelines for various school-based healthcare services such as chronic disease management, acute and emergency care, care coordination, and family engagement. It provides school health profiles and school health policies and practices study results, CDC supports and provides guidance and guidelines to establish and maintain school health centers, staffing, and services that can be provided through school health centers (SHC)
American Federation of Teachers	Level V B	n/a	n/a	n/a	n/a	School-based health centers mostly located in school premises of traditional public schools, improve healthcare access to low-

[AFT]. (n.d).						income and hard-to-reach healthcare centers, SBHCs improve student health outcomes, school engagement, and academic performance, reduce depression, hospitalizations, schools with SBHcs have better parent engagement, and reduced out-of-class time and early dismissal rates.
Boonstra, 2015	Level IV A	n/a	n/a	n/a	n/a	This Guttmacher policy review highlights on benefits and operations of SBHCs. SBHCs are sponsored by local community agencies or hospitals or FQHCs and ensure to provision of comprehensive, coordinated, and culturally competent primary care services. This policy review stresses the shortcomings in the funding of various programs. The major points included in the policy review are sexual and reproductive health services through SBHCs and how they are affected because of political interests and financial constraints. 30% of 9^{th} graders and 64% of 12^{th} graders had sexual exposure leading to teen pregnancies and STDs. In half of SBHCs contraceptive dispensing is prohibited and the older the SBHC, they provide contraceptive supplies. This is affected by state policies, funding, and perception of infringement of parental rights, which needs to be considered seriously to bring down teen pregnancies and STIs.
Kjolhede et al., 2019	Level IV A	n/a	n/a	n/a	n/a	The policy statement reviews the role and benefits of SBHCs as pediatric medical care home services are provided and provides recommendations that support the coordination of SBHCs with pediatric primary care providers and the pediatric medical home. It also discusses three staffing models of SBHCs with nurse practitioners, Physician assistants, and other staff, and how SBHCs can act as a connected center between pediatricians, and local hospitals to provide care in after-hours and vacation coverage. Recommendations are provided in areas

						including PCMH, coordination of care, funding, clinical services, school health advisory councils, and advocacy.
Love et al., 2019	Level III B	2317 of 2,584 SBHCs in the US provide primary care services on-site or via telehealth by a physician, nurse practitioner, or physician assistant.	N/a	n/	n/a	A descriptive study of SBHCs and compared to 1998-1999 statistics. There is a 128% increase in the number of SBHCs, 51% of SBHCs were sponsored by FQHCs, and the number of centers with some kind of telehealth technology increased from 66 in 2007–08 to 467 in 2016–17. 85% of SBHCs employed Nurse practitioners and this stayed constant over the decade, which shows a consistency that NPs are acceptable providers. 30% of SBHCs cater to youth in all grade combinations.
Daley et al., 2019	III A	Mixed method study First phase Delphi technique with 21 participants 2nd Phase with 30 adolescents for focused groups	N/A	Complex Adaptive Systems as the guiding theoretical and philosophical framework	n/a	A mixed method study done in 3 phases, initially a qualitative study to identify the essential elements necessary for providing adolescent-friendly care to teens accessing SBHCs for their health care which found 200 listed and sorted to 6 elements, 2nd phase a Likert scale for 6 elements from 1-5. The six essentials for teen care identified were confidentiality, accessibility of health care, clinicians or staff, clinical services, and relationship of SBHC with school and SBHC environment
McLean-Grant et al., 2016	Level II C		Performance improvement project using motivational interviewing and same-day testing policy for STI screening in 14 SBHCs in Delaware.	N/a	n/a	The study was done in 2 phases, Baseline STI (pre-intervention to assess the adolescents' STI screenings either through self-referral or based on the assessed risk of STI in 9 SBHCs in Delaware) screening data compared with Phase one (motivational interviewing), and Phase 2 (motivational interviewing, same-day testing protocol, self-referral tool to students and increased collaboration to medical and mental health providers to refer high-risk adolescents). There is a 30% increase in STI screenings in Phase 2, 73% of the providers changed their practice to include the motivational interviewing technique, and 80% agreed to continue the practice. The authors state that many barriers to

						adolescent STI screening can be circumvented in SBHCs.
Raphael et al., 2022	Level III B	2439 patients aged 13–17 yrs	Retrospective study All patients <18 years of age who sought care from January 2019 to 31 December 2020, were included in the study comparing patients seen at SBC and FPC	N/a	CT/GC diagnosis (positive/negative), & CT/GC treatment (yes/no), and dates of CT/GC testing, results, and treatment (in days).	Patients who sought care from SBC were younger than those who were seen in FPC and SBCc provided treatment significantly faster than FPCs. Black patients were seeking care from FPCs compared to White patients in SBC and the majority were of Hispanic origin. Authors state that SBCs provide better access to care during school hours and provide confidential STI services and an optimal site for the management of STIs in minors.
Tenfelde & Garfield, 2020	Level V A	n/a	n/a	n/a	n/a	This review report based on published peer-reviewed journal articles explains the role of NPs in preventive screening for adolescent females including immunizations, BP screening, depression and anxiety screening, lipid, diabetes, cancer screening, Hep A, B, and C, and TB screening, screening, and counseling on obesity, substance abuse and partner/interpersonal relationships and violence, non-judgmental reproductive and sexual health assessment education, counseling on contraceptives and STI/HIV prevention.

