

A Best Practice Approach Report describes a public health strategy, assesses the strength of evidence on the effectiveness of the strategy, and uses practice examples to illustrate successful/innovative implementation.

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Best Practice Approach Improving Children’s Oral Health through Coordinated School Health Programs

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Summary of Evidence Supporting Improving Children’s Oral Health through Coordinated School Health Programs

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See **Attachment A** for details.

I. Description

A. Children’s Oral Health

The Surgeon General of the United States Public Health Service during 2002-2006, Dr. Richard H. Carmona, called oral diseases “a silent epidemic” that is “affecting our most vulnerable citizens – children from families with low incomes, children from racial and ethnic minority groups, and children with special health care needs. No child should suffer the stigma of craniofacial birth defects nor be found unable to concentrate because of the pain of untreated oral infections.”¹

A focus of children’s oral health is preventing and controlling tooth decay (dental caries). Despite achievements in lowering rates since the early 1970s, tooth decay remains the most common chronic disease of childhood in the United States.² Approximately 80 percent of tooth decay is found in 25 percent of children, primarily vulnerable children from low-income families.³ During 1999-2004, 42 percent of 2-11 year-olds have experienced tooth decay in their primary (baby) teeth and 59 percent of 12-19 year olds have experienced tooth decay in their permanent (adult) teeth.^{2,4} Children from families living below the federal poverty level have more tooth decay; Mexican-American and non-Hispanic black children are more susceptible to tooth decay than non-Hispanic white children.^{2,4} Comparing the periods of 1988-1994 and 1999-2004, tooth

decay experience among children age 6–11 years has remained unchanged; however, among children age 2–5 years, tooth decay has increased.²

Another oral health concern for children is tobacco use. A well documented association exists between tobacco use and oral diseases. Tobacco use by the mother is associated with congenital abnormalities such as cleft palate and cleft lip.⁵ Smoking and use of smokeless tobacco cause oral cancer and periodontal (“gum”) disease. Although tobacco use among students in grades 9-12 has decreased since 1999, 28 percent of students in this age group still use tobacco products. Of this age group, 15 percent of non-Hispanic black students, 18 percent of Hispanic students, and 25 percent of non-Hispanic white students smoke cigarettes.⁶

Optimal oral health also includes being free from injury to the teeth, mouth and face. During 1999-2004, 3 percent of 6-8 year-olds, 11 percent of 9-11 year-olds, 18 percent of 12-15 year-olds, and 23 percent of 16-19 year-olds have experienced trauma to their permanent incisors (front teeth).² These dental trauma rates are unchanged compared to 1988-1994.^{2,7}

B. Untreated Tooth Decay and Unmet Dental Care

Tooth decay is progressive. If left untreated, it can significantly diminish overall health and quality of life for children. Failure to prevent and treat tooth decay has long-term effects on children’s development, compromising the ability to eat and speak, reducing self-esteem, and leading to failure to thrive.⁸ The cost of preventive dental care is minimal compared to the consequences of children suffering from dental pain/infection and having extensive treatment to repair damaged teeth.^{9,10}

Millions of U.S. children do not have the benefit of basic oral health care. Oral health care is the most common unmet health care need among children.¹¹ Children from low-income families are less likely to obtain dental care. More than 60 percent of low-income children had no dental visit in the past year, compared with approximately 40 percent of children who were not low-income.¹¹ African-American and Hispanic children are more likely to have untreated tooth decay than white children, and they are less likely to have had a dental visit in the past year.¹¹ Children who lacked dental insurance are more likely to have an unmet need for care.¹²

One-third (33 percent) of low-income children age 2-11 have untreated tooth decay in their primary teeth, compared with 15 percent of children at or above twice the poverty level.² Almost 12 percent of low-income children age 6-11 have untreated tooth decay in their permanent teeth, compared with 4 percent of children at or above twice the poverty level.² Although more than 90 percent of general dentists provide care to children, only a small percentage provide care to children covered by Medicaid who are under age four and who need extensive care due to advanced tooth decay.¹³

C. Relationship of Health to Academic Performance

There is a relationship between a child’s health and academic performance.¹⁴ The fundamental mission of schools is to provide the knowledge and skills children need to become healthy and productive adults. Promoting healthy and safe behaviors among students is an important part of this mission. Improving personal health and safety can increase a student’s capacity to learn, reduce absenteeism, and improve physical fitness and mental alertness.

Good health is necessary for academic success. Students have difficulty with academic performance if they are depressed, tired, bullied, stressed, sick, using alcohol or other drugs, hungry, or abused. Former Surgeon General, Dr. Antonia Novello, noted “Health and education go hand in hand: one cannot exist without the other.”¹⁵ The U.S. Department of Education acknowledged that health problems and unhealthy behaviors have a major effect on students’ success.¹⁶

D. The Relationship of Oral Health to Learning

School nurses acknowledge that children present with oral health problems that include tooth decay, “gum” disease, loose teeth, and oral trauma.¹⁷ When children have poor oral health, their ability to learn is affected.¹⁸ An estimated 51 million school hours per year are lost because of dental-related illness.¹⁹ Students ages five to 17 years miss more than 1.6 million school days due to acute dental problems.²⁰ Children from families with low incomes had nearly 12 times as many restricted-activity days (e.g., missing school) because of dental problems compared to children from families with higher incomes.^{21,22}

A child with a dental problem may have anxiety, fatigue, irritability and depression; he/she may withdraw from normal activities.^{23,24} Children distracted by dental pain may be unable to concentrate and learn, complete school work and score well on tests.²⁵ Poor oral health has been related to decreased school performance, poor social relationships and less success later in life.²⁶⁻²⁸ When children’s acute dental problems are treated, and they are no longer experiencing pain, their learning and school-attendance records improve.²⁹

Dental problems (e.g., pain, infection and teeth missing due to tooth decay) can cause chewing problems. This can limit food choices and result in inadequate nutrition.³⁰ Nutritional deficiencies also hinder children’s school performance, reduce their ability to concentrate and perform complex tasks, and contribute to behavioral problems.^{31,32}

E. Preventing Tooth Decay

Children with tooth decay suffer needlessly. Tooth decay can be prevented and prevention is cost-effective.³³ Strategies to prevent tooth decay include the following:

Professional Dental Care – A dental professional can determine and prescribe the appropriate use of fluoride to prevent and slow the progression of tooth decay, educate children about oral hygiene, determine risk factors for appropriate disease management, and counsel parents on healthy behaviors for optimal oral health.³⁴ Early prevention is important. For example, low-income children who have their first preventive dental visit by age one are less likely to have subsequent restorative or emergency room visits; their average costs for dental care over a five-year period are almost 40 percent lower (\$263 compared to \$447) than children who receive their first preventive visit after age one.³⁵

Water Fluoridation – Water remains the most cost-effective method of delivering fluoride to communities.³⁶⁻⁴⁰ Community water fluoridation decreases tooth decay by 29 to 51 percent in children ages 4 through 17.³⁸ The annual per person savings from water fluoridation range from \$15.95 in very small communities to \$18.62 for large communities.³⁹ Medicaid dental programs cost 50 percent less in fluoridated communities compared to non-fluoridated communities.⁴⁰

Dental Sealants – Dental sealants are effective in preventing tooth decay in the pits and fissures of teeth⁴¹ and are cost-effective.⁴² From 1988-1994 to 1999-2004, the percent of children with dental sealants on permanent teeth have increased from 22 to 30 percent among 6-11 year-olds and from 18 to 38 percent among 12-19 year-olds.² Dental sealants have been shown to avert tooth decay over an average of 5-7 years.^{43,44}

Without access to regular preventive dental services, dental care for many children is postponed until symptoms (e.g., a toothache or a facial abscess) become so acute that care is sought in hospital emergency rooms.⁴⁵ The consequences are costly. A three-year comparison of Medicaid reimbursement for emergency room treatment for dental problems versus preventive treatment showed that the cost to manage symptoms related to tooth decay in the emergency room (\$6,498) is approximately ten times more than if preventive care is provided in a dental office (\$660) for the same patients.⁴⁵

