

ORAL HEALTH

Improvement in oral health in the U.S. is one of the major public health success stories of this century. Public health measures such as fluoridation of water, preventive approaches for self-care including brushing with fluoride and flossing, and dental services have resulted in dramatic improvements in oral health status for many children.

Most oral diseases are preventable if families have access to dental care. Untreated dental disease can lead to irreversible damage including disfigurement and nutritional problems, and is more painful, costly, and difficult to treat compared to preventive dental care. Greater use of preventive approaches can reduce further the prevalence of oral diseases and produce improvements in oral health.

Not all children have benefited from preventive dental care. Access to dental services continues to be a problem in San Francisco and throughout the state since dental services are costly and are typically not subsidized. Therefore, families lacking resources for dental services, especially preventive dental care, generally have greater treatment needs.

Data Sources

Data on the oral health of children and youth in San Francisco are limited. The majority of data for this section were obtained from 2 sources that were available:

- The Oral Health of California's Children-A Neglected Epidemic, by the Dental Health Foundation. The report presents the results of a study based on examinations of 6,792 children in public schools in ten geographic areas of California, representing twelve of the thirteen most populous counties in the state (public schools represent about 90% of California school children in grades K-12). San Francisco was one of three fluoridated urban areas in the survey.¹ However, due to the limited sample size in each area surveyed, county-specific data was not available from the survey.
- A Dental Screening Program called "A Smile For All Seasons" conducted within the San Francisco Unified School District by the San Francisco Department of Public Health during the 1996/97 school year. The program involved 40 San Francisco public schools (33 preschools and 7 elementary schools) with a total of 1,243 preschool and 736 elementary school students participating.² Schools participating in the program were selected based on a high proportion of low-income students. Therefore, it is likely that these data represent San Francisco children with greater economic barriers to dental care than may exist among all children in the City.

¹The survey targeted three different age groups (preschool, n= 2,649; elementary grades K-3, n=3,234; and high school grades 10-12, n=909), and also targeted fluoridated, unfluoridated, urban, and rural areas of the state.

San Francisco schools included in the survey were:

- Preschools: Community Children's Nursery, Kai Ming Head Start-Clay, Mission Head Start-Regina Chiong, mission Head Start-Valencia, Pacific Primary, San Francisco Health Start-OMI, San Francisco Head Start-Westside, SFUSD-Raphael Weill Nursery, SFUSD-Theresa S. Mahler, Yook Yau Ji Ga Day Care
- Elementary Schools: Buena Vista, Jose Ortega Elementary, Monroe Elementary, Raphael Weill Elementary
- High Schools: J. Eugene McAteer High, Newcomer High, John A. O'Connell High

² The program targeted nearly all San Francisco public preschools, and a small proportion of elementary schools with a large proportion of low-income students. The number of San Francisco children included in the survey was not available). There are a total of 39 public preschools in San Francisco, with a total enrollment of approximately 3,000; all public preschools in the City are designated for low-income children. There are 72 public elementary schools in San Francisco, with a total enrollment of approximately 33,000.

Fluoridation

Community water fluoridation is the single most effective and efficient means of preventing dental caries (cavities) in children and adults, regardless of race or income level.³ Since 1954, San Francisco has been the only 100% fluoridated city and county in the State.⁴ San Francisco has surpassed the Healthy People 2000 objective to increase to at least 75% the proportion of people served by community water systems providing optimal levels of fluoride. In 1993/94, throughout California, children in fluoridated urban areas had less tooth decay than children in non-fluoridated urban and rural areas.⁵

Early Childhood Caries

Early childhood caries, also known as Baby Bottle Tooth Decay (BBTD), is a form of dental decay experienced by toddlers caused by use of sugary beverages in baby bottles and lack of proper oral hygiene. Early treatment of tooth decay is essential to prevent further destruction and pain. In 1993/94, throughout California:⁶

- 14% of all preschool children had BBTD (one or more teeth affected).
- The prevalence of BBTD was as high as 45% for Asian children in Head Start preschools in non-fluoridated urban regions compared to only 0.4% of white non-Head Start preschool children in fluoridated urban areas.
- Only 68% of parents/guardians used feeding practices that prevent BBTD. This falls short of the Healthy People 2000 objective to increase to at least 75% the proportion of parents and caregivers using feeding practices that prevent baby bottle tooth decay.

Oral Health Screening, Referral, and Follow-Up

Undiscovered tooth decay in preschoolers can begin a lifetime of tooth destruction and pain. Since dentistry is delivered in a completely separate system, most parents neglect to make a dental examination part of preschool children's care, even if the pediatrician makes a referral.⁷

In 1993/94, in California, almost half (44%) of parents/guardians of preschool children said that their child had never visited a dentist.⁸ This is far short of the Healthy People 2000 objective to increase to at least 90% the proportion of all children entering school programs for the first time who have received an oral health screening, referral, and follow-up of necessary diagnostic, preventive, and treatment services.

Dental Cavities; Untreated Tooth Decay

Dental cavities (also referred to as "caries") are perhaps the most prevalent disease known. Early diagnosis and timely treatment of dental caries can halt tooth destruction and prevent tooth loss. While

³ Burt, B.A. "Cost Effectiveness of Caries Prevention in Dental Public Health." *Journal of Public Health Dentistry* 49(5), 1989.

⁴ This is possible since the City has only one water system, unlike all other cities and counties in the state, each supplied by more than one water system.

