

**School-Based Health Centers and Academic Performance:  
What is the Intersection?**

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## Introduction

The National Assembly on School-Based Health Care (NASBHC) convened a meeting of 23 stakeholders representing a national cross-section of experts in the fields of health and education on April 30, 2004. Among the participants were school health practitioners, educators, researchers, and funders (see roster, page 15). The meeting's purpose was to clarify and document the relationship between school-based health centers (SBHCs) and student academic performance<sup>i</sup>. The diverse backgrounds, experiences, and viewpoints among participants contributed to a vigorous discussion of pertinent issues.

The meeting included a discussion of the educational policy context that is increasing pressures on SBHCs to document the impact of their services on academic performance. That discussion served as a preface for a presentation of the existing research and methodological challenges involved in obtaining such data. Subsequently, recommendations were generated for ways in which SBHC researchers, practitioners, and advocates might inform educators, funders, and policymakers regarding the impact of SBHCs on the educational experiences of students.

The purpose of this document is to: (1) Summarize the meeting proceedings and recommendations, (2) Provide a stimulus for further discussion and research on the connection between SBHCs and academic performance, and (3) Provide guidance to those currently working with SBHCs, including staff, researchers, evaluators, advocates and their educational partners on strategies to document and enhance the collaboration between SBHCs and educators to improve student success and sustain the viability of the SBHC initiative.

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<sup>i</sup> For the purpose of this dialogue, "academic performance" is broadly defined to include both educational outcomes, for example, grade point average and graduation rates, and educational behaviors such as attendance, disruptive classroom behavior, and ability to concentrate.

## School-Based Health Centers

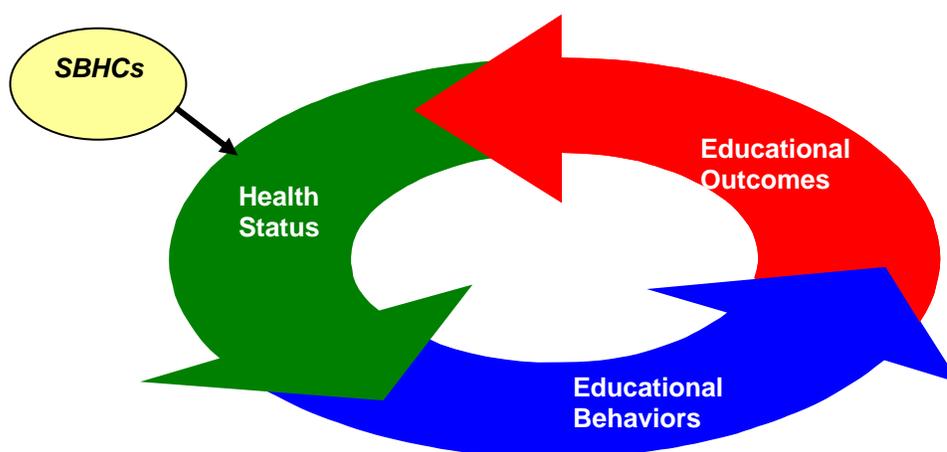
School-based health centers (SBHCs) emerged in the 1970s in recognition of the increasing number of children and adolescents who not only lack access to health care but also need care that is culturally and age-sensitive, confidential, safe, geographically accessible, and suited to their unique developmental needs. SBHCs operate in schools as a one-stop source of evaluation, diagnosis, and treatment of child and adolescent health needs. Most provide primary preventive care, including comprehensive health assessments, treatment of acute illness, screenings, immunizations, and counseling.

During recent decades, the number of SBHCs has grown exponentially, from 120 in 1988 to nearly 1,400 across 45 states as of 2001. SBHCs are commonly sponsored by community health organizations, including hospitals, local health departments, community health centers, academic medical centers and non-profit organizations. Fifteen percent of SBHCs are administered or sponsored by the school system.<sup>1</sup>

Studies have shown that SBHCs reduce inappropriate use of emergency rooms and increase appropriate use of medical and mental health services.<sup>2,3,4</sup> Moreover, SBHCs have been shown to positively impact the mental health of students and reduce hospitalization rates for asthmatic children.<sup>5,6</sup> Such data demonstrate that SBHCs provide comprehensive, accessible, and high-quality services that add measurable value to the health care delivery system.

It is well-accepted that healthier children make better students. A large body of evidence supports a connection between *health status* and academic performance, as illustrated in Figure 1, page 5. However, in recent years, SBHCs have faced increasing demands to document their *direct* contributions to academic performance. Thus, SBHCs are now increasing their efforts to answer the question: "*Do SBHCs contribute to the academic performance of students and can that value be measured?*"

**Figure 1. Relationship between Health Status and Academic Performance**



### **Educational Policy Context**

Efforts to document the connection between school health programs and academic improvement have become more urgent due to mounting accountability pressures upon schools and increasing demands upon limited funds. If school health programs are to demonstrate their value within the educational arena, health practitioners and researchers who study these programs must understand the educational context that SBHCs operate within.