Many children have barriers to accessing preventive dental care. Low-income and minority children, and children whose primary caregivers have less education, are less likely to access preventive dental services than children from middle or high-income children.⁴⁶⁻⁴⁸ Children without private or public dental insurance coverage are also less likely than children with coverage to have a preventive dental visit in the previous year.⁴⁹ Dental care utilization for U.S. children age 0-20 years in 2004 showed that:⁵⁰

- 45 percent of children have at least one dental visit (25 percent under age 6 years, 59 percent age 6-12 years, and 48 percent age 13-20 years);
- 62 percent of children from a high-income family have at least one dental visit but only 34 percent of children from a family with low income have at least one dental visit;
- 88 percent of children with at least one dental visit have at least one diagnostic procedure (examination or x-ray), and about 82 percent of children have at least one preventive procedure (dental cleaning, fluoride or sealant);

In particular, barriers to accessing preventive care exist for children with Medicaid coverage.⁵¹ Two of every three Medicaid eligible children did not receive any dental services and 72 percent did not receive preventive dental services during the Federal Fiscal Year 2006.⁵²

School-based oral health services have the advantage of reaching children and are able to target preventive services to underserved, low-income children.⁵³ School-based programs can provide a range of services including oral health education and promotion, dental screenings and referrals, dental sealants, fluoride mouth rinses or tablets, fluoride varnish applications, case management, establishment of a dental home, and restorative treatment. These programs assure timelier oral health care for children with unmet treatment needs.

F. The Coordinated School Health Program Model

According to the Centers for Disease Control and Prevention (CDC), Division of Adolescent and School Health, “Schools cannot – and should not be expected to – solve the nation’s most serious health and social problems. Families, health care workers, the media, religious organizations, community organizations that serve youth, and young people must be systematically involved. However, schools provide a critical facility in which many agencies might work together to maintain the well-being of young people.”⁵⁴

CDC developed a research-based model for a Coordinated School Health Program (CSHP). See **Figure 1**. A CSHP is a planned, organized set of health-related programs, policies, and

services coordinated to meet the health and safety needs of K-12 students at both the school district and individual school levels.



Figure 1. Coordinated School Health Program Model

The CSHP model has eight components to influence health and learning. The following is the CDC's description of each component (<http://www.cdc.gov/HealthyYouth/CSHP/>):⁵⁴⁻⁵⁹

1. **Health Education:** A planned, sequential, K-12 curriculum that addresses the physical, mental, emotional and social dimensions of health. The curriculum is designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. It allows students to develop and demonstrate increasingly sophisticated health-related knowledge, attitudes, skills, and practices. The comprehensive health education curriculum includes a variety of topics such as personal health, family health, community health, consumer health, environmental health, sexuality education, mental and emotional health, injury prevention and safety, nutrition, prevention and control of disease, and substance use and abuse. Qualified, trained teachers provide health education.
2. **Physical Education:** A planned, sequential K-12 curriculum that provides cognitive content and learning experiences in a variety of activity areas such as basic movement skills; physical fitness; rhythms and dance; games; team, dual, and individual sports; tumbling and gymnastics; and aquatics. Quality physical education should promote, through a variety of planned physical activities, each student's optimum physical, mental, emotional, and social development, and should promote activities and sports that all students enjoy and can pursue throughout their lives. Qualified, trained teachers teach physical activity.
3. **Health Services:** Services provided for students to appraise, protect, and promote health. These services are designed to ensure access or referral to primary health care services or both, foster appropriate use of primary health care services, prevent and control communicable disease and other health problems, provide emergency care for illness or injury, promote and provide optimum sanitary conditions for a safe school facility and school environment, and provide educational and counseling opportunities for promoting and maintaining individual, family, and community health. Qualified professionals such as physicians, nurses, dentists, health educators, and other allied health personnel provide these services.

4. **Nutrition Services:** Access to a variety of nutritious and appealing meals that accommodate the health and nutrition needs of all students. School nutrition programs reflect the U.S. Dietary Guidelines for Americans and other criteria to achieve nutrition integrity. The school nutrition services offer students a learning laboratory for classroom nutrition and health education, and serve as a resource for linkages with nutrition-related community services. Qualified child nutrition professionals provide these services.
5. **Counseling, Psychological, and Social Services:** Services provided to improve students' mental, emotional, and social health. These services include individual and group assessments, interventions, and referrals. Organizational assessment and consultation skills of counselors and psychologists contribute not only to the health of students but also to the health of the school environment. Professionals such as certified school counselors, psychologists, and social workers provide these services.
6. **Healthy School Environment:** The physical and aesthetic surroundings and the psychosocial climate and culture of the school. Factors that influence the physical environment include the school building and the area surrounding it, any biological or chemical agents that are detrimental to health, and physical conditions such as temperature, noise, and lighting. The psychological environment includes the physical, emotional, and social conditions that affect the well-being of students and staff.
7. **Health Promotion for Staff:** Opportunities for school staff to improve their health status through activities such as health assessments, health education and health-related fitness activities. These opportunities encourage school staff to pursue a healthy lifestyle that contributes to their improved health status, improved morale, and a greater personal commitment to the school's overall coordinated health program. This personal commitment often transfers into greater commitment to the health of students and creates positive role modeling. Health promotion activities have improved productivity, decreased absenteeism, and reduced health insurance costs.
8. **Family/Community Involvement:** An integrated school, parent, and community approach for enhancing the health and well-being of students. School health advisory councils, coalitions, and broadly based constituencies for school health can build support for school health program efforts. Schools actively solicit parent involvement and engage community resources and services to respond more effectively to the health-related needs of students.

A CSHP aims to improve the health and academic performance of school children by actively involving parents, teachers, students, families and communities in the implementation. The program targets long-term results. A CSHP helps students establish and maintain healthy personal and social behaviors, improves student knowledge about health, and helps them develop personal and social skills to make smart choices in school and in life.

It is important to recognize that there are existing school-based or school-linked health programs that have been developed and implemented outside of a coordinated school health initiative. These programs are likely addressing one or more components of the CSHP model. A coordinated school health initiative should integrate with these programs, ensuring continuity for preventive health measures, and building upon their successes and effectiveness.

The CDC Division of Adolescent and School Health, funds state and territorial education agencies and tribal governments to help school districts and schools implement CSHPs. As of

2009, 22 state educational agencies and one tribal government have received funding to implement CSHPs: Arizona, Arkansas, California, Colorado, Connecticut, Idaho, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, North Carolina, North Dakota, Ohio, South Carolina, South Dakota, Washington, West Virginia, Wisconsin, and Nez Pierce (Tribal Government).⁶⁰ These funded partners (<http://www.cdc.gov/healthyyouth/partners/funded/cshp.htm>):

- Collaborate with health agencies to share decision making and responsibilities for implementing policies and practices.
- Develop/disseminate policies, and provide tools and training, to promote and improve
 - school health councils and school health coordinators in local school districts,
 - health education curriculum, instruction, and assessment,
 - physical education curriculum, instruction, and assessment,
 - opportunities for physical activity and healthy eating, and
 - tobacco use prevention.
- Identify youth at greatest risk for inactivity, unhealthy dietary patterns, and tobacco use and focus efforts on implementing strategies to reduce their risk.
- Involve youth in planning, delivering, and evaluating CSHPs and efforts to promote PANT (physical activity, nutrition and tobacco prevention).
- Document the impact of program activities.

States use this CDC funding to maximize efficiency and eliminate duplication in coordinating existing state and community initiatives. To address CSHP efforts and tailor services to current needs, schools can use CDC's School Health Index (SHI), a self-assessment and planning tool to improve their health and safety policies/programs (<https://apps.nccd.cdc.gov/shi/default.aspx>).

Current CSHPs have improved health outcomes and student academic achievement in the following ways (http://www.healtheducationadvocate.org/factsheets/dash_factsheet_2009.pdf):

- Schools that offer breakfast programs have increased academic test scores, daily attendance, and class participation.
- Each \$1 invested in school-based tobacco prevention, drug and alcohol education and family life education has saved \$14 in avoided health costs.
- Students who receive mental health services have reduced failure rates and disciplinary actions and have improved grade point averages.

