

## **1999 CSTE ANNUAL MEETING**

### **POSITION STATEMENT: # CD/MCH -1**

**COMMITTEE:** Chronic Disease/Maternal Child Health

**TITLE:** Inclusion of Oral Health Indicators in the National Public Health Surveillance System (NPHSS)

#### **POSITION TO BE ADOPTED:**

The following indicators addressing oral health conditions should be placed under nationwide surveillance as part of a national public health surveillance system:

- A. Dental visits
- B. Teeth cleaning
- C. Edentulism
- D. Fluoridation status

#### **BACKGROUND/JUSTIFICATION:**

The following three indicators are contained in the Emerging Core of the 1999 Behavioral Risk Factor Surveillance System (BRFSS): “How long has it been since you last visited the dentist or a dental clinic?”; “How long has it been since you had your teeth ‘cleaned’ by a dentist or dental hygienist?”; and “How many of your permanent teeth have been removed because of tooth decay or gum disease?” The status of community water fluoridation is derived from split water samples submitted by operators of public and private water systems to the state and the Centers for Disease Control and Prevention (CDC). Additionally, the agencies responsible for the Healthy People 2010 objectives have proposed a developmental objective [#9.16: Increase to 100 percent the proportion of states, including the District of Columbia that have an oral and craniofacial surveillance system].

#### **DISCUSSION:**

##### **Dental Visits:**

Frequent use of the oral health care delivery system leads to better oral health by providing an opportunity for clinical preventive services and early detection of oral diseases. Infrequent use of dental services has been associated with poor oral health among adults with lower income and education levels; such persons have more decayed teeth requiring treatment, more severe periodontal disease, and are more likely to be edentate than adults with more education and higher incomes. (1)

The BRFSS oral health module generates state-specific estimates that for the first time document variation in past-year dental visits and dental insurance coverage for adults in participating states. In 1995, 93.3 percent of adult respondents to the core BRFSS in the 25 states that included the oral health module, participated in the oral health module. Of these, 69 percent reported having had a past-year dental visit. The highest prevalence of such visits was among dentate adults aged  $\geq 65$  years (75 percent) and all persons aged 35-44 and 45-54 years. The percentage of adults reporting a past-year visit was higher among insured adults than among uninsured adults (78.3 percent compared with 57.6 percent) and higher among dentate adults than among edentate adults (72.5 percent compared with 24.3 percent). Women were more likely than men to report having had a past-year visit. (2)

The dental visit question was added to the core BRFSS in 1999. Dental visit data will be available from all states on a continuing/frequent basis. Dental visit data are important as one indicator of oral health behavior and represent the denominator for the teeth cleaning and edentate indicators as well as providing data for the proposed Healthy People 2010 objective [#9.11: Increase to at least 75 percent the proportion of children and adults who use the oral health care system each year].

### **Tooth Cleaning:**

States vary markedly in assuring adult access to dental services - especially services other than emergency care or relief of pain. Tooth cleaning by a dentist or dental hygienist is indicative of preventive behavior by the BRFSS. Characteristically, motivated adults would seek this service at least once each year.

In a recent survey of members by the Association of State and Territorial Dental Directors (ASTDD), of 31 respondents recommending inclusion of oral health questions on the BRFSS Emerging Core, about a third of respondents wanted a question that would allow separation of those who sought preventive care from those who reported that they had obtained any dental care.

The rationale for tooth cleaning was to discriminate between episodic and routine visits; for optimal prevention an individual is expected to have their teeth professionally cleaned at least once or more each year. For an individual to have visited the dentist within the past year and not had a tooth cleaning would indicate sub-optimal preventive care, and that the individual most likely had not had a preventive (regular) visit in the past year. Further, any visit in that same year in which no cleaning was done, was a visit for something other than preventive purposes. Thus a distinction can be made as to whether an individual who visited the dentist in the past had a preventive or non-preventive visit, or both. A positive response to the tooth cleaning question would also result in a positive response to the visit in the past year question. Therefore, the difference between the tooth cleaning visits and visits during the past year represent the percentage of visits that were episodic/pain relief visits. Other determinates, such as age, sex, education level, and income, could further define the data.

