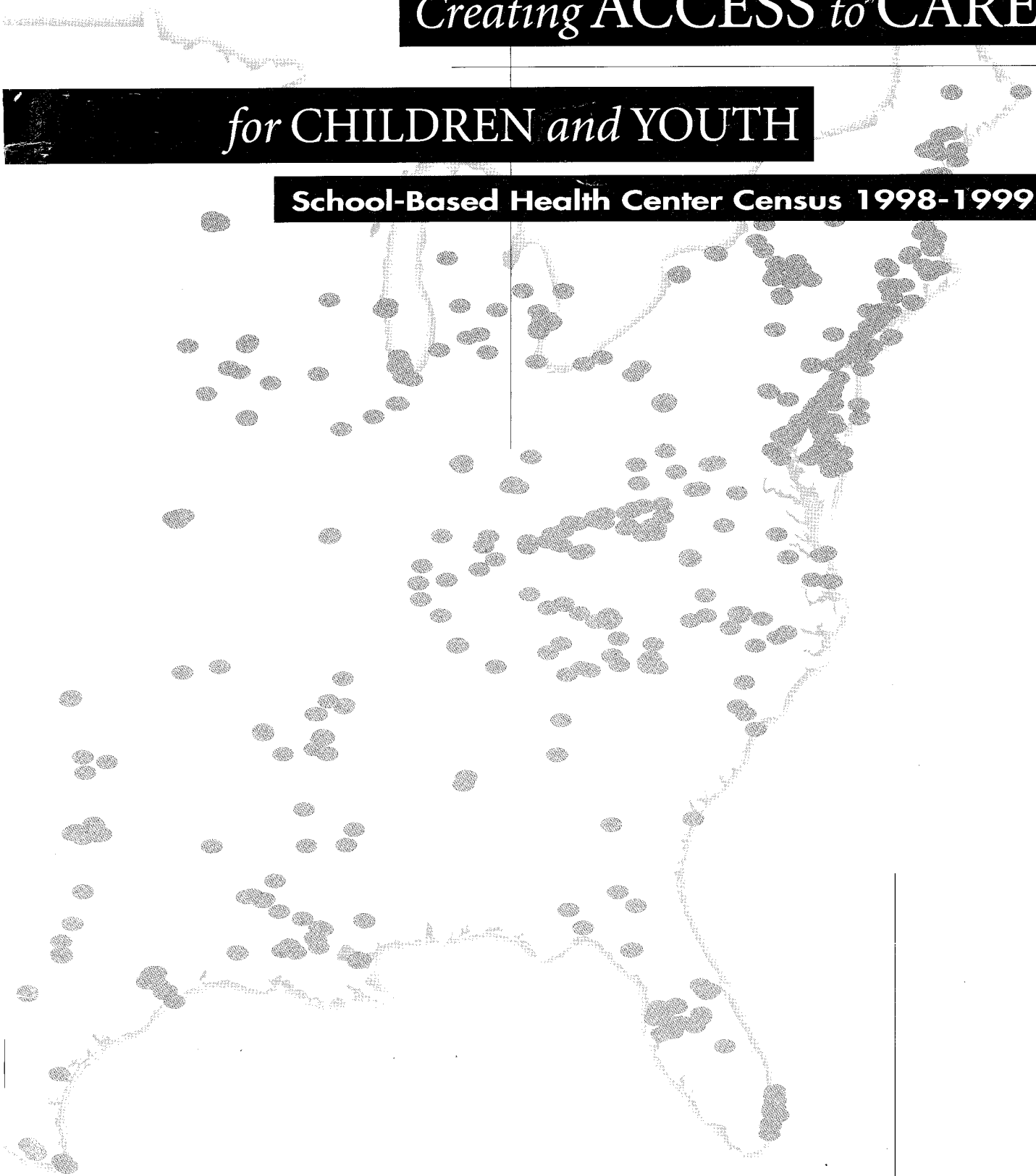
Creating ACCESS *to* CARE *for* CHILDREN *and* YOUTH

School-Based Health Center Census 1998-1999



National Assembly on
School-Based Health Care

June 2000

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National Assembly on School-Based Health Care Census 1998–99
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In Appreciation

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INTRODUCTION

In the early 1970s, poor access to health care, troubling statistics on risk-taking behaviors, and teen pregnancy motivated public school and community health care leaders from Dallas, Texas, St. Paul, Minnesota, and Cambridge, Massachusetts to create the first primary health care programs in schools. These early pioneers demonstrated that health care could be delivered in a setting most familiar and accessible to young people: their school. The services were organized around students' unique physical and emotional development needs in an easily accessible environment that was culturally sensitive, comfortable, and safe. Wide acceptance by students, their families, and the schools provided compelling evidence that a success story was in the making (Edwards, Steinman et al. 1977; Dryfoos 1985; Kirby 1986).

The school-based health center (SBHC) prototype inspired education and health care policy makers around the country who sought creative strategies for addressing health problems that affect learning. With the investment of resources and political will from federal, local and state governments, national and community foundations, health care organizations, and schools, hundreds of communities have followed suit in the three decades since the first center doors opened (Lear, Gleicher, et al. 1991; Lovick and Wesson 1986; Peak and Hauser 1994; Fothergill 1998). In 1998, school-based health centers numbered nearly 1,200—a ten-fold increase from 120 in 1988. No longer primarily in urban high schools, health centers now operate in diverse areas in 45 states, serving students in every grade. The expansion of these centers into America's rural and suburban schools is a powerful reminder that access to health care is not only a problem for inner-city teenagers. It also illustrates the way that school-based health centers have been embraced by communities and individuals from divergent political perspectives (American Medical Association Council on Scientific Affairs 1990).

The thirty-year anniversary of school-based health centers affords an opportunity to reflect on the exponential growth of school-based health centers, the political and social forces that have shaped the field, and the emerging trends that will both challenge and sustain it tomorrow. Many of the compelling reasons that sparked this successful innovation in the early 1970s still exist today. Schools continue to be burdened by students who cannot take full advantage of their educational experience because of poor physical and emotional health. The health indicators associated with high-risk behaviors that have plagued our nation in recent decades remain, and new challenges have emerged. Gun violence in our schools and the emergence of HIV/AIDS have prompted public calls for more effective prevention and early intervention services targeted at school-aged youth. Each of these issues has strengthened the resolve of the education and health care sectors to seek collaborative solutions to health problems that are preventable.

An important fundamental public policy shift within the past ten years is also having a dramatic impact on school-based health care. As federal and state health care reforms and insurance expansions unfold, the initial rationale for serving uninsured children and adolescents in school-based health centers is being reconsidered. Managed care is transforming the business of primary care in many communities, prompting school-based health care providers to examine the roles they can and should play in health care markets with increasing cost and utilization controls, and new quality assurance requirements. Health care reforms have had a profound effect in how centers view themselves, their relationships with students and families, and their role within the larger health care system (Brellochs, Zimmerman et al. 1996; Lear, Montgomery et al. 1996; Brindis and Sanghvi 1997; Zimmerman and Santelli 1998; Schlitt 1999).

In spite of rapid changes within our nation's health care systems, there are clear indications that challenges to meeting the health care needs of some school-age children and youth remain. Many are not eligible for expanded health care coverage or do not receive coverage due to inadequate educational outreach; in 1999 more than 2 million children ages 13–18 were not enrolled in public insurance despite being eligible (AAP). Inadequate coverage for important preventive and mental health care and cost-sharing requirements create additional barriers for insured children and teens seeking services. Recent reports have found that one in seven adolescents was uninsured and that 20% had gone without heath care they thought they needed (Newacheck et al. 1999; Ford et al. 1999). When they do utilize health care services, many young people report that their needs for critical guidance and education to support sound decision-making are not being met (Children Now 2000). For many school-aged children and adolescents, location, convenience, confidentiality, and trust matter a great deal. These challenges to our nation's health care systems are likely to keep school-based health centers well positioned to serve as an attractive child and adolescent-focused health care access strategy.

ABOUT THE NATIONAL ASSEMBLY

The National Assembly on School-Based Health Care is a multidisciplinary membership association dedicated to promoting access to health care for children and adolescents through school-based settings. Created in 1995, the National Assembly serves as the collegial home for the multiple disciplines involved in school-based health care. The National Assembly conducted the 1998–99 Census of School Health Centers (Census 1998–99) to:

- Collect specific information on the current status of SBHCs, including services, clinic policies, staffing and utilization, and populations served.
- Create a database of SBHCs for future National Assembly efforts in advocacy, policy making, and research. This database will also form the basis of a national directory of school health centers.
- Assess the information, resource and technical assistance needs of SBHCs and National Assembly staff.
- Assess the current prevention activities provided by SBHCs both in health centers and in classrooms.
- Assess quality assurance mechanisms and relationships between SBHCs and managed care organizations, including both professional and financial relationships.
- Provide a better understanding of the role of SBHCs in meeting the health needs of uninsured school-aged children.
- Promote widespread dissemination of the survey findings to policy makers, practitioners, researchers, and advocates.

The 1998–99 census builds on the long-standing work of Advocates for Youth and its Support Center for School-Based and School-Linked Health Centers. Since 1986, the Support Center has tracked and reported the movement's growth and programmatic trends. Its "School-Based Health Care Update" series has served as one of the field's early chronicles. With the creation of the National Assembly, Advocates for Youth leaders agreed that it was time to transfer the survey of school-based health centers to the new membership organization.

Creating Access to Care documents findings from the largest data collection and analysis of its kind, and illustrates emerging themes that will assist in program planning, development, and evaluation of school-based health centers. The report highlights:

- A broad and comprehensive range of primary and mental health care services;
- Acceptance of the health center by students and their parents as demonstrated by the centers' enrollment;
- An expansion into rural and suburban communities, and middle and elementary grades;
- An interdisciplinary health care team model;
- An expansive emphasis on prevention through classroom and health center education and health promotion activities; and
- Operations built upon health professional quality standards, including computerized encounter tracking and third-party billing systems, continuous quality improvement mechanisms, and national accreditation.

Methods

Information for the 1998–99 Census of School Health Centers was collected through a questionnaire that was mailed to health centers in December 1998. A total of 806 school-based health centers (centers located in a school or on a school campus) responded, representing a 70% response rate. A nonresponders questionnaire was conducted for centers that had not returned a completed survey. The characteristics of responding and nonresponding health centers were similar. An expanded description of the methodology can be found in Appendix A.

