



MICHIGAN

Oral Health Plan



Department of

Community Health



MICHIGAN
Oral Health Coalition

ACKNOWLEDGEMENTS

State of Michigan ~ **Governor Jennifer M. Granholm**

Michigan Department of Community Health ~ **Director Janet Olszewski**

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S e p t e m b e r 2 0 0 6

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JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF COMMUNITY HEALTH
LANSING

JANET OLSZEWSKI
DIRECTOR



STATE OF MICHIGAN

Dear Colleagues:

Today, oral diseases affect millions of Americans and dental caries (tooth decay) is the single most common childhood illness. Too often we ignore the fact that good oral health is essential to good overall health, and fail to recognize that oral health problems contribute to other diseases such as heart disease, diabetes and stroke, and are associated with serious problems for newborns. Yet, oral disease is preventable.

In the last few decades, public health measures such as community water fluoridation, oral health education, and improved access to more effective dental treatment has reduced oral disease in much of the population, resulting in an improved quality of life for many persons. However, the Surgeon General of the United States has spoken of a “silent epidemic” of oral disease which is affecting our most vulnerable citizens; the elderly, children in poverty, and members of racial and ethnic minority groups.

The Michigan Oral Health Plan was prepared in recognition of the important role oral health plays in the overall health. The Oral Health Coalition developed the Michigan Oral Health Plan in a collaborative effort to address a wide range of oral health issues. Funded by the Centers for Disease Control and in collaboration with the Michigan Department of Community Health, the Michigan Oral Health Plan continues to be a “living document”—one that will be revisited and modified as implementation proceeds. The Coalition members have demonstrated dedication and commitment to the process of improving oral health.

While the Healthy Kids Dental Program and restoring adult dental Medicaid benefits have provided dental benefits to many, not all Michigan consumers have benefited from improved oral health disease prevention and treatment. I encourage you to join us, using the Plan’s goals, objectives and strategies, to engage individuals and communities, organizations and institutions, and medical and dental care providers across Michigan to achieve optimal oral health for all Michigan consumers.

Sincerely,

A handwritten signature in black ink, appearing to read "Janet Olszewski".

Janet Olszewski
Director
Michigan Department of Community Health



Dear Colleagues:

The oral health of Michigan's populace reflects that of the rest of the nation as described in the U.S. Surgeon General's Report published in 2000. "Improvement was noted over the past 50 years." However, congratulations would hardly be appropriate. The same report depicts poor oral health as a "silent epidemic affecting our most vulnerable citizens."

Poor oral health is now recognized and treated as a chronic infectious disease. In the past, statewide treatments have been fragmented and ineffective in utilizing present day technology and proven prevention techniques to elevate awareness and control this disease.

The Michigan Oral Health Coalition (MOHC) commenced in 2003 with funding from a grant from the Centers for Disease Control and Prevention. It is an alliance that is fully committed to improved oral health in our state. The MOHC brings together diverse organizations, agencies, and individuals throughout the state whose common purpose encompasses the full range of oral health issues.

Structured into four workgroups, Coalition members combined ideas, experience, and expertise to develop our *Plan of Action For Improving the Oral Health Status of Michigan Residents*. This five-year plan was presented to and accepted by the Michigan Department of Community Health and Governor Jennifer Granholm.

The Michigan Oral Health Plan which follows this letter represents much of the work of the Coalition and has the Coalition's full support. The MOHC is committed to making this plan a living document—refined by successes, modified by new tools and technologies, and revisited as implementation proceeds.

Yours for Michigan's improved oral health,

A handwritten signature in black ink that reads "Robert C. Dennison DMD".

Robert C. Dennison, DMD, MPH
2006-07 Chairman
Michigan Oral Health Coalition

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The goals and action steps in Michigan's Oral Health Plan are designed to improve the oral health status of Michigan's residents. Such a challenging task would not have been possible without the work of many motivated organizations and individuals.

- Advantage Health Centers, Detroit
- Alcona Health Center, Lincoln
- Baker College, Port Huron
- Baldwin Family Health Care, Baldwin
- Blue Cross Blue Shield of Michigan, Southfield
- Branch, Hillsdale, and St. Joseph County Health Department, Coldwater
- Calhoun County Health Department, Battle Creek
- Capital Area Community Services, Inc, Lansing
- Capital Area Health Alliance, Lansing
- Center for Family Health, Jackson
- Cherry Street Health Services, Grand Rapids
- Children's Hospital of Michigan, Detroit
- Delta Dental Plan of Michigan, Lansing
- Dental Clinics North, Charlevoix
- Detroit Community Health Connection, Detroit
- Detroit Department of Health & Wellness Promotion, Detroit
- Family Health Center of Battle Creek, Battle Creek
- Family Independence Agency, Lansing
- Hackley Community Care Center, Muskegon Heights
- Hackley Hospital, Muskegon
- Hamilton Community Health Network, Flint
- Head Start-State Collaborative Program, Lansing
- Health Delivery, Inc., Saginaw
- Henry Ford Health System, School Health Initiative, Detroit
- Hillsdale County Human Services Network, Hillsdale
- Ingham County Health Department, Lansing
- Ingham Oral Health Coalition, Lansing
- Intercare Community Health Network, Bangor
- InterTribal Council, Sault Ste. Marie
- Ionia County Health Department, Ionia
- Kalamazoo County Dental Clinic, Kalamazoo
- Lansing Community College Dental Hygienist Program, Lansing
- Lifeways, Jackson
- Marquette County Health Department, Marquette
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- Michigan Family Resources, Inc., Walker
- Michigan Health & Hospital Association, Lansing
- Michigan Health Council, Okemos
- Michigan Primary Care Association, Lansing
- Michigan Public Health Institute, Okemos
- Michigan Spit Tobacco Education Program, Lansing
- Mid-Michigan District Health Department, Stanton
- Mobile Dentists/Children's Dental Health Foundation, Farmington Hills
- Monroe County Health Department, Monroe
- Mott Children's Health Center, Flint
- Muskegon Community Health Project, Muskegon
- Muskegon County Health Department, Muskegon
- Muskegon Family Care, Muskegon
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- Omni Oral Pharmaceuticals, Kentwood
- Ottawa County Health Department, Holland
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- Sault Tribe of Chippewa Indians, Sault Ste. Marie
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- St. Clair County Health Department, Port Huron
- Sterling Area Health Center, Sterling
- Telamon Corporation, Lansing
- Tri-County Dental Health Council, Southfield
- University of Detroit Mercy School of Dentistry, Detroit
- University of Michigan Health System, Ann Arbor
- University of Michigan School of Dentistry, Ann Arbor
- University of Michigan School of Public Health, Ann Arbor
- Upper Peninsula Association of Rural Health Services, Marquette
- Van Buren/Cass County Health Department, Hartford
- Washtenaw Children's Dental Clinic, Ann Arbor
- Wayne County Health Department, Detroit
- Wolverine Dental Society, Detroit

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Through statewide coordination between the Michigan Department of Community Health and other state departments, the Michigan Oral Health Coalition, local agencies, professional and public dental groups, universities in Michigan with expertise to work with community partners, and other community agencies, Michigan continues to make progress in improving the oral health of its residents. However, in comparison other states, Michigan continues to have higher rates of oral cancer, ranks next to last in the country for dental sealant placement, and has significant disparities in oral health access. In addition, one in nine third grade Michigan children show signs or symptoms of dental pain, infection, or swelling.

