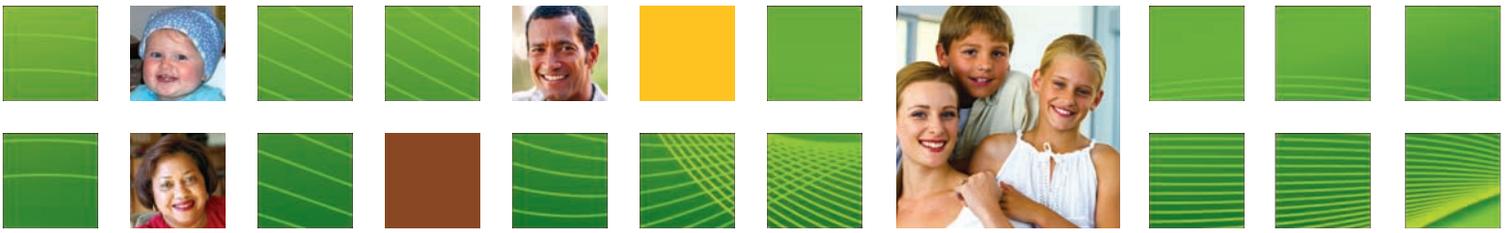


ORAL HEALTH
 PREVENTING CAVITIES,
 GUM DISEASE,
 TOOTH LOSS, AND
 ORAL CANCERS

AT A GLANCE
 2010

NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION
 IMPROVING HEALTH AND QUALITY OF LIFE FOR ALL PEOPLE





The Burden of Oral Disease

Oral health is often taken for granted, but it is an essential part of our everyday lives. Good oral health enhances our ability to speak, smile, smell, taste, touch, chew, swallow, and convey our feelings and emotions through facial expressions. However, oral diseases, which range from cavities to oral cancer, cause pain and disability for millions of Americans each year. For example,

- **Tooth decay (cavities)** is a common problem for people of all ages. For children, untreated cavities can cause pain, dysfunction, school absences, difficulty concentrating, and poor appearance—problems that greatly affect a child’s quality of life and ability to succeed. Children from lower-income families often do not receive timely treatment for tooth decay, and they are more likely to suffer from these problems.

Tooth decay is also a problem for many U.S. adults, and adults and children of some racial and ethnic groups experience more untreated decay.

- **Periodontal (gum) disease** is an infection caused by bacteria that gets under the gum tissue and begins to destroy the gums and bone. Teeth become loose, chewing becomes difficult, and teeth may have to be extracted. Gum disease also may be connected to damage elsewhere in the body; recent studies link oral infections with diabetes, heart disease, stroke, and premature, low-weight births. Further research is under way to examine these connections.

Most Oral Diseases Are Preventable

Many children and adults still go without simple measures that have been proven to be effective in preventing oral diseases and reducing dental care costs. An example is water fluoridation. Fluoride prevents tooth decay, and the most cost-effective way to deliver the benefits of fluoride to all residents of a community is through water fluoridation—that is, adjusting the fluoride in the public water supply to the appropriate level for decay prevention. However, only 27 states have met the *Healthy People 2010* objective of having 75% of their citizens on public water systems with water fluoridation.

Fluoridation is also cost effective. One CDC study found that in communities with more than 20,000 residents, every \$1 invested in community water fluoridation yields about \$38 in savings each year from fewer cavities treated.

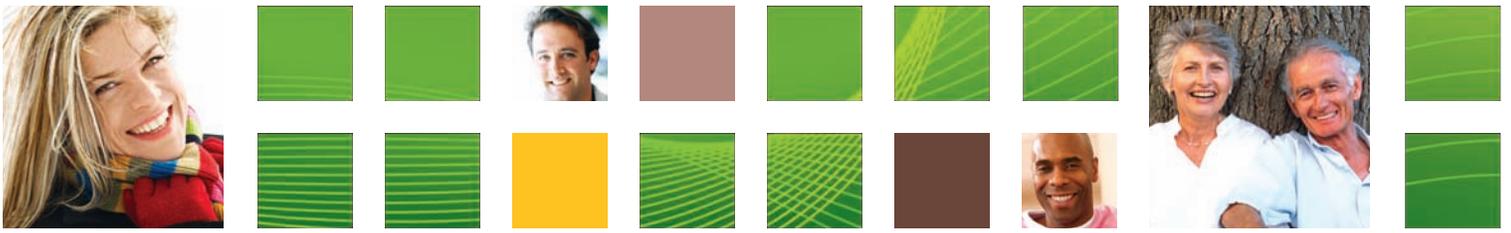
Oral Health Problems Are Common and Painful