Success stories of CSHPs are being reported across the country from states funded by CDC and from states that embraced the CSHP model without related CDC funding:

- [School Health Programs – Success Stories from the Field 2009](#)
- [2009 Success Stories – Local, State, and Non-governmental Organization Examples](#)
- [Coordinated School Health in Arkansas – Success Stories](#)
- [Hawaii's State Success Stories in Coordinated School Health](#)
- [Michigan's Healthy Schools, Healthy Students Success Stories](#)
- [South Dakota Coordinated School Health Program Success Stories](#)
- [Tennessee Department of Education – Coordinated School Health Success Stories](#)
- [McComb School District \(Mississippi\) – Journey to Good Health](#)

One of the CSHP success stories, the McComb School District in Mississippi, has documented impressive outcomes. The McComb School District covers approximately 3,000 children in seven schools. Eighty percent of the students are minorities and 90 percent are on free or reduced price school lunch programs. When Dr. Pat Cooper began as McComb's superintendent in 1997, there were fights at school, a high juvenile arrest rate, a substantial dropout rate, and a high teenage pregnancy rate among the students. Children entering school at age five were functioning at a 3-4 year old level.

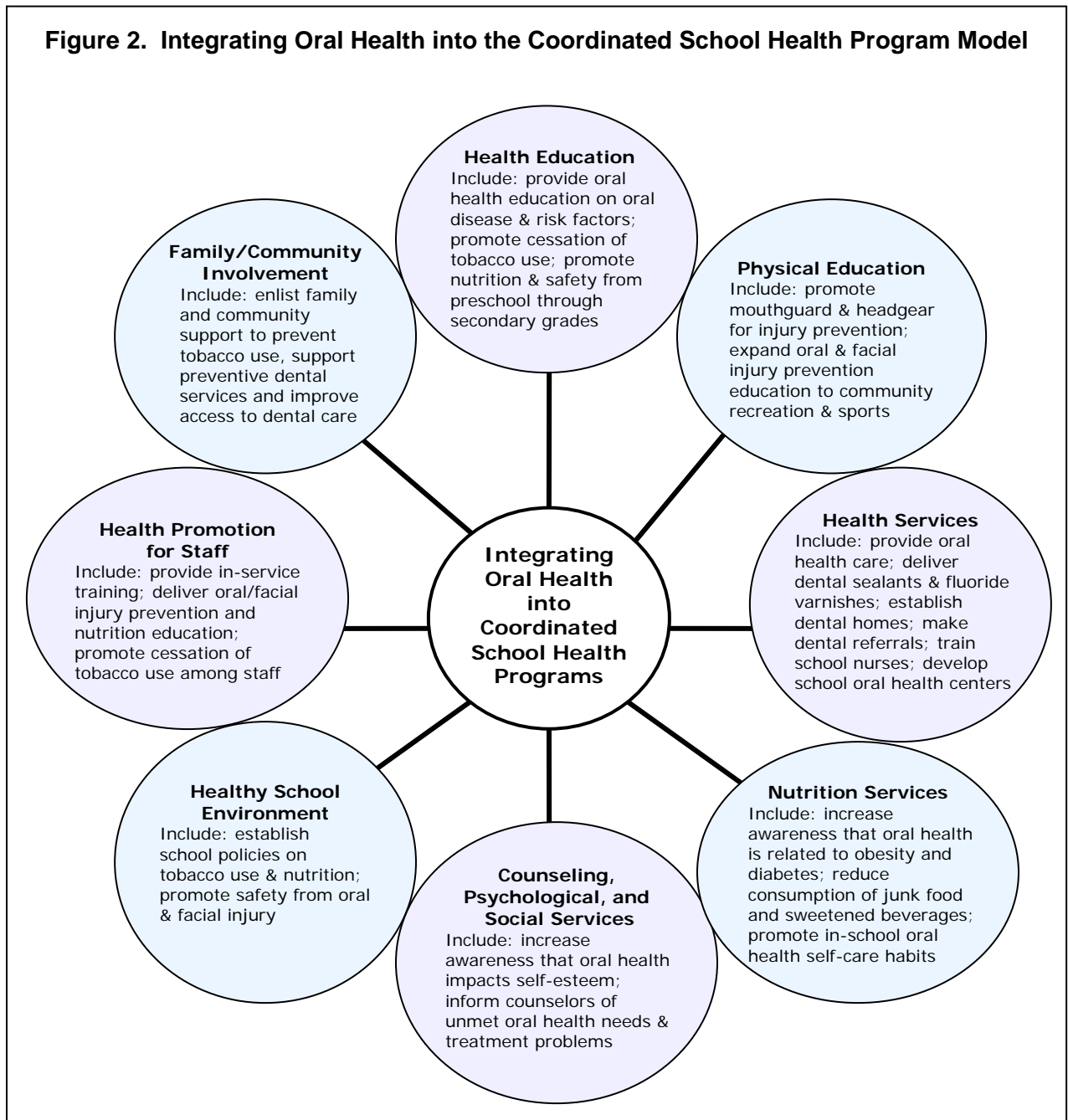
McComb used the CSHP model to establish a comprehensive school health program (added "Academic Opportunity" as a ninth component). Guided by Maslow's hierarchy of needs, which holds that people's most basic needs are physical (e.g., hunger) followed by emotional needs of security, love, self-esteem and self-actualization, the school health program aimed to first meet the students' basic physical needs to help the children achieve their full potential. The entire community was involved in implementing the model.

After eight years, McComb's 8 percent dropout rate for teenage mothers fell to 3 percent. Children achieved higher grades. Attendance improved. Juvenile crime arrest rates fell. Graduation rates increased from 77 percent in 1997 to 92 percent in 2004. The percent of students performing below grade level decreased from 57 percent to 45 percent. The commitment to the health of the students is captured in the [McComb School District Wellness Policy](#), which addressed each of the components of the CSHP model.

G. Integrating Oral Health into the Coordinated School Health Program Model

The CSHP model highlights the importance of including all eight components to fully impact student health behaviors. A strategic approach to improve the oral health of school children is to assure that oral health is integrated into each of the eight components of the CSHP model as illustrated in **Figure 2**. A more detailed description is provided in **Attachment B**. CSHPs can provide children and adolescents with the knowledge, skills, social support and environmental reinforcement needed to adopt long-term behaviors for optimal oral health.

Figure 2. Integrating Oral Health into the Coordinated School Health Program Model



H. Oral Health Recommendations for Coordinated School Health Programs

Based on the research literature, CDC in collaboration with other federal agencies, state agencies, universities, voluntary organizations and professional organizations, has developed guidelines for school health program strategies. **Attachment C** provides the links for CDC school health guidelines/recommendations related to oral health (promotion of healthy eating, prevention of unintentional injuries and violence, and prevention of tobacco use and addiction).

The ASTDD Best Practices Committee and School & Adolescent Oral Health Committee developed an initial list of oral health recommendations for integrating oral health into each of the eight component of the CSHP model. **Attachment B** lists these recommendations.

II. Guidelines & Recommendations from Authoritative Sources

Guidelines and recommendations for improving the oral health of children include the following:

A. Healthy People 2020

[Healthy People 2020](#)⁶¹ objectives aim to improve the health of all people in the United States. The following objectives related to children's oral health:

- *Oral Health* – Several oral health objectives relate to increasing dental sealant placement, the use of the oral health care system, preventive services for low-income children, school-based health centers with an oral health component, and systems for recording and referring children with craniofacial anomalies.
- *Tobacco Use* – Several objectives focus on reducing tobacco use, the initiation of tobacco use, exposure to tobacco smoke, illegal tobacco sales to minors and tobacco advertising, while increasing cessation of tobacco use and smoke-free environments.
- *Injury and Violence Prevention* – An objective targets increasing the use of head, face, eye and mouth protection.
- *Nutrition and Weight Status* – An objective calls for increasing students' dietary quality at school.

