Purpose

The purpose of this paper is to provide an overview of comprehensive oral health services offered in school-based health centers (SBHCs) to assist those interested in initiating and implementing such centers. SBHCs offer services to all students in the schools in which the centers are located, with a focus on students lacking insurance or with limited access to health professionals in the community. In the context of this paper, comprehensive oral health services are defined as diagnostic, preventive, and restorative oral health services identified through formalized treatment plans provided to children and adolescents.
Problem

In the United States, dental caries is one of the most common chronic childhood diseases. Among 5- to 17-year-olds, dental caries is more than five times as common as asthma and seven times as common as allergic rhinitis (hay fever). Despite progress in reducing dental caries, children and adolescents in families with low incomes experience more dental caries than those from families with higher incomes and are more likely to have untreated caries. In every state, children enrolled in Medicaid face the most significant burden of oral disease. Nationally, on average, only one in three children enrolled in Medicaid receives oral health services each year, compared with nearly two in three children with private insurance.

The need for oral health care is the most prevalent unmet health care need among children and adolescents, including those with special health care needs (SHCN). In addition, children and adolescents with SHCN are almost twice as likely to have unmet oral health care needs as their peers without SHCN across all income levels.

Dental caries affects children and adolescents in a variety of ways. An estimated 51 million school hours per year are lost because of oral-health-related illness. Results from a national study indicated that 5- to 17-year-olds missed 1,611,000 school days owing to acute oral health problems—an average of 3.1 days per 100 students. And children and adolescents from families with low incomes had nearly 12 times as many missed school days because of oral health problems as did those from families with higher incomes.

Moreover, early tooth loss caused by dental caries can result in impaired speech and development, inability to concentrate, reduced self-esteem, and absence from school. Children and adolescents with preventable or untreated health and development problems may have trouble concentrating and learning or may develop permanent disabilities that affect their ability to grow and learn. Children and adolescents experiencing pain are distracted and unable to concentrate on schoolwork. Poor oral health has also been related to decreased school performance, poor social relationships, and less success later in life.

A study conducted with 11 focus groups comprising 77 caregivers of children enrolled in Medicaid found that caregivers (mostly mothers) identified the following barriers to obtaining oral health care for their child: (1) difficulty finding a dentist, (2) difficulty scheduling appointments, (3) excessive wait times, (4) demeaning interactions with front office staff, and (5) discrimination because their child was enrolled in Medicaid.

While millions of children and adolescents benefit from routine preventive oral health care and remain caries-free, there are still millions who needlessly suffer from avoidable oral disease. As a result, tooth decay remains the single most common chronic disease of childhood, causing untold misery for children, adolescents, and their families. Without access to regular preventive services, oral health care for many children and adolescents is postponed until symptoms, such as toothache and facial abscess, become so acute that care is sought in hospital emergency departments. This inappropriate use of emergency departments is both costly and ineffective, since few emergency departments deliver oral health services.
Solution

One proven strategy for reaching children and adolescents at high risk for oral disease is through school-based programs. These programs serve as models for improving access to oral health education, prevention, and treatment services for children and adolescents who are at high risk for oral disease. Making oral health services available at school enables students to more easily access a broad range of services in a safe, familiar environment, usually at minimal or no cost to students and their families.

SBHCs may both indirectly support academic outcomes by maintaining the physical and emotional health of students and directly improve academic outcomes by decreasing rates of early dismissals due to oral-health-related illnesses or oral-health-care appointments. Decreasing early dismissal rates increases the time a student is available in the academic setting to learn. Regardless of their gender, race, age, and poverty status, students not enrolled in SBHCs are significantly more likely to be sent home during the school day for oral-health-related reasons than those enrolled in SBHCs.

Over 1,900 school-based programs, school-linked programs, and mobile programs across the nation provide a range of primary care, mental health, and oral health services. Programs are sponsored by a wide range of organizations, including community health centers, hospitals, and universities, among others, and they enjoy unmatched access to children and adolescents, because they serve them where they are—in schools. School-based oral health services provided in these programs can help make preventive services such as education, fluoride application, and dental sealants accessible to children and adolescents, particularly those from families with low incomes. Programs that are run in partnership with local safety net dental clinics and health centers have the potential to contribute to lasting health improvements, linking children and adolescents and their families to a resource for ongoing, comprehensive oral health care (a dental home). Both school-based and school-linked programs differ from mobile programs, which rotate a health team through a number of schools, providing similar services in each. Establishing a dental home early in a child’s life can effect primary prevention and early intervention before problems occur. In addition to preventive services, school-based services should include screening, referral, and case management to ensure the timely receipt of care from oral health professionals. To maintain good oral health, children need consistent reinforcement by parents. It is therefore important for parents to be aware of what types of oral health care their children need. Program staff should talk with parents, make information available to them at health fairs, and send information home with students.

