

Preventing Chronic Diseases: Investing Wisely in Health



U.S. DEPARTMENT OF HEALTH AND
HUMAN SERVICES

Preventing Dental Caries

The Reality

- Although dental caries (tooth decay) is largely preventable, it remains the most common chronic disease of children aged 5 to 17 years—5 times more common than asthma (59% versus 11%).
- Once established, the disease requires treatment. A cavity only grows larger and more expensive to repair the longer it remains untreated.
- Fewer than 1 in 5 Medicaid-covered children received at least one preventive dental service in a recent year; many states provide only emergency dental services to Medicaid-eligible adults.
- Poor children have nearly 12 times more restricted-activity days because of dental-related illness than children from higher-income families. Pain and suffering due to untreated tooth decay can lead to problems in eating, speaking, and attending to learning.
- Many adults also have untreated dental caries (e.g., 27% of those 35 to 44 years old and 30% of those 65 years and older).

Community-Based Strategies Prevent Tooth Decay

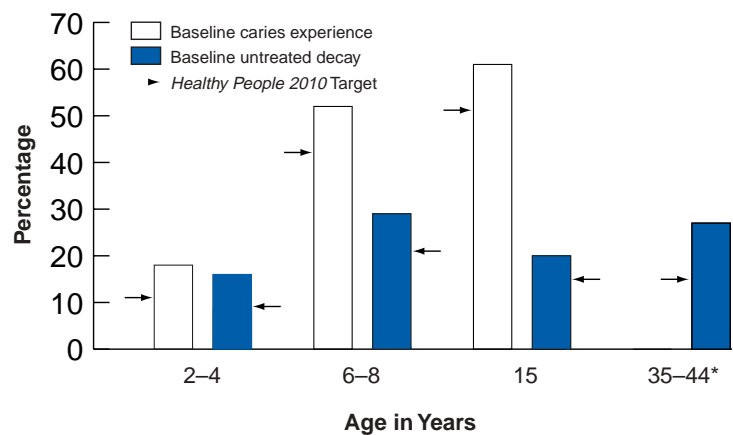
Community Water Fluoridation

- Community water fluoridation has been ranked one of 10 great public health achievements in the 20th century.
- Community water fluoridation effectively prevents dental caries in communities with varying disease prevalence. Children in communities with water fluoridation experienced 29% fewer cavities.
- At present, 66% of individuals on public water systems—over 162 million people—are receiving the benefits of community water fluoridation.

School-Based Sealant Programs

- Children receiving dental sealants in school-based programs have 60% fewer new decayed pit and fissure surfaces in back teeth for up to 2 to 5 years after a single application. Among children, 90% of decay is in pits and fissures.
- School-based sealant programs provide sealants to children unlikely to receive them otherwise (e.g., children in low-income households). Children of racial and ethnic minority groups have about three times more untreated decay and teeth missing due to caries but are about one-third as likely to receive sealants.
- Although 29 states reported dental sealant programs serving 193,000 children, this number represents only about 3% of poor children who could receive sealants.

Meeting *Healthy People 2010* Objectives



*There is no Healthy People 2010 objective for adult caries; 94% of adults who have one or more natural teeth have experienced tooth decay.
Source: U.S. Department of Health and Human Services. *Healthy People 2010, vol II, 2nd ed.* Washington, DC: U.S. Government Printing Office, 2000:21-11 to 21-15.



Community-Based Strategies to Prevent Tooth Decay Save Money

- Every dollar spent on community water fluoridation saves from \$7 to \$42 in treatment costs depending on the size of the community. Savings are greatest in large communities.
- At least 60% of the U.S. population on public water systems has received fluoridated water since 1990, translating to savings in dental treatment costs of over \$25.7 billion in the past decade.
- School-based dental sealant programs are cost saving when delivered to populations at high-risk for tooth decay, such as children in low-income households.

Effective Strategies

- Community and school partnerships raise awareness of the value of school sealant programs. *Healthy Smiles for Wisconsin*, a CDC-supported state-wide effort to improve the oral health of Wisconsin children through school and community partnerships, began in October 2000; it helped to establish 40 new community-based sealant programs during the 2000-2001 school year. During that year, more than 4,500 children in 40 counties received dental sealants.
- Community coalitions are essential for gaining approval for community water fluoridation. During the past decade, broad-based citizen coalitions in several large U.S. cities have educated residents about the benefits of water fluoridation. Water fluoridation was approved in many of these jurisdictions, including Los Angeles and Sacramento, CA; Manchester, NH; Las Vegas, NV; San Antonio, TX; and Salt Lake City, UT.

State Programs in Action: Ohio

School-based sealant programs in Ohio began in 1984 with a single demonstration program in one city. By 2000, 34 of Ohio's 88 counties had programs. These programs target children who are at high risk for tooth decay and least likely to receive dental care.



As the program has expanded, the percentage of 8-year-olds statewide who have dental sealants has increased steadily, from 11% in 1987-88 to 30% in 1998-99. Although this percentage still falls short of the *Healthy People 2010* objective of 50%, children from all demographic groups in schools with sealant programs have achieved or exceeded the objective.

- Among children eligible for the free and reduced-cost lunch program, 54% of those in schools with sealant programs have sealants, compared with 19% of those in schools without programs.
- Among children covered by Medicaid, 58% in schools with sealant programs have sealants, compared with 22% in schools without programs.
- In schools with sealant programs, the same proportion of children on Medicaid (58%) have sealants as those with private dental insurance, thus eliminating a common disparity.

Although the Ohio program has met only a portion of the need for dental sealants, it has shown that school-based programs can reach children at high risk for tooth decay with this effective preventive measure.

Hope for the future

Many Americans now enjoy markedly better oral health than their parents did. However, certain segments of the population (e.g., those who are poor, who are members of racial or ethnic minority groups, or who are elderly) still have severe dental decay, much of which remains untreated. *Healthy People 2010* seeks to eliminate these disparities, so that all Americans receive the benefits of good oral health. Community-based programs are a particularly cost-effective way to help achieve this goal. For example, extending fluoridated water to the remaining 34% of the population on public water systems would save over \$1.5 billion dollars per year. Increasing the percentage of children at high risk for tooth decay who participate in school sealant programs to 50% would prevent over half of the caries that these children would otherwise have and save public health dollars.

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