Legend: SBHCs -School-Based Health Centers, WHO-World Health Organization, HPV-Human Papilloma Virus, PCMH- Patient-Centered Medical Homes, FQHCs-Federally qualified health centers, SBC- School-based clinic, FPC- Family Planning Clinic, GC-Gonococcal, CT-Chlamydia trachomatis, NPs-Nurse Practitioners, STIs- Sexually Transmitted Infections

Appendix B

Summary of Systematic Reviews (SR)

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
Knopf et al., 2016	Level	How effective are SBHCs in improving the education and health outcomes of disadvantaged students?	PubMed, Embase, CINAHL, ERIC, Google, NTIS, Web of Science [WOS], and WorldCat) were searched in March 2013 and again in July 2014	Inclusion: a) relative effectiveness of exposure to SBHC services versus non-exposure to SBHC services, b) report at least one school achievement, c) evaluation of an SBHC, d) English publication, e) study from a high-income nation Exclusion: a) asthma prevalence, b) Services not recommended by USPSTF, c) utilization of non-urgent ED, d) school attendance	Two independent reviewers assessed each study and disagreements were resolved by consensus. Each study assessed for study methods, results, and interpretations abstracted using Community Guide criteria, for internal and external validity, including insufficient explanation of interventions, population, sampling frame, and inclusion and exclusion criteria, inadequate outcome measurement, high attrition, incorrect analytic methods, and failure to control confounding.	Reduced rates of school suspension, high school non-completion, and improved healthcare utilization, i.e. increased immunizations, preventive services, reduced asthma symptoms and incidents, reductions in ED visits, and hospital use, reductions in alcohol consumptions, increased use of contraceptives among females and decreased child-births and improved prenatal care.	Evidence from this systematic review suggests that school-based health centers have a positive impact when considering health and educational outcomes, and are associated with extended hours of SBHC availability Also SBHCs are set up in rural communities and can improve the healthcare access to adolescents and children who lack access to healthcare.
Levinson, et al., (2019),	Level V B	To explore the effectiveness of school-based or	PubMed, WebofScience, ERIC, PsycINFO,	(a) studies on age group 5–9 yrs, & adolescents (10–19yrs) enrolled in	One reviewer extracted summary data from each	Increased knowledge and attitudes; ineffective in	Systematic overview of Systematic reviews

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
published through WHO (2021)		school-linked health services delivered by a health provider for improving the health of school-age children and adolescents. And to identify health areas and specific school health service interventions that have at least some evidence of effectiveness.	and the Cochrane Library were searched systematically for systematic reviews	schools; (b) school-based, involving a health provider, and were of any duration or length of follow-up; (c) intervention effectiveness was compared to either no intervention, an alternative intervention, the same intervention in a different setting (i.e. not in schools), an active control, or a waitlist control; (d) interventions aimed to improve one or more health outcomes, as defined by the SR authors; and (e) study designs were either randomized controlled trials (RCTs), quasi-experimental studies (QEs), or other non-randomized intervention studies. Systematic reviews published in peer-reviewed journals and indexed before June 15, 2018; (d) published in the English language.	selected article using a customized standard form with independent data extraction performed for 15% of included SRs by one of the other reviewers with 92% agreement between reviewers for all items within the standard form, with discrepancies only in level of detail. Data items included the research design of the SR and primary studies, sample description and setting, intervention characteristics, outcomes, meta-analysis results, quality appraisal, and conclusions.	changing risky behaviors, reductions in BMI through obesity interventions, reductions in depressive symptoms, improvement in menstruation-related knowledge, reductions in asthma symptoms and ED visits for asthma, decrease in school absence, and increase in Grade point average from school health users, improved physical quality of life of children,	(SOSR). All SRs primarily examined studies on school-based, rather than school-linked interventions. No evaluation of comprehensive school health services, heterogeneity of studies, or systematic reviews. Results suggest that certain interventions such as vision screening, weight reduction, reproductive health programs, mental health services, oral care, etc. can be effective in improving child and adolescent health outcomes, and thus may be worthwhile for integration into school health programs.
Kuzma, & Peters (2015)	Level V	To describe adolescents as a vulnerable population with a unique healthcare needs, especially due to their sexual risk-taking	CINAHL, Medline, PsychInfo, and PsychArticle databases	Not mentioned	Not mentioned	Adolescents with increased vulnerability through risk-taking behavior leading to injuries and death, and sexual experimentation,	The article highlights various vulnerabilities of adolescents and health issues secondary to their high-risk behaviors