The National Assembly on School-Based Health Care has identified the following principles for SBHCs to use as benchmarks for the inclusion of comprehensive health services:

- **Supports the School.** The SBHC is built upon mutual respect and collaboration between the school and SBHC health professionals, with the goal being children’s and adolescents’ health and educational success.
- **Responds to the Community.** The SBHC is developed and operates based on continual assessment of local community assets and needs.
Focuses on Students. The SBHC involves students as responsible participants in their health; encourages parents and other family members to play a role; and is accessible, confidential, culturally sensitive, and developmentally appropriate.

Delivers Comprehensive Care. An interdisciplinary team provides access to high-quality, comprehensive health services emphasizing prevention and early intervention.

Provides Health-Promotion Activities. The SBHC takes advantage of its location to provide effective health-promotion activities for children and adolescents and the community.

Implements Effective Systems. Administrative and clinical systems are designed to support effective delivery of health services incorporating accountability mechanisms and performance-improvement practices.

Provides Leadership in Child and Adolescent Health. The SBHC model provides unique opportunities to increase expertise in child and adolescent health and to inform and influence policy and practice.

Overview and History of School-Based Health Services

SBHCs are located in geographically diverse communities, with the majority (57 percent) in urban communities. Twenty-seven percent of SBHCs are in rural schools.17 Students in schools with SBHCs are predominantly from minority and ethnic populations that have historically experienced disparities in access to health care.17

Although students attending schools where SBHCs are located are SBHCs’s primary target population, many SBHCs (64 percent) provide services to individuals other than enrolled students: students from other schools in the community (58 percent), students’ family members (42 percent), faculty and school personnel (42 percent), out-of-school adolescents (34 percent), and other community members (24 percent).17 Most SBHCs provide the basics of primary health care. These basics include vision and hearing screening, health assessment, laboratory services, immunizations, anticipatory guidance, acute illness care, and treatment.21 Just over 12 percent of SBHCs have an oral health professional on site.17

Most SBHCs bill third-party payers for health center visits, including Medicaid (81 percent), private insurance (59 percent), and the Children’s Health Insurance Program (68 percent). Thirty-eight percent bill students or families directly. SBHCs receive support from a variety of revenue sources not related to billing, including state government (76 percent), private foundations (50 percent), sponsor organizations (49 percent), and school or school district personnel (46 percent).17

Example of a National Program

Caring for Kids Program

The Caring for Kids Program was a 3-year initiative (2001–2004) of the Robert Wood Johnson Foundation. Under the initiative, seven grantees were awarded funding to develop and expand oral health services within SBHCs.22
The grantees provided oral health care through 15 SBHCs that served 17 schools (8 elementary schools, 4 middle schools, 4 combined elementary and middle schools, and 1 high school). The grants were awarded to SBHCs on the East Coast (Newark, NJ, and New York, NY), in the Midwest (Detroit, MI, and Kansas City, MS), and in the South (Huntsville, AL, and San Antonio, TX). The SBHCs enrolled 10,223 students, 78 percent of the total student population at the 17 schools (13,087).

Services offered through this initiative included oral screening and examinations, X-rays, cleanings, dental sealants, fluoride treatments, fillings, extractions, crowns, and root canals. The programs were staffed primarily by dentists, dental hygienists, and dental assistants; dental hygiene students provided education, and outreach workers enrolled students in insurance programs and followed up with parents of students who needed restorative treatment.

Thanks to continued community support, many programs remained sustainable even after the funding period had ended.

Lessons learned from the program include the following:

- Partnering with community organizations is critical.
- Recruiting problems, staff turnover, and center delays reduced productivity.
- Patient-care revenues can be generated through third-party billing.
- Integrating general health services and oral health services is a challenge.
- System development is key to maximizing efficiency.

