

# Oral Health: Preventing Cavities, Gum Disease, and Oral Cancers 2004



*“No one should suffer from oral diseases or conditions that can be effectively treated or prevented.”*

*Richard H. Carmona, MD, MPH, FAC  
Surgeon General  
U.S. Public Health Service*

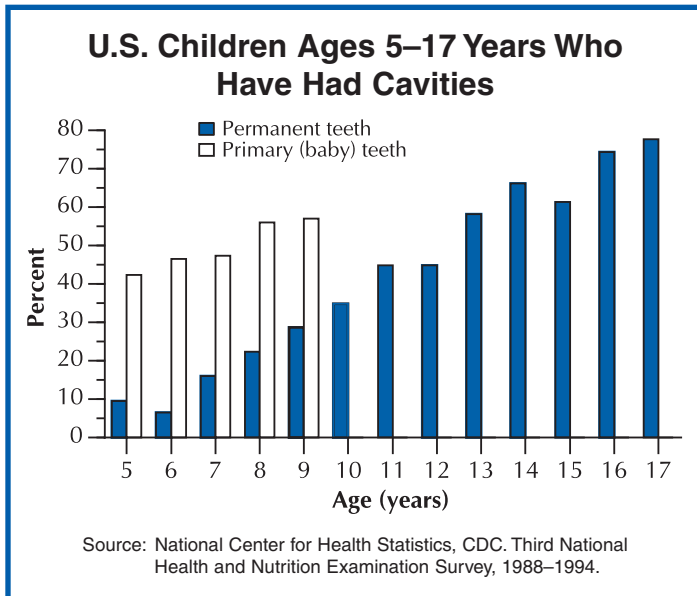
## Oral Health Problems: Painful, Costly, and Preventable

Mouth and throat diseases—ranging from cavities to cancer—cause pain and disability for millions of Americans. This fact is disturbing because almost all oral diseases can be prevented.

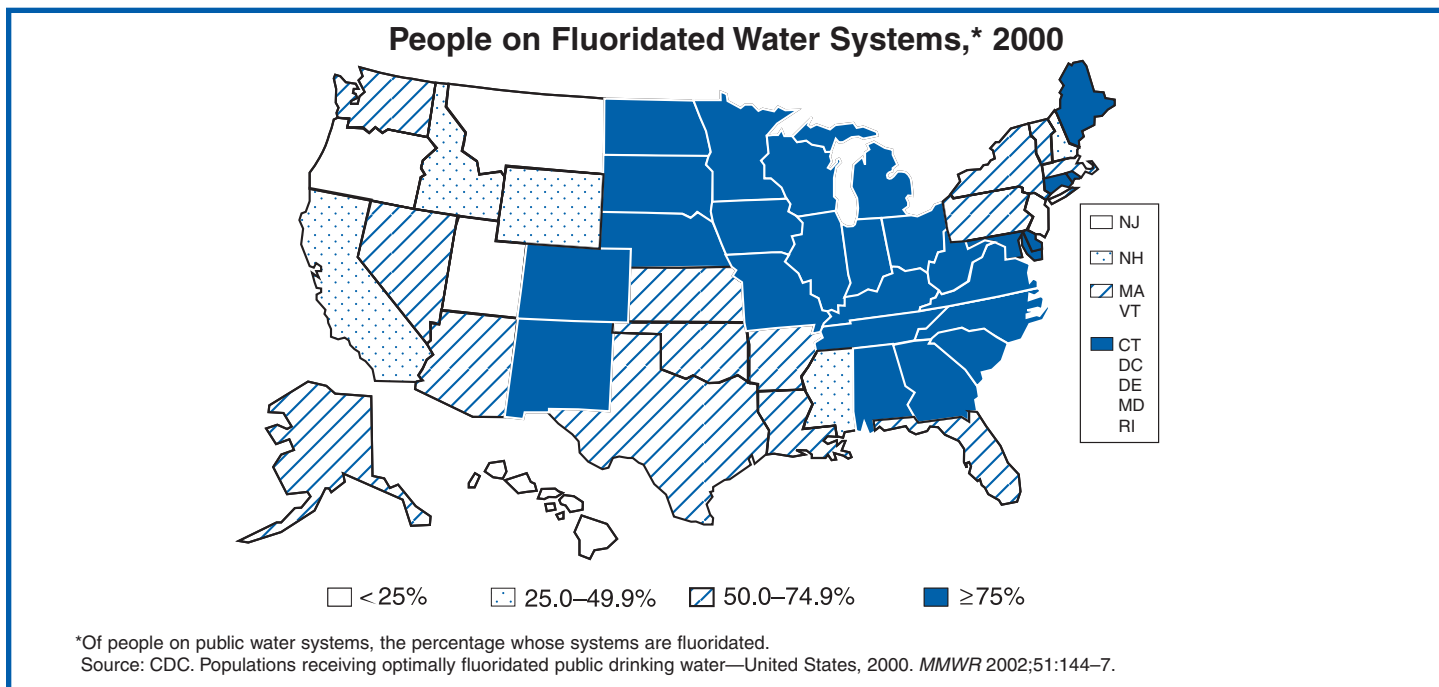
For children, cavities are a common problem that begins at an early age. Tooth decay affects nearly a fifth of 2–4-year-olds, more than half of 8-year-olds, and more than three-fourths of 17-year-olds. Hardest hit are low-income children. About half of all cavities among low-income children go untreated. Untreated cavities may cause pain, dysfunction, absence from school, underweight, and poor appearance—problems that can greatly reduce a child’s capacity to succeed in life.