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
	A	behaviors; and to explicate the necessity of nurse practitioners (NPs) advocating for youth-friendly services and policies to meet adolescents' sexual and reproductive healthcare needs.				leading to pregnancy, and increased STIs and HIV (among adolescents aged 15-19 yrs accounting for nearly $16 billion in direct medical costs). Teen pregnancy and childbirth leads to additional cost of $9.4–$28 billion to taxpayers due to increased healthcare and foster care costs, increased incarceration rates among children of teen parents, and lost tax revenue because of lower educational attainment and income among teen Mothers. Lack of adequate sex health services due to barriers such as access, trust, communication, and confidentiality aggravates the problem. NPs can provide youth-friendly services.	and mental health issues of adolescents and healthcare costs of various preventable health issues of adolescents. The article also stresses the importance of youth-friendly services and how Nurse practitioners are optimal providers who can provide youth-friendly healthcare services to adolescents and also act as health advocates to adolescents. This also provides a list of resources on adolescent sexual and reproductive health for nurse practitioners.
Jacob et al., (2021)	Level II A	1) What is the effectiveness of health education interventions delivered in school	MEDLINE, CINAHL, PsychINFO, and ERIC for papers	Inclusion: studies on school-based health education interventions in 10-19 years in high-	Three researchers screened titles and abstracts, conducted data	School-based health education intervention has the potential to reduce body mass	Intervention was not provided by nurses/ NPs or any healthcare workers

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
		settings to prevent overweight and obesity and/ or reduce BMI in adolescents? 2) What are the key features of effective interventions?	published from Jan 2006 was carried out in 2020	income countries with a control group, articles from 2006 to 2020, published in the English language, and studies from high-income countries were included.	extraction, and assessed the quality of the full-text publications. A third of the papers from each set were cross-checked by another reviewer. A meta-analysis of a sub-set of studies was conducted for BMI z-score.	index of children	but rather by school teachers. However, the school-based interventions for adolescents were effective in reducing BMI.
Arenson et al., 2019	Level III C	To review the current evidence on SBHCs	Authors began 3 recent high-impact reviews and based on that PubMed database search was conducted to find articles on SBHCs	Peer-reviewed articles published in English after 2000, on Financial, Physical Health (including medical, vision, and dental), Mental Health, and Educational Outcomes of SBHCs. Articles with current public health importance such as gun violence, adverse childhood experiences, and health of American Indian/Alaskan Native (AI/AN) communities in the US Exclusion: articles before 2000,	Not mentioned	The review provides information on adolescent health issues, the structure and purposes of SBHCs, and how SBHCs are instrumental in providing preventive and promotive services and treatment for acute conditions. In addition to this for adolescents' mental health care, social services, dentistry, and health education are provided. Reproductive health services are restrictive due to prohibitive policies, however, in the last decade, contraceptive dispensing has	Authors recommend that SBHCs are effective in reducing inequities in healthcare access and improving health and educational outcomes for children and adolescents. The authors recommend more research needs to be done on mental health integration in SBHCs, gun violence, increasing youth injury and death from gun violence, Adverse childhood events, and increased deaths among

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
						increased. SBHCs are manned by either NPs or Physician assistants or by physicians per the report. SBHCs can be extended to other community members like school staff and teachers, and SBHCs provide financial savings to children and their families and provide cost benefits to society in the form of avoided ED visits, hospitalizations, teen pregnancies, school absenteeism, etc. SBHCs (70%) are uniquely placed to identify mental health issues of adolescents and treat them early.	American Indian community youths.
Leroy et al., (2017)	Level III B	To assess the role of school health services in addressing CHCs among students in Grades K–12 was completed using primary, peer-reviewed literature published from 2000 to 2015, on selected conditions: asthma, food allergies, diabetes, seizure disorders, and poor	Medical, public health, and education databases such as ERIC, PubMed, Web of Science, and CINAHL for articles between 2000 to 2015	Inclusion: Studies between 2000 and 2015, US-based, published in English, original scientific studies, and peer-reviewed Exclusion: studies that only measured knowledge acquisition or behavioral changes in students or that did not have at least one clinical or academic outcome as	An abstraction form was developed to summarize the following information from each article: purpose, study design, sample size, demographics (including measures of socioeconomic status), disease	Of the 39 articles, that met the criteria, 38 were on Asthma. There were experimental, quasi-experimental, cohort, and other studies, different interventions and found that interventions such as asthma education, medication, motivational	The systematic review showed positive outcomes on Asthma symptom control, reduced ED visits, reduced hospitalizations, and improved academic outcomes, however, authors state many

