# The Burden of Oral Disease Building A State Document

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**National Oral Health Conference**
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# The Burden of Disease –

"…total significance for society of a disease beyond the immediate cost of treatment…"

World Health Organization

CDC
SAFER·HEALTHIER·PEOPLE™

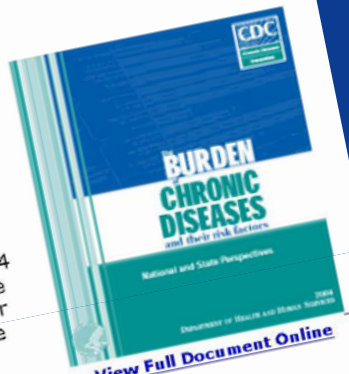
National Center for Chronic Disease Prevention and Health Promotion

**Chronic Disease Prevention**



# The Burden of Chronic Diseases and Their Risk Factors

## National and State Perspectives 2004

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This document is also available in Portable Document Format (PDF–9.8Mb). You will need Acrobat Reader (a free application) to view and print this document.

**Abstract:** The Burden of Chronic Diseases and Their Risk Factors: National and State Perspectives 2004 provides updated information on the burden of chronic diseases and their risk factors in the 50 states and the District of Columbia, including

- A national perspective on chronic diseases as major causes of death.
- State-specific data on rates of death due to heart disease, cancer, stroke, and diabetes.
- Information on the prevalence of the major risk factors for chronic diseases and on the use of preventive services.
- Profiles of chronic diseases, risk factors, and preventive services in each state.
- Information on CDC funding to states for programs that target chronic diseases and their risk factors.

This document is intended to aid policy makers, the public health community, and all others interested in addressing the burden of chronic disease in the United States. Another generation of Americans need not suffer unnecessarily or die prematurely when so much is already known about how to prevent disability and death from chronic diseases.

**Suggested Citation:** Centers for Disease Control and Prevention. *The Burden of Chronic Diseases and Their Risk Factors: National and*

BURDEN OF CHRONIC DISEASE
- Overview
- By Disease and Risk Factor
- By State

CHRONIC DISEASE PREVENTION
- Chronic Disease Overview
- CDC's Chronic Disease Programs
- Tracking Conditions & Risk Behaviors
- Major Accomplishments
- Scientific Observations
- Exemplary State Programs
- State Profiles
- Publications

- About CDC's Chronic Disease Center
- Press Room
- Grants and Funding
- Postgraduate Opportunities
- Related Links

# Chronic Disease Burden

- Heart Disease, Stroke, Cancer and Diabetes in the U.S.
- Risk Factors and Use of Preventive Services:
  - Cigarette Smoking
  - Lack of Physical Activity
  - Poor Nutrition
  - Overweight
  - Lack of Mammography Screening…
  - Lack of Health Insurance

# Guidelines

- Based on Chronic Disease Model
- Includes syndemic factors
- Includes national data and text
- Provides context for comparisons of data

# Goal: Create Useful State Burden of Oral Disease Documents

A publicly available disease burden document describing oral disease burden, oral disparities, and unmet needs issued in the past 5 years using the most recent data preferably no more than 5 years old and…

Document includes oral health status with indicators consistent with the National Oral Health Surveillance System (NOHSS), Water Fluoridation Reporting System (WFRS), and ASTDD State Synopsis.

# Indicators of Oral Health Status

| Indicator | NOHSS | CSTE | HP2010 | Source |
|---|---|---|---|---|
| Dental visits | ✞ | ✞ | 21-10 | NHIS-BRFSS |
| Teeth cleaning | ✞ | ✞ | | BRFSS |
| No tooth loss | | ✞ | 21-13 | BRFSS |
| Complete tooth loss | ✞ | ✞ | 21-4 | BRFSS |
| Fluoridation status | ✞ | ✞ | 21-9 | WFRS |
| Caries experience | ✞ | ✞ | 21-1 | BSS |
| Untreated caries | ✞ | ✞ | 21-2 | BSS |
| Sealants | ✞ | ✞ | 21-8 | BSS |
| Oral and pharyngeal cancer | ✞ | ✞ | 3-6 | NCHS-Registries |