B. American Academy of Pediatric Dentistry

The mission of the [American Academy of Pediatric Dentistry](#) (AAPD)⁶² is to advocate policies, guidelines and programs that promote optimal oral health and oral health care for children. The [AAPD 2009-2012 Strategic Plan](#) has a goal that promotes optimal health for all children and persons with special health care needs and includes objectives related to (a) an oral disease-free population and (b) access to appropriate oral health care.

C. Children's Dental Health Project

The [Children's Dental Health Project](#) (CDHP)⁶³ advances research-driven policies and innovative solutions to eliminate barriers to preventing tooth decay and to ensure that all children reach their full potential. CDHP focuses on five policy areas: preventing tooth decay and managing dental caries; access to affordable, quality dental care; assuring a strong oral health infrastructure; reducing oral health disparities; and supporting families to achieve oral health.

D. Support of Coordinated School Health Programs

Many influential voices support CSHPs:

- The National Association of State Boards of Education (NASBE) advocates that “Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally, and socially.”⁶⁴
- The National Governors Association (NGA) has produced a policy brief on CSHPs recommending that policymakers focus on eliminating barriers that affect readiness to learn among lower-performing students.⁶⁵
- The U.S. Department of Health and Human Services has noted that schools have more influence on young people than any other social institution except the family, and highlights the opportunity that schools offer for improving the health status of children.⁶¹
- The Council of Chief State School Officers, in a policy statement for school health, recommends incorporating knowledge and skills needed to promote coordinated school health programs in certification requirements for school administrators, teachers, nurses, counselors, psychologists, food services managers, and other school professionals.⁶⁶
- Superintendents and school administrators nationwide have found benefits from CSHPs. For example, the Superintendent of Stow-Munroe Falls City Schools, Edward VandenBulke stated: “Our district has seen first-hand what a well-rounded health program can accomplish for all children, pre-K through 12th grade. There is no question in the minds of (our) educators that a complete school health program positively affects student achievement.”⁶⁷
- The American Cancer Society (ACS) understands the important links between health and education, and took a leadership role in promoting CSHPs for the nation’s schools.⁶⁸

Over 50 leading national health and education organizations participate in a coalition, the “Friends of School Health,” to promote CSHPs. A listing of these organizations is provided in **Attachment D**. In April 2005, the Friends of School Health testified before the United States House of Representatives Committee on Appropriations Subcommittee on Labor, Health, and Human Services Education and Related Agencies.⁶⁹

III. Research Evidence

A. Evidence Supporting the CSHP Model

The CSHPs are based on the close association of health and education. Research on health and student achievement supported the development of the CSHP model.¹⁴ Scientific evidence of the effectiveness should show that CSHPs have positive impacts on academic achievement, health-risk behaviors and health status outcomes.

A systematic review of the scientific literature, reported in 2007, examined evidence of school health programs (aligned with the CSHP model) in improving academic outcomes.⁷⁰ The review used the analytic framework developed by the Community Preventive Services Task Force and showed that:

- The strongest evidence from scientifically rigorous evaluations exists for a positive effect on some academic outcomes from school health programs for asthmatic children when programs incorporate health education and parental involvement.

- Strong evidence also exists for a lack of negative effects of physical education programs on academic outcomes.
- Limited evidence from scientifically rigorous evaluations support the effect of nutrition services, health services, and mental health programs, and no scientifically rigorous evidence is found in the literature to support the effect of staff health promotion programs or school environment interventions on academic outcomes.

The review concludes that: (a) scientifically rigorous evaluation of school health programs is challenging to conduct due to issues related to sample size, recruitment, random assignment to condition, implementation fidelity, costs, and adequate follow-up time, (b) strong evidence exists for the effect of school health programs on academic outcomes, and (c) school health programs hold promise for improving academic outcomes for children.

Additionally, a set of scientific reviews of published research studies has documented that school health programs can have positive impacts on student performance at school but noted that many chronic conditions and school-based interventions are not well researched.⁷¹⁻⁷⁶ For example, evidence included:

- Children with poor nutrition related to iron deficiencies (resulting in anemia) are at a disadvantage academically; their cognitive performance (thinking, reasoning or remembering) improve with iron therapy.⁷¹
- School breakfast programs improve cognitive function.⁷¹
- There may be short-term academic improvements with physical activity (such as on concentration).⁷²

B. Evidence Supporting Preventive Oral Health Services

Guide to Community Preventive Services

[The Guide to Community Preventive Services](#)⁷⁷ conducted systematic reviews on the effectiveness of population-based interventions to prevent or control (a) tooth decay, (b) oral and pharyngeal cancers, and (c) sports-related craniofacial injuries.

The Task Force on Community Preventive Services recommends Community Water Fluoridation (CWF) based on strong evidence of effectiveness in reducing dental decay. CWF reduces dental caries approximately 30 percent to 50 percent.⁷⁸ Stopping CWF (when other fluoride sources are inadequate) can result in increases in tooth decay by 18 percent.⁷⁸ Studies show that CWF is cost saving for populations greater than 20,000. The average cost of CWF \$0.40 per person per year for communities with 20,000 or more people (\$2.70 per person per year for communities with 5,000 or less people).^{78,79}

The Task Force recommends school-based and school-linked dental sealant programs on the basis of strong evidence in reducing decay. Sealants applied through a school-based or school-linked program were associated with a 60 percent decrease in tooth decay.^{78,80} School-based programs showed a higher decrease (65 percent) than school-linked programs (37 percent).⁷⁸ Programs in which sealants were re-applied showed a higher decrease (65 percent) than programs in which sealants were not re-applied (30 percent).⁷⁸ For school-based and school-linked sealant programs, costs per child ranged from \$18 to \$60 (median cost is \$39); the cost saving per tooth surface saved from decay ranged from \$0 to \$487.⁷⁸ (Additional systematic reviews by a work group sponsored by CDC concluded that evidence supports recommendations to seal sound surfaces and non-cavitated lesions, to use visual assessment to detect surface cavitation, to use a toothbrush or handpiece

prophylaxis to clean tooth surfaces, and to provide sealants to children even if follow-up cannot be ensured.⁴¹⁾

The Task Force found insufficient evidence to determine the effectiveness of population-based interventions (a) for early detection of pre-cancers and cancers in reducing oral cancer morbidity/mortality or in improving the quality of life^{78,81} and (b) to encourage use of helmets, facemasks and mouthguards in contact sports.^{78,82} Insufficient evidence does not mean that the intervention does not work, but rather that additional research studies are needed to make a determination.

American Dental Association Center for Evidence-Based Dentistry

The [ADA Center for Evidence-Based Dentistry](#) provides systematically assessed evidence as tools and resources to support clinical decisions to integrate evidence into patient care.

An expert panel, convened by the ADA Council on Scientific Affairs, evaluated the collective evidence and developed [evidence-based clinical recommendations on the use of pit-and-fissure sealants](#) (published in March 2008).⁸³ The panel concluded that sealants are effective in caries prevention and that sealants can prevent the progression of early non-cavitated carious lesions.

An expert panel, established by the ADA Council on Scientific Affairs, evaluated the collective body of scientific evidence and provided [evidence-based recommendations on the use of professionally applied topical fluoride](#) (published in May 2006).⁸⁴ The panel recommended that periodic fluoride treatments (fluoride varnish or gel) be considered for children age 6-18 years who are at moderate or high risk of developing tooth decay.

IV. Best Practice Criteria

For the best practice approach of *Improving Children's Oral Health through Coordinated School Health Programs*, the following are initial review standards for five best practice criteria (provided as resource information for states/communities developing programs or evaluation strategies).