To build upon Michigan's key oral health assets and continue improving the oral health status of its residents, the Michigan Oral Health Program provides consultation, technical assistance, and program coordination on many oral health programs and issues, such as:

- School-based/School-linked dental and sealant programs
- Fluoride rinse and varnish programs
- Tobacco cessation
- Baby bottle tooth decay
- Periodontal disease
- Oral health/systemic disease links
- Nursing home dental in-service
- Community water fluoridation
- School Fluoride mouth rinse programs
- Oral cancer
- Public Act 161
- Access to preventive and remedial dental disease programs

Under a grant from the Centers for Disease Control and Prevention, and through the work of the interagency Michigan Oral Health Coalition, Michigan adopted a State Oral Health Plan (SOHP) in 2005. The SOHP, which is part of the state's oral health strategy, consists of goals and action steps designed to improve the oral health status of Michigan's residents.

Continued support of Michigan's Oral Health Program and the SOHP is needed for local agencies to build capacity and increase access to oral health care for underserved populations, including those who are low income, uninsured, or Medicaid eligible. The need to increase Medicaid providers across the state remains a priority. In 2004, 30.0% of Michigan's dentists were enrolled as Medicaid providers and only 24.7% had at least one claim for Medicaid.

Considerable statewide efforts are needed to assist Michigan in achieving the standards set forth by *Healthy People 2010* and the State Oral Health Plan. Improvements in insurance coverage or Medicaid reimbursement rates alone will not solve the oral disease burden. Additional health promotional efforts such as school-based/school-linked sealant programs, community fluoridation programs, fluoride varnish programs for Early Head Start and Head Start, and WIC intervention programs are necessary for the integration of oral health as a component to overall health and well-being.

Efforts must continue to engage pediatricians, physicians, nurses, and other health professionals in dental health awareness and promotion of dental health as a component for good physical health. Children and adults should not suffer from pain, loss of employment or school hours, have difficulty chewing food or speaking, or face social decline due to preventable oral disease.

INTRODUCTION TO ORAL HEALTH



The mouth is vital to everyday life. It serves to nourish our bodies as we take in water and nutrients; communicate our thoughts, our mood, and our dreams; and distinguishes our appearance from others.

Oral health is an essential and integral component of overall health throughout life, and includes more than just healthy teeth. *Oral* refers to the whole mouth—teeth, gums, hard and soft palate, lining of the mouth and throat, tongue, lips, salivary glands, chewing muscles, and upper and lower jaws.

Not only does good oral health mean being free of tooth decay and gum disease, it also means being free of chronic oral pain conditions, oral cancer, and other conditions that affect the mouth and throat. Good oral health also includes the surgical correction and treatment of birth defects such as cleft lip and palate. Good oral health includes the ability to carry on the most basic human functions such as chewing, swallowing, speaking, smiling, kissing, and singing.

Because the mouth is an integral part of human anatomy, oral health is intimately related to the health of the rest of the body. For example, mounting evidence suggests that infections in the mouth such as periodontal (gum) disease can increase the risk for heart disease, can put pregnant women at greater risk for premature delivery, and can complicate controlling blood sugar for people living with diabetes. Conversely, changes in the mouth are often the first signs of problems elsewhere in the body such as infectious diseases, immune disorders, nutritional deficiencies, and cancer.

In May 2000, the United States Surgeon General released his report, *Oral Health in America*. It documented a “silent epidemic of oral disease affecting our most vulnerable citizens” (USDHHS 2000a), identified a significant unmet need for dental care, and delineated substantial disparities in oral disease. It also alerted Americans to the importance of oral health in their daily lives [USDHHS 2000a].

Oral Health in America further detailed how oral health is promoted, how oral diseases and conditions are prevented and managed, and what needs and opportunities exist to enhance oral health. Its message was that oral health is essential to general health and well-being and can be achieved.

One component of the national oral health plan is a set of measurable and achievable objectives on key indicators of oral disease burden, oral health promotion, and oral disease prevention. A similar set of indicators was developed in November 2000 as part of *Healthy People 2010*, a document that presents a comprehensive, nationwide health promotion and disease prevention agenda [USDHHS 2000b]. It is designed to serve as a roadmap for improving the health of all people in the United States during the first decade of the 21st century.

Included in *Healthy People 2010* are objectives for improving oral health (Table 1). They represent the ideas and expertise of a diverse range of individuals and organizations concerned about the nation’s oral health.

INTRODUCTION TO ORAL HEALTH

Table 1:

Healthy People 2010 Oral Health Indicators, Target Levels, and Current Status in the United States and Michigan			
Healthy People 2010 Objective	Target	U.S. Status	Michigan Status
21-1: Dental caries experience <i>Young children, ages 2-4</i> <i>Children, ages 6-8</i> <i>Adolescents, age 15</i>	11% 42% 51%	18% 52% 61%	DNA 58% DNA
21-2: Untreated caries <i>Young children, ages 2-4</i> <i>Children, ages 6-8</i> <i>Adolescents, age 15</i> <i>Adults, age 35-44</i>	9% 21% 15% 15%	16% 29% 20% 27%	DNA 25% DNA DNA
21-3: Adults with no tooth loss, ages 35-44	42%	31%	66%
21-4: Edentulous (toothless) older adults, ages 65-74	20%	26%	15%
21-5: Periodontal diseases, adults ages 35-44 <i>Gingivitis</i> <i>Destructive periodontal diseases</i>	41% 14%	48% 22%	DNA DNA
3-6: Oral cancer mortality rates (per 100,000 persons)	2.7	3.0	2.5
21-6: Oral cancer detected at earliest stage	50%	35%	40%
21-7: Oral cancer exam in past 12 months, age 40+	20%	13%	DNA
21-8: Dental sealants <i>Children, age 8 (1st molars)</i> <i>Adolescents, age 14 (1st & 2nd molars)</i>	50% 50%	23% 15%	23% DNA
21-9: Population served by fluoridated water systems	75%	62%	86%
21-10: Dental visit within past 12 months <i>Children, age 2+</i> <i>Adults, ages 18+</i>	56% 56%	44% 44%	51% 77%
21-11: Dental visit in past 12 months, adults in long-term care	25%	19%	DNA
21-12: Preventive dental care in past 12 months, low-income children and adolescents, age 0-18	57%	20%	28%
21-13: School-based health centers with oral health component, K-12	DNA	DNA	DNA
21-14: Community based health centers and local health departments with oral health component	75%	34%	38%
21-15: States with system for recording and referring infants with cleft lip and palate	100%	23%	100%
21-16: States with an oral health surveillance system	100%	DNA	100%
21-17: State and local dental programs with a public health trained director	100%	DNA	DNA

Lack of Dental Visits

Although appropriate home oral health care and population-based prevention are essential, professional care is also necessary to maintain optimal dental health. Regular dental visits provide an opportunity for the early diagnosis, prevention, and treatment of oral diseases and conditions for people of all ages, as well as for the assessment of self-care practices.