# Burden of Oral Disease

***A Reference and Tool for Creating State Documents***

CDC
Centers for Disease Control and Prevention

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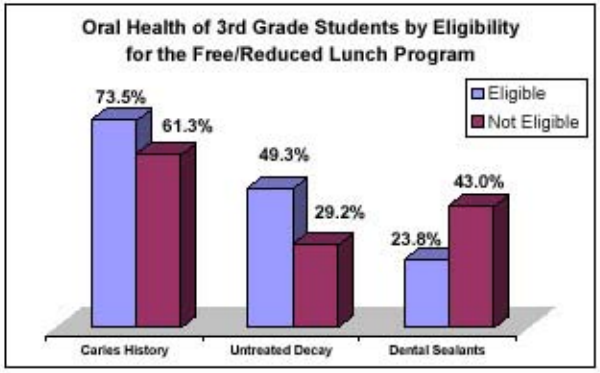
# *The Burden of Oral Disease in Nevada-2003*

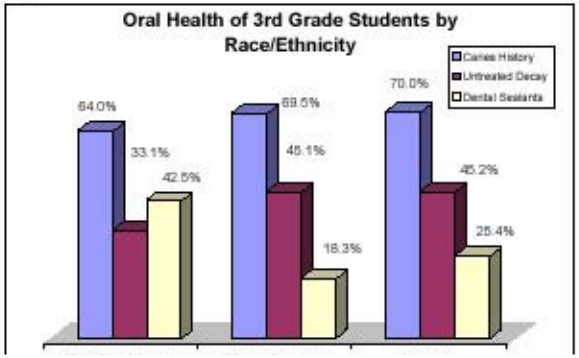
In 1948, the World Health Organization defined health as "a complete state of physical, mental, and social well-being, and not just the absence of infirmity." As new research continues to discover associations between chronic oral disease with heart and lung diseases, low birth-weight, and diabetes, it is becoming clear that a person cannot attain a complete state of good health without good *oral* health. Although safe and effective methods exist for preventing disease and improving oral health,

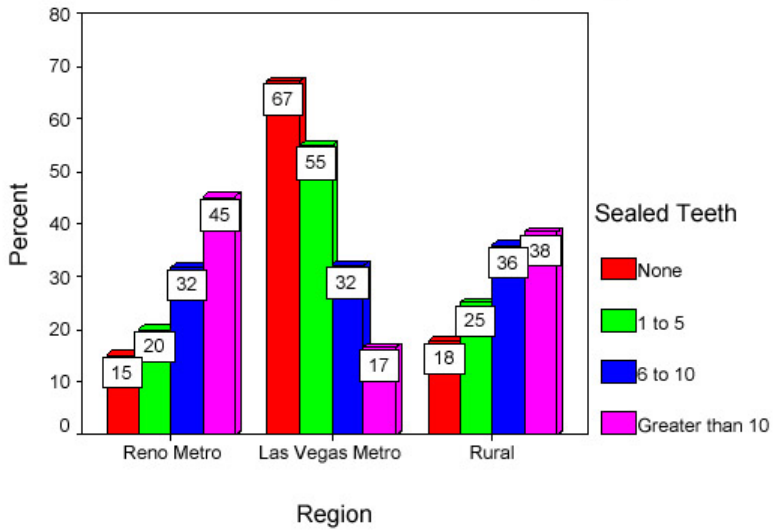
Figure 1.




When controlled for socioeconomic status, minority children have more untreated decay than their counterparts. There is also a distinction between the oral health of children having dental insurance and those who do not. Compared to children with dental insurance, children without insurance were more likely to have untreated decay (35% vs. 47%) and less likely to have dental sealants (39% vs. 21%).