(1) Impact / Effectiveness

- Program measures showing oral health benefits achieved. For example:
 - Oral health surveillance documents improved oral health status (reduced levels of tooth decay experience and untreated decay) as a result of programs reaching school aged children.
 - A school-based dental sealant program increases the proportion of children with sealants over time and achieving the Healthy People 2020 target.
 - A program reduces the number of children who are treated in the hospital emergency room for dental pain or infection. (Note: There are issues on translating limited ER diagnosis codes and on reliable tracking to show trends.)
- Program measures showing improved processes/systems for oral health. For example:
 - An increased number of children having a dental home or receiving preventive oral health services.
 - New policies promoting oral health as an important focus for healthy schools.

(2) Efficiency

- An analysis that demonstrates efficiency in terms of costs vs. benefits. For example:
 - An intervention program showing cost savings for averted tooth decay or avoiding the need to treat dental disease in an advanced stage.
 - The cost of treating children in an out-patient dental facility (dental office) is less than the costs of treating school age children in a hospital emergency room.
- Demonstration of efficiency in terms of leveraging resources through collaboration with other programs. For example:
 - Using Medicaid reimbursement to sustain school-based dental programs.
 - Collaboration with other chronic disease or MCH programs to improve access to dental care and care coordination for high-risk children.

(3) Demonstrated Sustainability

- Documentation of the sustainability of the program or a plan to address sustainability. For example:
 - Funding devoted to oral health services is part of the budget for a CSHP.
 - The oral health component of the CSHP has a long track record of successful operation.

(4) Collaboration / Integration

- Demonstration of partnerships developed through the CSHP and the resulting benefits. For example:
 - Oral health services have expanded through integration with CSHP efforts.
 - Having a formal Memorandum of Understanding or an informal relationship with collaborating agencies supporting oral health integration into the CSHP.

(5) Objectives / Rationale

- The goals and objectives of the CSHP include oral health and are consistent with recommendations and guidelines promoted by authoritative sources, state oral health plan, Healthy People 2020 oral health objectives, and/or the National Call to Action to Promote Oral Health.

V. State Practice Examples

The following practice examples illustrate various elements or aspects for the best practice approach of *Improving Children's Oral Health through Coordinated School Health Programs*. These reported success stories should be viewed in the context of the state's and program's environment, infrastructure and resources. End-users are encouraged to review the practice descriptions (click on the links of the practice names) and adapt ideas for a better fit to their states and programs.

Please note that only half of the 14 states featured with success stories are receiving funding from CDC Division of Adolescent and School Health to implement CSHPs. The level of integration of oral health policies, prevention and treatment services into CSHPs (with or without CDC funding) varies from state to state. It is hoped that these success stories from funded and non-funded states offer lessons and inspiration for CSHPs, as well as other coordinated efforts to promote school children's oral health.

A. Summary Listing of Practice Examples

Table 1 provides a listing of programs and activities submitted by states illustrating the strategies and interventions that can be used to improve children’s oral health through CSHPs. This collection of practices and their lessons can be adapted or applied for CSHPs.

Table 1. State Practice Examples Illustrating Strategies and Interventions for Improving Children’s Oral Health through Coordinated School Health Programs			
Item	Practice Name	State	Practice #
School Environment and Policies			
1	Rhode Island School Oral Health Legislation, Rules and Regulation	RI	45002
2	Illinois’ Law Requiring Dental Examinations for School Children	IL	16012
3	New York State Department of Health’s Oversight/Management Role for School-Based Health Center Dental (SBHC-D) Programs	NY	35008
School-based, School-linked Dental Prevention and Treatment Services			
4	The Dental Health Action Team and the Future Smiles Dental Clinic	AR	05001
5	The Neighborhood Outreach Action for Health (NOAH) Program: Integrated Medical and Dental Health in Primary Care	AZ	04007
6	Massachusetts Department of Public Health SEAL Program	MA	24006
7	Oral Health Across the Commonwealth (OHAC) Portable Dental Program	MA	24007
8	Community Oral Health Collaboration	MI	25005
9	New Hampshire School-Based Preventive Dental Programs	NH	32003
10	New Hampshire Statewide Sealant Project (NHSSP)	NH	32006
11	New Jersey Children’s Oral Health Program	NJ	33018
12	New Mexico School-Based Dental Sealant Program	NM	34001
13	Tennessee School Based Dental Prevention Program (SBDPP)	TN	48006
14	The Methodist Healthcare Ministries School Based Oral Health Program	TX	49003
15	Tooth Tutor Dental Access Program	VT	51001
16	Wisconsin Seal-A-Smile	WI	56004

B. Highlights of Practice Examples

Highlights of state practice examples are listed below.

School Environment and Policies

- RI [Rhode Island School Oral Health Legislation, Rules and Regulation](#) / Practice #45002
The RI General Law, and Rules & Regulations on School Health Programs, have mobilized partners (the Department of Education, Department of Health, RI Healthy School Coalition, RI coordinated school health program and communities) to improve the oral health of school children. Legislation has expanded school-based/school-linked dental programs reaching 60 percent of elementary schools with more than half the students from low-income families.
- IL [Illinois' Law Requiring Dental Examinations for School Children](#) / Practice #16012
Since 2005, the Illinois School Code mandated that each year all children in kindergarten, second and sixth grades are required to have a dental examination and submit a summary report of examination results to the Illinois State Board of Education. Compliance for the first four years was approximately 80% each year.
- NY [New York State Department of Health's Oversight/Management Role for School-Based Health Center Dental \(SBHC-D\) Programs](#) / Practice #35008
In New York, a hospital, community health center, county health department or such interested in establishing a SBHC-D program is required to complete an application and receive approval from the New York State Department of Health, Bureau of Dental Health. An applicant must submit data on the need for a dental program and sites needing services, a work plan, an operational manual with policies and procedures, and an evaluation plan.

School-based, School-linked Dental Prevention and Treatment Services

- AR [The Dental Health Action Team and the Future Smiles Dental Clinic](#) / Practice #05001
The Dental Health Action Team, a partnership of organizations and agencies, came together to assess oral health in the community and to provide access to dental care for eligible children. The Dental Health Action Team has established a dental clinic, a state-of-the-art three-chair clinic called Future Smiles providing comprehensive care for children in seven schools.
- AZ [The Neighborhood Outreach Action for Health \(NOAH\) Program: Integrated Medical and Dental Health in Primary Care](#) / Practice #04007
The NOAH Program provides an integrated medical and dental care model for uninsured and underinsured children and their immediate family members. NOAH operates two health centers; each houses a medical clinic and a dental clinic. Oral health assessment, planning and treatment are included in well child care at their school-based/school-linked centers.
- MA [Massachusetts Department of Public Health SEAL Program](#) / Practice #24006
The SEAL Program provides technical and financial support to assist partners in developing their school-based oral health prevention programs. The program also provides direct services, delivering dental sealants and fluoride varnish applications to children in school settings.