Adults who do not receive regular professional care can develop oral diseases that eventually require complex treatment and may lead to tooth loss and health problems.

Lack of regular professional care can develop oral diseases that eventually require complex treatment and may lead to tooth loss and health problems. Adults who have lost all their natural teeth are less likely to seek periodic dental care than those with teeth. This, in turn, decreases the likelihood of the early detection of oral cancer or soft tissue lesions from medications, medical conditions, and tobacco use, as well as from poor fitting or poorly maintained dentures.

Three out of four adults report having visited the dentist in the past year [CDC, 2002c]. Nearly an equal amount report having their teeth cleaned in the past year. Meanwhile, 30% of at-home long-term care residents were in need of dental services in 2003 [MDCH 2003].

According to *Count Your Smiles* (CYS), a 2005 survey designed to address dental outcomes in Michigan that pertain to *Healthy People 2010* objectives, children who visited the dentist in the past year had significantly less untreated dental disease and fewer immediate dental needs than children who had not visited the dentist in the past year.

Children should have their first dental visit within six months of eruption of the first tooth and no later than 12 months of age. At a minimum, every child should visit the dentist at least once per year. Among CYS participants, 84.8% of parents reported that their child had visited the dentist in the past year. When compared to other studies, CYS participants were more likely to use dental services than those who chose not to participate in the CYS survey. Still, substantial trends in use of dental services can be gained from the survey.

Table 2:

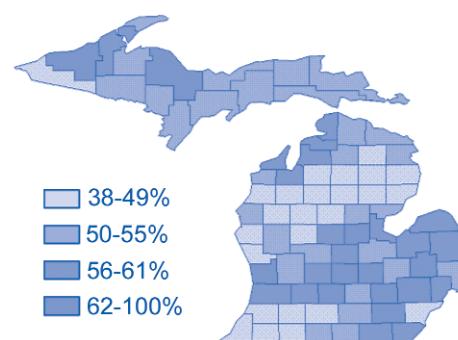
Proportion of persons aged 18 years and older who visited a dentist in the previous 12 months, BRFSS 2002

	Dental visit in the previous year	
	United States (%)	Michigan (%)
Healthy People 2010 Target	56%	56%
Total	69%	76%
By Race/Ethnicity		
American Indian/ Alaska Native	DNA	DNA
Asian/Pacific Islander	DNA	DNA
Black non-Hispanic	66%	72%
Hispanic/Latino	66%	80%
White non-Hispanic	72%	79%
By Sex		
Female	72%	79%
Male	68%	75%
By Education Level		
Less than high school	47%	58%
High school graduate	65%	71%
At least some college	76%	83%

DNA = Data Not Available

Figure 1:

Estimated percentage of children age 0-19 with any dental visit within the past year, by county in 2002



Dental Caries

Nationally, dental caries (tooth decay) is five times more common than childhood asthma and seven times more common than hay fever. Dental caries is a disease in which acids produced by bacteria on the teeth lead to loss of minerals from the enamel and dentin, the hard substances of teeth. Unchecked, dental caries can result in loss of tooth structure, inadequate tooth function, unsightly appearance, pain, infection, and tooth loss.

Early Childhood

The prevalence of decay in children is measured through the assessment of caries experience (if they have ever had decay and now have fillings), untreated decay (active unfilled cavities), the loss of first permanent molars due to caries, and urgent care (reported pain or a significant dental infection that requires immediate care).

Early Childhood Caries (ECC) occurs in young children (typically infants and toddlers) when caries develop on the primary teeth. Typical culprits in the development of ECC include passing harmful bacteria from the mother or caregiver with dental infection to the infant, a lack of parental education about the oral health needs of the child, and inappropriate use of baby bottles and/or sippy cups. Inappropriate use is characterized by bottle feeding with juice or soda, or providing a bottle for overnight use that contains any liquid other than water, including milk and sugary beverages. Repeated inappropriate bottle use can eventually lead to an early onset of rampant caries. Severe ECC requires extensive dental work, including hospital inpatient stays, multiple tooth extractions, and anesthesia.

The prevalence of ECC in Michigan is unknown, but a 2003 survey of parents in Michigan estimates that 29.3% of Michigan parents sent their child to bed with a bottle of juice, soda, or milk within the previous 30 days. Rates were higher for parents under the age of 30 years (41.4% vs. 18.4% for ages 30-39 years). Hispanics were more likely to report inappropriate bottle use than non-Hispanics (76.5% vs. 27.3%) [Eklund 2003].

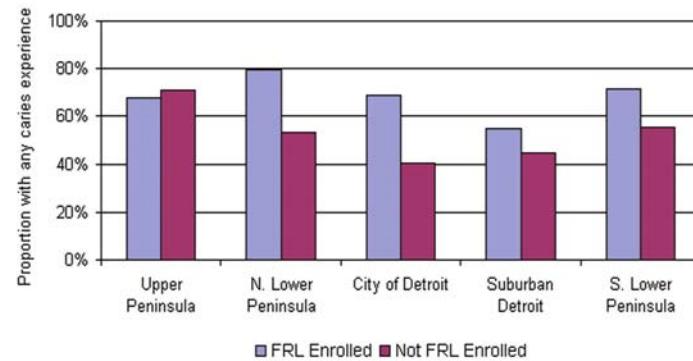
While the immediate effects of ECC can be devastating, long-term effects can be equally damaging. If these primary teeth, which help guide permanent teeth into place, have been lost due to decay, then it can impact how the permanent teeth establish themselves within the mouth.

Children

According to CYS, over half of all third grade children in Michigan (58.0%) had experienced tooth decay. Prevalence of caries was higher suburban Detroit with the highest rates occurring in the Upper Peninsula. Hispanic and Native American children, children not covered by private dental insurance, and free and reduced lunch participants all experienced higher rates of caries.

Free and reduced lunch participants experienced higher caries rates in each geographic region except in the Upper Peninsula. The resulting disparity varies in magnitude between the different regions. The largest socioeconomic disparities in caries experience occurred among children from Detroit and children from the Northern Lower Peninsula (Figure 2).

Figure 2:
Proportion of Michigan third grade children with caries experience, by free and reduced lunch (FRL) program participation and geographic region, 2005-06



Children with any caries experience averaged 3.8 affected teeth per child. Among children with caries experience in primary teeth, 3.5 primary teeth on average had been affected.

Among children with caries experience in permanent teeth, an average of 1.8 permanent teeth had been affected. The average number of teeth affected by caries varied between types of dental insurance, but did not statistically vary by free and reduced lunch program participation within each insurance category (Figure 3).