Policies currently impacting education include the Individuals with Disabilities Education Act (IDEA), class-size reduction, and stricter guidelines for receiving payment for Average Daily Attendance. However, the leading educational policy in this country is the federal No Children Left Behind Act of 2001 (NCLB).<sup>7</sup> NCLB is the primary force behind the current pressures for schools to document improvements in student achievement.

Key requirements of NCLB include annual testing in reading and mathematics, meeting “Adequate Yearly Progress” targets, and ensuring that all teachers are credentialed and “highly qualified” in subjects they teach. Consequences, which increase in severity the longer a school fails to meet standards, include mandates to provide staff development, offer supplemental student services, and allow students to switch schools. Although NCLB was designed to be a federal program, there are differences in implementation among the states and great variability in how local schools are responding to the law. People working with SBHCs are encouraged to familiarize themselves

not only with federal and state requirements, but to learn how they are implemented locally.

Moreover, although there is general consensus on what constitute common measures of academic achievement – including NCLB requirements, attendance and tardiness rates, drop out rates, graduation rates, achievement test scores, and referrals for discipline or disciplinary actions – there is no standard index across the nation. As a result, much of the academic assessment literature relies upon standardized test scores as indicators of academic achievement.

With limited resources to meet NCLB and other requirements, schools are evaluating all their activities to see how they contribute to academic performance. School health programs, including SBHCs, are no exception. They occupy school space and operate during school hours, sometimes removing students from class to obtain services. Education stakeholders may wonder: *“Do these programs detract from, or complement, the academic mission of schools?”* Meanwhile, advocates of school health programs may wonder: *“If these programs are unable to demonstrate their educational value, will they be able to sustain and expand their current place in the health care safety net?”*

To address these questions, the meeting planners felt it was important to examine current evidence demonstrating a direct or indirect connection between SBHCs and academic performance. To this end, a presentation was given that described the findings and limitations of the current body of research, followed by an overview of

methodological issues that make this type of investigation challenging.

## Existing Research

A literature review of research examining the relationship between SBHCs and academic performance was conducted in 2003.<sup>8</sup> The review identified seven quasi-experimental studies conducted in a variety of settings. Figure 2 on page 7 includes a brief description of each study. Of the 13 indicators examined, attendance/absence was most frequently evaluated. Other variables included drop out and graduation rates; rates of promotion to the next grade, tardiness, and suspension; and disciplinary referral frequency; standardized test scores; grades; educational motivation and aspirations; and credit accumulation.

Although six of seven studies reviewed found a relationship between the availability and/or actual use of an SBHC with at least one academic indicator, the number of existing studies was small and each had methodological limitations that preclude generalizing findings beyond the study site(s).

## Methodological Challenges

Meeting participants agreed that significant methodological challenges exist in trying to document a link between SBHCs and academic performance. The challenges come from four sources: 1) unique characteristics of the population being studied; 2) limited access to data due to policies around privacy and autonomy of subjects; 3) limited resources for research and evaluation available to SBHCs; and 4) difficulties inherent to SBHC program and evaluation design.

**1) Unique characteristics of the population being studied.** Conducting research on a population of students utilizing school based health services is uniquely difficult. Most programs are, by intent, located within disadvantaged communities and serve a highly mobile population. Longitudinal studies measuring an effect over time are compromised by the inability to capture a stable population. There is great variability in the extent to which particular students will utilize school based services, and young people with recurrent exposures to an intervention are intermixed with

those who will have a single contact. School based health programs do not provide direct academic interventions or tutoring and any impact upon academic achievement is therefore indirect. In addition, students who utilize school based health services for somatic and, in particular, behavioral difficulties do not represent a cross-section of the student population making comparison with a control population of healthy children extremely difficult.

Also, it may be difficult to generalize the effect of programs given the variability among SBHCs as to physical space, staffing, and scope of services. Similarly, schools often differ in how they define relatively straightforward indicators, such as absences. Comparisons of such indicators across school sites can lead to inaccurate conclusions.

### **2) Limited access to data due to policies around privacy and autonomy of subjects.**

Access to data can be difficult to obtain because public schools and health care organizations are held to different data protection standards and their intersection is not well understood. The Federal Education Right to Privacy Act (FERPA) limits access to school-owned data such as attendance and grade records to only those with a "need to know," as determined by the school principal. Active parental and/or student consent and approval by an institutional review board, school board, or school research committee are often required to undertake research. Obtaining such approvals can be costly and time-consuming unless the consent for data use is built into the consent for SBHC services or memorandum of understanding between organizations. Regulations imposed by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) regarding privacy and use of personal health information (including data collected by the SBHC) further complicate data linking and sharing processes between health care facilities and schools.

