THE HEALTH FOUNDATION
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A Prescription for Success:

How School-Based Health Centers Affect Health Status and Healthcare Use and Cost

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A Prescription for Success: How School-Based Health Centers Affect Health Status and Healthcare Use and Cost—Executive Summary

Contents

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Devon's spelling test was three hours away when his ear started bothering him. At first it was just an itching, then it started to throb. He had studied very hard for his test and didn't want to miss it. But an hour later, he couldn't concentrate on his math problems because his ear hurt so badly. He walked up to his teacher's desk. "Mr. Williams, my ear really hurts."

Mr. Williams smiled up at him. "Why don't you go see Ms. Jeffers in the health center, Devon? Do you want me to call and have Ms. Abbott walk you down?"

Devon shook his head. "I know where it is. Thank you, Mr. Williams." Devon walked down the hall to the school-based health center.

Ms. Abbot, the center's secretary, greeted him as he walked in. "What can we do for you, Devon?"

"My ear hurts."

Ms. Abbot asked Devon a few questions about his ear, then led him to the examination room. "Ms. Jeffers will be with you in a minute."

A few moments later, Ms. Jeffers, the center's nurse practitioner, entered the room. "Good morning, Devon. I hear your ear is bothering you? Let's take a look." She washed her hands, then removed the otoscope from the wall. "This will let me see what's going on in your ear." She peered into Devon's ear. "Aha, just as I thought—you have an ear infection."

"Will I have to go home? I have a spelling test today and my dad won't be able to leave work for another three hours and—"

"Slow down, Devon. You can take your spelling test. Let me call your dad and talk to him a minute. I'm sure you'll be back to class in no time."

Ms. Jeffers talked to Devon's father about the ear infection, treatment for it, and different antibiotics they could use, including costs of the prescriptions and copayments so she could choose one the family could afford. She let Devon's father know she'd call in a prescription to the family's pharmacy and that it would be ready when he got off work. She gave Devon some ibuprofen for the pain and sent him back to class.

And Devon's spelling test? He got 17 out of 20 right.

School-based health centers (SBHCs) like the one at Devon's school are partnerships between schools and community health organizations to provide healthcare services on-site at the school. At the SBHC, students can receive services such as physicals, check-ups, examinations, dental care, medication supervision, and behavioral health care. SBHC staff may also refer students to other providers for additional care. Treatment is only given with a parent's consent, which can be provided over the phone.

SBHCs do not take the place of a child's primary care doctor. Rather, they work with the child's primary care doctor, making it easier for the child to get care. Students don't miss as much school and parents don't have to leave work.

SBHCs are tailored to their schools and communities. Students in the art class of one school painted a mural of healthy activities in their SBHC.

The Health Foundation of Greater Cincinnati has funded 15 SBHCs in our service area. These SBHCs serve two types of schools:

- schools that have high poverty indicators, such as the number of students in the free and reduced lunch program, or
- schools in areas with documented barriers to accessing care, such as lack of nearby providers or a lack of providers accepting patients with public or no insurance.

Although we knew from schools, parents, and communities that the SBHCs were making a difference, we wanted to document it. So, we developed two studies to look at the impact of the SBHCs. One study (the "outcomes study") looked at how SBHCs affected students' health status, use of healthcare services, and attendance. The second study (the "cost study") looked at how healthcare costs for students enrolled in the Medicaid program changed before and after the centers opened.

Eight SBHCs and the schools using their services participated in the outcomes study. Four were in Kentucky and four were in Ohio. Four were in urban areas, and four were in rural areas. Four schools without

SBHCs—two each from Kentucky and Ohio and two each in urban and rural areas—served as a comparison group. There were over 7,500 students who participated in this study. Four of the eight SBHCs and all four schools without SBHCs participated in parent-child surveys. There were 588 parent-child pairs who completed the surveys each year over a three-year period. These pairs served as our "survey subgroup."

The four Ohio SBHCs and the two Ohio schools without SBHCs participated in the cost study. There were 5,056 students enrolled in Medicaid and in one of these six schools during the cost study. Just over 2,000 of these students were enrolled in Medicaid and the same school for two years, and these 2,153 students served as our "Medicaid subgroup."

This summary presents an overview of some of the results of these studies. For more information and a complete report of results, please visit our web site at www.healthfoundation.org/shbcstudy.