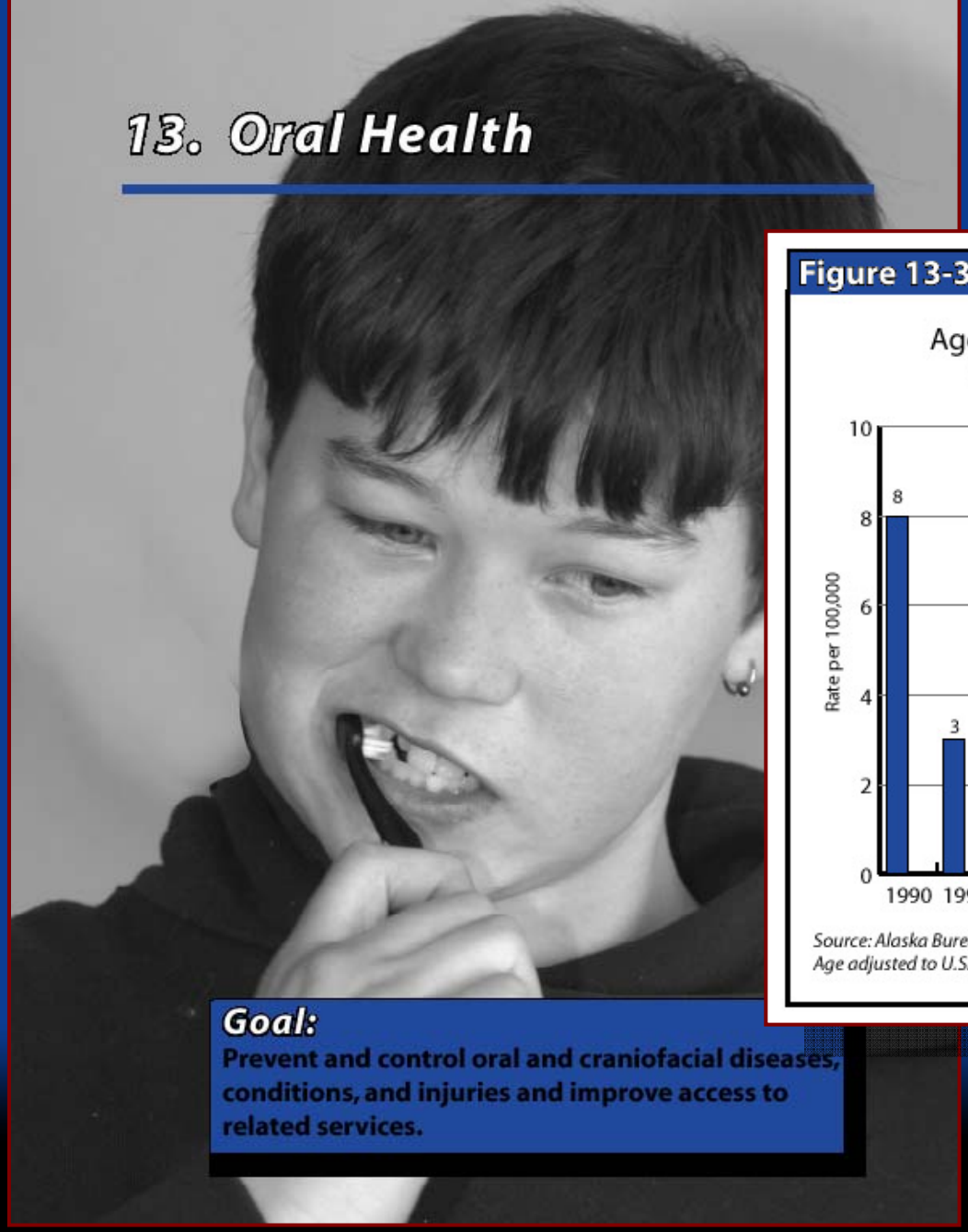
Figure 2.