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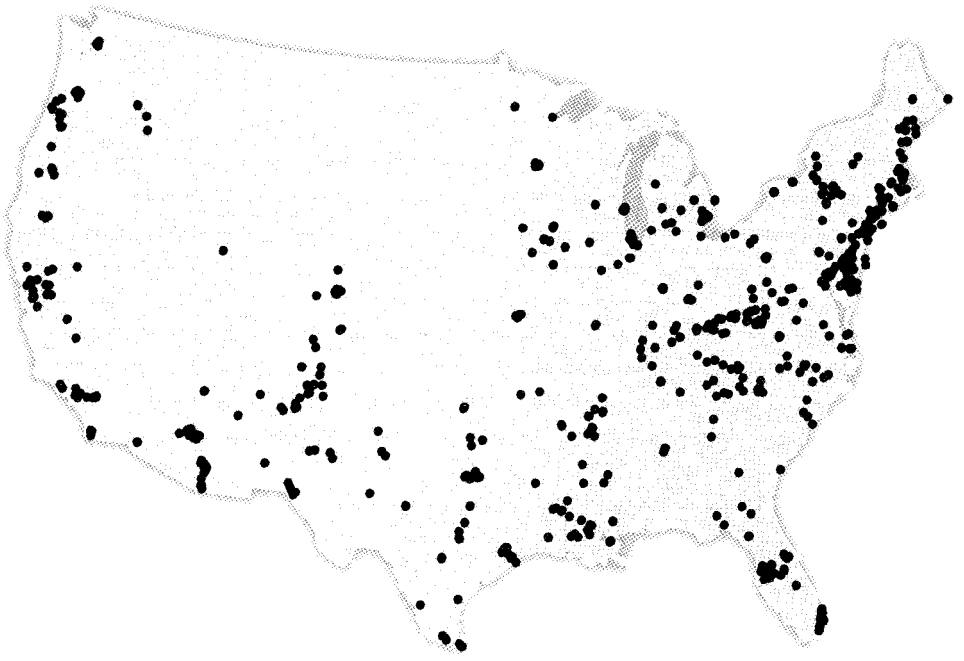
School-Based Health Center CHARACTERISTICS

A map of the United States depicts the distribution of 1,135 school-based health centers throughout 45 states (Figure 1, see also Appendix B). The geographic location of schools served by health centers (Figure 2) was described as urban (56%), rural (30%), and suburban (14%). The types of school settings were characterized as elementary (30%), combined elementary-middle (7%), middle (12%), combined middle-high (5%), high (41%), and combined K–12 (5%). Half of the health centers (51%) were located in schools that included but were not limited to high school grades. More than two out of five served elementary grades. Twenty-nine percent served in schools that included middle grades seven and eight (Figure 3).

The average school size was 1,004 for all schools, with a majority of schools (61%) serving between 500 and 1,500 students (Figure 4). Average enrollment by school type included 698 students in elementary schools, 811 in middle schools, and 1,316 in high schools.

Figure 1 **Locations of School-based Health Centers in the United States, Geocoded by Street Address or Zip Code, School Year, 1998–99**



Not shown: Alaska = 1 Hawaii = 3 Puerto Rico = 3 N = 1135

Health centers were asked to report on the number of students in the school, health center enrollees (students who have registered with the clinic and had a consent form on file), and health center users each year. Information was collected separately for the school in which the health center was located ("health center school") and for each additional school it served ("linked schools"). Of the 806 centers that completed the questionnaire, 252 (31%) reported serving one or more linked schools. Of those reporting one or more linked schools, 36% served one additional school, and 22% reported two additional schools. The total number of linked schools was 848 and the average number was 3.4.

The average center was located in a school of 1004 students; 642 (64%) students enrolled, and 537 students used the center at least once (Figure 5).

An estimated 1.1 million students (approximately 2% of the nation's school enrollment) attended schools with a school-based health center in 1998–99[1]. An additional 310,000 to 750,000 students attended schools that were linked to a school with a health center[2].

Figure 2 **Distribution of SBHCs by Community Type (n=806)**

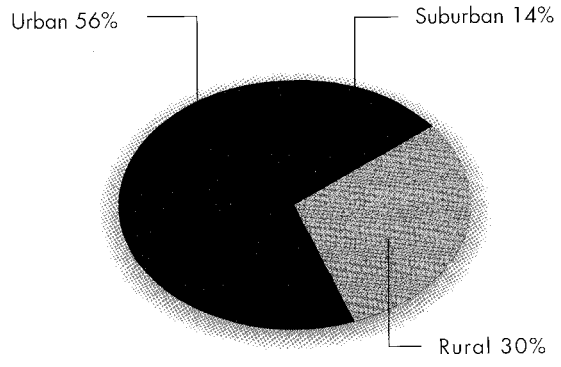


Figure 3 **SBHC by School Type (n=789)**

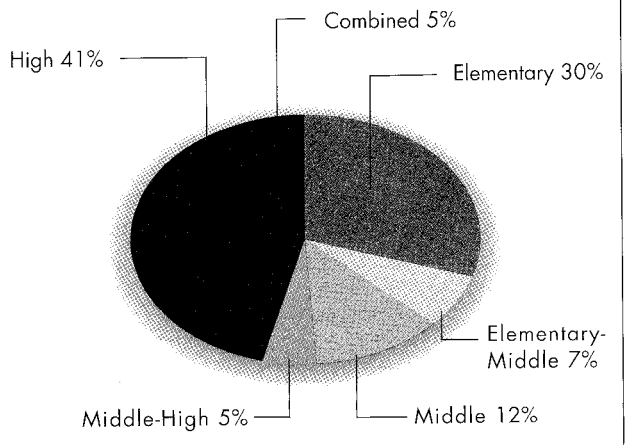


Figure 4 **Distribution of SBHCs by School Size/Student Enrollment (n=731)**

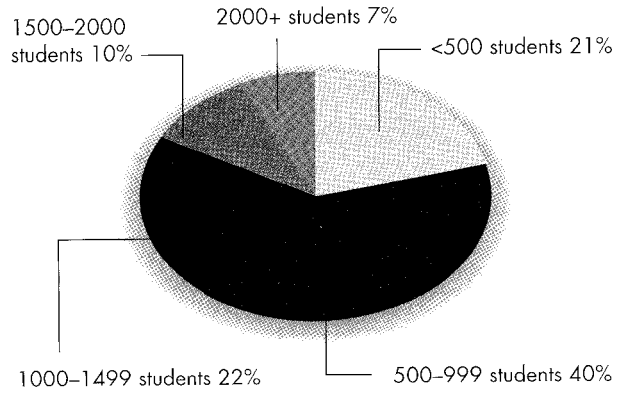


Figure 5 **SBHC Enrollees and Users (range of n=564 to 731)**

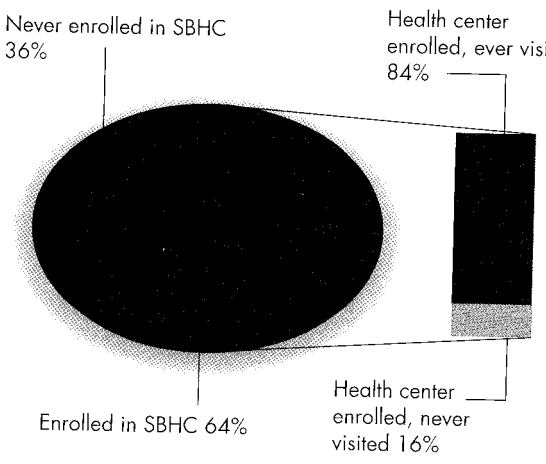
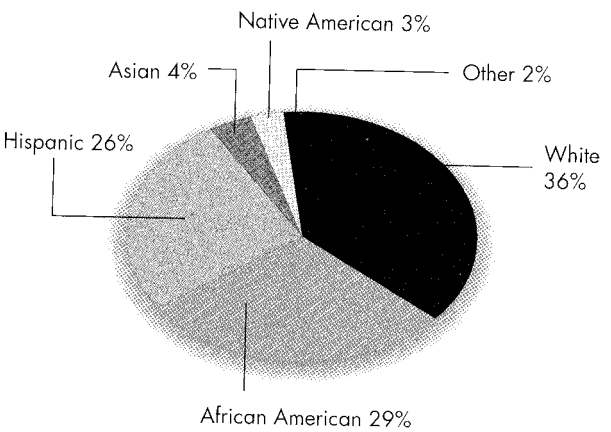


Figure 6 **Racial Profile of Student Population in Schools with SBHCs (n=806)**



Among students who had access to school-based health centers, nearly two-thirds were minorities (Figure 6). The tradition of establishing school-based health centers in communities with unmet health needs and inadequate health care resources is reflected in the substantial number of schools located in low-income communities in which racial/ethnic minorities often live. Thus, African American (29%), Hispanic (26%), Asian (4%) and Native American children and adolescents (3%) were among those served by school-based health centers.

School-based health centers are widely accepted, widely used

School-based health center enrollment and utilization data illustrate the health centers' success in attracting students. The average student body enrollment rate of 64% represents acceptance by the majority of students and the parents and guardians who provide consent for their children's use of the services. Health center utilization by 84% of enrollees also provides important validation of the health centers' ability to meet diverse student needs. Descriptions of health center users from various studies have shown that the demographic makeup of users reflects the population of the school (Balassone, Bell et al. 1991; Lear, Gleicher et al. 1991; Kisker and Hill 1993). Health center users have also been reported to be those with the greatest physical and mental health needs (Wolk and Kaplan 1993; Pastore, Juszczak et al. 1998).

[1] Overall, 91% (n=731) of health centers were able to report school enrollment information. Based on an average school population of 1004, this yielded a total of 733,924 students in schools served by a SBHC. This estimate rises to 797,600 students if one includes an estimated school enrollment for non-reporting schools, adjusting for the size of school by community type (urban, rural, suburban) and by grades served. If one considers the 329 health centers that did not respond to the initial survey but for which data were obtained from the non-responder survey (and again adjust for community type and grades served), this estimate rises to 1,123,171 students.

[2] Only 60% of 252 health centers reporting one or more linked schools also were able to report information on the school population at these linked schools. The 148 health centers reporting school population reported 3.4 linked schools per health center, 628 students per linked school, and, therefore, a combined school population of 2,114 students per health center. In the 148 schools that directly reported school population, a total of 312,856 students have access to school health centers through the school-health center linkage. Assuming that the 104 health centers not reporting school population served similar schools, this estimate rises to 532,700. Assuming that health centers that did not respond to the initial questionnaire but for which data were obtained from the non-responders survey (n=329), this estimate rises to 750,142 students.