What we found

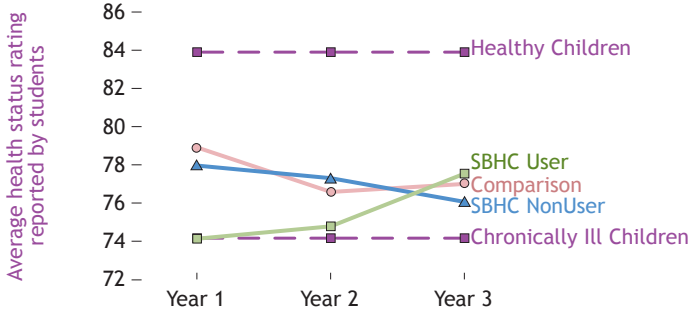
Among other findings, our studies showed that SBHCs:

- improve children's health status
- generate about $2 in social benefit for each $1 spent on operating costs
- increase access to services at no significant additional cost to the healthcare system
- save money on care for children in rural areas
- save money on hospitalizations and emergency room (ER) visits for children with asthma
- encourage the use of more appropriate healthcare services
- help African American children get more care
- increase mental health care for children
- increase dental care for children
- provide care for children who have no health insurance
- support working parents
- keep children in school and ready to learn

Improving children's health status

During the outcomes study, 588 students in our survey subgroup described their health status using the PedsQL, a survey that measures children's health. We then compared these scores to the scores of "healthy children" and "chronically ill children," as defined by Dr. James Varni, developer of the PedsQL.

In Year 1, all of the children rated their health lower than those of "healthy children," and SBHC users rated their health at the same level of "chronically ill children," regardless of whether they had a chronic illness. By Year 3, however, SBHC users had the highest health status rating of all three groups.



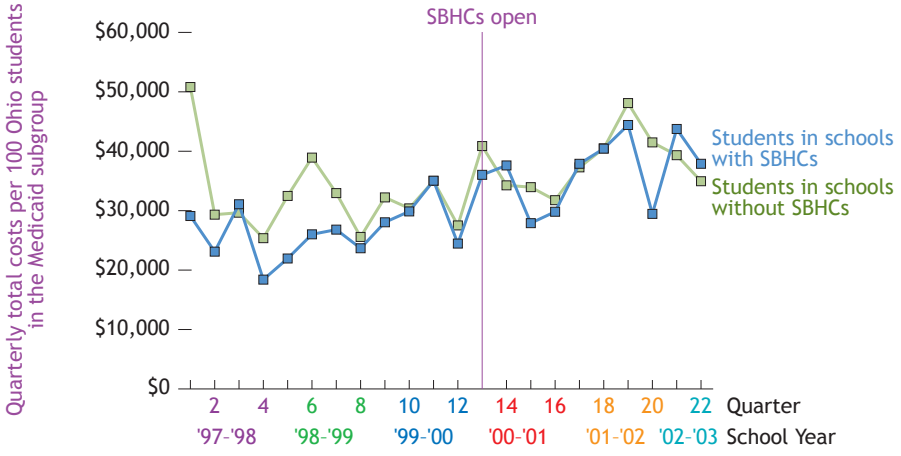
Generating about $2 in social benefit for each $1 spent on operating costs

To determine our return on our investment in SBHCs, we looked at what benefits the SBHCs have generated in the community. Operating and other costs for the four Ohio SBHCs in their first three years totaled just under $2 million. In that same period of time, these four Ohio SBHCs generated almost $4 million in:

- health status change;
- support brought to the schools;
- healthcare savings, such as savings due to decreased hospitalizations, ER visits, and prescription drug use;
- patient and family savings, including otherwise lost family productivity, work-time, transportation, and other savings related to not needing to accompany students to primary care services;
- increased school efficiency related to healthier children who are in class more because of medical care provided in the SBHCs; and
- unquantifiable benefits, such as better learning performance of children who are healthier and increased access to care for minorities and children from low-income families.