Tooth decay is also a problem for adults, especially for the increasing number of older adults who have retained most of their teeth. Despite this increase in tooth retention, tooth loss remains a problem among older adults. Almost 3 of every 10 adults over age 65 have lost all of their teeth, primarily because of tooth decay and gum disease, which affects about 25% of U.S. adults. Tooth loss has more than cosmetic effects—it may contribute to nutrition problems by limiting the types of food that a person can eat.

Oral cancers also pose a threat to the health of American adults. Each year, about 30,000 Americans learn they have mouth and throat cancers, and nearly 8,000 Americans die of these diseases.



In 2003, Americans made about 500 million visits to dentists, and an estimated \$74 billion was spent on dental services. Yet many children and adults still go without measures that have been proven effective in preventing oral diseases and reducing costs. For example, more than 100 million Americans still do not have access to water that contains enough fluoride to protect their teeth, even though the per capita cost of water fluoridation over a person’s lifetime is less than the cost of one dental filling.



## CDC's National Leadership to Improve Oral Health

CDC is the lead federal agency responsible for promoting oral health through public health interventions. With fiscal year 2004 funds of about \$12 million, CDC

- Helps states strengthen their oral health programs, reach people hardest hit 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 in communities.
- Evaluates the cost-effectiveness of prevention strategies.

### Building Capacity in States

CDC provides 12 states and the Republic of Palau with funds, technical assistance, and training to build strong oral health programs. With CDC support, states can better promote oral health, monitor the population's oral health behaviors and problems, and conduct and evaluate prevention programs. Four of these states also receive funds to develop and coordinate community water fluoridation programs or school-based dental sealant programs.

CDC also works with the Association of State and Territorial Dental Directors to give states guidance on oral health issues, raise state oral health program standards, and help states develop the expertise to assess oral health needs and conduct effective prevention programs.

### Encouraging Effective Use of Fluoride

CDC provides national leadership in assessing the appropriate use of various forms of fluoride. CDC also works with partners to improve the quality of water fluoridation and implement water fluoridation in new communities.

Over the past 50 years, the damage caused by dental decay has been drastically reduced, primarily through the use of fluoride. The most cost-effective way to deliver the benefits of fluoride to all residents of a community is water fluoridation—adjusting the fluoride in the public water supply to the right level for decay prevention.