PREVALENCE & RISK FACTORS OF ORAL DISEASE IN MICHIGAN

Figure 3:

Average number of teeth affected by caries experience among Michigan third grade children with any caries experience, by type of dental insurance and enrollment in the free and reduced lunch (FRL) program, 2005-06

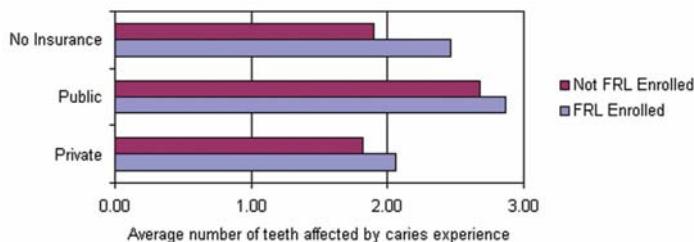


Figure 5:

Average number of teeth with untreated decay among Michigan third grade children with untreated decay and all Michigan third grade children, for children with and without a dental visit in the past year

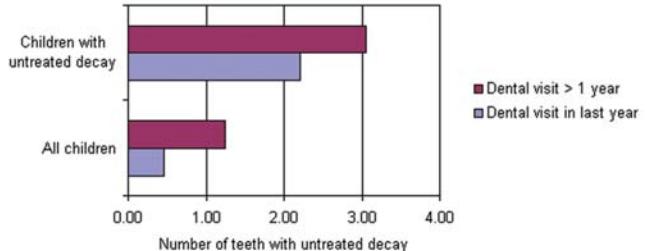
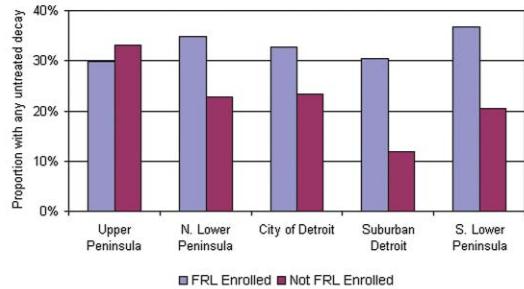


Figure 4:

Average number of teeth affected by caries among all third grade Michigan children and among third grade Michigan children with any caries experience, by community water supply (CWS) fluoridation status, 2005-06



Children who attended school in communities with fluoridated community water supplies had fewer teeth affected by caries than children who attended school in communities with nonfluoridated community water supplies (Figure 4).

One in four third grade children in Michigan (25.0%) have untreated dental disease. Untreated dental disease refers to caries experience (a cavity) that is visible, but has not been filled or treated. Children with untreated dental decay averaged 2.4 untreated teeth. Among children with untreated primary tooth decay, 2.3 primary teeth were untreated on average. Among children with untreated permanent tooth decay, 1.5 permanent teeth were untreated on average. Children who had visited the dentist in the past year had substantially less untreated decay than children who had not (Figure 5).

Screening revealed that nearly one in ten (9.6%) Michigan third grade children are in need of immediate dental care for signs or symptoms of pain, infection, or

swelling. The need for routine dental care was found in 27.5% of children while 62.9% of children had no obvious dental problems.

Adolescents

Recent observations suggest that severe dental conditions similar to ECC occur in teenagers. However, with the severe deterioration of the permanent teeth, this condition has more extreme lifetime consequences. Frequently, such an extensive caries condition results from a cumulative over-consumption of sugar-laden beverages such as fruit juices, sodas, and sports drinks. The resulting decay can present immediately, but the full impact may not be evident until early adulthood. Thus, limited availability and exposure to these beverages during adolescence serve as barriers to preventing caries in adolescence and adulthood.

Adults

People are susceptible to dental caries throughout their lifetime. Like children and adolescents, adults also experience decay on the crown (enamel covered) portion of the tooth. But adults may also develop caries on the root surfaces of teeth as those surfaces become exposed to bacteria and carbohydrates as a result of gum recession. In the most recent national examination survey, 85% of U.S. adults had at least one tooth with decay or a filling on the crown. Root surface caries had affected 50% of adults aged 75 years or older [USDHHS 2000a].

PREVALENCE & RISK FACTORS OF ORAL DISEASE IN MICHIGAN

Table 3:

Proportion of adults age 35-44 who have lost no teeth and proportion of adults age 65-74 who have lost all natural teeth, by selected demographic characteristics—Michigan vs. U.S., BRFSS 2004

	Age 35-44 No Teeth Extracted		Age 65-74 Lost All Natural Teeth	
	Michigan (%)	United States ¹ (%)	Michigan (%)	United States (%)
Healthy People 2010 Target	42%	42%	20%	20%
Total	66%	39%	15%	21%
By Race/Ethnicity				
American Indian/Alaska Native	DNA	23% ^a	DNA	25% ^a
Black non-Hispanic	54%	30%	DNA	29%
Hispanic/Latino	DNA	38% ^b	DNA	24%
White non-Hispanic	69%	43%	13%	20%
By Sex				
Female	68%	36%	17%	22%
Male	64%	42%	12%	19%
By Education Level				
Less than high school	29	15% ^c	35%	41%
High school graduate	54%	21% ^c	18%	25%
At least some college	74%	41% ^c	DNA	13%

DNA = Data Not Available; ¹ NHANES 1999-2000; ^a Indian Health Service, 1999; ^b Data are for Mexican Americans only; ^c NHANES III, 1988-1994

Tooth Loss

A full dentition is defined as having 28 natural teeth, exclusive of third molars (wisdom teeth) and teeth removed for orthodontic treatment or as a result of trauma. Most persons can keep their teeth for life with adequate personal, professional, and population-based preventive practices.

As teeth are lost, a person's ability to chew and speak decreases and interference with social functioning can occur. The most common reasons for tooth loss in adults are tooth decay and periodontal (gum) disease. Tooth loss can also result from infection, unintentional injury, and head and neck cancer treatment. In addition, certain orthodontic and prosthetic services sometimes require the removal of teeth.

Despite an overall trend toward a reduction in tooth loss in the U.S. population, not all groups have benefited to the same extent. Females tend to have more tooth loss than males of the same age group. African Americans are more likely than Whites to have tooth loss. The percentage of Whites who have never

lost a permanent tooth is more than three times as great as for African Americans. Among all predisposing and enabling factors, low educational level often has been found to have the strongest and most consistent association with tooth loss.

Table 3 compares the percentage of adults in Michigan who never had a tooth extracted due to disease to adults in the United States and the percentage of adults who are edentulous (without any teeth). In Michigan, 40% of adults age 35-44 have lost at least one tooth due to caries, infection, or periodontal disease. Twenty percent of Michigan adults age 65-74 have lost all their teeth, or are edentulous. The individuals at most risk are those of lower educational levels and those of racial minorities, particularly African Americans.

While Michigan compares favorably to the nation as a whole, the city of Detroit bears a greater proportion of adult tooth loss. Table 4 compares tooth loss between the city of Detroit and the state of Michigan for the

years 1996-2002. Detroit adults at all ages were more likely to have lost teeth, and at older ages were more likely to be edentulous [CDC 1996; CDC 1999b; CDC 2002c].