⁵ Dental Health Foundation, *The Oral Health of California's Children-A Neglected Epidemic*, by the Dental Health Foundation, San Rafael, California: 1997

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the beginning of the loss of the baby teeth around age 6 is a major event in the child's development, it is also a critical time when visits to the dentist to prevent irreversible damage to the permanent teeth should begin.⁹ Throughout the U.S., the prevalence of dental cavities (also known as "caries") has been declining steadily since the 1940s, so that only half of school age children in the U.S. have any decay in their permanent teeth.¹⁰

Preschoolers. Among San Francisco public preschools, in 1996/97, 33% (410 of 1,243) of children had treated (filled) and untreated (unfilled) dental caries of which over half (222) had untreated caries.¹¹ This compares to 31% of preschool children statewide, in 1993/94, who had treated and untreated dental caries. With the exception of African American children, all other ethnic groups of preschool children (Asians, Hispanics, whites) had a lower prevalence of tooth decay in fluoridated areas compared to unfluoridated urban and rural areas.¹²

Elementary School Students. Among public elementary school children in San Francisco, two-thirds (66%) had treated or untreated dental caries, of which over half (270) had untreated caries.¹³ The prevalence of dental caries in San Francisco is similar to the state (69%), although the proportion of untreated tooth decay in the State, within grades K-3, in 1993/94, was higher (53%).¹⁴

Both San Francisco and California fall short of achieving the Healthy People 2000 objective of reducing the proportion of children ages 6 to 8 with one or more caries to no more than 35% and reducing untreated dental caries in permanent or primary teeth among children ages 6 through 8 to no more than 20%.¹⁵

10th Graders. Among 10th graders in California, in 1993/94, three-fourths (78%) had some tooth decays (data for San Francisco not available). African American 10th graders in fluoridated urban areas had the lowest proportion of untreated or treated tooth decay (58%), and white students in fluoridated urban areas had the lowest average number of teeth affected (2.3). Healthy People 2000 seeks to reduce the proportion of adolescents age 15 (comparable to 10th graders) with one or more caries to no more than 60%, and the proportion of untreated caries to no more than 15%.¹⁶

⁹ National Institute of Dental Research. Oral Health of United States Children. The National Survey of Dental Caries in U.S. School Children 1986-1987. DHHS Publications No. (NIH) 89-2247 Bethesda, MD: U.S. Department of Health and Human Services, 1989.

¹⁰ National Institute of Dental Research. Oral Health of United States Children. The National Survey of Dental Caries in U.S. School Children, 1986-1987. DHHS Publication No. (NIH) 89-2247. Bethesda, MD: U.S. Department of Health and Human Services, 1989

¹¹ San Francisco Department of Public Health, Dental Programs, 1996/97 Dental Screening Program Results

¹² Dental Health Foundation, The Oral Health of California's Children-A Neglected Epidemic, by the Dental Health Foundation, San Rafael, California: 1997. There are no Healthy People 2000 objectives specifically targeting the preschool population.

¹³ San Francisco Department of Public Health, Dental Programs

¹⁴ Dental Health Foundation, The Oral Health of California's Children-A Neglected Epidemic, by the Dental Health Foundation, San Rafael, California: 1997

¹⁵ U.S. baseline (1986/87) of children ages 6 to 8 with treated or untreated caries was 53% of children. Healthy People 2000 13.1 sub-objectives refer to reducing caries among additional sub-populations of children ages 6 to 8 including children whose parents have less than high school education, American Indian/Alaska Native children, and black children.

¹⁶ U.S. baseline (1986/87) was 78% of adolescents age 15. Healthy People 2000 objective 13.1 also refers to reducing caries among American Indian/Alaska Native adolescents age 15.

Sealants

Sealants are plastic coatings that are applied to the chewing surfaces of molar teeth, and have existed since early 1970's. If sealants were applied, experts estimate that most tooth decay (up to 90%) among American children could be prevented. Sealants are applied permanently after molars appear, when children are approximately 6 to 8 years old and again when they are 12 to 14 years old. When applied properly, sealants are exceptionally safe, highly effective, and long lasting.

In California, in 1993/94:¹⁷

- Only 8% of 8-year old children have received protective sealants on the chewing (occlusal) surface of at least one of the four permanent first molar teeth.
- While 33% of white high school students in fluoridated urban areas had a sealant, no Asian students and 6% of Hispanic students in fluoridated urban areas had a sealant.

In San Francisco, in 1996/97:¹⁸

- Only 6% of children ages 6 to 10 in San Francisco attending public Schools (with a high proportion of low-income students) had protective sealants.

In California, in 1994/95:¹⁹

- Less than 1% of children in Medi-Cal received sealants. (This is the time period that Medi-Cal began routinely reimbursing for sealants.)

The prevalence of sealants in school-age children falls greatly below the Healthy People 2000 objective to increase to at least 50% the proportion of children who have received protective sealants on the occlusal (chewing) surfaces of permanent molar teeth.

Dental Insurance Coverage

In California, in 1993/94, about one-quarter (26%) of California's preschool children had no dental insurance and 21% depended on Medi-Cal (Denti-Cal) for their dental care.²⁰ (Also refer to the Medi-Cal section in this report.)

¹⁷ Dental Health Foundation, The Oral Health of California's Children-A Neglected Epidemic, by the Dental Health Foundation, San Rafael, California: 1997

¹⁸ San Francisco Department of Public Health, Dental Program, 1996/97 Dental Screening Program data

¹⁹ California Department of Health Services, Medi-Cal Program

²⁰ Dental Health Foundation, The Oral Health of California's Children-A Neglected Epidemic, by the Dental Health Foundation, San Rafael, California: 1997