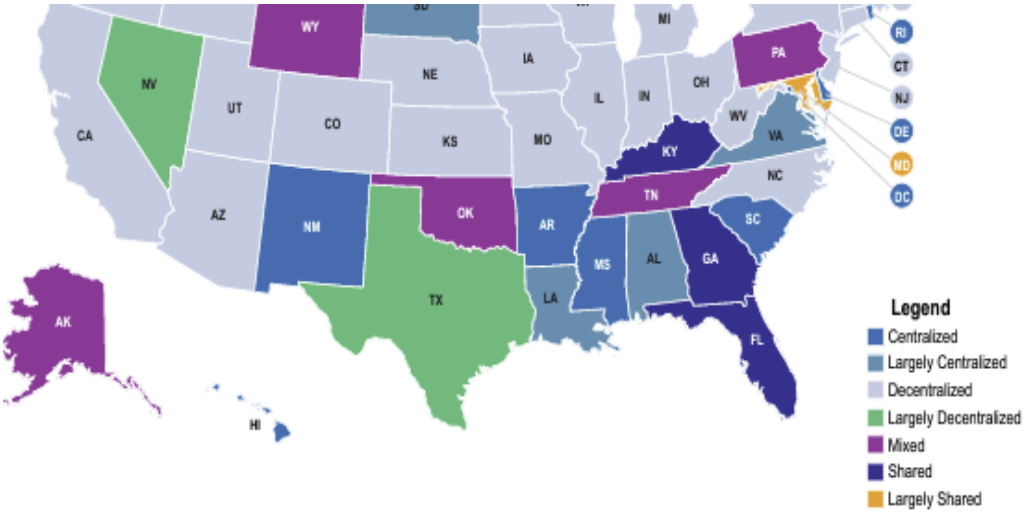
Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
		oral health.		an endpoint.	severity classification, geographic setting, methods, details of applicable interventions, outcome measures, data analysis, significant and nonsignificant results, limitations, and conclusions. Missing information was coded as not documented. Discordance was adjudicated by discussions with a third, senior reviewer.	interviewing, had controlled asthma symptoms, reduced ED visits and hospitalizations. Having an NP in the provider group increased PF readings of children with asthma and decreased ED visits. Studies also showed a decrease in missed school days and positive trends in attendance, and improved psychosocial support to parents were linked to GPA increase and reduction in disruptive behavior.	limitations of the study such as heterogeneity, different criteria or definitions used, or outcome measurement, studies mostly from urban areas with low-income status population, lack of listing of confounding variables. These limits the generalizability of the review. Additionally, studies were mostly on the children's age group. Only one study was included on NP service.
Stanik-Hutt et al., 2013	Level II A	How do NPs affect patient outcomes on measures of care quality, safety, and effectiveness?	Proquest, Cochrane, Pub Med, and the Cumulative Index to Nursing and Allied Health Literature.	Inclusion: RCTs or observational studies in the US from 1990 -2009 of at least 2 groups of providers NP working alone or in teams	Data abstraction forms were completed by the primary reviewer and checked for completeness and accuracy by the second reviewer.		Quality and safety of care provided were comparable between NPs and MDs, other outcomes were also comparable. This study included studies from 1990-2009 and there would be variations in the study findings on recent studies. The study is

Citation	Quality Grade	Question	Search Strategy	Inclusion/ Exclusion Criteria	Data Extraction and Analysis	Key Findings	Usefulness/Recommendation/ Implications
							generalizable in the US settings
Htay & whitehead, 2021	Level 1 A	To evaluate the effectiveness of the role of advanced nurse practitioners compared to physicians-led/ usual care	Systematic review of RCTs MEDLINE, EMBASE, CINAHL, Cochrane registry, Cochrane trials, and Cochrane EPOC (PDQ Evidence)	Inclusion: RCTs done between 2000-2019, peer-reviewed and published in English among pediatric and adult patients, NP-led and physician-led /usual care Exclusion: observations, case-control, case reports, theses, non-English, mental health, and mother and baby studies	proformas developed by the Cochrane Collaboration	Positive outcomes were observed in the management of dyspepsia, medication costs and requirements, health status and patient satisfaction, duration of time spent with patients in outpatient areas, BP levels, physical functioning, etc. APRNs demonstrated greater adherence to practical and treatment guidelines. Of the 13 RCTs, almost all trials conveyed positive outcomes on service and patient care	Though this is a review including studies from three high-income countries, results can be utilized for use in policy recommendations. The NPs provide better patient care that enhances quality, cost-effectiveness, patient satisfaction, and efficiency. The service and clinical are generalizable even at the international level.

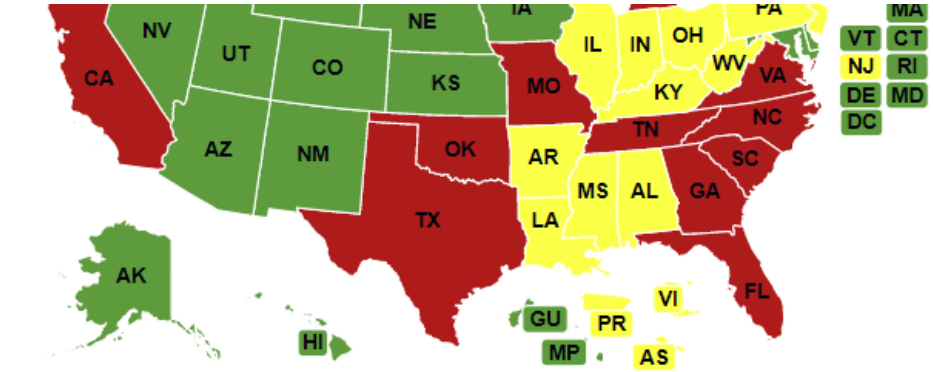
Legend: CHC- Chronic health conditions, PF-Pulmonary functions, NP-Nurse practitioner, GPA-grade point average,