Periodontal (Gum) Disease

Gingivitis is characterized by localized inflammation, swelling, and bleeding gums without a loss of the bone that supports the teeth. Gingivitis usually is reversible with good oral hygiene. Removal of dental plaque from the teeth on a daily basis is extremely important to prevent gingivitis, which can progress to destructive periodontal disease.

Periodontitis (destructive periodontal disease) is characterized by the loss of the tissue and bone that support the teeth. It places a person at risk of eventual tooth loss unless appropriate treatment is provided. Among adults, periodontitis is a leading

cause of bleeding, pain, infection, loose teeth, and tooth loss [Burt & Eklund 1999].

Cases of gingivitis likely will remain a substantial problem and may increase as tooth loss from dental caries declines or as a result of the use of some systemic medications. Although not all cases of gingivitis progress to periodontal disease, all periodontal disease starts as gingivitis. The major method available to prevent destructive periodontitis, therefore, is to prevent the precursor condition of gingivitis and its progression to periodontitis.

There is mounting evidence that uncontrolled periodontal disease in pregnant women contributes to preterm labor [Offenbacher et al. 2001]. Periodontal disease has also been implicated as a risk factor for cardiovascular disease [Chun et al. 2005]. Recent studies also suggest that oral piercing, particularly lower lip studs, may promote gingivitis and gum recession [Brooks et al. 2003].

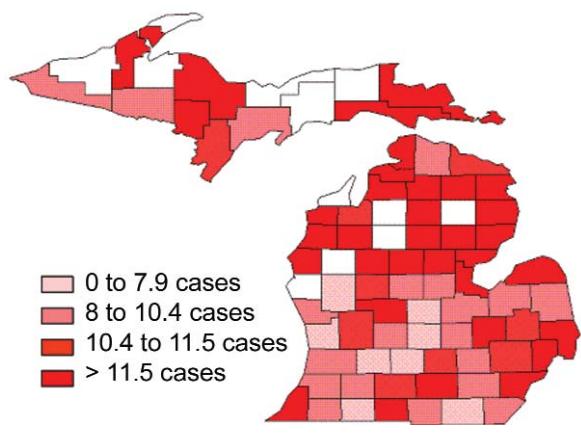
Table 4: Proportion of adults, 18-74, who have lost no teeth and proportion of adults who have lost all natural teeth, by selected demographic characteristics, Michigan vs. Detroit, BRFSS 1999-2004				
	No Teeth Extracted		Lost All Natural Teeth	
	Michigan (%)	Detroit (%)	Michigan (%)	Detroit (%)
Healthy People 2010 Target	42%	42%	20%	20%
Total	61%	45%	4%	8%
By Race/Ethnicity				
White	62%	46%	4%	9%
Black	47%	43%	6%	8%
By Sex				
Female	60%	43%	5%	8%
Male	61%	48%	4%	8%
By Age Group				
35-44	64%	47%	DNA	DNA
45-54	51%	18%	DNA	DNA
55-64	34%	12%	10%	20%
65-74	24%	9%	16%	37%
By Educational Level				
High school graduate or less	48%	45%	7%	12%
Some college	63%	44%	3%	6%
College graduate	75%	47%	1%	2%

DNA=Data Not Available

Oral Cancer

Oral cancer is cancer of the oral cavity or pharynx. The Michigan Cancer Surveillance Program and the Metropolitan Detroit Surveillance System reported 10,581 new (incident) cases of invasive oral cancer in adults between 1991 and 2000 with 47% coming from Metropolitan Detroit. The statewide age-adjusted incidence rate for oral cancer in 2002 was 11.2 new cases per 100,000 persons, slightly less than the 11.5 new cases per 100,000 persons from 1991-2000 [MDCH 2002]. However, the 1991-2000 incidence rate was 2.6 times higher in males than females (17.3 vs. 6.7) and 1.5 times higher in African American males than White males (25.0 vs. 16.2). Wayne County had an oral cancer incidence rate 1.24 times that of the rest of the state between 1991 and 2000. Figure 6 depicts the incidence rate for cancers of the oral cavity and pharynx for Michigan, by county [MOPCN 2003].

Figure 6:
Age-adjusted oral cancer incidence rate per 100,000 persons, by county, in Michigan, 1991-2000 (data not available for all counties)



Survival rates for oral cancer have not improved substantially over the past 25 years despite significant progress in cancer treatments for other forms of cancer. More than 40% of persons diagnosed with oral cancer die within five years of diagnosis [Ries et al. 2004], although survival varies widely by stage of disease when diagnosed.

Diagnosis at an early stage (localized) is crucial for improving survival. The five-year relative survival rate for persons with oral cancer diagnosed at a localized

stage is 81%. In contrast, the five-year survival rate is only 51% once the cancer has spread to regional lymph nodes at the time of diagnosis, and just 29% for persons with distant metastasis. In Michigan, white males have a 5-year survival rate that is 1.7 times that of African American males (52% vs. 30%) [MOPCN 2003].

There were 2,635 oral cancer deaths in Michigan between 1991-2000 with 47.5% of those deaths coming from Metropolitan Detroit. The age-adjusted oral cancer mortality rate in Michigan during this time was 2.9 cases per 100,000 individuals. Age-specific mortality was higher for males than females at all ages. African Americans were 1.5 times more likely to die than non-African Americans (4.3 vs. 2.7). Wayne and Jackson Counties both had mortality rates 1.28 times higher than the state [MOPCN 2003].

Cigarette smoking and alcohol are the major known risk factors for oral cancer in the United States, accounting for more than 75% of these cancers [Blot et al. 1988]. Using other forms of tobacco, including smokeless tobacco [USDHHS 1986; IARC 2005] and cigars [Shanks & Burns 1998] also increases the risk for oral cancer.

Dietary factors, particularly low consumption of fruit, and some types of viral infections also have been implicated as risk factors for oral cancer [McLaughlin et al. 1998; De Stefani et al. 1999; Levi 1999; Morse et al. 2000; Phelan 2003; Herrero 2003]. Radiation from sun exposure is a risk factor for lip cancer [Silverman et al. 1998].

Based on available evidence that early diagnosis of oral cancer improves its prognosis, several *Healthy People 2010* objectives specifically address early detection of oral cancer:

Objective 21-6:

"Increase the proportion of oral and pharyngeal cancers detected at the earliest stage."
[USDHHS 2000]

Objective 21-7:

"Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancer."
[USDHHS 2000]

Table 5:

Proportion of oral cancer cases detected at the earliest stage, by selected demographic characteristics, 1996-2000

	Michigan (%)	United States (%)
Healthy People 2010 Target	50	50
Total	40	35
By Race/Ethnicity		
American Indian/Alaskan Native	DNA	24
Asian/Pacific Islander	DNA	27
Black non-Hispanic	DNA	21
Hispanic/Latino	DNA	35
White non-Hispanic	DNA	38
By Sex		
Female	DNA	40
Male	DNA	33

DNA=Data Not Available

Table 5 presents data for Michigan and the United States on the proportion of oral cancer cases detected at the earliest stage (stage I, localized). In Michigan, only 40% of those with oral cancer were diagnosed when the cancer was still localized.

