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Health Objectives for the Nation Progress Toward Achieving the 1990 Objectives for the Nation for Fluoridation and Dental Health

Twelve of the 1990 Health Objectives for the Nation addressed fluoridation and dental health (1). Progress has been made toward the two objectives that specified development of an integrated, comprehensive system for surveillance of oral health status and programs (2). However, published data are insufficient to assess achievement of four objectives--those concerning childhood gingivitis, limitation of access to foods that promote tooth decay, use of mouth guards in contact sports, and school water fluoridation. This report summarizes progress toward the remaining six dental health objectives. By 1990, the proportion of nine-year-old children who have experienced dental caries in their permanent teeth should be decreased to 60 percent. This objective has been met. In 1986-87, a survey of school children in the United States (3) determined that 35% of 9-year-olds had histories of dental caries in permanent teeth, a decline of 14 percentage points from 1979-80 (Figure 1). (Data for 1979-80 were unavailable when the objective was established.) By 1990, in adults the prevalence of gingivitis and destructive periodontal disease should be decreased to 20 percent and 21 percent, respectively. This objective has been partially met. In 1985-86, 8% of employed adults aged greater than or equal to 18 years and 34% of retired adults aged greater than or equal to 65 years had at least one periodontal site with greater than or equal to 6 mm loss of attachment (4). Gingival bleeding occurred in at least one site among 44% of employed adults and 47% of retired adults. Because the 1985-86 survey used more precise measurements than earlier assessments of periodontal health, these values cannot be compared with data from prior national surveys. By 1990, at least 95 percent of school children and their parents should be able to identify the principal risk factors related to dental diseases and be aware of the importance of fluoridation and other measures in controlling these diseases. This objective is unlikely to be met. In the 1985 National Health Interview Survey (NHIS) (5), 78% and 89% of adults identified fluoridated water and fluoride toothpaste or rinse, respectively, as "definitely" or "probably" important in preventing tooth decay. In the same survey, 22% of respondents had heard of dental sealant, the specific measure to prevent dental decay that occurs on tooth surfaces with pits and grooves--the most prevalent form of dental decay among children (3). By 1990, at least 75 percent of adults should be aware of the necessity for both thorough personal oral hygiene and

regular professional care in the prevention and control of periodontal disease. This objective has been met. In 1985, the NHIS determined that 83% of respondents believed brushing and flossing regularly were "definitely important" to prevent "gum disease" and that 82% believed seeing a dentist regularly was "definitely important" (5). In 1986, 57% of all respondents indicated that they had visited a dentist for professional care within the preceding year (6). For those with higher family incomes, private dental insurance, or natural dentitions, the proportion reporting recent dental visits was higher; for example, 74% of those with family incomes greater than \$35,000 had visited a dentist within the preceding year. By 1990, at least 95 percent of the population on community water systems should be receiving the benefits of optimally fluoridated water. This objective will not be met. In 1988, 61% of the population served by public water supplies had access to water with fluoride levels sufficient to prevent dental decay (i.e., greater than or equal to 0.7 ppm); of these, 7% received water containing fluoride naturally, and the remainder lived in communities where the water fluoride concentration was adjusted to an optimum level (0.7-1.2 mg/L) (7). Although community water fluoridation results in dental-care cost savings (8), this preventive measure has not been implemented in some areas. Consequently, in five states (California, Hawaii, Nevada, New Jersey, and Utah), only 2%-18% of the population using public water supplies consumed optimally fluoridated water (7). By 1990, at least 65 percent of school children should be proficient in personal oral hygiene practices and should be receiving other needed preventive dental services in addition to fluoridation. There are no data regarding the proficiency of schoolchildren in personal oral hygiene practices. However, in the 1986 NHIS, 93% of adults indicated that their children used toothpaste with fluoride (9). Approximately 20% of schoolchildren less than 12 years of age reportedly had participated in fluoride mouth-rinse programs at school. Other dental-care preventive services, especially those dependent on family disposable income (e.g., the use of dental sealant), varied markedly among groups of children (Figure 2) (9). Regular visits for dental services--crucial to secondary prevention of oral diseases and conditions--also varied by income level and ethnic group (Figure 3) (6). Reported by: Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, Public Health Service, US Department of Health and Human Svcs. Dental Disease Prevention Activity, Center for Prevention Svcs, CDC.

Editorial Note

Editorial Note: Both dental caries and destructive periodontal diseases are unique microbial infections; once established, they persist, progress, and do not heal without treatment. If postponed, treatment often becomes more complex, painful, and expensive. Consequently, access to and use of oral health services are essential to sustain declines in disease levels. As adults retain an increasing number of functional teeth with age (4), oral health services will become more important among older adults. Although dental caries among 9-year-old children have declined markedly, the overall decline obscures higher levels of disease among Native American youth (10), children living in rural areas (3), and children whose parents had no education beyond high school (11). In addition, 9-year-old children have only about half their permanent teeth; of 15-year-olds with full permanent dentition, 78% had histories of dental caries--a prevalence more than twice that of 9-year-olds (Figure 1) (3). Studies have indicated that a small proportion of children account for the majority of total dental disease burden (12) and that children from low-income families have substantially higher levels of untreated disease (13). Among some groups of young children, including Native Americans, "baby bottle tooth decay" (BBTD) (extensive tooth decay of the primary teeth in a characteristic pattern) has emerged as an important problem (14). BBTD occurs secondary to inappropriate feeding practices. Thus, prevention of BBTD requires

intervention by dental professionals and other segments of the community (including primary-care physicians, public health nurses, and Women, Infants, and Children program counselors). Recent data regarding the pathogenesis and epidemiology of major oral diseases indicate that some population subgroups suffer disproportionately from dental caries, destructive periodontal diseases, cancer of the oral cavity and pharynx, and their sequelae. During the 1990s, further improvements in oral health can be achieved by concentrating public health disease prevention efforts on those groups most susceptible to oral diseases.

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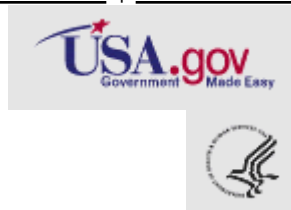
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