**Examples of State Programs**

The Association of State and Territorial Dental Directors (ASTDD) has established a Best Practices Project, which promotes best practices for state, territorial, and community oral health programs. For the purposes of the Best Practice Project, a best practice approach is defined as a public health strategy that is supported by evidence for its impact and effectiveness. Evidence includes research, expert opinion, field lessons, and theoretical rationale.

ASTDD has put forth review standards for five best practice criteria for states and communities to use as resource information when developing state, territorial, and community oral health programs or when developing evaluation strategies. These criteria are as follows:

- **Impact/Effectiveness.** Program measures show benefits achieved and improved processes and systems.
- **Efficiency.** Demonstrations of efficiency in terms of costs vs. benefits and in terms of leveraging resources through collaboration with other programs.
- **Demonstrated Sustainability.** Documentation of the program’s sustainability or of a plan to address sustainability.
- **Collaboration/Integration.** Demonstration of partnerships developed, and the resulting benefits.
- **Objectives/Rationale.** The programs’ goals and objectives include oral health and are consistent with recommendations and guidelines promoted by authoritative sources, the state oral health plan, *Healthy People* oral health objectives, and/or the Surgeon General’s *A National Call to Action to Promote Oral Health*.

The following table highlights various school-based oral health prevention and treatment services.
School-Based Oral Health Prevention and Treatment Services

**Arizona. The Neighborhood Outreach Action for Health (NOAH) Program: Integrated Medical and Dental Health in Primary Care**

NOAH provides an integrated general health and oral health care model for children who are uninsured and underinsured and their family members. NOAH operates two health centers; each houses a general health clinic and an oral health clinic. Oral health assessment, planning, and treatment are included in well-child care at NOAH’s school-based centers.

**Massachusetts. Oral Health Across the Commonwealth (OHAC) Mobile Dental Program**

OHAC has a collaborative relationship with Tufts University, School of Dental Medicine, Community Dental Program (which has a statewide coordinated system of dentists and dental hygienists), and Commonwealth Mobile Oral Health Services (a private oral health care provider). This partnership allows OHAC to deliver comprehensive oral health care to children at high risk for oral disease and to children and adults with special health care needs.

**New Hampshire. New Hampshire School-Based Preventive Dental Programs**

New Hampshire has 21 school-based preventive oral health programs serving 37,000 students in more than half the state’s elementary schools. Each program (administered by a sponsoring agency) hires a dental hygienist to deliver and/or coordinate screenings, prophylaxis, topical fluoride treatments, dental sealants, education, fluoride mouthrinses, referrals, case management, and data collection for surveillance.

**New York. New York State School-Based Health Center Dental Program**

Beginning in 2003, the New York State Department of Health, Bureau of Dental Health, assumed primary responsibility for reviewing, approving, and monitoring oral health programs in SBHCs throughout the state. All children who meet the criteria and who are enrolled in Early Head Start, Head Start, or other preschool programs or who are in school are eligible for preventive oral health services and oral treatment provided by the program. If the program provides only preventive oral health services, it must arrange treatment for children who need it, either at a designated back-up facility or through referral to another provider. (See Resources: Planning and Implementing a School-Based Health Center Dental Program: Guidance in Applying to Provide Dental Health Services in a School in New York State.)

**Texas. The Methodist Healthcare Ministries School Based Oral Health Program**

The school-based oral health program is a collaborative effort of Methodist Healthcare Ministries; University of Texas Health Science Center at San Antonio, School of Dental Hygiene and Dental School; and Texas Department of State Health Services, Oral Health Program. Services include classroom education, assessments, dental sealants, fluoride treatments, mouthguard fabrication, and emergency and restorative dental treatment.

**Vermont. Tooth Tutor Dental Access Program**

The Vermont Department of Health, Dental Health Services, administers the Tooth Tutor Dental Access Program. A dental hygienist works with each participating school to teach children the value of oral health care and to provide a dental home for children. Half of the elementary schools in the state participate in the program.
The following list highlights critical elements of programs for improving children’s and adolescents’ oral health through SBHCs.25

**Administration**

- Target schools with high rates of students who receive free and reduced-price meals to ensure that SBHCs are reaching children and adolescents at high risk for dental caries.
- Develop and use a business plan for managing SBHCs.