**3) Limited resources for research and evaluation available to SBHCs.** Research and evaluation resources are often scarce. Most SBHCs have limited funds for evaluation, which may curtail both the rigor of research designs and access to consultant investigators to assist with design, data collection, or analysis issues.

**Figure 2. Studies on School-Based Health Centers (SBHCs) and Academic Performance**

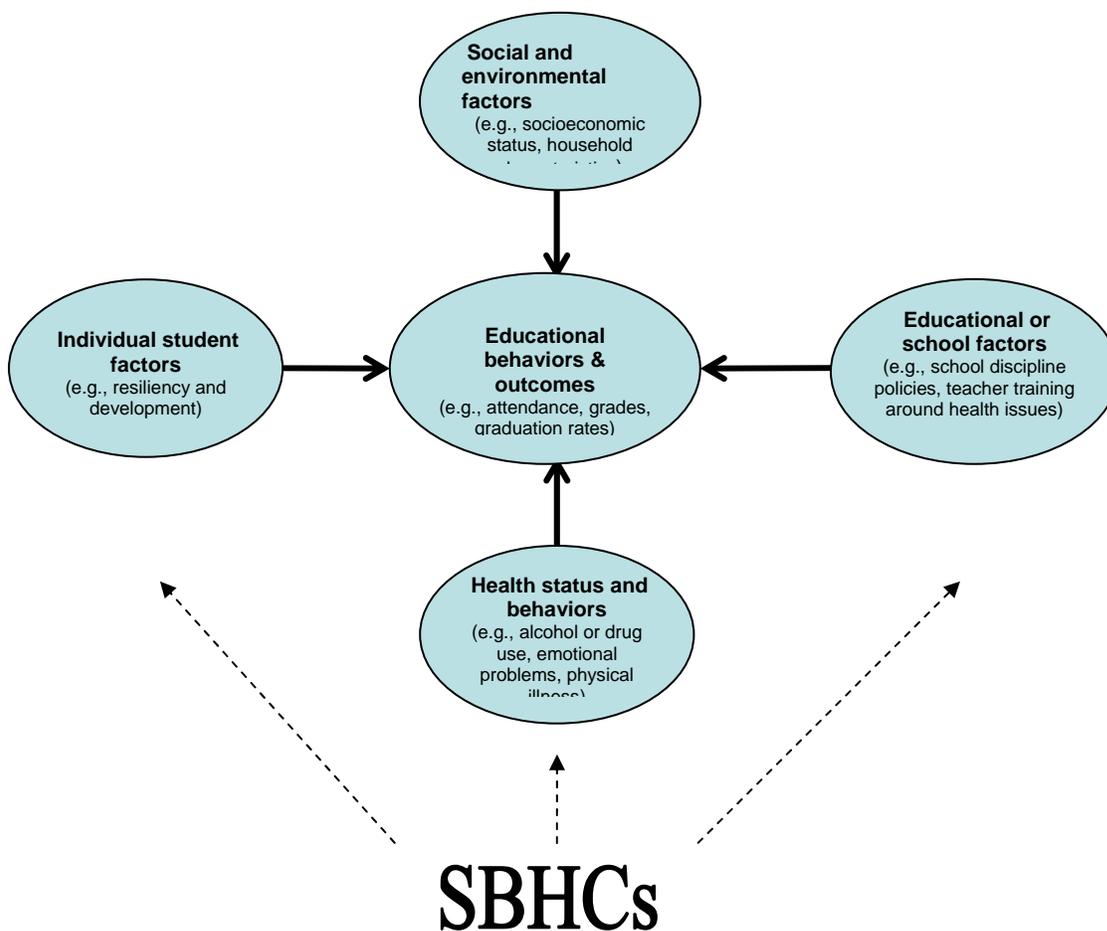
<b>Study Author</b>	<b>Setting</b>	<b>Design</b>	<b>Publication Type</b>
Bureau of Primary Health Care, 1993 <sup>9</sup>	High school SBHC in Southern California with a predominately Hispanic student body	Retrospective quasi-experimental comparison of clinic registrants vs. non-registrants (n=2,782)	Evaluation report
Gall et al, 2000 <sup>10</sup>	High school SBHC in northeast city with large Hispanic immigrant population	Prospective quasi-experimental comparison of academic performance data two months before and after for students referred for mental health services vs. students not referred (n=383)	Peer-reviewed journal article
Kisker & Brown, 1996 <sup>11</sup>	Multi-site, national evaluation of 19 high schools participating in the Robert Wood Johnson Foundation's School-Based Adolescent Health Care Program	Prospective quasi-experimental comparison of a cohort of students attending schools with SBHCs (n=3,050) vs. an urban sample of youth (n=859) between the beginning and end of high school career	Peer-reviewed journal article
McCord et al, 1993 <sup>12</sup>	Alternative middle and high school serving grades 6-12 in North Carolina	Retrospective quasi-experimental comparison of registered SBHC users, registered non-users, and non-registrants (n=322)	Peer-reviewed journal article
Warren & Fancsali, 2000 <sup>13</sup>	Multi-site evaluation of the New Jersey School Based Youth Services Program, serving grades 9-12	Prospective quasi-experimental comparison of program users vs. non-users between the beginning of 9th grade and two years later (n=922)	Evaluation report
Webber et al, 2003 <sup>14</sup>	Multi-site evaluation of elementary schools in the Bronx, New York	Retrospective quasi-experimental comparison of students attending 4 schools with SBHCs (n=645) vs. students attending 2 schools without an SBHC (n=304)	Peer-reviewed journal article
Williams, 2003 <sup>15</sup>	Multi-site evaluation of the Dallas Independent School District's Youth and Family Centers, serving elementary through high school students	Prospective quasi-experimental comparison of absences among SBHC clients and a matched control group between the second and fifth six-week periods of the school year. Also included retrospective quasi-experimental comparison of standardized test scores. (n=370-5,095 clients and 507-5,236 control subjects depending on the indicator)	Evaluation report