Appendix C: State Selection

CDC Governance Structure in Kentucky (KY), Georgia (GA) & Florida (FL)



NP State Practice Environment Kentucky (KY), Georgia (GA) & Florida (FL)



Appendix D:

Table 3

School Health Policies

School Health Policies	Florida	Georgia	Kentucky
Traditional school health services policies	Present	Present	Present
School-based health center (SBHCs) policies	State law addresses traditional school health services, with no formal plan to establish clinics or health centers on school campuses.	State addresses traditional school health services, but no formal program to establish health centers on school campuses. *Georgia DOE is working to expand SBHCs to rural communities*.	State addresses traditional school health services, but no formal program to establish health centers on school campuses. Kentucky has SBHCs through Medicaid and local primary healthcare institutions.
SBHCs under DOE		SBHCs operate in 24 counties currently with NPs and PAs as core staff with a licensed clinical social worker, medical assistant, and office support staff.	Medicaid School-based health services are available and are provided by Qualified Medicaid Practitioners. In Kentucky APRNs are one of the approved Medicaid practitioners.
School Nurse qualifications	License to practice in the state	"Topic not addressed in state statutes or regulations" (NASBE). However, RNs licensed to practice in the state are working as school nurses.	Bachelor or Master prepared nurse, licensed under KRS Chapter 314
School health providers	For school health improvement pilot project: A full-time, trained school health aide in each elementary, middle, and high school; one	School nurses and LPNs provide school health services. With the SBHC plan adopted by Georgia DOE, the recommended core	Per Kentucky's revised statutes 1. Physician (as per KRS Ch. 311) 2. APRN/RN/LPN (as per KRS 314)

	full-time nurse to supervise the aides in the elementary and middle schools; and one full-time nurse in each high school.	staff should include NPs, PAs, licensed clinical social workers, Medical Assistants, clinic support staff, dentists/dental hygienists, opticians/optometrists, clinical psychologists, or psychiatrists.	3. A non-licensed health technician (trained and delegated by 1 or 2) 4. A school employee who is delegated by #1 or #2 above
Departments involved in policies, hiring, and funding for school health services	Department of Education Department of Health *- Each school district collaborates with the County Health Department: The school principal has immediate supervisory authority over the health personnel working in that school*	Department of Education Department of Health	Department of Education Department of Health
SBHC/ School Nurse Collaboration	Only school nurses provide school health services.	School nurses and SBHCs complement each other's services to plan & implement health promotion and disease prevention programs.	School nurses collaborate with SBHCs for referral, acute care, well-child visits, physicals, and immunizations

Appendix E

Table 4

NP Practice Authority

	NP Scope of Practice			
State	**Full Practice**	**Reduced Practice**	**Restricted Practice**	**No Law**
Florida	- Primary care provider - Order physical therapy - Sign death certificates - Sign disabled person placard forms	- Medical Staff membership - Independently prescribe schedule II drugs	- Regulatory structure - Autonomous practice	- POLST/POST/ MOLST/ MOST/COLST
Georgia		- Medical staff membership - Sign death certificates - POLST/POST/ MOLST/ MOST/COLST	- Regulatory structure - Autonomous practice - Independently prescribe schedule II drugs - Sign disabled person placard forms	- Primary care provider - Order physical therapy
Kentucky	- Primary care provider - Sign death certificates - Sign disabled person placard forms	- Regulatory structure - Medical staff membership - Independently prescribe schedule II drugs	- Autonomous practice - POLST/POST/ MOLST/ MOST/COLST	- Order physical therapy

Source: AANP (2022), Weisen, K. (2023)

POLST: Physician's Orders for Life-Sustaining Treatment/ Practitioner Orders for Life-Sustaining Treatment
POST: Physician Orders for Scope of Treatment/ MOLST: Medical Orders for Life-Sustaining Treatment
MOST: Medical Orders for Scope of Treatment/ COLST: Clinician Orders for Life-Sustaining Treatment

Appendix F
Policy Brief-Kentucky

Policy Brief

2023

Nurse Practitioner-led School Health Clinics in Kentucky for Secondary Level Education