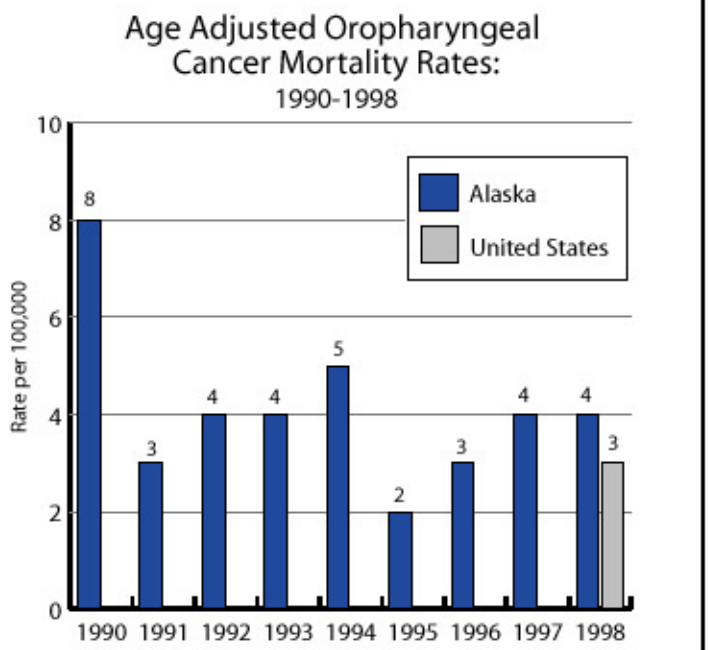

*adjusted for non-response
*bars of the same color add up to 100%

# 13. Oral Health



**Goal:**
**Prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services.**

**Figure 13-3**




*Source: Alaska Bureau of Vital Statistics*
*Age adjusted to U.S. 2000 standard population*

*the* 2002-2003

TOPIC:

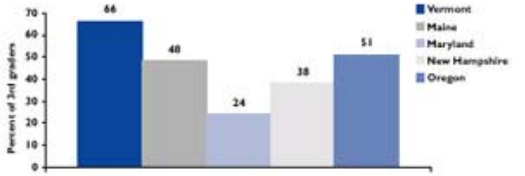
## Vermont compared to Other States

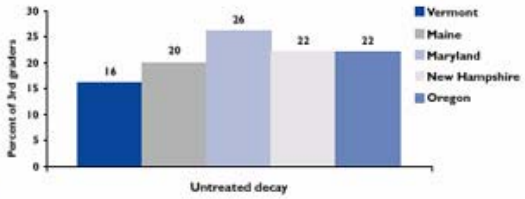
Maine, Maryland, New Hampshire and Oregon were chosen as comparison states because they recently completed similar surveys on third grade children.

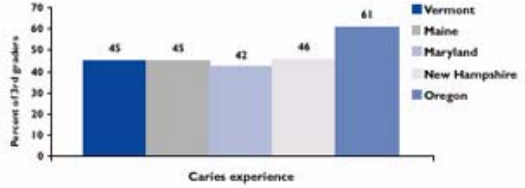
Sealants were identified on 66 percent of the third grade children in Vermont. This was 15 percentage points greater than Oregon, the second best state.

Among comparison states, Vermont had the lowest rate of untreated decay at 16 percent, followed by Maine with 20 percent.

Caries experience was generally equal among the comparison states with the exception of Oregon that reported a greater percentage of third grade children (61%) having a history of caries.






## Survey Method

The survey method used was an epidemiological survey utilizing standardized criteria and equipment necessary for conducting oral screenings of Vermont children in grades 1-3. The screenings were conducted by a licensed dental hygienist using gloves, mask, eye protection, portable headlight, and disposable mirror. The screener used diagnostic criteria outlined in the Association of State and Territorial Dental Directors 1999 *Basic Screening Surveys: An Approach to Monitoring Community Oral Health*. Socio-demographic information was obtained from the survey form that was completed by the parent/guardian. Completion of the questions was not required for the child to participate in the screening. The parent/guardian had to provide active consent for their child's participation in the screening activity. Parents/guardians were also encouraged to return the survey form whether or not they gave consent for the oral screening.