**4) Difficulties inherent to SBHC program and evaluation design.** It is imperative that researchers use rigorous research and evaluation methods (as described later in this document). Several of the challenges inherent to research and evaluation in SBHCs include rapid turnover in the student body, the inability to randomize groups into clinic users and non-users, difficulties selecting comparison groups, and controlling for community effects. Understanding the relationship between SBHC interventions and student academic performance requires overcoming these challenges. Caution is advised against inappropriately using data from studies that have not overcome or acknowledged these methodological challenges.

### Developing a Conceptual Framework

In addition to methodological challenges, meeting participants acknowledged that documenting the relationship between SBHCs and academic performance is hindered by lack of a conceptual framework of the expected relationships between SBHCs, academic performance, and other educational, social and environmental influences. Meeting participants stressed that student academic performance is the result of multiple factors interacting with one another to varying degrees. These factors must be taken into account in both research design and the development of a “theory of change”. Figure 3 (below) illustrates one framework for explaining this relationship.

**Figure 3. Multiple influences on educational behaviors and outcomes.**



Given that SBHCs do not typically provide educational enrichment activities, most participants agreed that the relationship with academic performance should be thought of as *indirect*. SBHCs strive to improve health behaviors and outcomes, which, in turn, can influence educational behaviors and outcomes. We explore here the potential direct and indirect impacts of SBHCs on these four influences of educational behaviors and outcomes.

**Health status and behaviors.** This theory of change identifies SBHCs as potentially having the strongest direct effect on health status and behaviors, whose influence on educational behaviors has been well documented. For example, alcohol, tobacco and other drug use, emotional problems, diet, intentional injuries, physical illness, and self esteem have all been shown to impact a variety of educational indicators.<sup>16,17,18,19,20</sup>

**Individual student factors.** Individual student factors can be directly influenced by the services provided in an SBHC. The relationship between academic performance and individual student factors such as resiliency, developmental assets, and sense of school connectedness has been documented, particularly through successful youth development and student support programs<sup>21,22,23,24</sup>

SBHCs are likely to contribute to strengthening individual student factors by supporting and treating students with chronic illnesses and behavioral health issues, for example. SBHC staff can also contribute to a sense of school connectedness for students.

**Educational or school factors.** Educational or school factors such as classroom size and teacher training are solely the domain of educators; other factors, however, such as school discipline policies, teacher training around student health and behavioral health issues or teacher preparation of health education curricula, are more likely to be factors that SBHCs can influence and have an impact on enabling student success.

**Social and environmental factors.** Social and environmental factors such as socioeconomic status or household characteristics play a key role in influencing educational behaviors and outcomes but may be less likely to be impacted by an SBHC unless they are staffed to provide a

level of service to the student and families that addresses broader social and environmental factors.

## Recommendations for Conducting Research and Evaluation

There was discussion among meeting participants as to whether or not the health and education fields should encourage research on the direct link between SBHCs and academic performance.

Some argued that SBHCs are not an explicit educational intervention and should not be held responsible for educational performance. It may be inappropriate to judge SBHCs by their impact on academic performance because they were designed to impact health. The original rationale for putting health providers into the schools was, first and foremost, to make students healthier. Improving academic performance was seen as a secondary benefit. Yet, SBHCs are communicating that they are being held to a standard above and beyond any other health care institution, by virtue of their location in the school itself. Meeting participants suggested that trying to justify the usefulness of SBHCs on the basis of inappropriate criteria may actually invite failure. Rather than judging the value of an SBHC on the basis of academic performance, a more appropriate question might be to judge whether or not locating the program within the school versus a traditional medical setting (hospital or clinic) leads to better health outcomes. Additional research on the impact of SBHCs on academic performance, even if it could overcome the methodological challenges and limitations faced by past studies, might only confirm previous findings: that it is difficult to document that SBHCs have a *direct* impact on academics. However, some participants encouraged the field to “be brave” in undertaking new research. They explained that given the enormous fiscal pressures facing schools, SBHCs might be denied funding if they cannot document their contributions to academic performance.