**Partnership and Collaboration**

- Provide education for parents, families, school staff, and the community on the importance of oral health and on SBHCs.
- Establish and maintain good relationships among oral health professionals; health officials; and the school system, including school boards, administrators, teachers, and health professionals (e.g., nurses, nurse practitioners, social workers).
- Develop a memorandum of understanding (MOU) between the school and the program that delineates responsibilities.
- Ensure that all parties (e.g., oral health professionals, the school system, the organization sponsoring the SBHC, the state oral health program, the oral health advisory council) are committed to the program’s goal(s) and objectives and to the fulfillment of the MOU.
- Collaborate with local resources (e.g., public health departments, federally qualified health center dental clinics) willing to take referrals from SBHCs.
- Identify program champions (e.g., individuals within the school system, oral health community, or lay community; family members; neighborhood coalition members) to advocate for and promote SBHCs.

**Financial and Nonfinancial Support**

- Maximize use of community resources, such as dental schools and dental hygiene schools.
- Establish a method for billing Medicaid for services to serve those enrolled in or eligible for Medicaid and to help ensure program sustainability.
- Maximize oral health professionals’ ability to practice to the fullest extent allowed by the state practice act (e.g., state practice act that allows dental hygienists to determine the need for dental sealants).
- Encourage a community, organization, or state agency to adopt the program and provide support for it.

**Evaluation**

- Use appropriate data-collection methods.
- Develop and use a guide for SBHC planning, implementation, and evaluation.

**Conclusion**

Providing comprehensive oral health services through SBHCs is an important strategy for improving access to oral health education, prevention, and treatment services for children and adolescents who are at high risk for oral disease. Making these services available at school through SBHCs enables students to access a broad range of services in a safe, familiar environment, usually at little or no cost to students and their families.
References


**Resources**


Organizations

American Academy of Pediatric Dentistry
211 East Chicago Avenue, Suite 1700
Chicago, IL 60611-2663
Telephone: (312) 337-2169
Fax: (312) 337-6329
Website: http://www.aapd.org

American Association for Community Dental Programs
635 West Seventh Street, Suite 309
Cincinnati, OH 45203
Telephone: (513) 621-0248
Fax: (513) 621-0288
E-mail: info@aacdp.org
Website: http://www.aacdp.com

American Association of Public Health Dentistry
3085 Stevenson Drive, #200
Springfield, IL 62703
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Fax: (217) 529-9120
E-mail: natoff@aaphd.org
Website: http://www.aaphd.org

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611-2678
Telephone: (312) 440-2500
Fax: (312) 440-7494
E-mail: info@ada.org
Website: http://www.ada.org

American Dental Hygienists’ Association
444 North Michigan Avenue, Suite 3400
Chicago, IL 60611
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Fax: (312) 467-1806
E-mail: exec.office@adha.net
Website: http://www.adha.org

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Telephone: (202) 466-3396
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E-mail: chhcs@gwu.edu
Website: http://www.healthinschools.org

Centers for Disease Control and Prevention
Division of Adolescent and School Health
4770 Buford Highway, N.E., Mailstop K-29
Atlanta, GA 30341
Telephone: (800) 232-4636
E-mail: cdcinfo@cdc.gov
Website: http://www.cdc.gov/HealthyYouth
Centers for Disease Control and Prevention
Division of Oral Health
4770 Buford Highway, N.E., Mailstop F-10
Atlanta, GA 30341-3717
Telephone: (770) 488-6054
E-mail: oralhealth@cdc.gov
Website: http://www.cdc.gov/OralHealth

See also
National Oral Health Surveillance System [website]
http://www.cdc.gov/nohss
Oral Health Maps [website]
http://apps.nccd.cdc.gov/gisdoh/default.aspx
Synopses of State and Territorial Dental Public Health Programs [website]
http://apps.nccd.cdc.gov/synopses/index.asp

Centers for Medicare and Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244
Phone: (877) 267-2323
Website: http://www.cms.hhs.gov

Coalition for Community Schools
c/o Institute for Educational Leadership
4455 Connecticut Avenue, N.W., Suite 310
Washington, DC 20008
Phone: (202) 822-8405, ext. 156
Fax: (202) 872-4050
E-mail: ccs@iel.org
Website: http://www.communityschools.org

Health Resources and Services Administration
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Oral Health America
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Website: http://www.oralhealthamerica.org

U.S. Census Bureau
4600 Silver Hill Road
Washington, DC 20233
Phone: (800) 877-8282
Website: http://www.census.gov

See also
Population Estimates [website]
http://www.census.gov/popest/estbygeo.html
http://www.census.gov/did/www/saipe
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