Although there is no specific Healthy People 2010 objective related to professional tooth cleaning, there are three related objectives [#9.5A: Reduce to X percent the prevalence of gingivitis among people aged 35-44; #9.5B: Reduce to X percent the prevalence of destructive periodontal disease among people aged 35-44; #9.6: Increase to 95 percent the proportion of persons with natural teeth who brush their teeth daily with a fluoride containing toothpaste].

### **Edentulism:**

Edentulism (loss of all natural permanent teeth) substantially reduces quality of life, self-image, and daily functioning. (3) Data from the Third National Health and Nutrition Examination Survey (NHANES III), 1988-94 indicates the percent of adults ages 18 and older in the U.S. who are edentulous is 9.7 percent. Of persons 65-74 years of age 28.6 percent are edentulous. Of persons 75 years of age and older, 40.3 percent are edentulous. In the United States 96.5 percent of adults have evidence of coronal caries (96.8 percent have either coronal or root caries). Only 30 percent of adults have all their permanent teeth. (4) Although loss of teeth results from oral diseases such as dental caries and periodontitis, it also reflects patient and dentist attitudes, availability and accessibility of dental care, and the prevailing standard of care. (5)

Almost half the adults who did not have a past-year dental visit in 1995 did not perceive the need for one. This finding was particularly evident among edentate adults and is of concern because adults without teeth are older, and the incidence of oral cancer that could be detected at an earlier stage during an oral examination is higher among older adults. The dental visit provides an opportunity for an oral examination to detect oral/pharyngeal cancer lesions at an earlier stage. (6, 7, 8)

There are four proposed Healthy People 2010 objectives related to tooth loss [#9.3: Increase to at least 50 percent the proportion of persons aged 35-44 who have never had a permanent tooth extracted due to dental caries or periodontal disease; #9.4: Reduce to no more than 23 percent the proportion of people aged 65 and older who have lost all of their natural teeth; #9.7: Increase from to at least 50 percent the proportion of oral/pharyngeal cancer lesions detected at the earliest stage (Stage I, localized); #9.8: Increase to 35 percent the number of adults aged 40 years or older who, in the last year, report having an examination to detect oral/pharyngeal cancer].

### **Fluoridation Status:**

Fluoridation of drinking water began in 1945 and in 1999 reaches an estimated 144 million persons in the United States. Fluoridation has played an important role in the reductions in tooth decay (40-70 percent in children) and of tooth loss (40-60 percent in adults). (9) The American Dental Association, the U. S. Public Health Service, the American Medical Association and the World Health Organization among many other organizations support community water fluoridation. These organizations unreservedly endorse the optimal fluoridation of community water supplies as a safe and effective public health measure for the prevention of dental decay. Studies, dating back 50 years, have proven conclusively that

fluoridation is the single most effective public health measure to prevent tooth decay and to improve oral health over a lifetime. Simply by drinking optimally fluoridated water, the entire community benefits regardless of age, socioeconomic status, educational attainment, access to dental care, individual behavior change, or other social variables.

In August 1977, the Food and Nutrition Board, Institute of Medicine, National Academy of Sciences (NAS), released a report entitled “Dietary Reference Intakes: Calcium, Phosphorous, Magnesium, Vitamin D, and Fluoride.” (10) Prior to this report, fluoride had not received recognition from the NAS, but it was identified in other publications, as an important constituent in maintaining health, especially its ability to inhibit, or even reverse, the initiation and progression of dental caries.

Water fluoridation contributes much more to overall health than simply reducing tooth decay: it prevents needless infection, pain, suffering and loss of teeth; improves the quality of life; and saves vast sums of money in dental treatment costs. (11) Additionally, fluoridation conserves natural tooth structure by preventing the need for initial fillings and subsequent replacement fillings. (12)

There is one proposed Healthy People 2010 objective related to fluoridation status [#9.10: Increase to at least 75 percent the proportion of the population served by community water systems who are served with optimally fluoridated water.

### **GOAL(S) FOR SURVEILLANCE:**

Data will be used at the local, state, and national level to monitor: the burden of oral disease; the use of the oral health care delivery system; visits for preventive services and the status of fluoride in community water systems. The surveillance data will be used for generating and allocating scarce resources for further prevention, intervention and control efforts.