- MA [Oral Health Across the Commonwealth \(OHAC\) Portable Dental Program](#) / Practice #24007
The OHAC Program has a collaborative relationship with the Tufts University School of Dental Medicine Community Dental Program (that has a statewide coordinated system of dental hygienists and dentists) and the Commonwealth Mobile Oral Health Services (a private dental provider). This partnership allows OHAC to deliver comprehensive oral health care statewide to high-risk children and children/adults with special needs.
- MI [Community Oral Health Collaboration](#) / Practice #25005
The Michigan Department of Community Health (MDCH) has partnered with the Children's Tooth Fairy Foundation and the University of Detroit Mercy School of Dentistry to provide dental care to children with unmet dental needs. The MDCH dental sealant program refers children with dental needs, the foundation covers the costs of dental care, and the dental school provides treatment.
- NH [New Hampshire School-Based Preventive Dental Programs](#) / Practice #32003
New Hampshire has 21 school-based preventive dental 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 dental screenings, prophylaxis, topical fluoride treatments, dental sealants, oral health education, fluoride mouthrinses, referrals, case management, and data collection for surveillance.
- NH [New Hampshire Statewide Sealant Project \(NHSSP\)](#) / Practice #32006
The New Hampshire Oral Health Program, with the support of a Task Force and a grant from the Endowment for Health (a foundation), developed local sealant programs using existing infrastructure of school-based programs, placed volunteer dental teams into schools, worked with communities to sustain programs, and evaluated three dental sealant delivery models.
- NJ [New Jersey Children's Oral Health Program](#) / Practice #33018
The New Jersey Children's Oral Health Program provides oral health education in all counties, regionally implemented by Regional Oral Health Coordinators and other program personnel. Activities include classroom lessons for children in grades pre-K through 12, presentations to parents and pregnant women, and workshops for school nurses, public health nurses, teachers, WIC Coordinators and social workers.
- NM [New Mexico School-Based Dental Sealant Program](#) / Practice #34001
The New Mexico Office of Oral Health administers a school-based dental sealant program that provides oral health education, dental screenings, and application of dental sealants on first and second molars. In rural areas, all elementary school children are eligible to receive services. In urban areas, services are limited to the students in grades 1-3.
- TN [Tennessee School Based Dental Prevention Program \(SBDPP\)](#) / Practice #48006
Since 2001, the Tennessee Department of Health, Oral Health Services, has administered a statewide school-based sealant program that provides dental sealants to high-risk children. The program is funded by TennCare (the state's Medicaid program). Children in grades K-8 are eligible to receive services. Services are provided using portable equipment.
- TX [The Methodist Healthcare Ministries School Based Oral Health Program](#) / Practice #49003
The school based oral health program is a collaborative effort of Methodist Healthcare Ministries, University of Texas Health Science Center-San Antonio/Department of Dental Hygiene and Dental School, and the Texas Department of State Health Services/Oral Health Program. Services include classroom oral health education, oral health assessments, dental sealants, fluoride treatments, mouthguard fabrication, and emergency and restorative dental treatment.

- VT [Tooth Tutor Dental Access Program](#) / Practice #51001
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 dental care and to provide a dental home for children. Half of all elementary schools in the state participate in the program.
- WI [Wisconsin Seal-A-Smile](#) / Practice #56004
The Wisconsin Department of Health Services' Wisconsin Seal-A-Smile school-based dental sealant program serves low-income children across the state. The program allows Children's Health Alliance of Wisconsin to administer dental sealant mini-grants. County public health departments, community health centers, dental hygiene programs, and dental clinics are the recipients of these grants and they tailor sealant services to the needs of the community.
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VI. Acknowledgements

This report is the result of efforts by the ASTDD Best Practices Committee to identify and provide information on developing successful practices that address the oral health needs of school age children.

The ASTDD Best Practices Committee extends a special thank you to the ASTDD School & Adolescent Oral Health (SAOH) Committee for their contributions to this report. Please visit the SAOH webpages on the ASTDD website for tools to assist efforts to integrate oral health into coordinated school health programs or other school-linked health programs at <http://www.astdd.org/index.php?template=saoh.html>.

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VII. Attachments

ATTACHMENT A

Strength of Evidence Supporting Best Practice Approaches

The ASTDD Best Practices Committee takes a broad view of evidence to support best practice approaches for building effective state and community oral health programs. The Committee evaluated evidence in four categories: research, expert opinion, field lessons and theoretical rationale. Although all best practice approaches reported have a strong theoretical rationale, the strength of evidence from research, expert opinion and field lessons fall within a spectrum. On one end of the spectrum are promising best practice approaches, which may be supported by little research, a beginning of agreement in expert opinion, and very few field lessons evaluating effectiveness. On the other end of the spectrum are proven best practice approaches, ones that are supported by strong research, extensive expert opinion from multiple authoritative sources, and solid field lessons evaluating effectiveness.

<u>Promising</u> <u>Best Practice Approaches</u>			<u>Proven</u> <u>Best Practice Approaches</u>	
Research	+		Research	+++
Expert Opinion	+	⇒	Expert Opinion	+++
Field Lessons	+		Field Lessons	+++
Theoretical Rationale	+++		Theoretical Rationale	+++

Research

- + A few studies in dental public health or other disciplines reporting effectiveness.
- ++ Descriptive review of scientific literature supporting effectiveness.
- +++ Systematic review of scientific literature supporting effectiveness.

Expert Opinion

- + An expert group or general professional opinion supporting the practice.
- ++ One authoritative source (such as a national organization or agency) supporting the practice.
- +++ Multiple authoritative sources (including national organizations, agencies or initiatives) supporting the practice.

Field Lessons

- + Successes in state practices reported without evaluation documenting effectiveness.
- ++ Evaluation by a few states separately documenting effectiveness.
- +++ Cluster evaluation of several states (group evaluation) documenting effectiveness.

Theoretical Rationale

- +++ Only practices which are linked by strong causal reasoning to the desired outcome of improving oral health and total well-being of priority populations will be reported on this website.

ATTACHMENT B

Integrating Oral Health into Coordinated School Health Programs Oral Health Integration and Recommendations

Integrating Oral Health into Coordinated School Health Programs		
	Coordinated School Health Components	Oral Health Integration and Recommendations
1	Health Education:	
	<p>Coordinated School Health: A planned, sequential, K-12 curriculum that addresses the physical, mental, emotional and social dimensions of health. The curriculum is designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. It allows students to develop and demonstrate increasingly sophisticated health-related knowledge, attitudes, skills, and practices. The comprehensive health education curriculum includes a variety of topics such as personal health, family health, community health, consumer health, environmental health, sexuality education, mental and emotional health, injury prevention and safety, nutrition, prevention and control of disease, and substance use and abuse. Qualified, trained teachers provide health education.</p>	<p>Oral Health Integration: Oral health education is an integral component of school health education classes. The school comprehensive health education curriculum includes prevention and control of oral and dental disease, oral and facial injury prevention, and personal health practices that promote oral health. Assure that oral health education, whenever possible, complies with the Department of Education standards and integrates with teachers' lesson plans.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Provide oral health education on disease process, risk factors, and behavior to promote oral health. • Provide tobacco-use prevention education in kindergarten through 12th grade and link students using tobacco to intervention programs. • Integrate oral health into nutrition education from preschool through secondary school. • Implement health and safety education curricula that help students to adopt and maintain safe lifestyles and to advocate for health and safety that include prevention of oral and facial injuries and other behaviors impacting oral health such as Methamphetamine use. • Assess/evaluate oral health education programs at regular intervals.
2	Physical Education	
	<p>Coordinate School Health: A planned, sequential K-12 curriculum that provides cognitive content and learning experiences in a variety of activity areas such as basic movement skills; physical fitness; rhythms and dance; games; team, dual, and individual sports; tumbling and gymnastics; and aquatics. Quality physical education should promote, through a variety of planned physical activities, each student's optimum physical, mental, emotional, and social development, and should promote activities and sports that all students enjoy and can pursue throughout their lives. Qualified, trained teachers teach physical activity.</p>	<p>Oral Health Integration: In promoting quality physical education and planning physical activities for students to enjoy and pursue throughout their lives, prevention and protection from facial and oral injuries in programs devoted to fitness and health should be addressed. Schools can promote the use of personal protective equipment inside and outside school-associated sports and recreation activities. Students could be provided with and required to use personal protective equipment appropriate to the type of physical activity that are well fitted, in good condition and comply with national standards.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Provide safe physical education and extracurricular physical activity programs that include appropriate protection from oral and facial injuries including mouth guard use. • Provide fabricated mouthguards and headgears when appropriate for physical activity programs by engaging local physicians and dentists (e.g., conduct clinics for on-site fabrication of mouthguards for students). • Develop a promotional program and integrate messages that promote prevention and protection from oral and facial injuries (e.g., testimonials and support of professional team players).