- Tooth decay affects more than one-fourth of U.S. children aged 2–5 and half of those aged 12–15. About half of all children and two-thirds of children aged 12–19 from low-income families have had decay.
- Children and adolescents of some racial and ethnic groups and those from lower-income families have more untreated decay. For example, 40% of Mexican American children aged 6–8 have untreated decay, compared with 25% of non-Hispanic whites. Twenty percent of all adolescents aged 12–19 years currently have untreated tooth decay.
- Advanced gum disease affects 4%–12% of adults. Half of the cases of severe gum disease in the United States are the result of cigarette smoking. Three times as many smokers have gum disease as people who have never smoked.
- One-fourth of U.S. adults aged 65 and older have lost all of their teeth.
- More than 7,600 people, mostly older Americans, die from oral and pharyngeal cancers each year. This year, about 35,000 new cases of oral cancer will be diagnosed.

Another safe, effective way to prevent cavities is through the use of dental sealants—plastic coatings applied to the chewing surfaces of the back teeth, where most decay occurs. Yet only about one-third of children aged 6–19 years have sealants. Although children from lower-income families are almost twice as likely to have decay as those from higher-income families, they are only half as likely to have sealants.

Oral Health Problems Are Costly

- Each year, Americans make about 500 million visits to dentists.
- In 2009, an estimated \$102 billion was spent on dental services in the United States.



CDC's Response

CDC is the lead federal agency responsible for promoting oral health through public health interventions. Through its Division of Oral Health, CDC

- Helps states strengthen their oral health programs, reach people most affected by oral diseases, and expand the use of measures proven effective in preventing oral diseases.
- Promotes oral health in communities, schools, and health care settings nationwide.
- Supports research to strengthen prevention efforts at the community level.
- Evaluates the cost-effectiveness of prevention strategies.

Support for State-Based Programs

CDC provides 16 states with funds, technical assistance, and training to build strong oral health programs. This support helps states promote oral health, monitor oral health behaviors and problems, and conduct and evaluate prevention programs. CDC funding also allows states to enhance coordination and management of community water fluoridation programs and school-based dental sealant programs. CDC works with the Association of State and Territorial Dental Directors to guide states on oral health issues, improve state oral health program standards, and help states develop the expertise to assess oral health needs and conduct effective prevention programs.

Monitoring Oral Health in America

Routine surveys provide abundant information about the oral health of Americans—for instance, what oral health problems are the most serious, how many people are receiving preventive services, which oral diseases are on the rise, and which groups of people are most at risk. This information can guide public health practice.

CDC supports Web-based systems that bring together oral health data from many sources and makes this information widely available to public health professionals and consumers. For example, the National Oral Health Surveillance System (<http://www.cdc.gov/nohss>) links data from various state-based systems, including state oral health surveys and the Behavioral Risk Factor Surveillance System. The State Dental Program Synopses (<http://apps.nccd.cdc.gov/synopses/index.asp>) present state population demographics and information about

the activities and funding levels of state dental programs. CDC also manages the Data Resource Center (<http://drc.hhs.gov>), a joint project with the National Institute of Dental and Craniofacial Research, which assembles oral health data and other information needed to support research, policy development, and program evaluation.

In addition, CDC works to improve surveillance methods. Current measures of periodontal infections are extremely resource-intensive because they require clinical examinations. CDC is conducting research to develop self-report questions to measure periodontal disease status that can be easily included in state and local surveillance systems.

CDC also helps state health departments collect, interpret, and share oral health data specific to their areas. States and communities use the data to monitor their progress in meeting *Healthy People 2010* goals for oral health, target limited resources to people with the greatest needs, and compare their oral health problems with those of other states and the nation.

Providing Education and Sharing Expertise

CDC works to ensure that the public has the information needed to achieve optimal oral health throughout the lifespan, either directly or by informing the public health professionals who serve them. CDC provides national leadership in assessing the appropriate use of various forms of fluoride. CDC works with state and national partners to improve the quality of water fluoridation and to implement water fluoridation in more communities.

CDC also provides fluoridation training to state drinking water system engineers, dental directors, and other public health staff members. CDC manages a Web-based system that helps states monitor the quality of fluoridated water systems. Through the Web site and partners, CDC educates people across the country on the appropriate use of fluoride products.