The following data was collected during the screening:

- Child's grade, date of birth, age and gender
- Caries experience: number of primary and permanent teeth
- Untreated decay: number of primary and permanent teeth
- Sealants on permanent molars: yes/no
- Fluorosis: no obvious, mild, moderate
- Treatment needs (preventive dental care only, need for early dental treatment, need for urgent dental treatment)
  - Criteria for preventive dental care only: no obvious problems
  - Criteria for early dental treatment: caries without accompanying signs or symptoms, spontaneous bleeding of the gums, or suspicious white or red soft tissue areas
  - Criteria for urgent dental treatment: signs or symptoms that include pain, infection, swelling, or soft tissue ulceration of more than two weeks duration (determined by questioning)

These data items correspond to the objectives outlined in the *Healthy People 2010* and *Healthy Vermonters 2010* documents.

**Data Items:** *Objectives*

**Caries Experience:** *Reduce the proportion of children aged 6-8 years with dental caries experience in their primary and permanent teeth.*

**Untreated Decay:** *Reduce the proportion of children aged 6-8 years with untreated dental decay in their primary and permanent teeth.*

**Sealants present:** *Increase the proportion of children aged 8 years who have received dental sealants on their molar teeth.*

Parent/guardian reported information from the survey (this information includes both those parents/guardians who gave consent for their child to be screened and those who only completed the survey questionnaire):

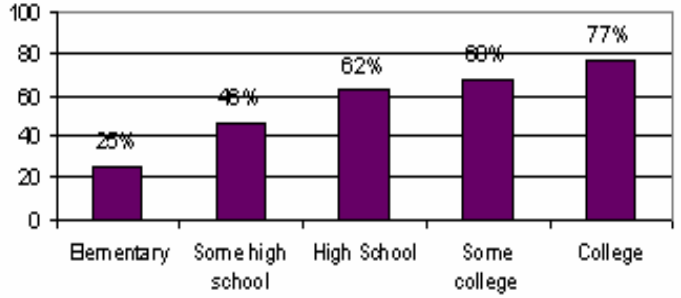
- Regular dental visit by the parent/guardian: 73 percent
- Most important reasons that the child was not taken to the dentist in the last year: No reason to go and Cost
- Highest level of education completed by the parent/guardian: College graduate (42%), Some college (21%), High school/GED (28%), Less than high school (3%) and No response (6%).



Vermont Department of Health

Dental Health Services

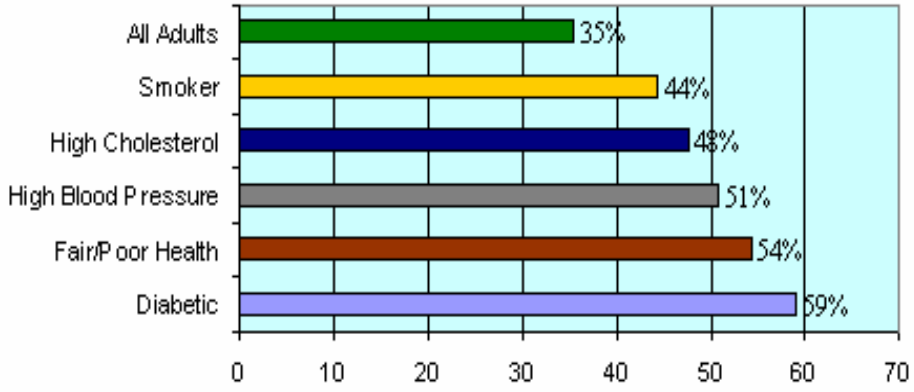
**Figure X: Percentage of Adults That Visited the Dentist Within the Last Year by Education Level, 2002**




SOURCE: Colorado Department of Public Health and Environment. 2002 Behavioral Risk Factor Surveillance Survey.