The overall consensus was that if research on the impact of SBHCs on academics were to be conducted, it should meet several criteria. These criteria would apply not only to researchers or evaluators with the resources to carry out sophisticated and large-scale analyses. SBHC staff and educators who want to conduct such

analyses on their own should consider partnership with other researchers or evaluators. Meeting participants generated the following recommendations for those who choose to embark upon such research:

**Communicate with educational partners.**

Begin by meeting with educational partners (e.g., Principal, school board members) to ascertain what information they would regard as most helpful in demonstrating the impact of the SBHC on their student population. As their approval is necessary before embarking upon school-based research, their inclusion at the planning stage will improve theoretical basis and logistical implementation.

**Ensure that a logical theory of change exists.**

The SBHC intervention being evaluated should be logically expected to influence the academic indicator of interest among the clients served. Although most SBHCs do not provide educational interventions that might show a direct impact upon academic outcomes, such as tutoring, other interventions provided to specific clients may impact academic performance indicators. For example:

**Focus on “educational behaviors” rather than “educational outcomes.”** Researchers might have the greatest likelihood of demonstrating the impact of SBHCs on educational behaviors – discipline referrals, suspension rates and indicators of attendance such as “seat-time,” the time the student is available in the classroom to learn – rather than more distal educational outcome indicators, such as grades or test scores. SBHCs could document the number of students treated and returned to class, instead of being sent home. This information could be very compelling to school administrators who are striving to improve attendance.

- **Analyze “educational behaviors” among specific sub-populations with a high need for SBHC services.** Health interventions are more likely to impact educational behaviors for students with chronic conditions known to contribute to high rates of absenteeism – including asthma, depression or ADHD – and students in the lowest academic performance quartile, as these students are more likely to encounter health-related barriers to academic performance.

- **Examine other contributing factors to academic performance.** The theory of change and research design should account for a variety of factors influencing academic performance such as socio-economic and demographic characteristics, other health interventions, and educational factors and programs that could impact academics. Examining these relationships is complex and requires considerable expertise in deriving conclusions about the level of influence of each factor. A recent review of the literature on the link between school nursing and academic performance concluded that it is difficult to attribute changes in performance solely to one intervention of a school nurse and that controlling for many extraneous variables over time makes the research design extremely complex.<sup>25</sup> A synergy of interventions – including SBHCs, other health and social programs, recreational programs, youth development opportunities, and educational programs such as those found in coordinated school health programs – may have the highest likelihood of improving student performance for an entire school population.

**Employ rigorous research and evaluation**

**methods.** There is the potential that findings will influence future funding, viability, and design of SBHC services. Results might provide compelling evidence of an academic impact attributable to SBHC services or, conversely, fail to demonstrate a relationship. In either case, it is imperative that research design and evaluation methodology are rigorous so that the findings are not only accurate, but also stand up to expert scrutiny. The following are some guidelines for research design:

- **Include an appropriate comparison group.** Although it would be unethical to randomize student access to SBHC services within a single school, it may be possible to include a comparison group of students from schools without SBHCs. It is critical that the “comparison group” be truly comparable to the intervention group in terms of socio-economic and demographic characteristics, as well as other contextual variables.
- **Allow appropriate follow-up time.** Study design should allow appropriate follow-up time to detect an impact and document

whether beneficial outcomes are sustainable.

- **Use an adequately large sample size.** The results may be unreliable without an adequately large sample size to detect significant results. Prior to the initiation of a study, a determination should be made to ensure that the sample is sufficient in size and diversity to measure the desired outcome.

**Explore the use of qualitative data.** The collection of qualitative data focused on students, parents and teachers and the chronicling of student “success stories” should be explored. Anecdotal evidence, case studies, and ethnographies can provide compelling arguments in favor of SBHCs to educators and policymakers and are, at times, even more persuasive than quantitative research. These methods may contribute to the development of theories and research questions.

**Be careful.** Above all, meeting participants urged researchers, evaluators, SBHC staff, and others to consider the aforementioned issues carefully before embarking on a study. Clearly, these suggestions will vary depending on the program and available resources. However, the overlying caution is that one should not collect data in a way that holds the SBHCs accountable for outcomes that they are not in a position to achieve. Experts, such as those from the Evaluation and Quality Panel of the National Assembly on School-Based Health Care ([www.nasbhc.org](http://www.nasbhc.org)), can provide technical assistance to SBHCs embarking upon this type of research.