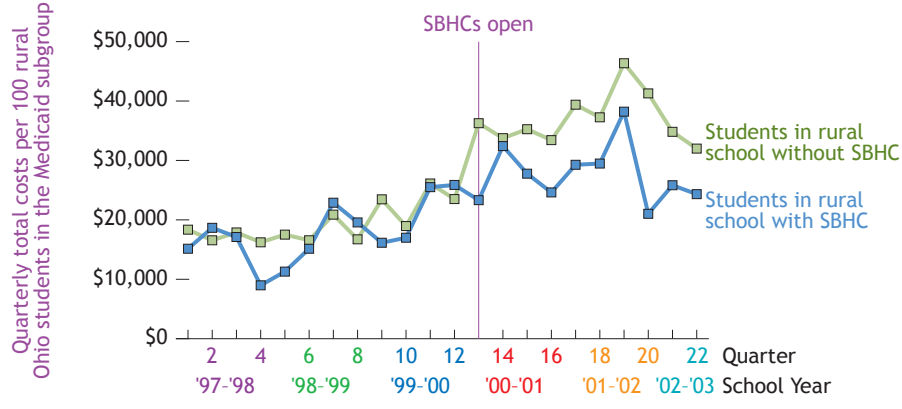
Increasing access to services at no significant additional cost to the healthcare system

The students in schools with SBHCs had increased access to certain healthcare services. Despite these increases in services, students in schools with SBHCs cost the Medicaid system about the same amount of money as the students in schools without SBHCs. This is because although students in schools with SBHCs were accessing more of certain types of services (such as dental care and Early Periodic Screening, Diagnosis, and Treatment [EPSDT] services), they used fewer of other types of services (such as prescription drugs).



Saving money on care for children in rural areas

Before the SBHCs opened, students in the Ohio rural school had about the same quarterly total costs to Medicaid. After the SBHCs opened, the students in the rural Ohio school with an



SBHC had lower quarterly total costs than students in the rural Ohio school without an SBHC.

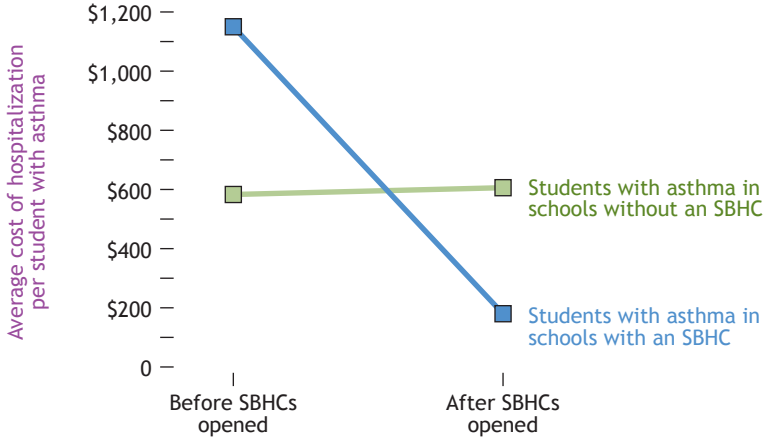
Also after the centers opened, students in the rural Ohio school with an SBHC had significantly lower costs for ER visits and prescription drugs—which are traditionally more expensive services—but higher costs for dental services than students in the rural school without an SBHC. The rural Ohio SBHC had a dental hygienist on-site, giving students easier access to services they may not have been getting before.

Saving money on hospitalizations and ER visits for children with asthma

The cost study included 273 students who had asthma. Before the SBHCs opened, the students with asthma in schools with SBHCs had an average hospitalization cost of $1,150. Students with asthma in schools without SBHCs had an average hospitalization cost of just under $600.

After the SBHCs opened, average hospitalization costs for children with asthma in schools with SBHCs dropped to just $180 per child. Costs for children with asthma in schools without SBHCs remained relatively unchanged.

SBHCs also saved money on ER visits by students with asthma. The average ER visit cost per child with asthma was $303 for students in schools with and without SBHCs before the centers opened. After the centers opened, the average ER visit cost per child with asthma in schools with SBHCs decreased to $275, while the ER visit cost per child with asthma in schools without SBHCs increased to $331.