Background

Kentucky is one of the southeastern states following a shared governance (CDC in health department governance (CDC, 2022) and ranks 41st in America's health rankings (2023). Almost half of the population (41%) (US Census, 2021) live in rural areas in Kentucky and more than one-third of the population either Medicaid or Medicare and Medicaid coverage. Seventy eight percent of children from low-income families have Medicaid coverage (KFF, 2023). Kentucky have Medicaid school-based health services providing school health services to almost 41% of school children, which is mainly to elementary and middle school children. School-based health services complemented by traditional school health services provide healthcare services to school children in Kentucky. Kentucky has reduced practice authority for nurse practitioners, requiring physician relationship/collaboration for prescriptive authority (AANP, 2022; NCSL, 2023). Total number of professionally active nurse practitioners in Kentucky are 5765 (KFF, 2023). Kentucky Medicaid services approved NPs as Medicaid healthcare service providers and in majority of Medicaid school-based services, NPs deliver healthcare services to children. In 2019, Kentucky did a state plan amendment to enroll local education agencies as Medicaid health service providers and thus bill Federal Medicaid for school-based health services, including mental health services. School-based health programs provide basic primary health care, dental and mental healthcare in school settings. This is found as a successful approach to reduce health problems of school children. In 2020, there were more than 250 SBHCs were functioning, which is still not covering the entire state (Kentucky Health News, 2022). Traditional school health services as well as Medicaid school-based health services are provided by NPs or PAs, physicians or RNs in the rest of the areas and a true statistic is not available for either of these, let alone for adolescent care. School-based health centers operate in partnership with Community Health Centers and do not replace a child's primary care provider, but rather address the gaps in accessing necessary primary healthcare and mental health services (Kentucky Department of Education, 2023). Students who are active Medicaid participants are billed to Medicaid for the services received, commercial insurance holders are charged a higher amount and uninsured students are charged a minimal fee (Kentucky DOE, 2023). Additionally, KDE went electronic for KDE school-based services and is still a project underway. KDE School-based Medicaid Services support and provide guidelines and guidance to all to establish, run, quality assurance, billing this health services to children and is still a process ongoing (Kentucky DOE, 2023). Kentuckians welcome the opening of school-based health centers as a successful policy to cover healthcare access problems in addition to telehealth and Medicaid expansion (Kentucky Department of Public Health, 2021).

Endorsements

School health services are a Federal mandate and HHS,

Barriers for NP-led clinics

Barriers to providing school health services in Kentucky are healthcare provider shortage in primary care, mental and dental care are, reduced practice authority of NPs, lack of statewide coordination, lack of telehealth services, lack of collaboration with local healthcare providers where SBHS are not provided, inadequate data on school health services and school-based health services (KCNPNM, 2013).

Recommendations for NP-led school health clinics in Secondary school education

NPs provide safe, cost-effective high-quality care to people across the life span. Studies have consistently shown that NPs provide adolescent/youth-friendly, comfortable healthcare and keep a trusted relationship with their patients. The main thrust of the studies is sexual and reproductive health issues and services and their importance and preventive methods in most systematic reviews. Another one is mental health issues and early detection and screening. The extensive evidence supporting patient-friendly quality care provided by NPs across all ages is considered for policy recommendation (Daley et al., 2019; Htay & whitehead, 2021; Kuzma & Peters, 2015; Leroy et al., 2017; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020).

Policy recommendations

- The CDC recommends school-based health centers in low-income communities to improve educational and health outcomes (CDC, 2015).
- The Office of Disease Prevention and Health Promotion (OASH) of Department of Health and Human services (HHS), Adolescent work group recommends school-based health centers to low-income communities to provide onsite and offsite healthcare services including primary care, mental health services, health education. Thereby to increase healthcare access to adolescents, reduce sexually transmitted infections, reduce teen pregnancies, prevent or reduce mental health problems. HHS provides grants to local state government, school department, and health department for opening SBHCs (HHS.gov, 2015)
- The AAP recommends school-based healthcare services to improve healthcare access to school children (Kjolhede et al., 2021)
- The AANP (2022) recommends state legislation for full practice authority to increase basic health care access to state population.
- School-based Health Alliance recommends and provides guidance on all operational aspects of school-based health services (SBH4all.org, n.d)
- Kentucky Department of Health and Kentucky Department of Education (KDE) endorses School-based health services and the services can be provided by NPs, in addition to other providers like Physician assistants and physician.

Benefits of NP-led care in secondary school education

Though services of SBHCs vary based on local needs, SBHCs provided many healthcare benefits for school children.

- Better access to care
- Cost-effective primary, dental and mental health services
- Adolescent/ youth friendly, comfortable and confidential healthcare services
- Improved student satisfaction and improved student performance in school
- Improved rates of physical activity in schools
- Reduced health disparities
- Reduced school drop-outs
- Better reproductive and sexual health
- Reduction in risky behaviors
- Easy transitioning to adult healthcare
- Reduced absenteeism in school
- Reduced ED or hospital visits
- Reduced parental absenteeism at work
- Reduction in ten pregnancies
- Prenatal care for adolescent pregnant mothers

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Appendix G
Policy Brief-Georgia

Policy Brief

Nurse Practitioner-led School Health Clinics in Georgia for Secondary Level Education

Background

Georgia follows a shared governance structure based on the CDC governance structure. Georgia is a restricted practice state for NPs in which a physician relationship is required for Practice and prescriptive authority (NCSL, 2023). As per KFF data (2023), Georgia has 10474 professionally active NPs and Georgia ranks third in the list of states with high demand of NPs (Georgiapolicy.org. Georgia Medicaid also identifies APRNs as Medicaid providers. NPs are one of the approved Ordering, prescribing, and referring (OPR) providers as per the Georgia Department of Public Health (2013). To qualify as a certified NP in Georgia, NPs should obtain Georgia Board of Nursing licensure and renew the license every 2 years.