## Recommendations for School-Based Health Centers

By offering services that enhance the readiness of students to learn, SBHCs allow educators to focus their energy on education. Figure 4 on page 12 lists the numerous activities that SBHCs can and do undertake as partners in the educational setting. SBHCs can use this list as a starting point to document which services they already provide, and use it as a guide for other services that they could reasonably adopt. In

addition, the list can help SBHC personnel think of improved ways to present their activities and services in a framework and language that inherently helps educators see their value.

There are many additional types of information that SBHCs can share with educators to help describe how their core functions contribute to creating environments conducive to learning:

- **Student health needs:** SBHCs could describe in aggregate form the results of physical health, risk factor and behavioral health screenings as well as other data documenting the health needs of the student population.
- **Provision of quality health care services:** SBHCs that engage in quality improvement work can share data demonstrating how the services they provide meet the needs of students and/or exceed quality measures.
- **Demographic and risk profile of SBHC clients:** SBHCs can report on the demographic profile of their clients to demonstrate that they see clients from a wide range of backgrounds or risk profiles.
- **Student health outcomes:** If available, findings that show the impact of SBHCs on certain health conditions such as asthma, depression, or substance use could be persuasive because these conditions are known to indirectly impact education behaviors and outcomes, particularly attendance.
- **Satisfaction data:** With the support of school leadership and staff, administer relatively simple surveys to document teacher or student satisfaction with the SBHC services.
- **Qualitative data:** Chronicling student “success stories” could help SBHCs present arguments that are not only intellectually valid but also persuasive.
- **How SBHCs fulfill NCLB requirements:** For example, SBHCs might help schools meet the Title IV safe and drug free school requirement by providing tobacco, alcohol and/or drug use prevention education.

**Figure 4. Checklist for SBHCs to Demonstrate Value to Educators**

	<b>SBHC Service or Program</b>	<b>Benefit to School/Educational System</b>
<b>Services for Students</b>	Identify students at risk for health and behavioral problems...	To reduce obstacles to the learning process
	Assist in IEP development...	To ensure health factors are considered and addressed
	Immunize students...	To ensure the school meets governmental requirements, to minimize school-wide outbreaks, and to reduce absenteeism (absences often translate into lost finances for schools)
	Administer medication to students with chronic illness...	To reduce absences, as well as disciplinary action for students with behavioral health problems
	Provide mental health services...	To help students concentrate in school and maintain healthy relationships with peers, teachers, and family
	Provide preventive health services...	To improve student health and prevent or minimize future health and mental health problems
	Provide on-site management of acute health conditions...	To improve attendance and student health
	Refer students to services not provided at the SBHC...	To address the full spectrum of health issues that can function as barriers to learning and to case manage students receiving services elsewhere
	Conduct sports physicals...	To increase student participation in activities that connect them to the school and improve their physical, cognitive, and social well-being in a safe environment
	Encourage student participation and involvement in SBHC activities...	To increase student connection with their school
	Enroll students in health insurance...	To help generate funds not only for SBHC services but also for other school services
	Provide opportunities for leadership and involvement in peer programs...	To help students develop leadership and problem solving skills and improve the overall school climate
	Employ staff that can serve as mentors and role models...	To encourage students to stay in school and pursue their interest in health-oriented careers
Provide individual, group, and classroom health education consistent with the school curricular goals...	To provide students with instruction on topics that teachers may not feel comfortable or qualified to teach (i.e. pubertal development/sex education)	
<b>Services for the School Community</b>	Offer selected health services to school staff (flu shots, screenings, etc)...	To minimize teacher absence due to illness or visits to their health care provider
	Support teachers concerned about students physical or mental health...	To allow teachers to focus on teaching
	Support principals by addressing health needs of specific high-risk populations...	To allow students to be more successful in schools
	Participate in community initiatives on public health issues such as obesity and emergency planning...	To improve school compliance with local, state, and federal regulations and provide a safe school environment
	Coordinate with other school and community service providers...	To ensure that school staff can address the health and well-being of students in a coordinated and efficient manner
	Encourage parental involvement...	To increase family participation in school and educationally oriented activities

Taken together, this “galaxy” of evidence could provide compelling arguments that with effective health services, students engage in less risky behaviors and have better health outcomes, which influence their educational behaviors, and ultimately, educational outcomes. SBHCs can use the diagram in Figure 1 to aid in the discussion of the effect of their services on academic performance when speaking to educators, administrators, parents, and policymakers. In sum, to be successful, schools need to provide an environment that is conducive to learning. SBHCs can demonstrate the many ways in which they contribute to achieving such an environment.