School-Based Health Center SPONSORS

School-based health centers represent a partnership between schools (or school districts) and health care organizations (Figure 7). The health partner is critical to the development of the health center facility, as well as its operations and staffing, supervision of clinicians, and provision of medical back up for complicated cases and after-hours care when the center is not open. Hospitals, local health departments, and community health centers represent 73% of school-based health center sponsors. Also serving as health care sponsors were university medical centers (5%) and non-profit health care agencies (9%). Although less common, some health centers are administered by the school or school district (10%) employing direct service providers to staff the centers.

AGE OF HEALTH CENTERS

The median age of the health centers was four years and the average was six years. Six percent of health centers opened within the last year, 17% within the past two years. Nearly 60% of health centers have been in operation four years or less (Figure 8). In all, 20% had been operating for ten years or more; only 1% has been in operation for twenty years or more.

Figure 7 **Type of Agency Administering the School-Based Health Center (n=806)**

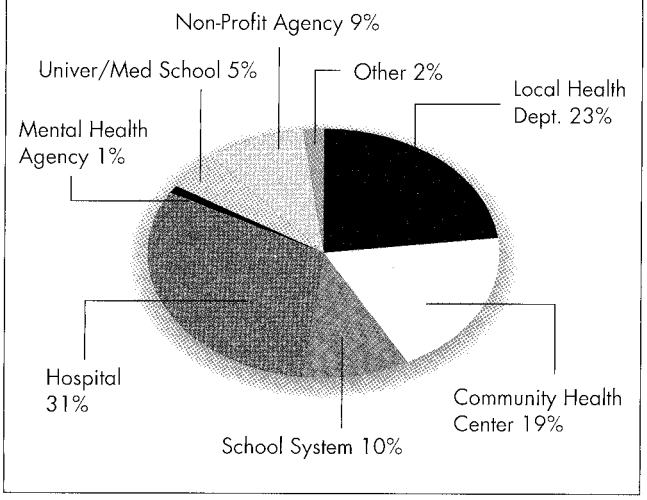
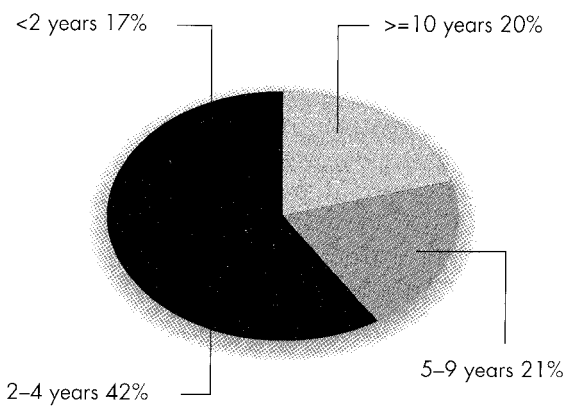


Figure 8 **Length of Time School-Based Health Center has been in Operation (n=755)**



School-based health centers were asked to list the types of members of their health care team and the hours on-site each week (Figure 9).

Ninety-two percent of the health centers employed a combination of physicians, physician assistants, or nurse practitioners to provide physical health services. Physical health services staff collectively averaged 27 hours per week on-site. Physicians were part of the team in 50% of reporting programs, providing services and supervision on-site for an average of six hours a week. The sole medical provider in 7% of health centers, the physician was more likely to work in collaboration with other health care providers with diagnostic and prescriptive authority, including nurse practitioners and, less frequently, physician assistants. Nurse practitioners spent an average of 25 hours per week in 76% of school-based health centers. Physician assistants practiced in 12% of school-based health centers for an average of 20 hours per week.

Mental health professionals were part of the clinical team in 57% of the health centers for an average of 33 hours a week. Clinical social workers and mental health counselors were the professionals most frequently on-site, followed by psychologists, substance abuse counselors and psychiatrists.

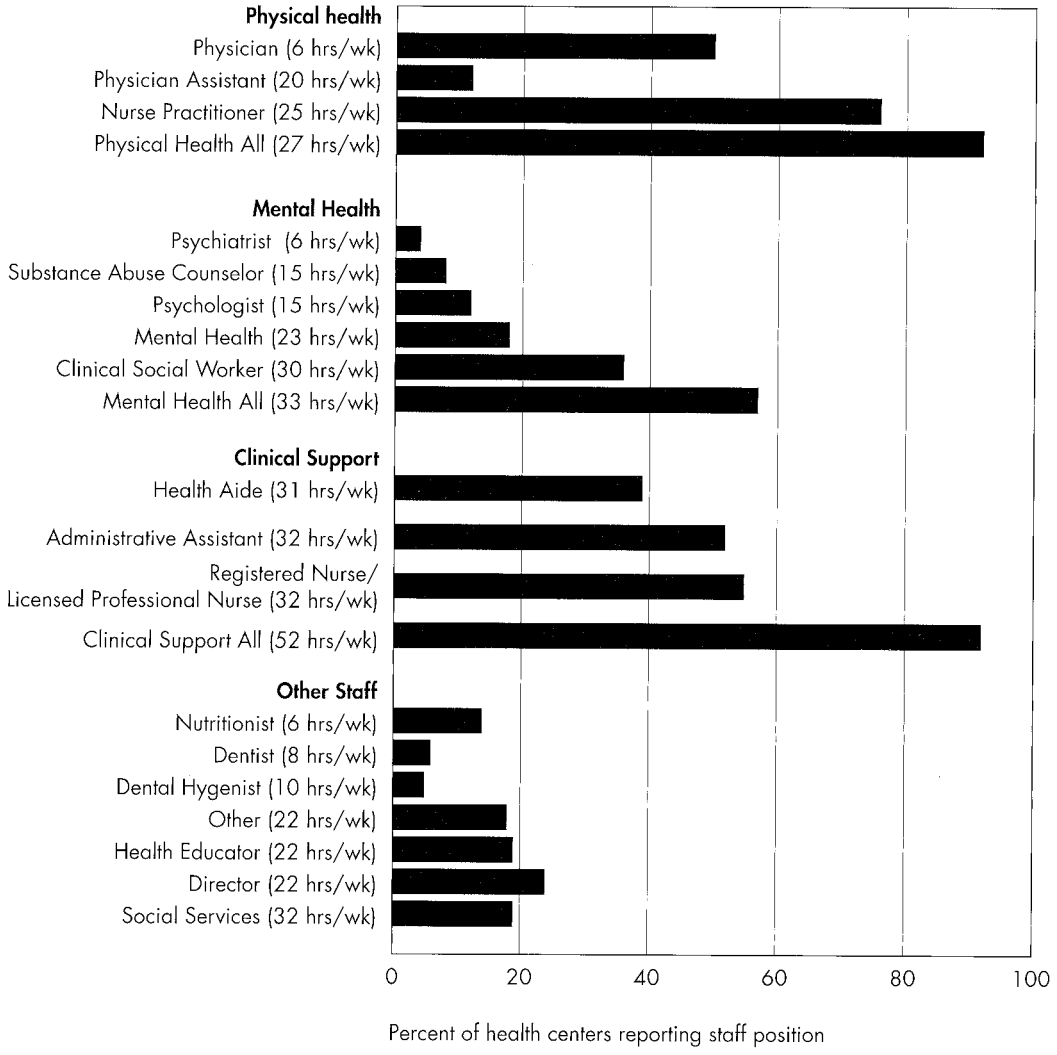
Most health centers (>90%) employed support staff to maximize the efficiency of the clinical practitioners and to support daily operations. Clinical support was most often provided by registered or practical nursing staff, found in 55% of health centers for an average of 32 hours per week. Other types of support came from health aides (39% of centers) and administrative assistants (52% of centers). Additional administrative oversight was provided by a director in 24% of health centers for an average of 22 hours per week.

A smaller number of school-based health centers augmented this core team with additional staff, including health educators (in 19% of health centers), social service workers (19%) and nutritionists (14%). Centers listed dental care professionals the least frequently of all staff members.

School-based health centers embrace an interdisciplinary approach

The interdisciplinary team approach to school-based health care is one of the model's greatest strengths. As evidenced by the census data, most health centers respond to the complex health care needs of high-risk children and adolescents with staff from multiple disciplines who bring diverse experience and expertise: the primary care practitioner with diagnostic and treatment ability, the mental health professional to explore emotional and psycho-social dimensions that sometimes underlie somatic concerns, and the educator to impart knowledge and social skills. Once considered unattainable because of limited resources, the interdisciplinary team is now a recognized standard. Credit is owed to funders, including state health departments, the Robert Wood Johnson Foundation, and the federal grant program, Healthy Schools, Healthy Communities, whose staffing standards have influenced the model's implementation nationwide. An Advocates for Youth update from school year 1991–92 reported that fewer than 30% of health centers employed mental health professionals. In the subsequent seven years, that figure reached nearly 60 percent (Brellochs and Fothergill 1994; Schlitt, Rickett et al. 1994; Waszak, 1999).

Figure 9 **SBHC Staff by Position and Average Hours Per Week Onsite (n=806)**



OPERATIONS/AFTER-HOURS CARE

Health centers were asked to report on their operating hours and policies for health care access when they are closed. Most health centers (69%) were open more than 30 hours a week, or six hours or more a day, five days a week. An additional 17% were open between eight and 30 hours a week; 14% were open less than eight hours a week. Half of all school-based health centers operated during the summer months (48%), with summer hours similar to general operation hours during the school year (Figures 10a and 10b).

Seventy percent of health centers provided some source of pre-arranged emergency and after-hours care when centers were closed. Half the health centers provided, at a minimum, telephone information for local emergency services. The most frequently cited source of care was provided on-call by the health centers' sponsoring agency (59%). A small percentage (17%) offered on-call services through another external health care agency (Figures 11a and 11b).

SBHC as Key Access Point

The business of school-based health care is, for most health centers, a full-time job. After-school hours, school vacations, and summer months create unique challenges to the health centers. Because the health centers often become the primary provider by default for uninsured and underinsured students, being available to students when needed is an important access standard. Most health centers appear to fulfill many aspects of the role of the primary care provider, serving as first contact, providing continuous care, and ensuring coordination through referrals and linkages to other sources of care (Brindis, Kapphahn et al. 1995; Santelli, Morreale et al. 1996).