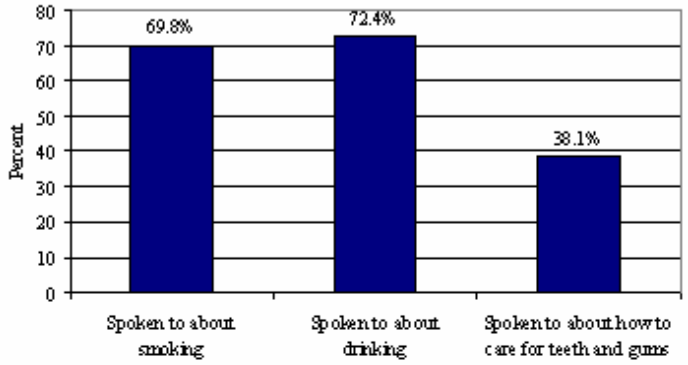
Individuals with chronic diseases are at increased risk for oral disease. Many systemic diseases and conditions have oral manifestations and result in greater oral disease burden. The 2002 BFRSS estimated that 59% of diabetics and 44% of smokers in Colorado have lost at least one tooth (Figure X) compared to 35% in the general adult population.[10]

**Figure X: Percentage of Adults with Chronic Disease Who Have Lost Teeth Due to Decay or Gum Disease - BRFSS 2002**



The importance of good oral health is not being discussed with pregnant women. While 69.8% of pregnant women were counseled by their prenatal provider on smoking and 72.4% were counseled on alcohol use, less than 40% received counseling on dental care.[9]

Figure X: Counseling Received by a Health Care Professional During Pregnancy




SOURCE: Pregnancy Risk Assessment Monitoring Survey Combined Analysis 2000-2001. Centers for Disease Control and Prevention: Division of Oral Health

The PRAMS analysis also revealed that privately insured pregnant women accessed dental care more frequently than Medicaid eligible women, and over 40% of Medicaid eligible women had not received dental care in more than 24 months.[9] Additionally, mothers who received their prenatal care from a community health center were 66% less likely than women in a HMO or private physician to seek dental care; this is likely due to the exclusively poor population served by community health centers, a group at higher risk for not accessing dental services.[9]

Additional maternal risk factors for not seeking dental care that the PRAMS analysis revealed were: mothers between the ages of 20-29 years old, mothers with incomes less than $40,000/year, women that had two or more offspring at one birth (twins, triplets), and those who initiated prenatal care late (after the third trimester).[9]

## Adults

Many adults do not understand that good oral health is essential to general health and well-being. Good oral health means being free of chronic oral-facial pain, oral and pharyngeal (throat) cancers, oral soft tissue lesions, birth defects such as cleft lip and palate, and conditions that affect the oral, dental, and craniofacial tissues. Safe and effective preventive strategies for maintaining oral health has lead to marked improvements in the oral health of Americans in the past 50 years, and as a result, most middle-aged and younger Americans can expect to retain

Oral Health In Maine – a Fact Sheet

# Community water fluoridation

"…one of the great public health achievements of the twentieth century[1]"

## What is the Public Health Issue?

Oral health is integral to general health[2]. Although preventable, tooth decay is a chronic disease affecting all age

***In the U.S. tooth decay[3] affects:***

- ✓ *1 in 4 elementary school children*
- ✓ *2 out of 3 adolescents*

Oral Health In Maine – a Fact Sheet

# Children with Special Health Needs

"Children with special health needs are at the greatest risk of inadequate access and poor oral health.[1]"

## Who has special needs?

Oral health is integral to general health [2]. Children with special health needs are defined as those "who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition who require health and health-related services of a type or amount beyond that required by children generally.[3]" Conditions which engender special needs include, but are not limited to, Down syndrome, craniofacial defects (cleft lip/palate), cerebral palsy, developmental disabilities, autism, vision or hearing deficits, diabetes, asthma, and HIV. It has been reported that the number one unmet need for children with special needs is dental care[4].

