

1999 CSTE ANNUAL MEETING

POSITION STATEMENT: CD/MCH # 2

COMMITTEE: Chronic Disease/Maternal Child Health

TITLE: Inclusion of Childhood Dental Caries and Dental Sealants Indicators in the National Public Health Surveillance System, NPHSS

POSITION TO BE ADOPTED:

Dental caries and dental sealants among children should be placed under nationwide surveillance as part of a national public health surveillance system. The system should monitor among K-3rd graders:

- A. Dental sealants
- B. Caries history
- C. Obvious signs of decay

BACKGROUND/JUSTIFICATION:

Dental sealants are plastic coatings that are applied to susceptible tooth surfaces to prevent tooth decay. Sealants are highly effective in reducing the occurrence of decay by as much as 76 percent. (1) A 1995 guideline development workshop recommended increasing the appropriate use of sealants in both individual patient care and community programs. (2) Despite their effectiveness, it is estimated that only 20 percent of children ages 5 to 17 have sealants on their teeth. (3) Increasing dental sealant utilization has been an objective in Healthy People 2000 [#13.8] and is an objective for Healthy People 2010 [#9.9]. Placement of dental sealants in children in the third grade is a requirement for funding under the MCH Block Grant program.

Dental caries (tooth decay) is one of the most common infectious diseases experienced by Americans and is clinically evident through the presence of active decay, treated decay in the form of fillings and other restorations, and through a history of missing teeth due to tooth decay. Despite declines over time in the prevalence of caries, 44 percent of children ages 5-17 have evidence of caries in their permanent teeth. (3) For 3rd graders, who have a mixed dentition (primary and permanent teeth), 60 percent have experienced caries. High levels of tooth decay and restorations reflect underlying susceptibility to decay, but importantly, lack of use of effective caries reducing interventions such as water fluoridation, typical fluoride treatments, and use of dental sealants.

Obvious signs of decay that is not treated indicate need for preventive and restorative care. Both caries history [#9.1A, #9.1B, #9.1C] and obvious signs of decay [#9.2A, #9.2B, #9.2C] are objectives in the Healthy People Year 2010 objectives.

Sealants and caries are best assessed through clinical examination. Some local areas currently conduct school-based surveys (both sample surveys and surveys of entire defined geographical areas). Variations exist in the target ages and grades, but many cover children within the ages of 6-9, ages during which the permanent dentition is emerging and preventive sealant placement is most beneficial. Most surveys of these types obtain data on sealants, caries history, and obvious signs of decay, and most distinguish between permanent and primary dentition.

The Association of State and Territorial Dental Directors (ASTDD) through a cooperative agreement with the Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion, NCCDPHP, CDC is finalizing a guide to Basic Screening Surveys that is

intended to provide systematic and relatively simple definitions and procedures for assessing the presence of sealants, caries history, and obvious signs of decay by medical and dental care

providers. The ASTDD plans to disseminate this widely, and it is likely that, together with its simple sampling guidance, it will generate survey data on many special populations in a systematic way. Many states, local areas, and federal sample survey data systems collected data that is more extensive [tooth-based or tooth surface-based] and may collect information on disease that is less than severe. These data can be categorized into the basic prevalence figures available from Basic Screening Surveys. The Basic Screening Survey approach permits estimates of the prevalence of any sealants, history of decay, or obvious signs of decay. The focus is on children in K-3rd grades because these are the ages during which the permanent dentition is emerging and preventive sealant placement is most beneficial.

GOALS FOR SURVEILLANCE:

Data will be used at the local, state and national level to monitor the burden of disease and allocate scarce resources for prevention and control efforts. At the state and national level, data will also be used to measure the effect of interventions and to develop hypotheses regarding risk factors for disease and poor utilization of services.

PROPOSED METHOD OF SURVEILLANCE:

For surveys conducted at a state and local level, uniform core data items are collected on all children from dental screening surveys of children in grades K-3rd. Core information includes: age, grade, mixed [primary/permanent] dentition or permanent dentition, presence of at least one sealant, presence of history of decay on at least one tooth, and presence of obvious signs of decay.

Information on the total numbers of children surveyed would also be obtained.

All of these data would be transmitted to the Division of Oral Health at CDC.

PROPOSED SURVEILLANCE DEFINITION:

The surveillance definitions are consistent with the ASTDD Basic Screening Survey Guide.

1. The presence of dental sealants, plastic coatings applied to the teeth, are determined through a visual/tactile inspection of the teeth.
2. History of caries (ever having had a cavity, caries experience) is determined by the presence of an untreated cavity, a filling (which presumably was once a cavity), or a permanent molar tooth that is missing because it was extracted as a result of caries.
3. Untreated caries (obvious signs of decay) is present if a tooth shows a loss of tooth structure or brown to dark-brown coloration of the walls of the cavity.

DATA TO BE COLLECTED:

The national public health surveillance system will use data on individual cases exclusive of identifiers to create tables of summary data on prevalence of any sealants, history of caries, or obvious signs of decay by age, grade, and permanent/primary dentition.

Information system to be utilized to collect and transmit information: the source of the numerator and denominator of the prevalence data will be school-based and other dental screening surveys from local or state surveys or from the National Health and Nutrition Examination Survey III, NHANES.

A representative population-based sample with schools as the primary sampling unit will be used. (Basic Screening Survey: ASTDD)

TEMPORARY/PERMANENT:

Permanent

PARTNER ORGANIZATIONS AND ROLES:

State and local health departments will be the primary source of state and local data.

The National Center for Health Statistics/Statistics/Centers for Disease Control and Prevention will be the source of NHANES data.

OTHER PARTNER ORGANIZATIONS INCLUDE:

Division of Oral Health/National Center for Chronic Disease Prevention and Health Promotion/Centers for Disease Control and Prevention
National Center for Health Statistics/Centers for Disease Control and Prevention
Association of State and Territorial Dental Directors
Bureau of Maternal and Child Health/Health Resources and Services Administration
Association of Maternal and Child Health Programs
National Institute of Dental and Craniofacial Research/National Institutes of Health
Health Care Financing Administration

COORDINATION WITH OTHER ORGANIZATIONS:

Agencies For Response: Division of Oral Health
Association of State and Territorial Dental Directors (ASTDD)

Agencies For Information: Division of Oral Health
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2. Workshop on Guidelines for Sealant Use: Recommendations. *J Public Health Dent* 1995;55:(Spec Iss):263-73.
3. Third National Health and Nutrition Examination Survey III, 1988-94, unpublished.