Diabetes & Oral Health

Diabetes exacerbates gingival inflammation and periodontal disease, furthering the damage and destruction caused by infectious processes on the teeth and gums. As a result, persons with diabetes were more likely than those without diabetes to have lost six or more teeth (37.3% vs. 22.4%). Fortunately, diabetics in Michigan are now more likely to visit a dentist than in the past. The percentage of diabetics visiting the dentist annually has increased from 57% in 1996 to 68% in 2004. In addition, the percentage of diabetics in Michigan having lost six or more teeth has declined from 52% in 1996 to 37% in 2002 [CDC 1996; CDC 2002b].

Pregnancy & Oral Health

Studies documenting the effects of hormones on the oral health of pregnant women suggest that 25% to 100% of these women experience gingivitis and up to 10% may develop more serious oral infections [Amar & Chung 1994; Mealey 1996]. Recent evidence

suggests that oral infections such as periodontitis during pregnancy may increase the risk for preterm or low birth weight deliveries [Offenbacher et al. 2001]. During pregnancy, a woman may be particularly amenable to disease prevention and health promotion interventions that could enhance her own health or that of her infant [Gaffield et al. 2001].

Since carcinogenic bacteria (especially *mutans streptococci*) are transmitted soon after an infant's first teeth erupt, decreasing the mother's mutans levels may decrease the child's risk of developing ECC. The American Dental Association recommends that parents, including expectant parents, be encouraged to visit a dentist to ensure their own oral health (www.ada.org/prof/resources/positions/statements/caries.asp).

Questions regarding oral health behaviors in pregnant women have recently been added to Michigan's 2005 Pregnancy Risk Assessment Monitoring System (PRAMS). These questions address behaviors and unmet dental needs during pregnancy. Information will be available upon completion of analysis.

Disparities

Racial and Ethnic Disparities

Although there have been gains in oral health status for the population as a whole, they have not been evenly distributed across subpopulations.

Non-Hispanic blacks, Hispanics, and American Indians and Alaska Natives generally have the poorest oral health of any of the racial and ethnic groups in the U.S. population. These groups tend to be more likely than non-Hispanic Whites to experience dental caries, are less likely to have received treatment for it, and have more extensive tooth loss.

African American adults in each age group are more likely than other racial/ethnic groups to have gum disease. Compared to White Americans, African Americans are more likely to develop oral or pharyngeal cancer, are less likely to have it diagnosed at early stages, and suffer a worse five-year survival rate.

Racial disparities in oral health for Michigan mimic those nationally. Non-Hispanic blacks are more likely to have tooth loss and be edentulous than Whites. African American males have both the highest incidence of oral cancer and the highest mortality due to oral cancer. African Americans are also less likely to have visited the dentist in the past year, have their



teeth cleaned in the past year, and received sealants on their first molars. Hispanics and African Americans are less likely to have sealants on first molars than Whites. Hispanics also have the highest rate of inappropriate bottle use, putting their children at increased risk for early childhood caries.

According to the 2002 Michigan Behavioral Risk Factor Surveillance System, 35.1% of individuals who had identified themselves in the survey as Black had not visited a dentist in the previous year, compared to 21.4% for individuals who had identified themselves as White. Michigan also experiences higher rates of oral cancer incidence and mortality among African Americans.

Gender Disparities

Most oral diseases and conditions are complex and represent the product of interactions between genetic, socioeconomic, behavioral, environmental, and general health influences. Multiple factors may act synergistically to place some women at higher risk for oral diseases. For example, the comparative longevity of women, compromised physical status over time, and the combined effects of multiple chronic conditions, often with multiple medications, can result in increased risk of oral disease [Redford 1993].

Many women live in poverty, are not insured, and are the sole head of their household. For these women, obtaining needed oral health care may be difficult. In addition, gender-role expectations of women may affect their interaction with dental care providers and could affect treatment recommendations as well.

Many, but not all, statistical indicators show women to have better oral health status as compared to men [Redford 1993; USDHHS 2000a]. Adult females are less likely than males at each age group to have severe periodontal disease. Both Black and White females have a substantially lower incidence rate of oral and pharyngeal cancers compared to Black and White males, respectively. However, a higher proportion of women than men have oral-facial pain, including pain from oral sores, jaw joints, face/cheek, and burning mouth syndrome.

In Michigan, women have been shown to have lower incidence rates of oral cancer. Women in Michigan have tooth loss rates similar to men. However, women in Detroit have higher rates of tooth loss than women across Michigan. Female children are less likely to have immediate dental needs than male children.

People with Disabilities

The oral health problems of individuals with disabilities are complex. These problems may be due to underlying congenital anomalies as well as the inability to receive the personal and professional health care needed to maintain oral health.

People with disabilities frequently have serious dental problems and have difficulty accessing dental services. For persons with disabilities and medically compromised individuals, regular dental care is vital to health and function. Dental neglect can have serious consequences, including increased costs and risks associated with hospitalization and needless pain and suffering [University of Washington School of Dentistry, 2003].

No national studies have been conducted to determine the prevalence of oral and craniofacial diseases among the various populations with disabilities. Several smaller-scale studies show that the population with mental retardation or other developmental disabilities has significantly higher rates of poor oral hygiene and needs for periodontal disease treatment than the general population. This is due, in part, to limitations in individual understanding of and physical ability to perform personal prevention practices or to obtain needed services.

There is a wide range of caries rates among people with disabilities, but overall their caries rates are higher than those of people without disabilities [USDHHS 2000a]. The 2001 National Survey of Children with Special Health Care Needs (CSHCN), found 17% of parents of CSHCN failed to report a need for dental care despite recommendations for annual preventive care. Among the parents of CSHCN who reported a dental need, 7% reported unmet dental needs for their child [CDC 2001]. The 2003 National Survey of Children's Health found that 17% of parents of CSHCN failed to report a need for preventive dental care [CDC 2003].

According to the 2004 Behavioral Risk Factor Survey, disabled adults were more likely to be missing one or more teeth (59.5%) or all their teeth (9.8%) than adults without disabilities (37.2% and 3.7% respectively).



Facts About Disparities

In 2003, Hispanic parents were more likely to report inappropriate bottle use (76% vs. 27% in non-Hispanics), as were young parents (41% vs. 18% in parents age 30-39 years).

Adult caries, including root caries, are seen more frequently in American Indian, non-Hispanic blacks, and Hispanic populations. Adult caries are more prevalent among men and persons with less education.

Non-Hispanic blacks are more likely to be missing at least one tooth at age 35-44 and to be edentulous (without teeth) at age 65-74. Residents in the city of Detroit are also more likely to be missing teeth than residents across the rest of Michigan.

Diabetics are at increased risk for periodontal disease, at increased risk for tooth loss, and less likely to visit a dentist. However, in Michigan, the number of diabetics having lost six or more teeth has declined (52% in 1996 to 37% in 2004) and the proportion of diabetics visiting the dentist has increased (57% in 1996 to 68% in 2002).

Gingivitis and periodontitis are most prevalent in American Indians and Alaska Natives, Mexican Americans, and adults with less than a high school education.