## What are the oral health issues for children with special needs?

1. Children with developmental disabilities: enamel irregularities, gum and oral infections, delayed tooth eruption, bite irregularities[5]
2. Children with Down syndrome: gum disease, dry mouth, fissures of tongue and lip, and bite irregularities[6]

***Facts at a glance:***

- ✓ *1 in 8 children between 6 and 14 years old have some sort of disability[8]*
- ✓ *Number one unmet need for children with special needs: dental care[4]*
- ✓ *One in four parents of children with special needs report their child has unmet dental need[9]*

# Community Water Fluoridation

"...one of the 10 great public health achievements of the twentieth century."[1]

*Oral Health in Your State: A Fact Sheet*

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# Sealants

"...effective in the primary prevention of tooth decay."[1]

*Oral Health in Your State: A Fact Sheet*

## What is the public health issue?

Oral health is integral to general health.[2] Although preventable, tooth decay is a chronic disease affecting all age groups. In fact, it is the most common chronic disease of childhood.[2] The burden of disease is far worse for those who have restricted access to prevention and treatment services. Tooth decay, left untreated, can cause pain and tooth loss. Untreated tooth decay is associated with difficulty in eating and with being underweight.[3] Untreated decay and tooth loss can have negative effects on an individual's self-esteem and employability.

**In the U.S., tooth decay[4] affects:**

- ✓ 18 percent of children 2–4 years
- ✓ 52 percent of children 6–8 years
- ✓ 61 percent of teenagers age 15

## What is the impact of sealants?

Sealants are a plastic material placed on the pits and fissures of the chewing surfaces of teeth where up to 90 percent of decay occurs in school children.[4] Sealants prevent tooth decay by creating a barrier

Mississippi Health Policy Research Center

# Health Policy Brief

November 2003

## *CHILDREN'S ORAL HEALTH IN MISSISSIPPI: Addressing a Silent Epidemic*

Linda H Southward, Ph.D.
Nicholas G. Mosca, D.D.S.
Stephen L. Silberman, D.M.D.
Neva Penton Eklund, D.M.D.
David K. Curtis, D.M.D.
Connie Lane, B.S.W.

### A National Call to Action

The first ever Report on Oral Health in America (2000), issued by U.S. Surgeon General Dr. David Satcher, served as a platform to increase public awareness on the importance of oral health. Among the major themes of the report are that oral health is essential to general health and well-being and that profound and consequential oral health disparities exist in the United States. Dr. Satcher stated that what amounts to a silent epidemic of dental and oral diseases is affecting some population groups-restricting activities at schools, work, and home-and often significantly diminishing the quality of life. U.S. Surgeon General Dr. Richard Carmona issued a National Call to Action to Promote Oral Health (2003) as a wake-up call to community and industry leaders, policymakers, health professionals, the media, and the public on issues regarding the nation's oral health.

So what are the major concerns that inspired this national call to action?

The U.S. Surgeon General (2000) reported that:

- Dental caries, or "tooth decay," in childhood is alarmingly pervasive; it is 5 times more common than asthma.
- American children, particularly those in poverty, receive too little dental care, which results in unnecessary disease and discomfort for the children as well as excessive school
- Oral diseases are progressive and cumulative and become more complex and costly to treat over time. Therefore, problems that were preventable in early childhood can escalate to irreversible damage over one's lifespan.

### Causes of Childhood Dental Caries, or "Tooth Decay"

Dental caries (tooth decay) is an infectious and transmissible, yet preventable, disease. Among infants and toddlers, the newer term "early childhood caries" (ECC) has also been used interchangeably with "baby bottle tooth decay," "bottle mouth," and other similar names; however, research demonstrates that ECC also occurs when bottles are not used (Platt & Cabezas, 2000). Tooth decay is initiated by the bacterium Streptococus mutans. Because ECC is infectious, it can be easily spread to infants through mothers' or caregivers' saliva during nurturing activities such as feeding and using a pacifier (Ettinger, 1999). As the bacteria accumulate in dental plaque over time and are nourished by sugar-laden foods or drinks, tooth enamel deteriorates and cavities form. Since tooth decay can be prevented even prior to the formation of cavities, the American Academy of Pediatrics, American Academy of Pediatric Dentistry, and American Public Health Association all advise that children should receive a dental check-up before their first birthday. Effective measures for preventing and treating childhood caries include fluoridating water supplies, appropriately using fluoridated toothpaste,

# Relate Data to People

Contact: Beth Hines: bua5@cdc.gov