### **Next Steps**

This meeting was meant to serve as a critical first step towards understanding the relationship between SBHCs and academic performance. The overall consensus among meeting participants was that one could make a compelling case that students benefit from their SBHC experiences and that this benefit makes their school experience more positive. At the conclusion of this meeting, the participants felt it necessary to delineate the next steps that should be taken to advance this discussion.

**Develop a toolkit to help SBHCs build their own report card.** Participants pointed to the need to build a toolkit to help individual SBHCs describe their contributions to the learning environment to educators and funders. This should contain a “galaxy” of evidence on how SBHCs contribute to the educational environment. For example, it could include the data, diagrams, and recommendations in the form of fact sheets, articles, and presentations. Other ideas included sample letters that SBHCs could tailor to their individual circumstances and send to their school administrators, or talking points to use with the media to describe their contributions to the academic environment.

**Encourage dissemination of this toolkit.** SBHCs should be given recommendations on how to best share this information with educational partners, parents, community leaders, funders, and policy makers. Researchers and advocates should be encouraged to present at both health and education professional conferences. For example, the National Assembly on School-Based Health Care (NASBHC) could convene a

meeting to present this toolkit of evidence, share materials, and describe strategies for sharing information.

### **Mobilize the field to take an advocacy role.**

To influence the funding and sustainability of SBHCs, the school health field needs to apply its knowledge, experience, and vision to develop and transform policy agendas through advocacy. Strategies are needed to develop effective ways to assemble and disseminate evidence of the impact of SBHCs on academic performance. NASBHC, together with its state association affiliates, a working group of SBHC and education experts, and policy consultants, must collaborate to develop and implement these strategies at federal, state, and local levels. Effective advocacy strategies will: (1) Understand which evidence would be most persuasive to the target audience; (2) Consider a variety of spokespeople including teachers, parents, or SBHC clients; and (3) Employ all potential allies including health institutions, school colleagues, community members, and politicians who can lend their expertise and talents to communicating the value of SBHCs to academic performance.

### **Communicate with educational partners.**

Participants stressed the value of dialogue between SBHCs and their educational partners. This conversation, some participants argued, has been missing. As one participant said, “It’s all about boundary crossing.” The goal should be collaboration, not competition, between SBHCs, other school health programs, and educators. To improve the effectiveness of this communication, SBHCs need to be aware of the needs of the educational field. Development of a document that describes “What Every SBHC Should Know About Educational Policy Issues,” PowerPoint presentations, or attractive fact sheets that outline these concepts can assist in this dialogue. Understanding among SBHCs about the pressures faced by their educational partners will help improve relationships with educators. Finally, SBHCs need to continually examine what goals they have in common with the educational field and how both SBHCs and schools can cooperatively work toward these goals.

Participants concluded that SBHCs have the greatest potential of demonstrating their contributions to improving educational behaviors indirectly by documenting their impact on

improved health status and describing the many activities with which they are involved that enhance the academic environment.

## **Conclusion**

This meeting, convened by the National Assembly on School-Based Health Care, brought together a national cross-section of experts in the fields of health and education to explore issues relating to the documentation of the relationship, if any, between the provision of health care within schools and an impact upon academic performance. A review of existing research revealed the complexity of documenting such a relationship, which is a consequence of the multiple educational and environmental variables that affect direct and indirect measures of student performance. Indeed, many meeting participants questioned the pertinence of assessing the value of SBHCs on the basis of academic impact, as the rationale for school-based health initiatives has largely been to provide access to health care for children who are medically underserved. An emerging body of research has documented the realized and potential impact upon direct measures of health that can be attributed to SBHCs. These findings in themselves should serve as sufficient justification for the continued funding and viability of these programs.

Nevertheless, many participants acknowledged the political and funding realities that strongly suggest that the demonstration of an impact of school-based health programs on academic performance might be beneficial, or even requisite, for their continued viability. Toward that end, the discussion focused on the need for rigor in research design and statistical analysis in our efforts to demonstrate academic impact. Such rigor is necessitated not only by the complexity of the variables being assessed but also by the critical scrutiny to which any findings will be subjected. In addition, the conferees stressed the importance of ardor in these efforts to use all available information, including health indices and case studies, to document and promulgate the value of school-based health services.

Finally, there was unanimity among participants that an ultimate goal of any research agenda or attempt to document the contribution of SBHCs to the academic environment was achieving a climate where health services were integral,

rather than adjunctive, to that academic environment; and the pursuit of the education and well-being of students was an interdisciplinary, rather than a multidisciplinary, endeavor. Toward that end, NASBHC will commit itself to not only assisting programs in communicating with their educational partners, but also developing strategies for the cooperative evolution of programmatic and research initiatives.