The oral cancer incidence rate was 2.6 times higher for males and 1.28 times higher for African Americans. The incidences in Wayne and Jackson counties were 1.24 times the state incidence rate.

Socioeconomic Disparities

Low-income families bear a disproportionate burden from oral diseases and conditions. For example, despite progress in reducing dental caries in the United States, individuals in families living below the poverty level experience more dental decay than those who are economically better off. Furthermore, the caries seen in these individuals are more likely to be untreated than caries in those living above the poverty level.

Nationally, 37% of poor children aged 2 to 9 have one or more untreated decayed primary teeth, compared to 17% of nonpoor children [USDHHS 2000a]. Poor adolescents aged 12 to 17 in each racial/ethnic group have a higher percentage of untreated decayed permanent teeth than the corresponding nonpoor adolescent group.

Adult populations show a similar pattern, with the proportion of untreated decayed teeth higher among the poor than the nonpoor. At every age, those at the lowest income level have periodontitis at a higher proportion than those at higher income levels. Adults with some college (15%) have 2 to 2.5 times less destructive periodontal disease than those with a high school education (28%) and with less than a high school education (35%) (USDHHS 2000b). Overall, a higher percentage of Americans living below the poverty level are edentulous than are those living above [USDHHS 2000a].

Among persons aged 65 years and older, 39% of persons with less than a high school education were edentulous in 1997, compared with 13% of persons with at least some college [USDHHS 2000b]. People living in rural areas also have a higher disease burden due primarily to difficulties in accessing preventive and treatment services.

People of low socioeconomic status in Michigan bear similar oral health burdens as their national counterparts. Those in poverty are less likely to have visited a dentist in the past year or have had their teeth cleaned. Those with high school educations or less are also less likely to visit a dentist either for treatment or preventive services. For both those at low-income and low-education levels, tooth loss appears at much higher rates. The 2002 Michigan BRFSS demonstrated that 47.6% of individuals with household incomes below \$20,000 had not visited a dentist in the previous year. In contrast, only 15.9% of individuals with household incomes between \$50,000 and \$74,999 had not visited the dentist within the previous year.

Primary prevention of tooth decay or other oral disease conditions requires access and use of preventive services. Secondary prevention in oral health primarily relies on the treatment of tooth decay. As with other health services, people can encounter difficulties when trying to access oral health preventive and treatment services.

In the 2005-2006 *Count Your Smiles* (CYS) survey, parents of 10.9% of Michigan third grade children reported difficulty when trying to obtain dental care for their child (Table 6). Difficulty obtaining care was less frequent in the Upper Peninsula compared to other regions of the state. Racial and ethnic minorities reported more difficulty when trying to obtain dental care, as did free and reduced lunch participants.

Type of dental insurance was strongly associated with difficulty obtaining dental care. Half of all parents who reported an inability to obtain dental care for their child cited a lack of dental insurance as a main reason. One in four uninsured children (25.9%) reported difficulties obtaining dental care compared to 13.2% of publicly insured children and just 5.6% of privately insured children. Nearly one in six third grade children (15.1%) lack dental insurance—twice the number of Michigan children who lack medical insurance.

Type of dental insurance and the inability to afford dental care were also frequently cited. Many parents also reported that finding a dentist, difficulty getting an appointment, or inconvenient dental hours contributed to their inability to obtain dental care for their child. Transportation barriers also contributed to inability to obtain dental care.

Despite efforts of a few existing dental programs for persons with special needs (e.g. those who are medically compromised or who are mentally impaired), access barriers continue to plague these individuals. One issue is the availability of medical facilities for the provision of dental services under sedation or with medical support. Provider training programs also continue to be limited, which in turn has restricted access in many parts of the state. Persons with developmental and physical disabilities also face additional challenges when seeking dental care since many dentists feel uncomfortable providing care to these populations.

Dental Insurance

According to the 2005-06 *Count Your Smiles* survey, 84.9% of Michigan third grade children have some form of dental insurance. Private insurance covers 57.8% while government programs cover 27.1%, yet 15.1% of third grade children still had no dental insurance. Half of all third grade children who encountered difficulty obtaining dental care cited a lack of insurance as the main reason for not receiving care, and an additional 14% reported an inability to find a dentists who accepted their form of insurance [MDCH 2006].

Medical insurance is a strong predictor of access to dental care. Uninsured children are 2.5 times less likely to visit a dentist and three times as likely to have dental health needs when compared to publicly or privately insured children.

Medicaid

Medicaid is the primary source of health care for low-income families, elderly, and disabled people in the United States. This program became law in 1965 and is jointly funded by the federal and state governments (including the District of Columbia and the Territories) to assist States in providing medical long-term care assistance to people

Table 6:
Reasons why child could not get all the dental care he/she needed among those able and unable to obtain dental care in the past 12 months, 2005-06

	Able to get care in the past 12 months		Unable to get care in the past 12 months	
Reason for not receiving care	N	%	N	%
No insurance	55	3.9 +/- 1.4	74	50.7 +/- 8.5
Could not afford it	21	1.4 +/- 0.8	53	36.6 +/- 9.7
Dentist did not take insurance	10	0.7 +/- 0.5	22	13.7 +/- 7.4
Difficulty getting an appointment	*	*	16	10.6 +/- 6.0
Dentists hours not convenient	7	0.6 +/- 0.6	8	6.6 +/- 4.2
No way to get there	*	*	8	5.7 +/- 5.5
Not a serious enough problem	8	0.5 +/- 0.5	6	5.4 +/- 4.0
Didn't know where to go	6	0.5 +/- 0.4	6	4.9 +/- 4.5
No dentist available	*	*	5	2.1 +/- 2.0
Other non-specified reason	16	1.2 +/- 0.7	10	8.1 +/- 5.4
All proportion estimates include 95% confidence intervals				
*Minimum of five respondents, information suppressed.				



who meet certain eligibility criteria. People who are not U.S. citizens can only get Medicaid to treat a life-threatening medical emergency.

Medicaid eligibility is determined based on state and national criteria. Dental services are a required service for most Medicaid-eligible individuals under the age of 21, as a required component of the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit. Services must include, at a minimum, relief of pain and infections, restoration of teeth, and maintenance of dental health. Dental services may not be limited to emergency services for EPSDT recipients.

Nationally, federal Medicaid expenditures for Medicaid dental services totaled \$2.3 billion in 2004, or 3% of the \$81 billion spent on dental services nationally [Centers for Medicare and Medicaid Services 2004]. In Michigan, FY2005, \$68 million was spent on Medicaid dental services, primarily for children. In October 2003, the adult Medicaid dental benefit in Michigan was eliminated due to budget constraints. Consequently, in Michigan, FY2004, \$54.2 million was spent on Medicaid dental services, \$47.1 million on children. The adult Medicaid dental benefit was then restored in FY2006. At reinstatement, reimbursement rates remained at 2003 levels, leaving a large gap between the number of adults requiring services and the number of providers available.