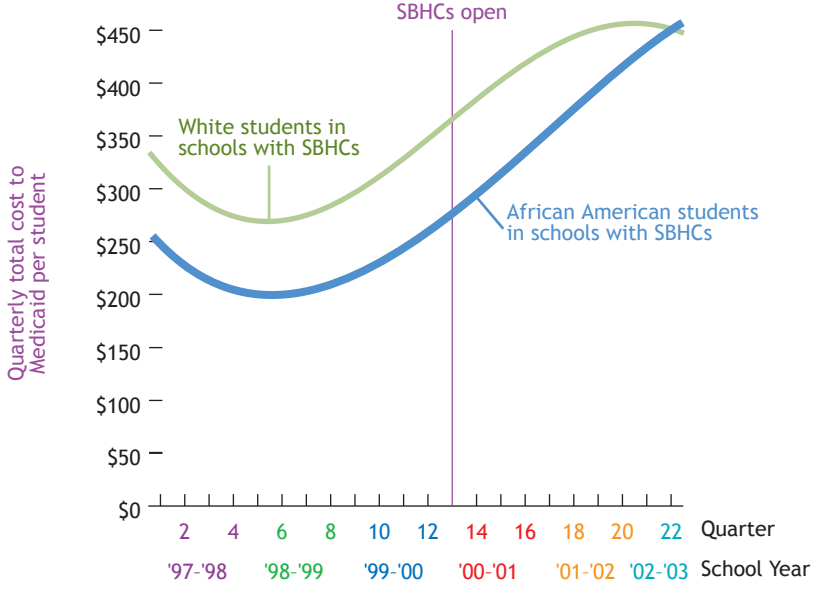
Encouraging the use of more appropriate healthcare services

After the SBHCs opened, students in schools with SBHCs used different types of healthcare services than students in schools without SBHCs. For example, students in schools with SBHCs had lower ER visit and prescription drug costs to the Medicaid program, but higher EPSDT and dental visit costs. ER visits and prescription drugs tend to be more costly and are used when problems have gotten severe. On the other hand, EPSDT and dental visits are more preventive in nature and help detect problems before they get serious and more difficult—and more expensive—to treat.

Helping African American children get more care

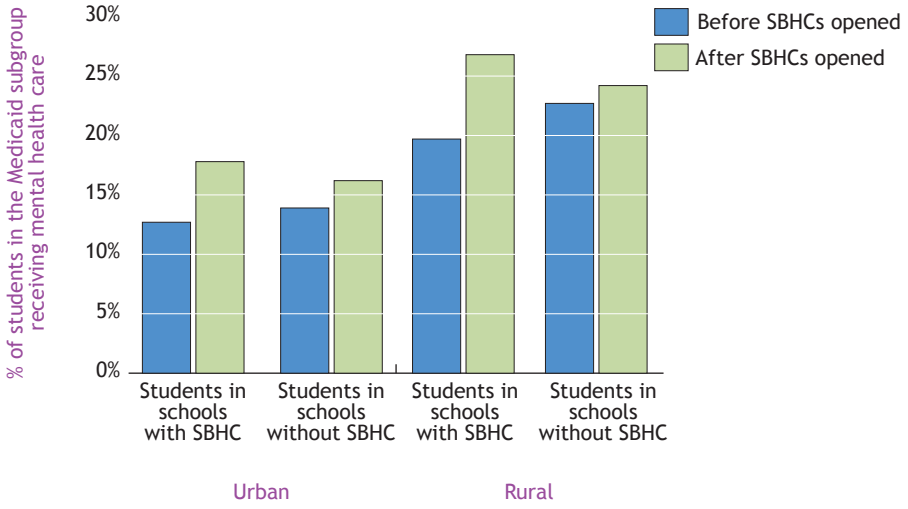
Prior to the SBHCs opening, African American students in schools with SBHCs had much lower total Medicaid costs. This indicates that they were not getting the same amount of care as other children. By the end of the cost study, African American and white students had about the same total Medicaid costs. This is not an indication of overuse but rather of equal access to care.

We also found that African American students in schools with SBHCs received more preventive care, which is less costly and helps prevent more problems and costs in the long run. For example, African American students in schools with SBHCs had more EPSDT and dental care visits, but fewer hospitalizations, ER visits, and prescription drugs.



Increasing mental health care for children

Besides physical health services, SBHCs also provide some mental and behavioral health services or refer children to services in the community. In the cost study, we looked at the use of mental health treatment by the 2,153 children in the Medicaid subgroup. After the SBHCs opened, 5.1% more students in urban schools with SBHCs and 7.1% more students in rural schools with SBHCs received mental health services than before the SBHCs opened, compared to 2.3% more students in urban schools without SBHCs and 1.5% more students in rural schools without SBHCs.