A CDC study found that, in communities with more than 20,000 residents, every \$1 invested in community water

fluoridation yields \$38 in savings each year from fewer cavities treated. The Task Force on Community Preventive Services, which strongly recommends community water fluoridation, concluded that tooth decay in American children has decreased by 30%–50% because of fluoridation. CDC activities for promoting fluoride include

- Issuing *Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States* ([www.cdc.gov/mmwr](http://www.cdc.gov/mmwr)).
- Providing fluoridation training to state drinking water system engineers, dental directors, and other public health staff.
- Managing a Web-based system to help states monitor the quality of fluoridated water systems.
- Educating people about the appropriate use of fluoride products.

### Promoting Use of Dental Sealants

Dental sealants—a plastic coating applied to the chewing surfaces of the back teeth—are a safe, effective way to prevent cavities among schoolchildren. In some cases, sealants can even stop tooth decay that has already started. Sealants significantly reduce a child's risk for having untreated cavities.

*Healthy People 2010* calls for half of all U.S. children to have dental sealants by 2010, but currently less than 25% of schoolchildren do. Children in some racial and ethnic groups are less likely than others to have sealants. For example, only 10% of Mexican American 8-year-olds have sealants on their teeth.

CDC researchers evaluated several strategies and found that delivering sealants to all children attending low-income schools was the most cost-effective strategy for reducing disparities in sealant use. By offering school-based or school-associated sealant programs, some communities have already reached the *Healthy People 2010* objective for dental sealants. In addition, the Task Force on Community Preventive Services strongly recommends school-based or school-linked sealant programs as an effective way to prevent and control cavities.

# Helping States Improve Oral Health

## Targeting Mouth and Throat Cancers

Only about half of people with diagnosed mouth or throat cancer survive more than 5 years. Among African American men, only about a third survive. People who do survive are at increased risk for future cancers and often suffer from disfiguring surgery and mental trauma.

CDC is providing supplemental funds to cancer registries in South Carolina and West Virginia to help these states evaluate their data on mouth and throat cancers and find ways to improve the data's accuracy. Their findings will help other state cancer registries collect more accurate, useful data.

## Guiding Infection Control in Dentistry

Infection control in dental offices is essential to ensuring the public's safety and retaining its confidence. In 2003, CDC published a new *Guidelines for Infection Control in Dental Health-Care Settings* ([www.cdc.gov/mmwr](http://www.cdc.gov/mmwr)) to help minimize the risk of transmitting infectious diseases in the dental environment. CDC recommendations guide dental office infection control practice both nationally and globally and provide direction for the public, policy makers, and dental practitioners. The recommendations also affect technology development in the dental industry. In addition, CDC investigates disease outbreaks and environmental hazards in dental offices and identifies emerging problems.

## Supporting a National Research Network

Through the Prevention Research Centers, CDC supports research that promotes oral health in predominantly poor, ethnically diverse communities. Community members help plan and conduct research projects. Partners include schools of public health and dentistry, professional organizations, and state health departments. For example,

- Researchers at the University of North Carolina at Chapel Hill are evaluating two activities: a community water fluoridation program and a school-based intervention to provide schoolchildren with fluoride

mouth rinse. Investigators will determine how effective these interventions are in preventing tooth decay among schoolchildren, especially poor children.

- At the University of Alabama at Birmingham, investigators trained residents of a largely African American rural community to serve as community health advisors on many health issues. These advisors educate their neighbors about signs of oral diseases and encourage healthy behaviors that will reduce the risk for these conditions.

## Monitoring Oral Health in America

Routine surveys of Americans provide a wealth of information about their oral health—for instance, what the biggest oral health problems are, which oral diseases are on the rise, and which groups of people are most at risk. CDC supports Web-based systems that combine oral health data from many sources. The National Oral Health Surveillance System ([www.cdc.gov/nohss](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. The annual State Dental Program Synopses ([www2a.cdc.gov/nccdphp/doh/synopses/index.asp](http://www2a.cdc.gov/nccdphp/doh/synopses/index.asp)) contains state population demographics and the activities and funding levels of state dental programs.

CDC also helps 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.

## Future Directions

CDC will continue to help states strengthen their oral health programs and develop effective interventions. CDC also will continue to seek opportunities to work with partners in oral health research, surveillance, education, and evaluation.

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