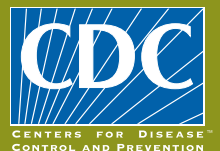


ORAL HEALTH
PREVENTING CAVITIES,
GUM DISEASE, AND
TOOTH LOSS

AT A GLANCE
2009

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 is an essential part of our everyday lives. Good oral health enhances our ability to speak, smile, and kiss; smell, taste, touch, chew, and swallow; and convey a world of feelings and emotions through facial expressions. However, mouth and throat diseases, which range from cavities to oral cancer, cause pain and disability for millions of Americans each year.

- **Tooth decay (cavities)** is a common problem for people of all ages. For children, untreated cavities can cause pain, dysfunction, absence from school, difficulty concentrating on learning, and poor appearance—problems that greatly affect quality of life and ability to succeed. Children from lower income families often do not receive timely treatment for tooth decay and are more likely to suffer from these problems. Tooth decay also is a problem for many U.S. adults. Adults of some racial and ethnic groups experience more untreated decay.
- **Periodontal (gum) disease** is an infection caused by bacteria under the gum tissue that begin to destroy the gums and bone. Teeth become loose, chewing becomes difficult, and teeth may have to be extracted. Gum disease may also be related to damage elsewhere in the body; recent studies point to associations between such oral infections and diabetes, heart disease, stroke, and preterm, low-weight births. Research is underway to further examine these connections.

Most Oral Diseases are Preventable

Many children and adults still go without simple measures that have been proven effective in preventing oral diseases and reducing dental care costs. For example, 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 25 states have met the *Healthy People 2010* objective of having 75% of their citizens on public water systems with water fluoridation. Fluoridation also is cost effective. A 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.

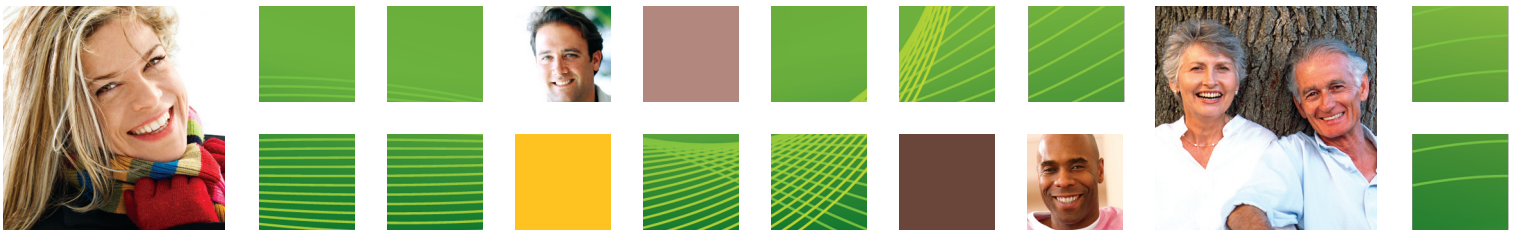
Oral Health Problems Are Common, Costly, and Painful

- 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 of lower income experience 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 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 U.S. are the result of cigarette smoking. Three times as many smokers as people who have never smoked have gum disease.
- One-fourth of adults aged 65 and older have lost all of their teeth.
- More than 7,000 people, mostly older Americans, die from oral and pharyngeal cancers each year. This year, about 30,000 new cases of oral cancer will be diagnosed.

Dental sealants—plastic coatings applied to the chewing surfaces of the back teeth where most decay occurs—are a safe, effective way to prevent cavities. Yet, only about one-third of children aged 6–19 years have sealants. And, 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 2008, an estimated \$102 billion was spent on dental services.



CDC's Response

CDC is the lead federal agency responsible for promoting oral health through public health interventions. CDC does the following:

- 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. With CDC support, states can better promote oral health, monitor oral health behaviors and problems, and conduct and evaluate prevention programs. This 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 a wealth of information about the oral health of Americans—for instance, what are the most serious oral health problems, 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 oral health data from various state-based systems, including state oral health surveys and the Behavioral Risk Factor Surveillance System.

In addition, the annual 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.

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

In addition, CDC 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 aims to assure that the public has the information it needs 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 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 throughout the country on the appropriate use of fluoride products.

CDC is also working with experts to publish updated guidelines for school-based dental sealant programs. CDC convened an expert work group to review the state of the science supporting specific practices in school-based and -linked dental sealant programs. CDC conducted and published several studies that answered important questions for school programs. CDC is



CDC's Response (continued)

working with public and private partners to ensure that they understand the safety and cost-effectiveness of these programs. Those new guidelines will be published in 2009.

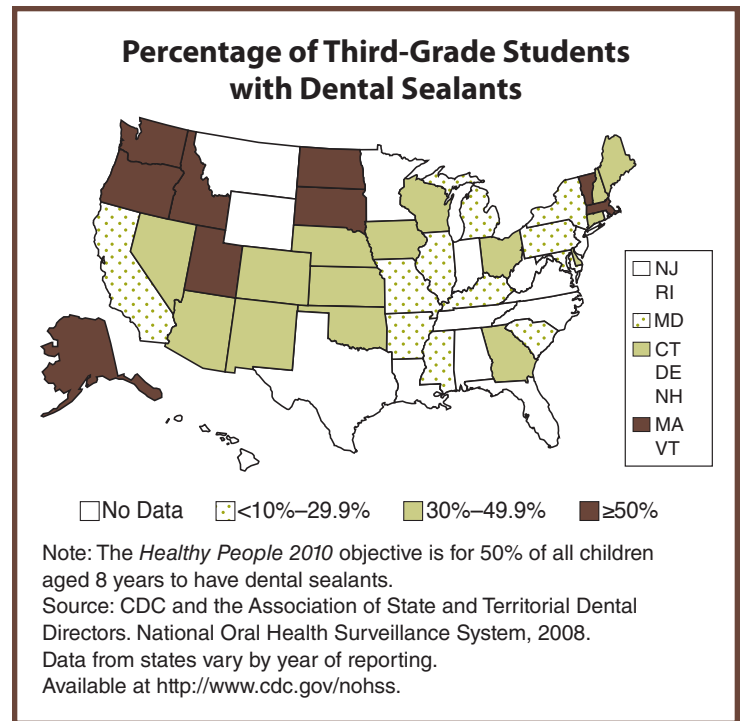
Supporting Prevention Science and New Approaches

CDC supports research to enhance the effectiveness of interventions to prevent oral diseases. Besides the recent research activities on the effectiveness of dental sealants, CDC also has looked at fluoride use to see which interventions have been successful, and how to deliver them most efficiently and evaluate their ability to prevent and control tooth decay. In addition, CDC conducts studies to assess the cost-effectiveness of water fluoridation and school-based dental sealant programs. CDC has developed computer software, Sealant Efficiency Assessment for Locals and States (SEALS), that allows state and local programs to assess the impact 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 devise 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 minimize the risk of transmitting infectious diseases in dental environments, CDC published an updated *Guidelines for Infection Control in Dental Health-Care Settings* available 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.

Oral Cancer

Each year more than 30,000 new cases of cancer of the oral cavity and pharynx are diagnosed, and over 7,000 deaths occur. The 5-year survival rate for these cancers is only about 50%. Detection of cancer lesions at early stages affects treatment plans and increases the survival rate for these cancers. CDC is exploring ways to improve data collection on oral cancers and examining methods for identifying lesions or individuals with oral cancer at an earlier stage.

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