Figure 10a SBHC Hours of Operation (n=777)
Hours per week

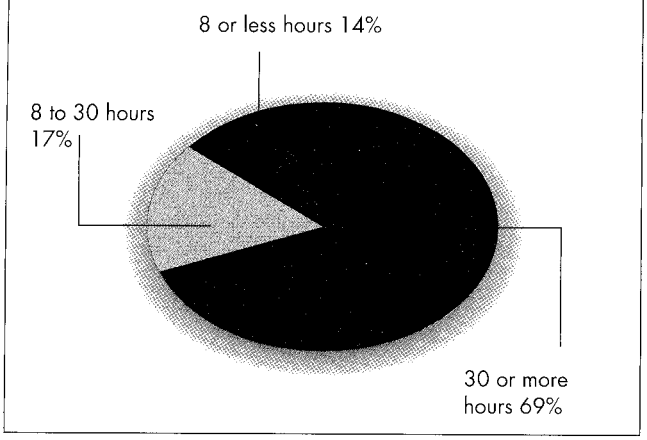


Figure 10b SBHC Summer Hours of Operation (n=343)
Hours per week

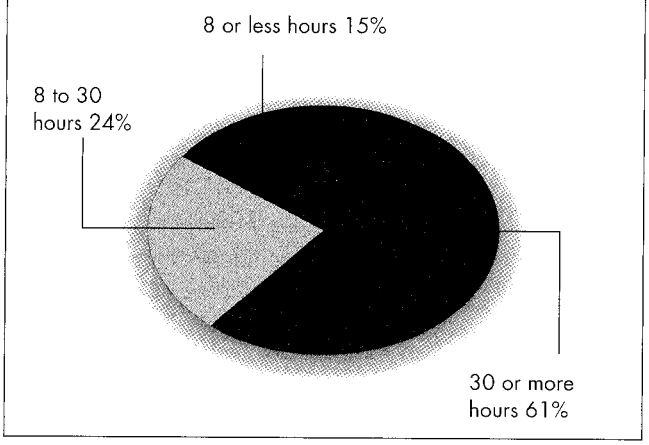


Figure 11a Emergency and After Hours Care Provided by SBHC (n=801)

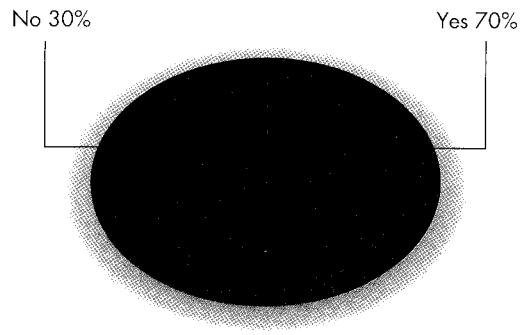
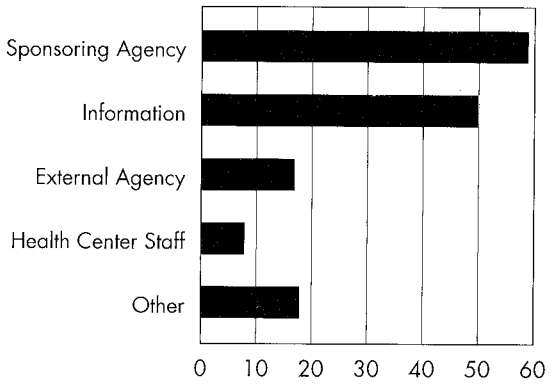


Figure 11b On Call Care System for SBHC Providing Emergency and After Hours Care (range of n=520 to 540)



School-based health centers were asked to identify four categories of services provided on-site: physical health care, reproductive health care, mental health care, and health education and risk reduction services.

PHYSICAL HEALTH SERVICES

The vast majority of health centers (89%) provided the basic tools of primary preventive care; the most common components in the school-based health care scope of service were comprehensive health assessments, anticipatory guidance, vision and hearing screenings, immunizations, treatment of acute illness, laboratory services, and prescription services (Figure 12). The most frequently cited immunizations provided were Hepatitis B, measles-mumps-rubella (MMR), diptheria and tetanus toxoids (DTT), and oral poliovirus (Figure 13). More than half of the health centers provided preventive oral health services in the form of dental screenings. A much smaller proportion of programs made available comprehensive dental care and sealants.

Figure 12 **Health Services Provided by School-Based Health Centers (range of n=776 to 804)**

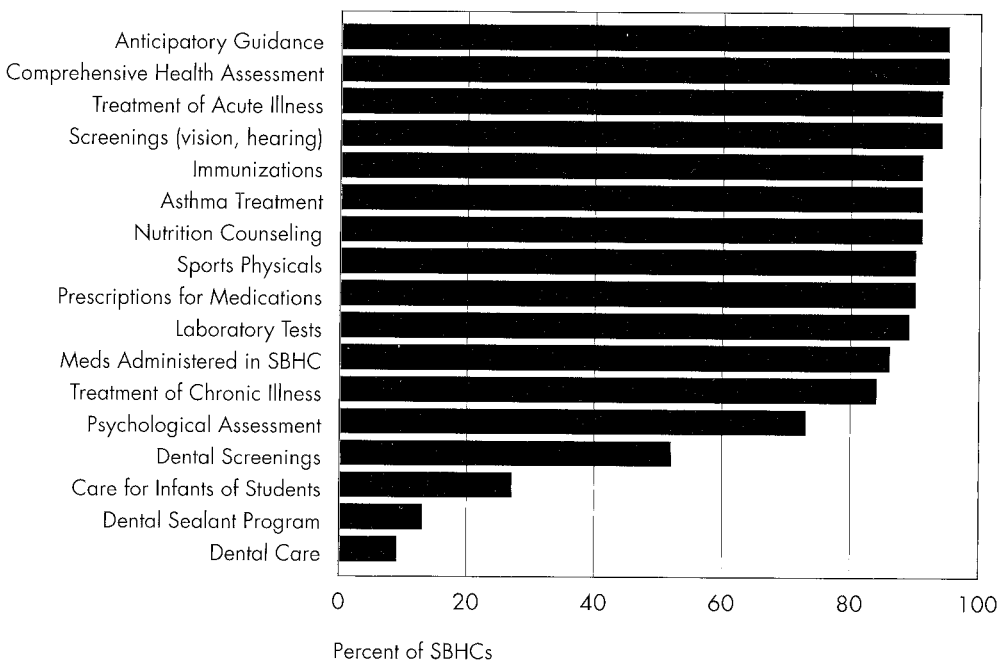


Figure 13a **Immunization Services Provided by School-Based Health Centers (n=804)**

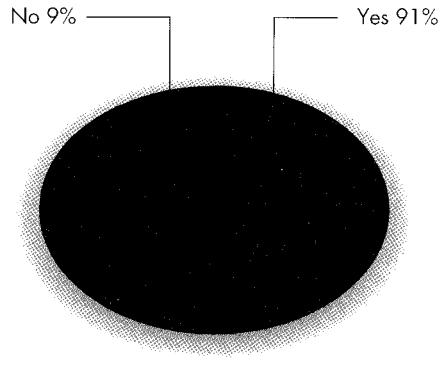
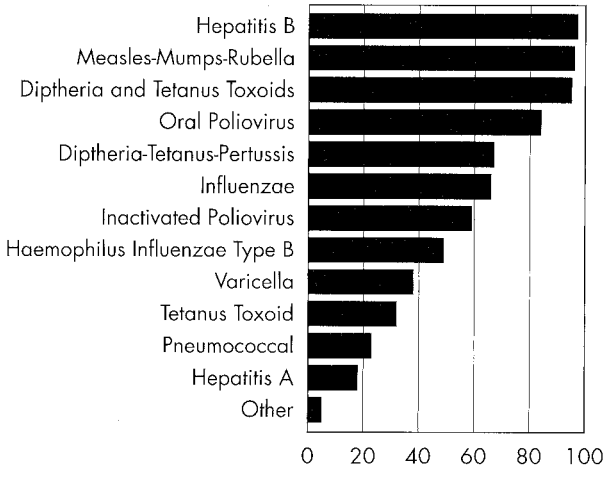


Figure 13b **Percent of SBHC Providing Immunizations by Immunization Type (range of n=664 to 722)**



School-based health centers as primary care sites

The spectrum of physical health services delivered in school-based health centers closely resembles the services provided in other primary care practice settings. The one-stop shopping model allows students to be assessed, diagnosed, treated on-site, and if appropriate, returned to the classroom. On-site laboratory tests and prescriptions reduce the need for off-site referrals, which often are ignored or not followed through by students because of inadequate transportation or resources. National and local program evaluations have confirmed that students who access school-based health centers make greater number of visits to a health care provider when compared to national adolescent utilization rates (Anglin, Naylor et al. 1996; Kisker and Brown 1996). The most common types of visits for physical health services reported in the literature include well-child exams and health supervision, acute illness, respiratory and ear, nose and throat problems, and injuries (Kaplan 1995; Borenstein, Harvilchuck et al. 1996).

REPRODUCTIVE HEALTH SERVICES

Survey respondents were asked to identify whether reproductive health services were available on-site, referred to an off-site provider, or not provided at all. On-site reproductive services, including related counseling, education, and testing, were, of course, more commonly a part of health care practices in middle and high schools than in elementary schools. Thus, for this section, only data from health centers serving middle and high school health centers are analyzed.

Middle and high school health centers were more likely to provide on-site treatment for sexually transmitted diseases (73%), HIV/AIDS counseling (77%), and diagnostic services such as pregnancy testing (85%) than contraceptive services. Family planning services most often encompassed birth control counseling (72%) and follow up (61%). A minority of health centers neither provided on-site nor referred to an off-site provider for any sexual health services (Figure 14).

Three of four school-based health centers serving middle and high school grades reported that contraception was not dispensed on-site. The majority of health centers, however, arranged for services off-site by referral. Among health centers not dispensing (Figure 15a and 15b), 4% adopted the policy voluntarily; the majority of health centers do not dispense at the the direction of the school (29%), the school district (73%), or state (12%). Half or more of school-based health centers were not prohibited from dispensing contraceptives in Missouri (88%), Minnesota (57%), California (53%), and Texas (50%).