Georgia ranks 37th in America's Health Rankings (2023). Though Georgia's landmass is mostly rural, only 1/5th of the population lives there. Thus, Georgia is getting highly urbanized and the majority of the population lives in urban areas. Georgia lacks primary healthcare providers in majority of the counties. Traditional school health program is run by school nurses and LPNs licensed by the Georgia Board of Nursing and they provide services outlined by the Department of Education. Georgia DOE has accepted the benefits of SBHCS and is in the process of obtaining grants from HHS and other foundations and agencies to establish SBHC in all schools and supports the process. SBHCs if present, complement traditional school health services and are manned by a multidisciplinary team of professionals such as NPs, PAs, physicians, dentists, dental hygienists, nutritionists, and behavioral health workers. Georgia School-Based Health Alliance (GASBHA, n.d) provides all support for SBHC start-up and planning. HHS grants and other community health organizations provide funding for SBHCs. At the high school level, NPs provide care to pregnant students, sexual health education and testing for sexually transmitted infections, sports, annual and driving physicals, and managing complex injuries and illnesses (GASBHA, n.d).

Barriers for NP-led clinics in secondary level education

Barriers to NPs providing school health services include staffing challenges of healthcare providers including physician, NPs, RNs, staff turnover in schools, policy and regulatory issues like restricted practice authority of NPS, problems with Medicaid enrollment NPs (AANP, 2022; Haney, 2023; NCSL, 2023), lack of establishment of SBHCs in all schools, logistical issues such as lack of statewide coordination, transportation challenges of students to nearby SBHCs, lack of adequate data on all SBHCs and their services, communication and awareness regarding benefits of SBHCs, integration issues like communication barriers between school health providers and school staff regarding student mental health concerns and sustainability challenges and lower reimbursement for school health nurses (Moore et al., 2022).

Recommendations for NP-led school health clinics in Secondary school education

NPs provide safe, cost-effective high-quality care to people across the life span. Studies have consistently shown that NPs provide adolescent/youth-friendly, comfortable healthcare and keep a trusted relationship with their patients. The main thrust of the studies is sexual and reproductive health issues and services and their importance and preventive methods in most systematic reviews. Another one is mental health issues and early detection and screening. The extensive evidence supporting patient-friendly quality care provided by NPs across all ages is considered for policy recommendation (Daley et al., 2019; Htay & whitehead, 2021; Kuzma & Peters, 2015; Leroy et al., 2017; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020).

Policy recommendations

- The CDC recommends school-based health centers in low-income communities to improve educational and health outcomes (CDC, 2015).
- The Office of Disease Prevention and Health Promotion (OASH) of Department of Health and Human services (HHS), Adolescent work group recommends school-based health centers to low-income communities to provide onsite and offsite healthcare services including primary care, mental health services, health education. Thereby to increase healthcare access to adolescents, reduce sexually transmitted infections, reduce teen pregnancies, prevent or reduce mental health problems. HHS provides grants to local state government, school department, and health department for opening SBHCs (HHS.gov, 2015)

- The AAP recommends school-based healthcare services to improve healthcare access to school children (Kjolhede et al., 2021)
- The AANP (2022) recommends state legislation for full practice authority to increase basic health care access to state population.
- School-based Health Alliance recommends and provides guidance on all operational aspects of school-based health services (SBH4all.org, n.d)
- Georgia Department of Education endorses, recommends and supports school-based health centers

Benefits of NP-led care in secondary school level

Georgia DOE and DOH accept and support for the establishment of SBHCs in schools especially in low coverage areas through HHS and other state and local funding. Though services of SBHCs vary based on local needs, SBHCs provided many healthcare benefits for school children. The benefits are classified under health, education and cost savings.

- Better access to care for adolescents
- Cost-effective primary, dental and behavioral health services
- Reduced cost of pharmacy and transportation costs.
- Adolescent/ youth friendly, comfortable and confidential healthcare services
- Increased utilization of mental health and substance abuse services
- Better reproductive and sexual health
- Reduced school drop-out rates
- Improved student attendance and improved student performance in school
- Reduction in risky behaviors
- Easy transitioning to adult healthcare
- Reduced absenteeism in school
- Decreased use of emergency room and hospital visits
- Decreased cost of time away for parents.
- Reduction in teen pregnancies
- Prenatal care for adolescent pregnant mothers and reduction of low-birth-weight children.

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Appendix H
Policy Brief-Florida

Policy Brief

2023

Nurse Practitioner-led School Health Clinics in Florida for Secondary Level Education

Background

Florida follows shared governance for public health as per the CDC governance structure. Florida ranked 31st in America's Health rankings (2023). Florida has the highest number of NPs in the country (KFF, 2023). Florida is one of the three states with largest urban population (Census.gov, 2022). Close to 2/3rd of the low-income children has Medicaid coverage and 10% through Medicare (KFF, 2023). With the highest number of NPs in the country, i. e. 32,058 professionally active NPs, Florida has restricted NP practice authority transitioning now. NPs require 3000 hours of collaborative Practice with a supervising physician before transitioning to independent practitioners (AANP, 2022; Florida Center for Nursing, 2020; NCSL, 2023). NPs are approved providers for Medicare and Medicaid in Florida (AHCA, 2022). According to Florida Center for Nursing (FCN), reports (2023), 27.3% of NPs work in Physician offices, 7.4% in ambulatory care, 4.6% in elderly care, and 4.5% work in community health, and 4% in urgent care and all of these encompass primary care as well.