### **PROPOSED METHOD OF SURVEILLANCE:**

#### Local/State

- Oral health questions representing the dental visits, teeth cleaning and edentate status indicators are in the 1999 core Behavioral Risk Factor Surveillance System (BRFSS). Respondents will be asked these questions and the responses incorporated into the survey results;
- An oral health question related to dental visits by adolescents is in the Youth Risk Behavioral Survey (YRBS). Respondents will mark the answer to the question within the survey;
- Operators from fluoridated community water systems submit a water sample and the system determined analysis to the state. The sample is compared to the system determined analysis and reported monthly to the operator and quarterly to the CDC/ASTDD;

#### National

- Funding and technical assistance for the BRFSS and YRBS will be provided by the Centers for Disease Control and Prevention (CDC);
- Funding and technical assistance for the CDC/ASTDD water fluoridation surveillance system will be provided by the Centers for Disease Control and Prevention (CDC);

### **PROPOSED SURVEILLANCE DEFINITION:**

#### ***Dental visits:***

“How long has it been since you last visited the dentist or a dental clinic?” This question will be asked of adults  $\geq 18$  within the BRFSS and adolescents within the YRBS.

- a. Within the past year (1 to 12 months ago)
- b. Within the past 2 years (1 to 2 years ago)
- c. Within the past 5 years (2 to 5 years ago)
- d. Five or more years

- e. Don't know/Not sure
- f. Never

- 1.) The numerator will be the # of those responding within the past year (1 to 12 months ago); the denominator will be the # of BRFSS respondents.
- 2.) The numerator will be the # of those responding within the past year (1 to 12 months ago); the denominator will be the # of YRBS respondents.

**Teeth Cleaning:**

“How long has it been since you had your teeth ‘cleaned’ by a dentist or dental hygienist?” This question will be asked of adults  $\geq 18$  within the BRFSS. Same responses as those for Dental Visits above. The numerator will be the # of those responding within the past year (1 to 12 months ago) to the tooth cleaning question; the denominator will be the # of BRFSS respondents that have at least one tooth.

**Edentulism:**

“How many of your permanent teeth have been removed because of tooth decay or gum disease? (Do not include teeth lost for other reasons, such as injury or orthodontics).” This question will be asked of adults  $\geq 18$  within the BRFSS.

- a. Between 1 and 5
  - b. 6 or more but not all
  - c. All
  - d. None
  - e. Don't know/Not sure
- 1.) The numerator will be those who report none of their teeth having been removed (for those aged 35-44; *HP2010 #9.3*); the denominator will be all those people aged 35-44 responding to the BRFSS survey during the calendar year. 2.) The numerator will be those who report all of their teeth having been removed (for those aged 65 and older; *HP 2010 #9.4*); the denominator will be all those people aged 65 age or older responding to the BRFSS survey during the calendar year.

**Fluoridation Status:**

The percentage of persons served by community water systems who are served with optimally fluoridated water.

**DATA TO BE COLLECTED:**

Local/State:

- Data from the oral health module of the BRFSS and the YRBS. Water sample fluoride content from community water systems.

National:

- A national public health surveillance system will use the BRFSS, YRBS, and water fluoride status to create tables of summary data for the selected indicators according to race/ethnicity, age, gender, and community.

**INFORMATION SYSTEMS TO BE UTILIZED TO COLLECT/TRANSMIT INFORMATION:**

The BRFSS, YRBS, and the CDC/ASTDD fluoridation reporting system.

**TEMPORARY/PERMANENT:**

**Permanent.**

**PARTNER ORGANIZATIONS & ROLES:**

State health departments are the primary data source.

**OTHER PARTNER ORGANIZATIONS INCLUDE:**

Association of State and Territorial Dental Directors (ASTDD)  
The Centers for Disease Control and Prevention (CDC)

**FEDERAL AGENCY/DATA SYSTEM INVOLVED:**

The Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS) and the Youth Risk Behavior Survey (YRBS).

The CDC/Association of State and Territorial Dental Directors (ASTDD) Fluoridation Reporting System.

**COORDINATION WITH OTHER ORGANIZATIONS:**

**Agencies for Response:** Association of State and Territorial Dental Directors (ASTDD)  
Division of Oral Health, CDC

**Agencies for Information:** Behavioral Risk Factor Surveillance System (BRFSS)  
Youth Risk Behavioral System (YRBS)

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