Figure 14 **Reproductive Health Services in SBHCs Serving Middle/High School Grades, Provided On-Site, Referred Off-Site (n=506)**

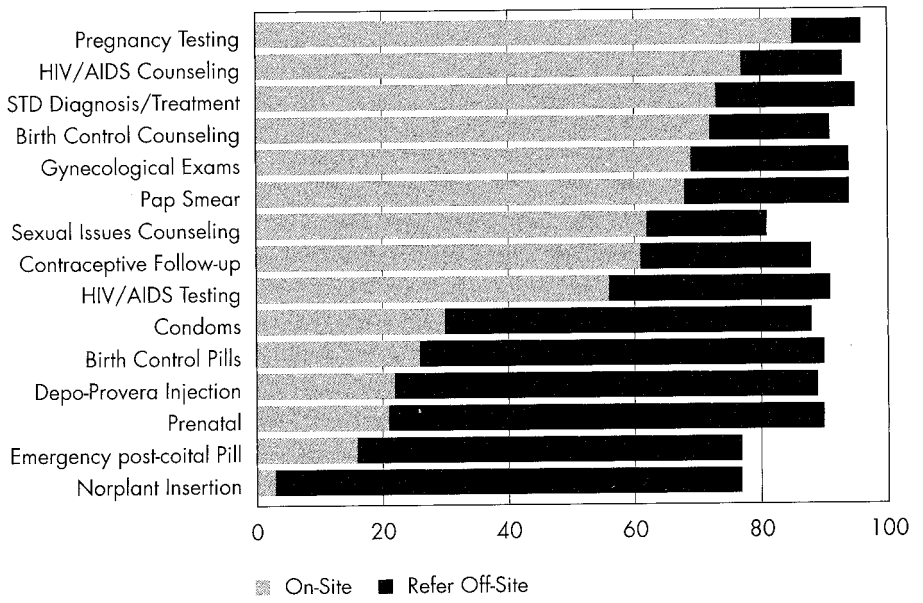


Figure 15a **SBHC Reporting Prohibitions on Dispensing of Contraceptives (n=778)**

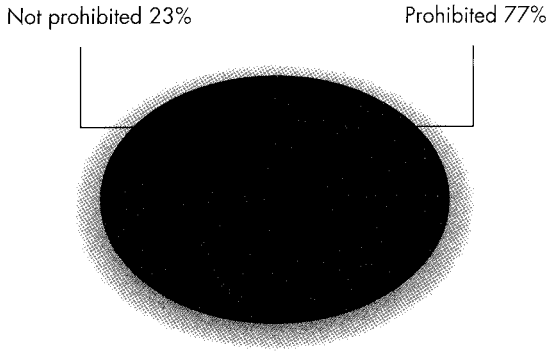
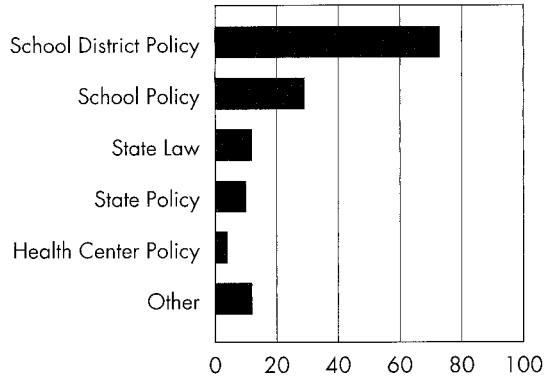


Figure 15b **Prohibitions on Dispensing of Contraceptives by SBHC (n=602)**



School-based health centers are responsive to the community

Although it affords unprecedented access opportunities to school-aged youth, the school as health care setting is unique in that the content of care is at times a matter of public discourse and decision-making (Rienzo and Button 1993). The inclusion of reproductive health care, which is potentially a source of controversy, is typically based on input from the community, school, families, and students. While some communities have fully embraced family planning in school-based health care as a strategy to prevent pregnancy and STDs, many more have limited the range of on-site reproductive health services out of deference to community concerns and fear of community opposition. Utilization studies suggest that, in practice, reproductive health care—when available—accounts for 10–17% of clinical visits (Lear, Gleicher et al. 1991; Fisher, Juszczak et al. 1992; Juszczak and Fisher 1997; Fothergill 1998).

MENTAL HEALTH SERVICES

Mental health and counseling services provided by health centers (Figures 16a and 16b) included crisis intervention (79%), case management (70%), comprehensive evaluation and treatment (69%), substance abuse (57%), and the assessment and treatment of learning problems (39%). Group counseling was used by health centers to offer peer support (59%), grief counseling (53%), classroom behavior modification (49%), substance use prevention and treatment (41%), and gang intervention (26%).

Figure 16a **Individual Counseling in SBHCs (range of n=687 to 787)**

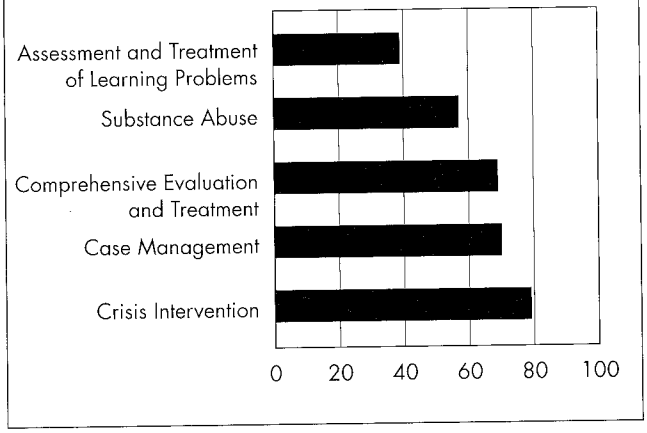
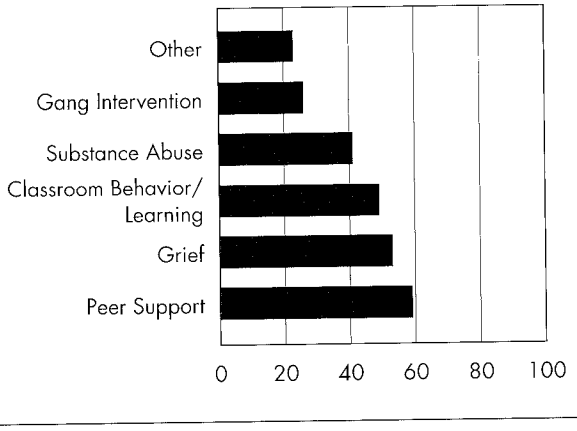


Figure 16b **Group Counseling in SBHCs, by Topic (range of n=702 to 770)**



School-based health centers reduce barriers to mental health care

In studies of school-based health center service utilization, mental health counseling is repeatedly identified as the leading reason for visits by students. Placing counseling in the context of school-based primary health care normalizes it and makes seeking help acceptable. Particularly for students at risk of health compromising behaviors, the health center provides a safe place to explore developmental and emotional adjustment issues and serves to engage students in building positive social skills that minimize their health risks and strengthen protective factors. Several studies have shown that the barriers experienced in traditional mental health settings—stigma, non-compliance, inadequate access—are overcome in school-based settings (Walter, Vaughan et al. 1995; Anglin, Naylor et al. 1996; Weist, Paskewitz et al. 1996; U.S. Surgeon General 1999). One study in particular found that, compared to traditional providers, school-based health centers substantially increase access to and utilization of mental health and substance abuse care (Kaplan, Calonge et al. 1998).

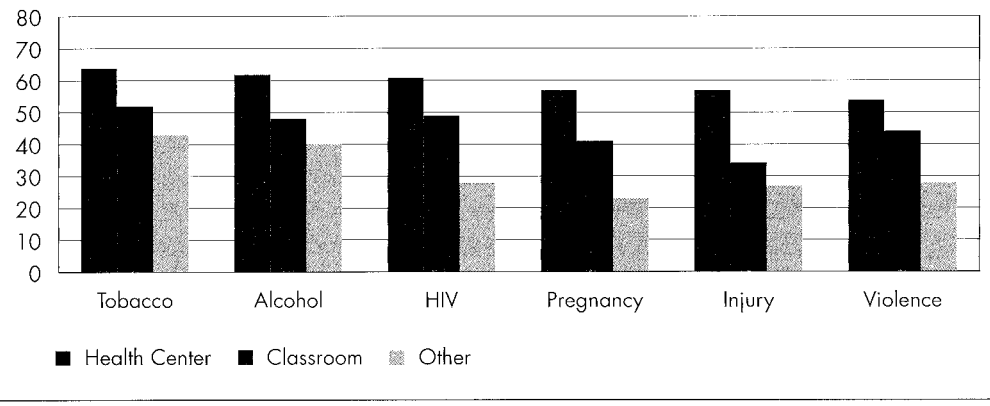
PREVENTION AND HEALTH PROMOTION SERVICES

Health centers were asked to list the prevention and health promotion services they provided on six topics: tobacco, alcohol, HIV, pregnancy, injury, and violence. Respondents specified the setting for these activities as health center-based, classroom-based, or other (for example, health fair). More than 60% of health centers conducted some level of prevention services in the clinical setting, with little differences across the six topics (Figure 17). Many health centers extended prevention activities into the classrooms as well. Half of the centers offered classroom educational sessions on tobacco, alcohol and HIV prevention. Slightly fewer of the health centers covered violence, pregnancy and injury prevention topics. Tobacco and alcohol prevention were also the topic most likely to be addressed in other school-wide health promotion activities such as health fairs, education campaigns, and general assemblies.

School-based health centers target health threats

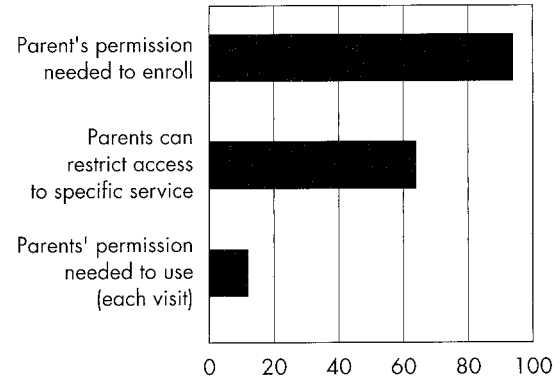
Because of their unique setting, public health orientation, and proximity to children and youth at risk, school-based health centers can play an important role in influencing the small number of risk behaviors that present the greatest threats to health. Interpersonal connections in the clinical setting and small group support enable providers to ask the questions young people rarely hear, assess their risks for health threats, and assist in the development of social skills and competencies for avoiding those risks. Augmenting these services with the classroom and school-wide activities reported here reinforces the community values and norms that support student wellness beyond the clinic walls.

Figure 17 **Centers Providing Prevention and Health Promotion in Health Centers, Classroom and Other, by Topic (n=806)**



As providers of health care to school-age children, school-based health care professionals have an obligation of accountability to both the students and their families who benefit from their services, as well as to public and other funders responsible for their financial support. School-based health centers were asked to describe their policies and procedures for obtaining parental consent, tracking patient care visits, billing third parties, assuring quality of care, and training professionals. The activity described here suggests that efforts to deliver the highest standard of care in accordance with health care industry practice are commonplace across most health centers.