## Meeting Participants

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## References

- <sup>1</sup> Juszcak L, Schlitt J, Odlum M, Barangan C, Washington D. School-Based Health Centers National Census, School Year 2001-02. Washington, DC: National Assembly on School-Based Health Care; 2003.
- <sup>2</sup> Kaplan DW, Calonge BN, Guernsey BP, Hanrahan MB. Managed care and school-based health centers: Use of health services. *Arch Pediatr Adolesc Med.* 1998;152(1):25-33.
- <sup>3</sup> Santelli J, Kouzis A, Newcomer S. School-based health centers and adolescent use of primary care and hospital care. *J Adolesc Health.* 1996;19:267-275.
- <sup>4</sup> Anglin TM, Naylor KE, Kaplan DW. Comprehensive school-based health care: High school students' use of medical, mental health, and substance abuse services. *Pediatrics.* 1996;97(3): 318-29.
- <sup>5</sup> Weist MD, Paskewitz DA, Warner BS, Flaherty LT. Treatment outcome of school-based mental health services for urban teenagers. *Community Mental Health Journal.* 1996;32(2):149-57.
- <sup>6</sup> Webber MP, Carpiniello KE, Oruwariye T, Lo Y, Burton WB, Appel DK. Burden of asthma in inner-city elementary schoolchildren. *Arch Pediatr Adolesc Med.* 2003;157:125-129.
- <sup>7</sup> No Child Left Behind (Title VII) Freedom and Accountability. Retrieved from <http://www.ed.gov/nclb/landing.ihtml?src=fb> on October 19, 2004.
- <sup>8</sup> Geierstanger SP, Amaral G, Mansour M, Walters SR. School-based health centers and academic performance: Existing research, challenges and recommendations. *J Sch Health.* 2004;74(9):347-352.
- <sup>9</sup> Bureau of Primary Health Care. School-Based Clinics that Work. Washington, DC: U.S. Department of Health and Human Services, Health Resources and Services Administration; 1994.
- <sup>10</sup> Gall G, Pagano ME, Desmond MS, Perrin JM, Murphy JM. Utility of psychosocial screening at a school-based health center. *J Sch Health.* 2000;70:292-298.
- <sup>11</sup> Kisker EE, Brown RS. Do school-based health centers improve adolescents' access to health care, health status, and risk-taking behavior? *J Adolesc Health.* 1996;18:335-343.
- <sup>12</sup> McCord MT, Klein JD, Foy JM, Fothergill K. School-based clinic use and school performance. *J Adolesc Health.* 1993;14:91-98.
- <sup>13</sup> Warren C, Fancsali C. New Jersey School-Based Youth Services Program: Final Report. New York, NY: Academy for Educational Development; 2000.
- <sup>14</sup> Webber MP, Carpiniello KE, Oruwariye T, Lo Y, Burton WB, Appel DK. Burden of asthma in inner-city elementary schoolchildren. *Arch Pediatr Adolesc Med.* 2003;157:125-129.
- <sup>15</sup> Williams K. Final Evaluation of the 2002-2003 Youth and Family Centers Program. Dallas, TX: Dallas Independent School District Division of Evaluation and Accountability; 2003.
- <sup>16</sup> Blum RW, Beuhring T, Shew ML, Bearinger LH, Sieving RE, Resnick MD. The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *Am J Public Health.* 2000;90:1879-1884.
- <sup>17</sup> Symons CW, Cinelli B, James TC, Groff P. Bridging student health risks and academic achievement through comprehensive school health programs. *J Sch Health.* 1997;67:220-227.
- <sup>18</sup> Glied S, Pine D. Consequences and correlates of adolescent depression. *Arch of Pediatr Adolesc Med.* 2002;156:1009-1014.
- <sup>19</sup> Klerman LV. Can school-based health services reduce absenteeism and dropping out of school? *Adolesc Med.* 1996;7:249-260.
- <sup>20</sup> Bailey-Britton AM. The relationship between health and academic performance in school-age children. *Issues Compr Pediatr Nurs.* 1987;10:273-289.
- <sup>21</sup> Scales PC, Roehlkepartain EC. Boosting student achievement: New research on the power of developmental assets. *Search Institute Insights & Evidence.* 2003;1:1-10.
- <sup>22</sup> Symons CW, Cinelli B, James TC, Groff P. Bridging student health risks and academic achievement through comprehensive school health programs. *J Sch Health.* 1997;67:220-227.
- <sup>23</sup> McKenzie FD, Richmond JB. Linking health and learning: An overview of coordinated school health programs. In: Marx E, Wolley S, Northrop D (Eds.). *Health is academic: A guide to coordinated school health programs.* New York: Teachers College Press;1998.
- <sup>24</sup> Hanson TL, Austin G. *Student Health Risks, Resilience, and Academic Performance in California: Year 2 Report, Longitudinal Analyses.* Los Alamitos, CA: WestEd; 2003.
- <sup>25</sup> Maughan E. The impact of school nursing on school performance: A research synthesis. *J Sch Nurs.* 2003;3:163-171.