Increasing dental care for children

The number one unmet healthcare need in Ohio is dental care. Many of the SBHCs had dental services onsite or referred students to dentists in the community and helped make sure that the students received follow-up care. So it was no surprise that we found that Medicaid dental care costs increased for students in schools with SBHCs after the centers opened. The SBHCs provided a valuable service for children on Medicaid, especially since children throughout the state, regardless of insurance status, received less dental care during the end of the study period (2000–2003).

Providing care for children who have no health insurance

During the three years of the study, about 10% of SBHC users had no insurance, either public or private. SBHCs do not require that children have insurance or be able to pay for care in order to receive care. Therefore, SBHCs are an important resource for children without insurance, who otherwise go

untreated or go to the ER regardless of the severity of their illness.

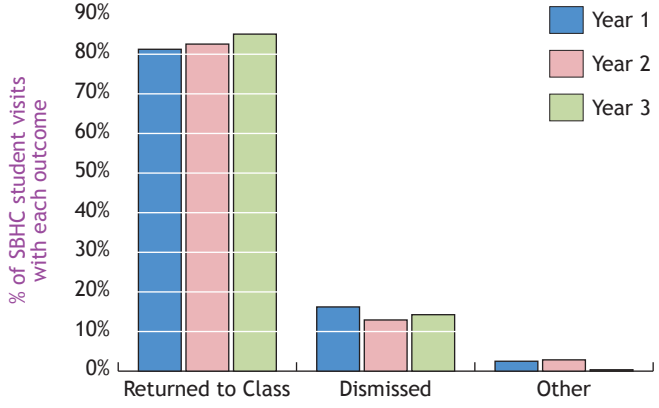
Supporting working parents

Because children can be seen at school in the SBHC, parents do not have to miss as much work. SBHC staff can talk to parents over the phone and discuss treatment options. As long as the child's illness is not contagious or is not interfering with his or her abilities, he or she can return to class and finish the school day without having to be picked up early.

Parents reported missing an average of 4–8 hours of work per appointment to take their children to the doctor before the SBHCs opened. During the three years of the outcomes study, students visited the SBHCs 7,572 times. Because parents did not have to take their children to these visits, they saved 30,288–60,576 hours. We estimated the value of this time as equal to $17.92 per hour, the average hourly wage in the Cincinnati metropolitan region of all jobs, both white and blue collar. Therefore, the SBHCs saved between $542,761 (half-day) and $1,085,522 (full-day).

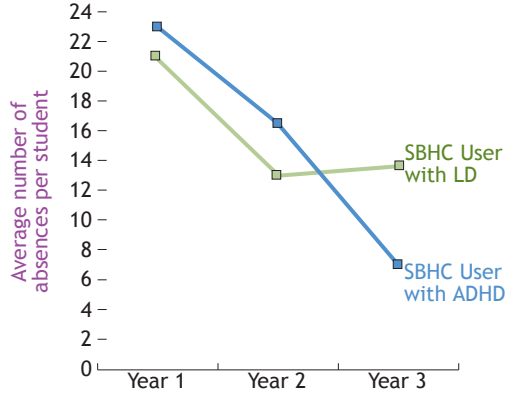
Keeping children in school and ready to learn

After each student visited the SBHCs, staff recorded whether the child returned to class, was dismissed from school, or was sent to another location, such as a hospital or doctor's office, into the database. The percentage of students who returned to class increased from 81% to 86% over the three years of the outcomes study. This increase held true even though there were many more flu and strep throat diagnoses—which result in dismissals—in Year 3.



Although the SBHCs did not seem to have an effect on full-day absences for all students who used the centers, they did have an effect on full-day absences of users with attention deficit/hyperactivity disorder (ADHD) and learning disabilities (LD).

Absence rates of SBHC users with these two chronic conditions showed a substantial decrease over the three years. Between Year 2 and Year 3, the absence rates for SBHC users with LD leveled out, while the rate for SBHC users with ADHD continued to drop.



Even if a child is in school, however, he or she may not be ready to learn. Pain from an earache or untreated tooth with a cavity, distractions from uncontrolled asthma or an unidentified mental or behavioral problem can keep children's attention focused on something other than school. SBHCs work with students, teachers, and parents to help address those issues and remove health-related distractions to learning.