Figure 18 **Parental Consent Policies in SBHCs (range of n=782 to 795)**



PARENTAL CONSENT

Health centers were asked to identify their parental permission policies regarding enrollment and use of any and all services offered by the centers (Figure 18). Parental consent to enroll in the health center was a requirement for 94% of responding health centers. Twelve percent indicated that students needed parental consent for each visit to the center. Nearly two-thirds (64%) of the health centers allowed parents to restrict access to a specific service (for example through an enrollment form that includes a list of services from which the parents can choose to exclude their child).

Health centers were asked to identify services offered on-site that, in accordance with state law, a student could receive without parental consent. The most frequently cited service of this type was emergency care, identified by 47% of health centers, followed by STD treatment (41%), drug and alcohol counseling (35%), family planning (33%), mental health counseling (29%), and prenatal care (23%).

Exclusions of Specific Services by Parents

When parents have the opportunity to select services to exclude from the health provider's scope of care for their child, a great majority do not exercise this option. Anecdotal evidence suggests anywhere from 1–5% of signed consent forms include certain exclusions, typically for birth control and mental health services. For additional information, see Santelli, Alexander et al. 1992

ENCOUNTER TRACKING SYSTEM

Health centers were asked to describe their mechanisms for documenting and tracking patient visits. Computer-based patient tracking systems were used by 88% of health centers. Of these, 43% used School HealthCare ONLINE! (a system developed specifically for school-based health centers), and 41% used their sponsoring agency's medical tracking system. Paper record forms were used in combination with computer systems in 75% of health centers. Ten percent used paper record forms only. Nearly three of four health centers (73%) bill Medicaid and/or other third-party insurers for student-patient encounters.

Patient Care Revenue in School-Based Health Centers

Billing third party payers for health care services provided to insured students has become increasingly commonplace in school-based health centers. Studies of school-based health care revenues from Medicaid and other third party payers, however, have consistently found that insurance remains an elusive and complicated means of financial support. Although the experience differs from community to community, a high volume of uninsured and underinsured students, the difficulty in securing insurance information, confidentiality, Medicaid managed care, and the provision of non-reimbursable services have contributed to limited revenue recovery—on average 5–10 percent of the health centers' operating budgets (Lear, Montgomery et al. 1996; Grant and Maggio 1997; Schlitt 1999).

STANDARDS OF CARE

Health centers identified the use of standards and quality assurance mechanisms to guide and assess health center program operations. The survey included four areas: the use of professional standards of clinical care, the use of standards for quality assurance measures, components of quality assurance, and sources of health center accreditation or certification.

Professional Standards

Health centers identified which of five nationally recognized clinical health care standards they use (Figure 19). Ninety-two percent indicated the use of at least one standard, 69% indicated two or more. Centers used Medicaid's Early, Periodic Screening, Diagnosis and Treatment (EPSDT) standard most frequently (73%). The American Medical Association's Guidelines for Adolescent Preventive Services (GAPS) standard was used more often in older populations; the American Academy of Pediatrics' clinical standards, and the federal Maternal and Child Health Bureau's Bright Futures, were used more frequently in elementary grades.

Figure 19 **Professional Standards Used in SBHCs (range of n=724 to 780)**

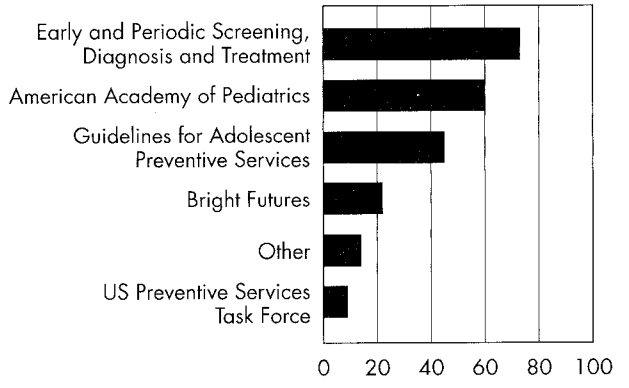


Figure 20 **Quality Assurance Measures in School-Based Health Centers (range of n=751 to 763)**

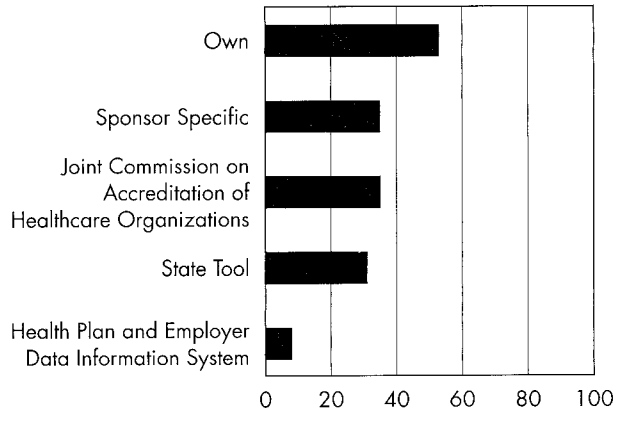


Figure 21 **Quality Assurance Components in SBHC (range of n=791 to 800)**

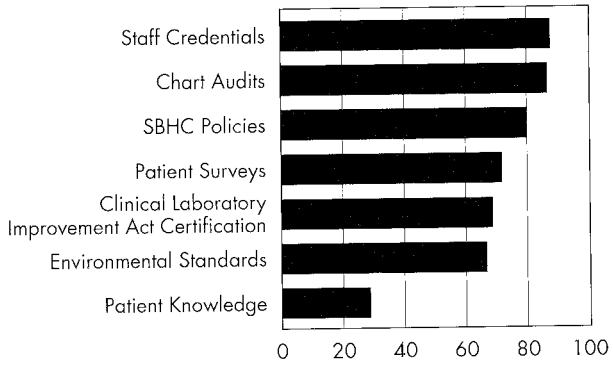
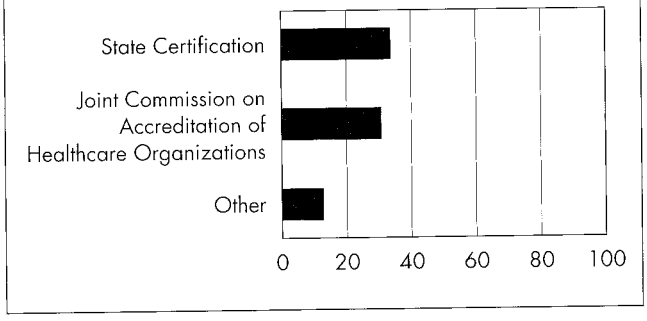


Figure 22 **Accreditation of SBHC (range of n=674 to 727)**



Quality Assurance Measures

Quality assurance benchmarks in health care are used as performance assessment tools (Figure 20). Two prominent industry standards are the Health Plan Employer Data and Information Set (HEDIS), developed by the National Committee on Quality Assurance (identified by 8% of health centers), and the Joint Commission on Accreditation of Healthcare Organizations' assessment guide (identified by 35%). Several state health departments have also created performance review tools specific to school-based health care, with 31% of health centers reporting use of these tools. A majority of health centers (65%) reported using quality assurance benchmarks established by themselves or their sponsoring agency.

Components of Quality Assurance Systems

Health centers identified which of seven common components of a quality assurance system they used to measure quality of care. Among the 97% that responded to at least one category, staff credentialing and chart audits were identified most often; assessment of patient knowledge was less common (Figure 21).

Accreditation

Thirty-one percent of health centers reported having successfully participated in their sponsoring institution's accrediting process through the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). One-third of health centers (34%) reported being certified by a state government entity (Figure 22).

Training in the Health Center

Three of four health centers (75%) reported that they serve as training sites for health care professionals, including physicians, nurses, physician assistants and social workers. The setting provides unique pre-service experience in an inter-disciplinary practice with unprecedented opportunities to work with school-age youth in their natural environment.

Health Center CHARACTERISTICS *by* GRADE, GEOGRAPHY, AGE, AND SPONSOR

Do school-based health centers share common characteristics, regardless of geographic location, school setting, or longevity? For example, does a school-based health center in a rural high school resemble its counterpart in an inner city, or an elementary-based center? Do sponsoring agencies approach the organization of services in a similar fashion? Do programs evolve as they mature? The following section examines the effects of location, setting, age, sponsorship and state boundaries on the school-based health center's scope of services, staffing, and operation policies (Tables 1 and 2).

BY GRADES SERVED

With few exceptions, the organization of school-based health care in elementary, middle and high school grades varied little across most operations and services. Some differences did emerge that appear to be related to school size as well as to the developmental needs of the target population. For example, health centers in schools with grades 10, 11 or 12 were more likely to operate for 30 hours or more per week and to have more hours of primary and mental health care staff on-site than schools with grades 6, 7 or 8. Middle grade schools, in turn, reported more operational hours than those in schools serving grades 5 or below. The likelihood of offering counseling and prevention services also increased as the age of the students increased. While health centers serving elementary grades were more likely to require parental permission for every visit, they also reported greater rates of enrollment and utilization than centers serving middle and high school grades.

BY COMMUNITY TYPE AND GEOGRAPHY

Centers in urban communities more frequently reported a broader scope of services and more on-site primary care and mental health staff hours than their suburban and rural counterparts. Urban centers were also more likely to provide operating hours when schools are closed. Services were strikingly different between urban and rural centers for prescriptions, psychosocial assessment, dispensing of medications, and STD diagnoses and treatment. Rural health centers were more likely to be involved in classroom health promotion and prevention education. Although a greater proportion of suburban centers required parental consent for every visit, suburban programs also were more likely to allow adolescents to consent to family planning. Although suburban centers reported higher student enrollment rates, utilization was greater by students in rural and urban centers.

Table 2 outlines key operations, services and policies by state. Data were aggregated for those states with ten or more health centers included in the response.