In Florida, the Department of Health or Department of Education employs school nurses, Licensed Practical Nurses (LPN), and Unlicensed Assistive Personnel (UAPs) to provide traditional school health services. School health services are provided in collaboration with each county health department and school district board. School health services in Florida consist of three components: Basic school health services, Comprehensive school health services, and full-service schools. Full-service schools provide, “nutritional services, economic and job placement services, parenting classes, counseling for abused children, mental health and substance abuse counseling, and adult education for parents” (FloridaHealth.gov, 2023).

Florida Policy Institute (FPI, 2023) strongly advocates for Medicaid School-based services. In 2020, the Florida governor signed House Bill 81, to help schools access at least $51 million annually in additional federal funds for establishing SBHCs (FPI, 2023). Florida State Board of Education shall jointly establish full-service schools to provide school-based health and social services for high-risk student populations needing medical and social services with DOH after demographic evaluation (Florida statutes, 2023). Currently, SBHCs operate in some high schools in two counties in Florida, one with a partnership with the county school system and Florida Department of Health and the other run by Community Health Centers. Florida conducts its own Florida Youth Surveys, not that of CDC, of which the reports are unavailable for 2023. Additionally, Parental rights in education legislation restrict health educators from teaching sensitive health-related topics (T. Dominguez, Personal communication October 31, 2023).

Barriers for NP-led clinics school health clinics in Secondary school education

Barriers for NPs to practice in School health are restricted practice of NPs, lack of DOE and DOH acceptance and establishments of SBHCs in the state (SBHA, 2023), absence of clear-cut job responsibilities mentioned about NPs as school health providers, RN shortage and staffing challenges, lack of statewide legislation for SBHCs model staffing, legal entanglement such as parental rights in education legislation, lack of statewide data on SBHCs/school health, and lower reimbursement for school health nurses (FloridaHealth.gov, 2023; FPI, 2023).

Recommendations for NP-led school health clinics in Secondary school education

NPs provide safe, cost-effective high-quality care to people across the life span. Studies have consistently shown that NPs provide adolescent/youth-friendly, comfortable healthcare and keep a trusted relationship with their patients. The main thrust of the studies is sexual and reproductive health issues and services and their importance and preventive methods in most systematic reviews. Another one is mental health issues and early detection and screening. The extensive evidence supporting patient-friendly quality care provided by NPs across all ages is considered for policy recommendation (Daley et al., 2019; Htay & whitehead, 2021; Kuzma & Peters, 2015; Leroy et al., 2017; Stanik-Hutt et al., 2013; Tenfelde & Garfield, 2020).

Policy recommendations

- The CDC recommends school-based health centers in low-income communities to improve educational and health outcomes (CDC, 2015).
- The Office of Disease Prevention and Health Promotion (OASH) of Department of Health and Human services (HHS), Adolescent work group recommends school-based health centers to low-income communities to

provide onsite and offsite healthcare services including primary care, mental health services, health education. Thereby to increase healthcare access to adolescents, reduce sexually transmitted infections, reduce teen pregnancies, prevent or reduce mental health problems. HHS provides grants to local state government, school department, and health department for opening SBHCs (HHS.gov, 2015)

- The AAP recommends school-based healthcare services to improve healthcare access to school children (Kjolhede et al., 2021)
- The AANP (2022) recommends state legislation for full practice authority to increase basic health care access to state population.
- School-based Health Alliance recommends and provides guidance on all operational aspects of school-based health services (SBH4all.org, n.d)
- Florida policy institute and associated lobbyists endorses and voice for School-based health centers in Florida, and law was signed in 2020 that helps access funds to start SBHCs.

Benefits of NP-led care in secondary school education

Since SBHCs are in infancy stage in the state of Florida, there are no comprehensive data available to interpret benefits obtained in state, however, local reports support national data that NP led clinics are highly beneficial to adolescents. From the national statistics, the benefits are classified under health, education and cost savings.

- Better access to care for adolescents
- Cost-effective primary, dental and behavioral health services
- Reduced cost of pharmacy and transportation costs.
- Adolescent/ youth friendly, comfortable and confidential healthcare services
- Increased utilization of mental health and substance abuse services
- Better reproductive and sexual health
- Reduced school drop-out rates
- Improved student attendance and improved student performance in school
- Reduction in risky behaviors
- Easy transitioning to adult healthcare
- Reduced absenteeism in school
- Decreased use of emergency room and hospital visits
- Decreased cost of time away for parents.
- Reduction in teen pregnancies
- Prenatal care for adolescent pregnant mothers and reduction of low-birth-weight children.

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