What these results mean

SBHCs help improve the lives of children and can support strategies and agendas that look to do so. SBHCs can also help communities address their health needs.

Quality of Care

SBHCs improve quality of care by providing early intervention and prevention services for children who have difficulty accessing healthcare services. SBHCs can also help states and providers meet quality indicators for services like immunization rates and EPSDT visits. They can also reduce hospitalizations, decrease prescription costs, reduce ER visits, and improve health status. SBHCs can be an important component of a healthcare safety net system that is dedicated to improving quality of care.

Healthcare Cost Control

The Medicaid data from the cost study indicate that SBHCs do not cost any more—and may save the Medicaid system money in the long run—by decreasing the use of more costly services, such as hospitalization and ER visits, in favor of less costly,

earlier, and more appropriate services, such as well-child visits and early intervention services. In rural areas, the SBHCs saved Medicaid even more. It is likely that SBHCs would also save private insurance companies money. SBHCs could be a critical strategy to help control the rising costs of healthcare.

Access to Healthcare in Rural Areas

Rural SBHCs provide access to health services and lower Medicaid costs. Children in rural communities, regardless of their insurance status, have difficulties accessing healthcare, causing many of them to inappropriately use more expensive services. SBHCs eliminate the barriers to care for rural children, such as transportation and a lack of providers. As health services are being developed for rural communities, SBHCs should be considered a key component of the rural healthcare system.

Health Disparities

As the cost study showed, SBHCs close the health access disparity for African American students. African American students in schools with SBHCs were using less healthcare than white students in schools with SBHCs before the SBHCs opened. After three years of SBHC operations, African American children in schools with SBHCs were using services at the same rates as their white schoolmates. Efforts that target closing this gap should consider SBHCs as a model of care.

Access to Mental Health Care in Schools

There is growing awareness that the behavioral health needs of adolescents are not being met. In fact, one of the Healthy People 2010 goals is to "increase the proportion of children with mental health problems who receive treatment." As our studies have shown, SBHCs can help meet this goal by identifying mental and behavioral health needs and by helping

Students can receive routine check-ups at an SBHC as well as care when they are sick.

provide or connect children with community-based services.

Care for the Uninsured

Like hospitals, SBHCs provide access to health services for uninsured children and do not require that patients have the ability to pay to receive care. Also like hospitals, SBHCs require funding to cover uncompensated care for patients who can not pay. SBHCs are a cost-effective solution for providing care to uninsured children and can provide children with a wide array of services in a timely manner.

Supporting Working Parents

SBHCs support working parents by delivering healthcare in a convenient location and by keeping kids in school. As the cost study showed, parents saved 4–8 hours of work per SBHC encounter because the SBHC could see their sick children. This translated to $542,761–1,085,522 in parent productivity (assuming an average wage of $17.92/hour). If a parent is unable to leave work while his or her child is visiting the SBHC, SBHC staff will still see the child and will discuss treatments options over the phone with the parent. This helps reduce employee absences, which in turn helps parents retain employment and helps employers increase worker productivity.

Education

SBHCs support educational goals by helping keep kids in school. SBHCs also strive to reduce health-related barriers to learning. Although the impact of SBHCs on attendance differs from study to study, our studies have shown that SBHCs keep kids in school once they are there. SBHCs can help keep kids in the classroom for instruction time that might be missed otherwise. And, SBHCs address health

Healthy children learn better, and SBHCs help address health-related barriers to learning.

problems that might interfere with a child's ability to pay attention in class, concentrate on work, and learn.

Impact on Highly Mobile Children

In the outcomes study, only 43% of the parent-child pairs completed the survey all three years. This was mostly due to children changing schools. Studies have shown that children who move more than three times while they are of school-age are more likely to have behavior problems, to repeat a grade, and to be expelled or suspended than students who never move during their school-age years. Many of these problems could be prevented or lessened by the presence of SBHCs in schools that have high turnover rates, as SBHCs can help provide and link students to mental and behavioral health services.

For more information

If you are interested in learning more about SBHCs or how to start an SBHC in your community, please contact:

National Assembly on School-Based Health Care
202-638-5872
http://www.nasbhc.org

For more information about the Health Foundation's SBHC grants, please visit our web site at http://www.healthfoundation.org or contact:

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