BY SPONSOR TYPE

The effects of health center sponsorship did not appear to follow consistent patterns. Health centers sponsored by public health departments and schools had fewer on-site primary care hours, and were less likely to offer comprehensive services, such as prescriptions, or to provide after-hours care. School sponsorship was associated with greater on-site mental health presence, and greater frequency of counseling services. In contrast to medical providers (who traditionally have quality assurance required by accreditation or funding sources), health centers with schools as sponsors were least likely to engage in quality assurance activities, such as patient satisfaction surveys and medical record reviews. School sponsored programs were also least likely to bill for third-party revenue. Public health departments, community

Table 1 **Select SBHC Operations, Services and Policies by Grades Served, Community Type, Age of Center, and Sponsorship**

	Grades Served			Community Type		
	Elementary Grades	Middle Grades	High Grades	Urban	Suburb	Rural
Primary care	20	24	28	30	24	16
Mental health	12	19	23	22	19	13
OPERATION HOURS	%	%	%	%	%	%
>30 hrs/week	57	72	78	71	72	65
Summer operations	47	48	49	55	50	33
SERVICES ON-SITE	%	%	%	%	%	%
Prescriptions	91	87	90	96	89	79
Medications dispensed	55	56	65	74	51	44
STD diagnosis and treatment	30	55	77	63	51	46
Birth control		22	28	32	25	14
Psychological development assessment	72	75	73	81	74	59
Individual substance abuse counseling	42	57	70	55	52	64
Tobacco prevention in classroom	45	59	57	46	52	62
POLICIES	%	%	%	%	%	%
Parental consent for every visit	18	10	8	11	21	9
Bill third-party	75	78	71	77	71	66
Chart audits	84	89	88	88	91	82
Patient survey	66	73	76	74	82	63
ACCEPTANCE OF SBHC	%	%	%	%	%	%
Students enrolled	70	68	60	62	69	67
Students visited at least once	63	58	50	51	44	65

	Age of SBHC (in years)				Sponsor Type					
	<2 yrs	2–4 yrs	5–9 yrs	10+ yrs	HD	CHC	Schl	Hosp	Univ	NPO
	24	24	24	30	20	29	19	28	24	26
	17	14	18	30	14	18	23	16	24	20
	%	%	%	%	%	%	%	%	%	%
	58	62	72	88	71	72	76	65	73	64
	42	49	45	55	48	41	41	56	54	35
	%	%	%	%	%	%	%	%	%	%
	94	92	84	89	77	97	77	95	98	94
	65	58	58	72	52	59	37	70	71	81
	42	52	57	75	61	63	34	51	48	74
	21	19	21	41	29	22	13	25	15	32
	70	72	73	72	68	71	58	79	93	73
	55	53	60	70	56	53	67	53	51	73
	54	51	54	52	57	41	56	51	62	54
	%	%	%	%	%	%	%	%	%	%
	13	16	10	4	9	9	17	12	24	12
	76	69	75	71	82	85	51	64	76	79
	82	83	93	91	90	89	71	87	88	94
	64	73	72	77	70	80	59	70	68	86
	%	%	%	%	%	%	%	%	%	%
	52	66	64	66	66	68	55	64	66	59
	62	55	53	48	64	50	60	46	90	48

Table 2a **Percent of SBHCs Providing Selected Primary Care and Reproductive Health Services by State for States with 10 or More SBHCs**

STATE	After Hours Care	Immuni-zations	Anticipatory Guidance	Comprehensive Assessment	Lab	Prescription	Dental Sealant
Arizona	64	67	91	91	82	84	22
Arkansas	13	87	53	93	44	13	0
California	70	100	94	96	81	92	26
Colorado	96	100	100	92	100	100	5
Connecticut	96	100	100	100	96	100	8
Delaware	74	100	100	95	100	100	0
Florida	29	65	90	87	55	81	3
Illinois	92	100	100	100	100	96	14
Indiana	46	69	100	100	100	100	44
Kentucky	28	100	100	93	90	37	14
Louisiana	100	100	100	100	100	91	9
Maryland	62	97	100	100	85	100	21
Massachusetts	97	100	100	100	97	100	5
Michigan	68	95	95	95	95	89	31
Minnesota	71	100	100	100	100	100	6
New Jersey	92	62	77	77	62	62	0
New Mexico	62	52	92	85	70	85	8
New York	94	99	97	99	97	99	25
North Carolina	74	96	88	100	100	100	4
Ohio	18	100	100	100	100	91	0
Oregon	55	100	100	91	91	91	6
Pennsylvania	75	90	100	100	100	100	15
Texas	68	98	98	96	94	100	18
Virginia	9	45	91	91	100	100	0
West Virginia	100	100	96	100	96	100	4
Wisconsin	17	67	67	92	58	100	0

STD Diagnosis and Treatment		Gynecological Exams		Pregnancy Testing	
On-site	Refer	On-site	Refer	On-site	Refer
16	59	9	55	20	52
21	43	23	39	43	21
63	24	60	25	63	24
85	15	81	19	92	8
72	12	76	8	68	16
84	16	74	26	89	11
30	53	33	50	77	10
52	44	52	44	52	44
86	0	85	0	85	0
26	57	11	67	83	10
61	39	74	26	100	0
44	16	44	16	41	9
81	14	73	22	81	14
63	32	63	32	68	26
95	5	95	5	100	0
54	38	58	33	62	31
59	30	63	26	74	15
63	29	50	43	69	23
67	15	63	19	67	15
9	82	9	82	9	82
81	9	81	9	84	6
55	15	55	25	75	0
55	21	54	24	59	17
27	73	27	73	36	55
46	42	31	58	62	27
17	67	25	50	33	50

Table 2b **Percent of SBHCs Providing Selected Counseling and Prevention Services by State for States with 10 or More SBHCs**

STATE	Comp Individual Evaluation & Treatment	Individual Substance Abuse Counseling	Classroom Education on Tobacco	Classroom Education on Violence
Arizona	22	38	24	24
Arkansas	47	33	44	50
California	74	61	43	34
Colorado	96	85	46	38
Connecticut	96	92	44	52
Delaware	89	100	68	58
Florida	90	76	65	71
Illinois	75	25	80	68
Indiana	92	50	54	77
Kentucky	55	48	70	50
Louisiana	96	83	83	87
Maryland	70	52	38	53
Massachusetts	81	65	57	38
Michigan	74	63	74	74
Minnesota	86	62	95	67
New Jersey	85	67	62	46
New Mexico	68	81	74	70
New York	84	48	30	26
North Carolina	62	77	63	48
Ohio	18	73	100	91
Oregon	66	81	53	13
Pennsylvania	45	30	50	25
Texas	51	23	34	26
Virginia	36	9	9	9
West Virginia	64	68	85	62
Wisconsin	25	25	42	50

health centers, and non-profit agencies were most likely to allow students to consent to family planning and more frequently offered on-site reproductive health services.

BY AGE OF CENTER

In examining health centers by longevity, we observed patterns across the four age groups. The older the health center, the more likely it was to operate 30 hours or more a week. The oldest programs (10 years or more) were also more likely to have parity between mental health and primary care, averaging 30 hours a week for both types of providers. The availability of reproductive health services among centers was also strongly linked to the center's age. The older the health center, the greater likelihood that reproductive health services, including family planning, were offered on-site and that adolescents were able to consent for these services. That the oldest health centers reported higher enrollment than their younger programs is not surprising, as developing a solid base of registrants takes considerable outreach, education and time. We are unsure, however, why the proportion of students at a school using the health center somewhat decreases among older programs.

Scope of Service Evolves

Health centers that have been existence for ten years or greater were much more likely to provide family planning services on site than younger centers (41% vs. 20% for birth control). Does this reflect an evolution in programming, that as health centers become more established within the school and community, and more familiar with the specific needs of students, they are in a more favorable policy environment to increase access to other services such as reproductive health? Or were programs established ten years ago or earlier more likely to have included special services such as on-site contraception from the start? Data collected from centers in 1988 by Advocates for Youth show that the average rate of health centers dispensing birth control was 20%, less than the 1998–99 rate of 26%, supporting the argument that service scope does evolve over time.

Table 2c **Percent of SBHCs Using Selected Tools and Policies by State for States with 10 or More SBHCs**

STATE	Any computer-based encounter system	Medicaid billing	Any use of professional standards	Any use of QA measures
Arizona	88	20	89	78
Arkansas	79	73	94	96
California	82	88	89	83
Colorado	88	77	96	88
Connecticut	100	96	100	100
Delaware	100	5	95	100
Florida	86	43	77	81
Illinois	96	88	96	92
Indiana	100	46	85	77
Kentucky	86	100	97	90
Louisiana	100	100	100	100
Maryland	100	100	97	79
Massachusetts	100	97	97	97
Michigan	100	53	84	89
Minnesota	95	70	71	71
New Jersey	90	15	38	77
New Mexico	96	63	74	89
New York	80	94	88	93
North Carolina	96	67	74	93
Ohio	18	82	91	100
Oregon	97	56	94	84
Pennsylvania	95	35	85	60
Texas	73	91	98	89
Virginia	90	27	73	73
West Virginia	94	100	96	92
Wisconsin	92	75	100	50

Any use of QA tools	Accreditation			Serves as Training Site
	JCAHO	State	Other	
98	23	81	22	64
100	0	10	10	23
91	27	54	13	78
100	13	13	13	74
100	36	48	18	90
100	72	11	0	94
97	36	11	4	50
100	57	29	42	56
100	31	31	0	100
100	5	55	9	82
100	36	68	26	100
97	0	39	11	90
100	52	82	18	91
100	0	50	0	82
100	19	5	52	67
85	64	18	0	78
100	35	22	19	65
98	43	55	6	89
100	15	0	16	58
100	73	0	0	91
100	3	3	7	66
100	33	0	0	83
91	43	19	9	73
91	50	0	0	36
100	17	0	24	87
83	0	0	0	75

School-BASED, *School*-LINKED *and* MOBILE *Health Centers*

School-based health centers represent one of several models for linking health care services with school-aged children and adolescents. The confluence of community resources, political will, and, most certainly, student need will dictate whether, how often, and what types of health care can be made accessible through school sites. Health centers that do not operate on school property but in close proximity to the school are often called school-linked health centers. Located across the street, or within a short distance that can be traveled by foot, bus, or automobile, school-linked centers, are less affected by school policies, and generally provide more comprehensive services. The "link" implies ties to the school through the participation of health center staff in classroom activity and through referrals to the center by school staff to ensure access.

On-site delivery of health services by a traveling health care team in temporary or portable space is called a mobile health center. Staff of mobile centers rotates from school to school, typically in a set pattern for a prescribed period of time in each school. This strategy is likely motivated by a desire to maximize community resources so that a health program could serve a greater number of students across multiple schools.

Both of these models are less commonly found than school-based health centers: the 846 centers that responded to the survey included only 28 school-linked and twelve mobile health centers. Data on school-linked and mobile health centers are included here to compare and contrast services, staffing, and operations across the three models (Table 3).