		<ul style="list-style-type: none"> • Expand the campaign of promoting prevention and protection from oral and facial injuries to community recreation and sports programs. • Assess/evaluate oral and facial injury prevention education program and use of mouth guard protection at regular intervals.
3	Health Services	
	<p>Coordinated School Health: Services provided for students to appraise, protect, and promote health. These services are designed to ensure access or referral to primary health care services or both, foster appropriate use of primary health care services, prevent and control communicable disease and other health problems, provide emergency care for illness or injury, promote and provide optimum sanitary conditions for a safe school facility and school environment, and provide educational and counseling opportunities for promoting and maintaining individual, family, and community health. Qualified professionals such as physicians, nurses, dentists, health educators, and other allied health personnel provide these services.</p>	<p>Oral Health Integration: Services provided for students to appraise, protect and promote health should include prevention and treatment of oral and dental diseases. Services assure access or referral to oral health care services and provide emergency care for dental and mouth pain, infection or injury. The school nurse or school-based health center nurse would have oral health information available, provide effective preventive services, and assure students with dental treatment needs access professional care.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Assure oral health is included in school health services that meet the physical, mental, emotional, and social health needs of students. • Assure students are receiving effective preventive oral health services including school dental sealant programs and school fluoride programs (e.g., fluoride mouthrinse programs for schools in communities without optimal fluoridated water and fluoride varnish programs for high risk children). • Support the establishment of a dental home for students. • Develop a referral program or system for students with unmet oral health needs. • Promote a medical/dental integration model for school-based health centers. • Provide training program for school nurses in the identification of oral health needs. • Assess/evaluate oral health prevention and treatment services programs at regular intervals.
4	Nutrition Services	
	<p>Coordinated School Health: Access to a variety of nutritious and appealing meals that accommodate the health and nutrition needs of all students. School nutrition programs reflect the U.S. Dietary Guidelines for Americans and other criteria to achieve nutrition integrity. The school nutrition services offer students a learning laboratory for classroom nutrition and health education, and serve as a resource for linkages with nutrition-related community services. Qualified child nutrition professionals provide these services.</p>	<p>Oral Health Integration: School nutrition programs teach students better choices of foods for oral health. Lunches, snacks and beverages offered by school food services and on school property should be healthy and lower the risk of oral disease such as tooth decay.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Integrate oral health in school nutrition programs related to obesity, diabetes and general health. • Integrate campaigns that stop junk food and other food that increases the risk of tooth decay into school services (e.g., “Stop the Pop” campaign). • Promote healthy oral health self-care habits in the school environment (e.g., toothbrush, floss and rinse after school breakfast and lunch). • Assess/evaluate effectiveness of the school health program in promoting healthy eating at regular intervals.
5	Counseling, Psychological, and Social Services	
	<p>Coordinated School Health: Services provided to improve students' mental, emotional, and social health. These services include individual and</p>	<p>Oral Health Integration: Services to improve students' mental, emotional, and social health should integrate the impact of oral health to the well-being of the students. These services can help by ensuring that children with oral</p>

	<p>group assessments, interventions, and referrals. Organizational assessment and consultation skills of counselors and psychologists contribute not only to the health of students but also to the health of the school environment. Professionals such as certified school counselors, psychologists, and social workers provide these services.</p>	<p>health needs obtain needed professional care.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Promote awareness that poor oral health impacts self-esteem and ability to learn among school children. • Create an educational program to inform school counselors, psychologists and social workers regarding issues of oral health related to self-esteem and ability to learn. • Inform school counselors, psychologists and social workers on options for children with unmet oral health needs to access care (e.g., the school dental referral program). • Assess/evaluate oral health integrated with counseling, psychological and social services at regular intervals. • Promote awareness that poor oral health impacts school children's self-esteem and ability to learn. • Create an educational program to inform school counselors, psychologists and social workers regarding issues of oral health related to self-esteem and ability to learn. • Inform school counselors, psychologists and social workers on options for children with unmet oral health needs to access care (e.g., the school dental referral program). • Assess/evaluate oral health integrated with counseling, psychological and social services at regular intervals.
<p>6 Healthy School Environment</p>		
	<p>Coordinated School Health: The physical and aesthetic surroundings and the psychosocial climate and culture of the school. Factors that influence the physical environment include the school building and the area surrounding it, any biological or chemical agents that are detrimental to health, and physical conditions such as temperature, noise, and lighting. The psychological environment includes the physical, emotional, and social conditions that affect the well-being of students and staff.</p>	<p>Oral Health Integration: The physical and aesthetic surroundings and the psychosocial climate and culture of the school can promote oral health, by not using junk food for fundraisers or as choices in vending machines.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Develop and enforce a school policy on tobacco use. • Establish a social and physical environment that promotes safety and prevents unintentional injuries of the face and mouth. • Adopt a coordinated school nutrition policy that promotes healthy eating through classroom lessons and promotes a supportive school environment including promoting balanced school meals and no junk food in vending machines. • Assure "easy" implementation of strategies by school personnel for oral health integration that will fit into the daily routine with minimal class time and little disruption of class activities. • Assess/evaluate school environment for promotion of oral health at regular intervals.
<p>7 Health Promotion for Staff</p>		
	<p>Coordinated School Health: Opportunities for school staff to improve their health status through activities such as health assessments, health education and health-related fitness activities. These opportunities encourage school staff to pursue a healthy lifestyle that contributes to their improved health status, improved morale, and a greater personal commitment to the school's overall coordinated health program. This personal commitment often transfers into greater commitment to the health of students and creates positive role modeling. Health promotion activities</p>	<p>Oral Health Integration: Opportunities for school staff to improve their oral health status through activities often transfers into greater commitment to the health of students and creates positive role modeling. Providing staff with access to oral health information will encourage them to set an example for students by promoting good oral health behaviors.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Provide program-specific in-service training for teachers on oral health. • Support cessation efforts among school staff using tobacco. • For all school personnel, provide staff development services that impart the knowledge, skills and confidence to effectively promote safety and prevent unintentional facial and mouth injuries. • Provide staff involved in nutrition education with adequate pre-service and ongoing in-service training that focuses on teaching

	<p>have improved productivity, decreased absenteeism, and reduced health insurance costs.</p>	<p>strategies for oral health behavioral change.</p> <ul style="list-style-type: none"> • Assess/evaluate staff oral health programs at regular intervals.
8	Family/Community Involvement	
	<p>Coordinated School Health: An integrated school, parent, and community approach for enhancing the health and well-being of students. School health advisory councils, coalitions, and broadly based constituencies for school health can build support for school health program efforts. Schools actively solicit parent involvement and engage community resources and services to respond more effectively to the health-related needs of students.</p>	<p>Oral Health Integration: An integrated school, parent and community approach is needed to enhance the oral health and well-being of students. Building support from school health advisory councils, coalitions and broadly based constituencies can contribute to integrating oral health efforts. Parents can be asked to attend workshops on oral health and to encourage their children to develop good oral hygiene practices at home and school.</p> <p>Oral Health Recommendations:</p> <ul style="list-style-type: none"> • Integrate school, family and community support of school-based programs to prevent tobacco use. • Integrate school, family and community efforts to prevent unintentional injuries of the face and mouth. • Integrate school, family and community efforts in supporting and reinforcing nutrition education. • Integrate school, family and community support in providing preventive dental services and improving access to dental care. • Involve school, family and community in integrating oral health into school-based health programs. • Promote school, family and community support for oral health screenings for children. • Assess/evaluate family and community involvement in promoting oral health at regular intervals.

ATTACHMENT C

CDC Guidelines for School Health Program Strategies

CDC has published a series of guideline documents that identify the school health program strategies most likely to be effective in promoting healthy behaviors among young people. Based on extensive reviews of research literature, the guidelines were developed by CDC in collaboration with other federal agencies, state agencies, universities, voluntary organizations, and professional organizations.

1. Guidelines for School Health Programs to Promote Lifelong Healthy Eating

(<http://www.cdc.gov/mmwr/PDF/RR/RR4509.pdf>)

Centers for Disease Control and Prevention. Guidelines for school health programs to promote lifelong healthy eating. MMWR 1996;45(No. RR-9):1-33.

Recommendations for school health programs for nutrition:

Based on the available scientific literature, national nutrition policy documents, and current practice, these guidelines provide seven recommendations for ensuring a quality nutrition program within a comprehensive school health program.