In addition, CDC convened expert work groups to review the state of the science supporting specific practices in school-based and school-linked dental sealant programs and to publish updated guidelines for these programs in 2009. CDC published several studies that resulted from these efforts and is working with public and private partners to ensure that they understand the safety and cost-effectiveness of these programs.



CDC's Response (continued)

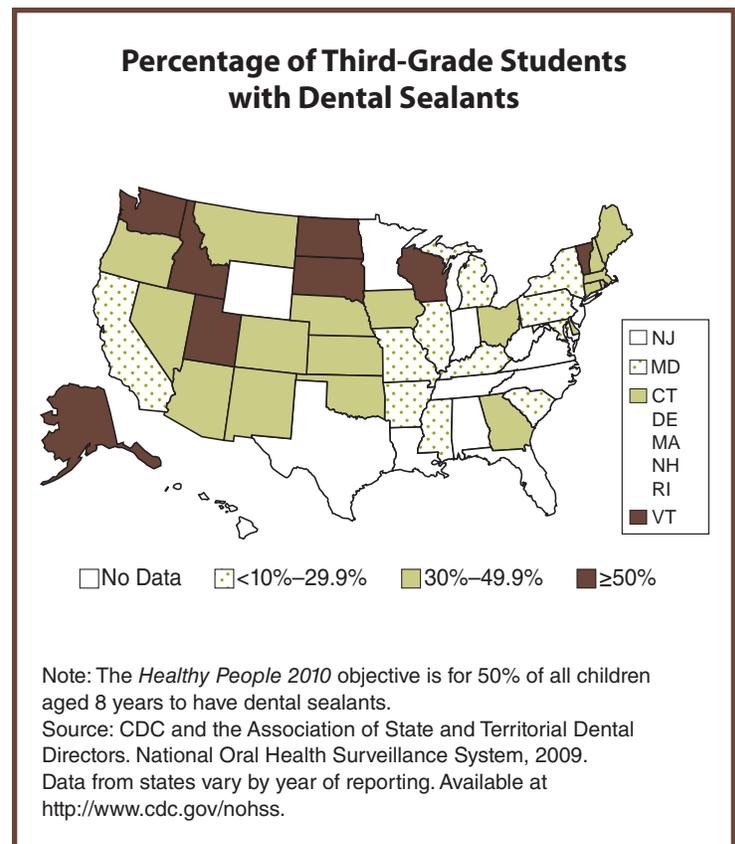
Supporting Prevention Science and New Approaches

CDC supports research designed to enhance the effectiveness of interventions to prevent oral diseases. In addition to recent research on the effectiveness of dental sealants, CDC has looked at fluoride use to see which interventions were successful at preventing and controlling tooth decay and how these interventions can be delivered most efficiently. CDC also conducts studies to assess the cost-effectiveness of water fluoridation and school-based dental sealant programs. CDC has developed computer software called the Sealant Efficiency Assessment for Locals and States (SEALS) that allows state and local programs to assess the benefit of providing sealants, including estimating associated reductions in the cost of treating dental decay.

CDC supports demonstrations of new community approaches to promote adult oral health. These approaches include monitoring oral health status, expanding partnerships, supporting prevention research, and increasing public and professional awareness of common oral conditions, risk factors, and healthy behaviors. CDC has provided several grants to help states identify unmet oral health needs among older adults at high risk for oral diseases, as well as to identify community strategies to address these needs. Lessons learned from grant-funded projects are being shared with stakeholders involved in aging, public health, and dental public health activities.

Guiding Infection Control in Dentistry

Infection control practice in dental offices is essential to ensuring the public's safety and retaining its confidence. To help reduce the risk of transmitting infectious diseases in dental environments, CDC published an updated *Guidelines for Infection Control in Dental Health-Care Settings*, which can be found at <http://www.cdc.gov/mmwr>. CDC recommendations guide infection control practices in dental offices nationally and globally and provide direction for the public, policy makers, and dental practitioners. These recommendations also affect technology development in the dental industry. In addition, CDC investigates disease



transmission in dental offices and identifies emerging problems, such as implications of 2009 H1N1 influenza for clinicians.

Oral Cancer

Each year, more than 35,000 new cases of cancer of the mouth and throat (oral cavity and pharynx) are diagnosed, and more than 7,600 deaths occur. The 5-year survival rate for these cancers is only about 50%. Detection of cancer lesions in the early stages increases the survival rate for people with these cancers. CDC is exploring ways to improve data collection on oral cancers and their risk factors and is examining methods for identifying lesions or people with oral cancer at an earlier stage.

**For more information, please contact the Centers for Disease Control and Prevention
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