School-linked health centers had a greater presence in the suburbs than school-based and mobile programs. School-linked programs in our sample were also older: 40% were ten years of age or older (compared to 20% of school-based centers) and only 8% opened in the last two years. Because they are freestanding community-based health centers, the school-linked programs were more heavily staffed, with 50 hours each week of primary care—twice the amount of time provided in school-based programs. With the exception of reproductive health services, there were no differences in the scope of practice among school-based and school-linked centers. The linked programs were more likely to offer a comprehensive range of reproductive health and least likely to be prohibited from dispensing birth control. Unlike school-based centers, school-linked programs reported a higher rate of requiring parental permission at each visit (28% versus 12%).

Mobile clinics that responded to the census were younger programs found largely in urban elementary schools. Compared to school-based and linked centers, mobile clinics were less likely to operate full-time, reported fewer hours of primary care, and offered significantly fewer hours of mental health care per week. Mobile centers were also less likely to deliver primary care or reproductive health services. Because of their limited time at each site, mobile clinics were less able to provide services that require a greater staff presence, including counseling and preventive health promotion and education within the classroom setting.

Table 3 **Health Center Characteristics by Location**

	Link (n=25–28)	Mobile (n=8–12)	SBHC (n=747–806)
COMMUNITY TYPE	**%**	**%**	**%**
Rural	36	17	30
Suburban	25	8	14
Urban	39	75	56
GRADES SERVED			
Elementary	24	75	42
Middle	36	8	29
High	56	33	51
AGE OF CENTER			
< 2 Years	8	60	17
10 years +	40	0	20
OPERATIONS			
<8 hours/week	18	40	14
30+ hours/week	71	50	69
Summer hours	93	42	48
After hours	82	50	70
SERVICES			
Comprehensive health assessment	96	67	95
Gynecological exams	82	25	53
STD treatment	82	25	56
Immunizations	96	67	91
Condoms	75	8	25
Counseling (any)	96	42	58
Group (any)	54	25	65
Tobacco (health center)	50	25	64
Tobacco (classroom)	46	25	52
POLICIES			
Parental consent for each visit	28	18	12
Prohibited from dispensing birth control	15	75	77
Perform chart audits	89	67	87
Bill Medicaid	82	58	73
Computer System	74	45	88
STAFF	**AVERAGE HOURS PER WEEK**		
Primary care	50	19	25
Mental health	25	3	19

The CONTINUED EXPANSION *of*

School-Based Health Centers

With more than half of all school-based health centers no older than four years, the 1998–99 census data demonstrate that despite a thirty-year history, the school-based health center movement is still growing and thriving. Illustrative of this growth are health centers in Arizona, Missouri, Mississippi, Ohio, Oklahoma, Wisconsin, and West Virginia, where many communities have only recently established school-based health centers. Nine in ten health centers in these states were opened within the last four years. Seventy percent of new health centers were located in elementary and middle schools, and one in two was administered by a community hospital, reflecting the growing interest of hospitals as sponsors of school-based programs.

The adoption of school-based health centers by communities and schools not associated with the model's early history suggests an expansion of school-based health care's domain. Comparisons of older health centers with those opened more recently demonstrate the trends of health centers over the past decade (Figures 23–25). Health centers ten years of age and older were more likely to be in urban schools and serve adolescents. Newer programs were more frequently found in rural schools where school-aged youth experienced similar health care barriers to those of their urban counterparts. With the prospect of reducing acute and minor illnesses and introducing preventive health services at earlier ages, the elementary school has also become a more popular setting for school-based health centers.

Perhaps one of the most important advances is that of health centers into suburban communities. When he pledged that any high school in Delaware that wanted a health center would have one, Governor Thomas Carper reframed the perception that the need for a youth-focused health care safety net has no socio-economic or geographic boundaries.

These expanded domains—rural and suburban communities, elementary and middle grades—signify the increasing universal appeal of school-based health care as access programs for children and youth regardless of their age, location or income.

Figure 23 **Distribution of SBHCs by Grades and by Age of Center**

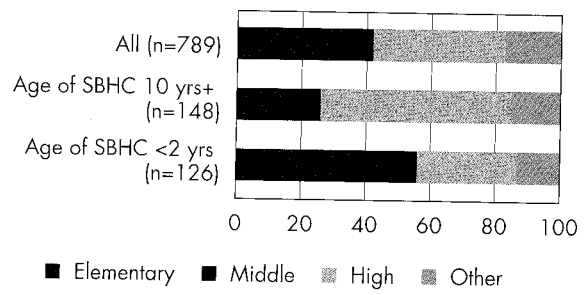


Figure 24 **Distribution of SBHCs by Community Type and Age of Centers**

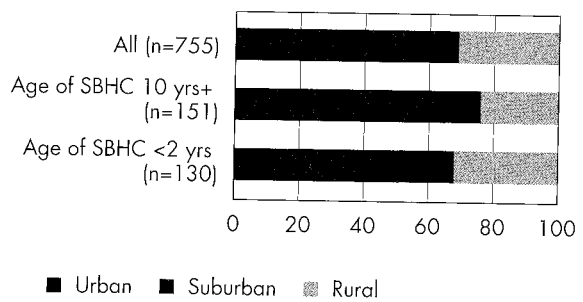
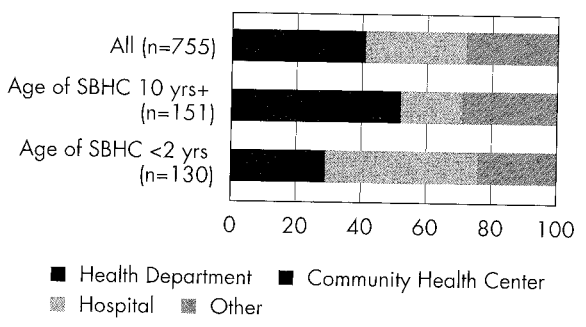


Figure 25 **Distribution of SBHCs by Sponsor and Age of Centers**



To the FUTURE

The school-based health center model, as embodied in this report's data, remains highly variable, although these data bring the field closer to identifying a core set of services and access standards. The number of centers has expanded and now includes a larger percentage of centers in elementary and middle school grades, and in suburban and rural as well as urban communities. In addition to providing traditional primary care services, the centers are increasingly offering mental health and health education services targeting some of the most challenging health behaviors of children and adolescents. Additionally, many centers report having in place systems to evaluate operations and monitor the quality of care.

Questions that need to be considered regarding the operations and services provided by the model include: When is the full implementation of the model most appropriate? Are there efficiencies to be gained—and what effects or impact are compromised—with a model scaled back to minimal staffing and limited on-site operating hours? What is driving the growth in elementary schools and how is the model different from centers in high schools? The data also raise several concerns, including the lack of consistent after-hours care, the need for more dental and mental health services, the limitations on reproductive health services, and the need for a stronger prevention orientation. The latter is particularly important as health centers have an opportunity due to their strategic location within the school to implement broad-based community/school outreach and prevention activities. More than half the centers do not participate in classroom-based health education or health promotion and risk reduction activities. While these shortcomings would no doubt be resolved with additional resources and expanded staffing patterns, many of these school-based health centers face an uncertain financial future.

After thirty years of innovation, and fueled by a combination of federal, state, and local health care investments, the continued growth of school-based health centers suggests that they have survived the demonstration phase and remain a valued service delivery model for children and adolescents. The ability to sustain the growth will depend on continued efforts to demonstrate the importance of school-based health centers in health care and education environments, both of which are experiencing their own accountability pressures. School-based health centers can make an increasingly significant contribution to access to and utilization of health care for children and adolescents, but critical questions need to be addressed: Are school-based health centers substitutive or complementary care providers for children and adolescents? Will our nation's health care system support multiple points of entry for children and adolescents? How can school-based health centers play a measurable role in health promotion and disease prevention?

The National Assembly on School-Based Health Care stands committed to providing leadership and support to the field so that we may clarify and respond to these critical questions. This fourth decade of school-based health care will see the articulation, promotion and adoption of national standards for the field, as well as the development of guidelines, tools and technical assistance for assuring high quality health care in school-based settings. We will promote the continued growth and integration of school-based health centers as an acceptable, comprehensive, accessible, and accountable source of health care—a view substantiated by the data in this report. At a time when so many factors are impeding the ability of this nation to provide high-quality education and health care to its children, school-based health centers are likely to play an increasingly important role in the solutions.

Table 4 SBHC Survey Responders and Nonresponders by Community Type, School Type, Grades and Age

	Responders %	Nonresponders %
COMMUNITY TYPE	**(N=806)**	**(N=328)**
Urban	56	64
Rural	30	26
Suburban	14	10
SCHOOL	**(N=790)**	**(N=326)**
Elementary	30	30
Elementary-Middle	7	9
Middle	12	16
Middle-High	5	7
High	41	31
K–12	5	7
DUPLICATED GRADES	**(N=790)**	**(N=326)**
Elementary	42	47
Middle	29	39
High	51	44
AGE OF SBHC	**(N=755)**	**(N=244)**
<2 years	17	24
2–4 years	42	33
5–9 years	21	21
10 years+	20	22

response was obtained from 567 programs. A seven-question nonresponders questionnaire was mailed or conducted via telephone for centers that had not responded after repeated attempts. We also obtained data directly by having the state coordinators, National Assembly members living in the state, or National Assembly staff call the school or health center. The non-response survey allowed us to calculate non-response by program type and to eliminate from the database health centers that were no longer open or that were not providing primary care.

Of the 567 nonresponding programs, 97 (17%) had closed, 77 (13%) were not school-based health centers (these were primarily school nursing, non-primary care programs), 329 (63%) were school-based health centers, 19 (3%) were school-linked health centers, 21 (4%) were mobile programs, and 24 (4%) were of unknown type after repeated attempts to collect data. Adding responders and nonresponders, we estimated 1,135 school-based health centers (in schools or on school property), 47 school-linked health centers, and 32 mobile programs. The response rate was 70% for school-based health centers, 60% for school-linked health centers, and 36% for mobile programs. Responders and nonresponders showed small differences by location, grades served, and length of time open (Table 4).

Response Rate/Nonresponders Survey

Estimates for school-linked health centers and mobile programs are undercounts, as many of these programs were not be collected in our identification process. As such, most of the analyses presented in this report are limited to school-based health centers (either in school or on the school campus).

Ethical Review

The study was reviewed at the Centers for Disease Control and Prevention for human subjects protection.