- Recommendation 1. Policy: Adopt a coordinated school nutrition policy that promotes healthy eating through classroom lessons and a supportive school environment.
- Recommendation 2. Curriculum for nutrition education: Implement nutrition education from preschool through secondary school as part of a sequential, comprehensive school health education curriculum designed to help students adopt healthy eating behaviors.
- Recommendation 3. Instruction for students: Provide nutrition education through developmentally appropriate, culturally relevant, fun, participatory activities that involve social learning strategies.
- Recommendation 4. Integration of school food service and nutrition education: Coordinate school food service with nutrition education and with other components of the comprehensive school health program to reinforce messages on healthy eating.
- Recommendation 5. Training for school staff: Provide staff involved in nutrition education with adequate pre-service and ongoing in-service training that focuses on teaching strategies for behavioral change.
- Recommendation 6. Family and community involvement: Involve family members and the community in supporting and reinforcing nutrition education.
- Recommendation 7. Program evaluation: Regularly evaluate the effectiveness of the school health program in promoting healthy eating, and change the program as appropriate to increase its effectiveness.

2. School Health Guidelines to Prevent Unintentional Injuries and Violence

(<http://www.cdc.gov/mmwr/PDF/RR/RR5022.pdf>)

Centers for Disease Control and Prevention. School health guidelines to prevent unintentional injuries and violence. MMWR 2001;50(No. RR-22):1-74.

Recommendations to prevent unintentional injuries, violence, and suicide:

- Recommendation 1. Social environment. Establish a social environment that promotes safety and prevents unintentional injuries, violence, and suicide.
- Recommendation 2. Physical environment. Provide a physical environment, inside and outside school buildings, that promotes safety and prevents unintentional injuries and violence.

- Recommendation 3. Health education. Implement health and safety education curricula and instruction that help students develop the knowledge, attitudes, behavioral skills, and confidence needed to adopt and maintain safe lifestyles and to advocate for health and safety.
- Recommendation 4. Physical education and physical activity programs. Provide safe physical education and extracurricular physical activity programs.
- Recommendation 5. Health services. Provide health, counseling, psychological, and social services to meet the physical, mental, emotional, and social health needs of students.
- Recommendation 6. Crisis response. Establish mechanisms for short- and long term responses to crises, disasters, and injuries that affect the school community.
- Recommendation 7. Family and community. Integrate school, family, and community efforts to prevent unintentional injuries, violence, and suicide.
- Recommendation 8. Staff members. For all school personnel, provide staff development services that impart the knowledge, skills, and confidence to effectively promote safety and prevent unintentional injuries, violence, and suicide, and support students in their efforts to do the same.

3. Guidelines for School Health Programs to Prevent Tobacco Use and Addiction (<http://www.cdc.gov/mmwr/PDF/RR/RR4302.pdf>)

Centers for Disease Control and Prevention. Guidelines for school health programs to prevent tobacco use and addiction. MMWR 1994;43(No. RR-2):1-18.

Recommendations for school health programs to prevent tobacco use and addiction:

The seven recommendations below summarize strategies that are effective in preventing tobacco use among youth. To ensure the greatest impact, schools should implement all seven recommendations.

- Recommendation 1. Develop and enforce a school policy on tobacco use.
- Recommendation 2. Provide instruction about the short- and long-term negative physiologic and social consequences of tobacco use, social influences on tobacco use, peer norms regarding tobacco use, and refusal skills.
- Recommendation 3. Provide tobacco-use prevention education in kindergarten through 12th grade; this instruction should be especially intensive in junior high or middle school and should be reinforced in high school.
- Recommendation 4. Provide program-specific training for teachers.
- Recommendation 5. Involve parents or families in support of school-based programs to prevent tobacco use.
- Recommendation 6. Support cessation efforts among students and all school staff who use tobacco.
- Recommendation 7. Assess the tobacco-use prevention program at regular intervals.

ATTACHMENT D

Friends of School Health Organizations Dedicated in Promoting Coordinated School Health <http://wg.thesociety.org/programs-FOSH.asp>

Friends of School Health (FOSH) is a non-partisan group dedicated to promoting coordinated school health programs. Organizations that participate in FOSH communicate regarding school health initiatives. They also cooperate to sponsor Congressional briefings, news conferences, and other events to educate decision makers about coordinated school health programs and their value to the children and youth of America. Individual member organizations advocate for funding or program initiatives according to their desire and ability. The following is a 2009 listing of current FOSH organizations:

Advocates for Better Children's Diets
<http://www.nchapman.com/abcd.html>

AIDS Alliance for Children, Youth and Families
<http://www.aids-alliance.org/>

American Academy of Pediatrics
<http://www.aap.org/>

American Alliance for Health, Physical Education, Recreation and Dance
<http://www.aahperd.org/>

American Association for Health Education
<http://www.aahperd.org/AAHE/>

American Association of Family and Consumer Sciences
<http://www.aafcs.org/>

American Association of School Administrators
<http://www.aasa.org/>

American Cancer Society
<http://www.cancer.org/docroot/home/index.asp>

American College of Nurse-Midwives
<http://www.acnm.org/>

American College of Preventive Medicine
<http://www.acpm.org/>

American Dietetic Association
<http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/index.html>

American Heart Association
<http://www.americanheart.org/presenter.jhtml?identifier=1200000>

American Psychological Association
<http://www.apa.org/>

American Public Health Association
<http://www.apha.org/>

American School Food Service Association
<http://www.fags.org/nutrition/A-Ap/American-School-Food-Service-Association.html>

American School Health Association
<http://www.ashaweb.org/i4a/pages/index.cfm?pageid=1>

Association for Supervision and Curriculum Development
<http://www.ascd.org/>

Association of Maternal and Child Health Programs
<http://www.amchp.org/Pages/Welcome.aspx>

Association of State and Territorial Health Officials
<http://www.astho.org/>

Center for Science in the Public Interest
<http://www.cspinet.org/>

Children's Environmental Health Network
<http://www.cehn.org/>

Comprehensive Health Education Foundation
<http://www.chef.org/>

Council of Chief State School Officers
<http://www.ccsso.org/>

Directors of Health Promotion and Public Health Education
<http://www.dhpe.org/about.asp>

Girl Scouts of America
<http://www.girlscouts.org/>

IDEA Health & Fitness Association
<http://www.ideafit.com/>

International Health, Racquet, and Sports Club
Association
<http://cms.ihrsa.org/index.cfm?fuseaction=page.viewPage&pageID=18711>

National Alliance for Nutrition and Activity
<http://www.cspinet.org/nutritionpolicy/nana.html>

National Assembly on School-Based Health
Care
<http://www.nasbhc.org/site/c.jsJPKWPFJrH/b.2554077/k.BEE7/Home.htm>

National Association for Sport and Physical
Education
<http://www.aahperd.org/Naspe/>

National Association of Chronic Disease
Directors
<http://www.chronicdisease.org/i4a/pages/index.cfm?pageid=1>

National Association of County and City Health
Officials
<http://www.naccho.org/>

National Association of School Nurses
<http://www.nasn.org/>

National Association of School Psychologists
<http://www.nasponline.org/>

National Association of Social Workers
<http://www.socialworkers.org/>

National Association of State Boards of
Education
<http://www.nasbe.org/>

National Association of State School Nurse
Consultants
<http://www.nassnc.org/>

National Black Women's Health Project
<http://www.blackwomenshealth.org/site/c.eeJIIWOCIrH/b.3082485/k.BEBA/Home.htm>

National Center for Health Education
<http://www.nche.org/>

National Education Association Health
Information Network
<http://www.neahin.org/>

National Mental Health Association
<http://www.nmha.org/>

National Network for Safe and Drug-free
Schools and Communities
<http://www.nnsdfsc.org/>

National School Boards Association
<http://www.nsba.org/>

Partnership for Prevention
<http://www.prevent.org/>

Society for Public Health Education
<http://www.sophe.org/>

Society for Women's Health Research
<http://www.womenshealthresearch.org/site/PageServer>

Society of State Directors of Health, Physical
Education and Recreation
<http://wg.thesociety.org/>

United Fresh Fruit and Vegetable Association
<http://www.foodonlinecentral.com/assn/aa000241.html>

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