Medicaid covers preventive, emergency, and some restorative and surgical services. Essential services such as tooth canals, crowns, and periodontal therapy are not services offered under current Medicaid standards. Children enrolled in Michigan's Children's Special Health Care Services program are eligible for additional medically-related orthodontic, prosthodontic,

or endodontic services. As of December 2005, 818,454 children aged 0-18 enrolled in Medicaid, an increase of roughly 2,000 compared to the prior year.

Due to shortages of Medicaid dental providers, an access gap arises in the percentage of persons receiving services based on their type of insurance coverage. Medicaid, as a safety net for dental services, has been largely unable to address the needs of those who are publicly insured as well.

In 2002, just 30% of Medicaid children visited the dentist and only 28% visited the dentist for preventive care. Children covered by private insurance are more likely to have received any dental service than children under Medicaid, most importantly preventive services.

MICchild

MICchild is a health coverage program using State funds as well as funds authorized under Title XXI of the Federal Social Security Act. It furnishes health care coverage to children under age 19 who are not eligible for Medicaid, whose family income is above 150% and at or below 200% of the federal poverty level, and who do not have comprehensive health coverage. The State contracts with dental plans to provide covered dental services to MICchild beneficiaries on a per member per month capitation basis. The MICchild dental program has had great success in provider participation and in the number of children utilizing dental care. As of November 2004, 34,984 children aged 0-18 enrolled in MICchild.

Healthy Kids Dental

In May 2000, MDCH instituted Healthy Kids Dental (HKD), a state-private dental partnership program that has improved access to oral health care for Medicaid recipients under age 21. In 2004, the American Dental Association named Michigan's Healthy Kids Dental program one of five national models for improving access to dental care for underserved children.

Healthy Kids Dental is administered through Delta Dental of Michigan and aims to eliminate two of the three barriers for dentist participation in Medicaid.

Reimbursement levels in HKD are similar to those of Delta Dental, and administrative processes such as enrollment verification are done through Delta Dental.

HKD, which initially covered 22 primarily rural counties, expanded in October 2000 to include an additional 15 counties. It expanded again in May 2006 to include 59 of Michigan's 83 counties (Figure 7).

ACCESS TO DENTAL CARE IN MICHIGAN

Figure 7:
Michigan Counties Served by the Healthy Kids Dental Program, 2005

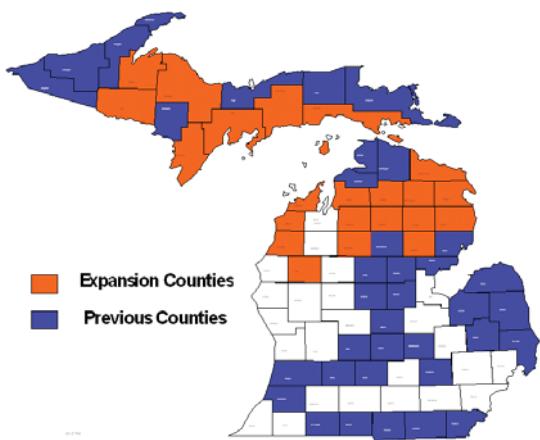
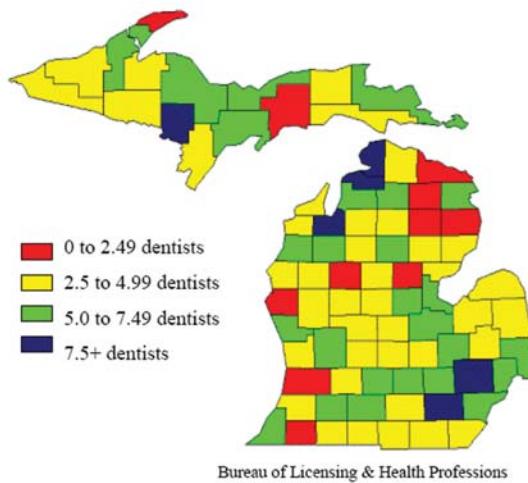


Figure 8:
Number of licensed dentists with a current Michigan address per 10,000 population, by county, 2005



The child's county of residence, not the location of the dentist, determines HKD eligibility. This allows a HKD child to visit any participating dentist in the state. In the year prior to implementation of HKD, 32% of continuously-enrolled Medicaid children received dental care in these original 22 counties. Following the first year of HKD, that number had risen to 44% [Eklund 2003].

Dental Care Workforce

The oral health care workforce is critical to society's ability to deliver high quality dental care in Michigan and across the United States. Effective health policies intended to expand access, improve quality, or constrain costs must take into consideration the supply, distribution, preparation, and utilization of the health workforce.

In 2004, 6,459 dentists and 8,455 dental hygienists were licensed by Michigan and residing within the state. Figure 8 shows the dental provider density by county in Michigan.

Of the 6,459 dentists, 1,471 (22.8%) had at least one claim for Medicaid, and just 569 (8.8%) could be considered as critical access providers, or having Medicaid claims totaling \$10,000 or greater (the equivalent of three to four Medicaid child visits per week).

Sixty-five of Michigan's 83 counties qualified as either fully or partially designated as a dental shortage area in 2004. A Health Professional Shortage Area (HPSA)

designation may result from an inadequate number of providers for the entire county as well as an inadequate number of providers for certain demographic groups such as low-income persons or certain ethnic and racial populations. Dentists are maldistributed across Michigan resulting in a deficiency of providers in primarily rural areas. Twelve Michigan counties have less than five dentists, nine Michigan counties lack a dentist who accepts Medicaid, and one county has no dentist available.

One cause of oral health disparities is lack of access to oral health services among under-represented minorities. Increasing the number of dental professionals from under-represented racial and ethnic groups is viewed as an integral part of the solution to improving access to care [HP2010]. The lack of workforce diversity in oral health is a problem nationwide, since culturally competent care is important to the continuity of dental care.

Data on the race/ethnicity of dental care providers were derived from surveys of professionally active dentists conducted by the American Dental Association [ADA 1999]. In 1997, 1.9% of active dentists in the United States identified themselves as Black or African American, although that group comprised 12.1% of the U.S. population. Hispanic/Latino dentists comprised 2.7% of U.S. dentists, compared to 10.9% of the U.S. population that was Hispanic/Latino.

Accredited dental education institutions in Michigan include two dental schools, 12 dental hygiene programs, and six assisting programs. The University of Detroit Mercy has a Doctor of Dental Surgery (DDS) program, and specialty graduate programs in endodontics, orthodontics, periodontics, and Advanced Education in General Dentistry (AEGD) programs. The University of Michigan offers a DDS program and specialty graduate programs in oral health sciences, prosthodontics, endodontics, restorative dentistry, orthodontics, pediatric dentistry, periodontics, and dental public health. The University of Detroit Mercy offers a baccalaureate degree completion program and the University of Michigan offers a graduate degree program for dental hygiene.

The six dental assisting programs are a minimum of one year in length; however, many dental assistants are taught with on-the-job education. In 2002-03, there were 182 first-year predoctoral dental students [ADA 2003a]. During this same time period, there were 346 first-year dental hygiene students and 199 first-year dental assistant students [ADA 2003b].

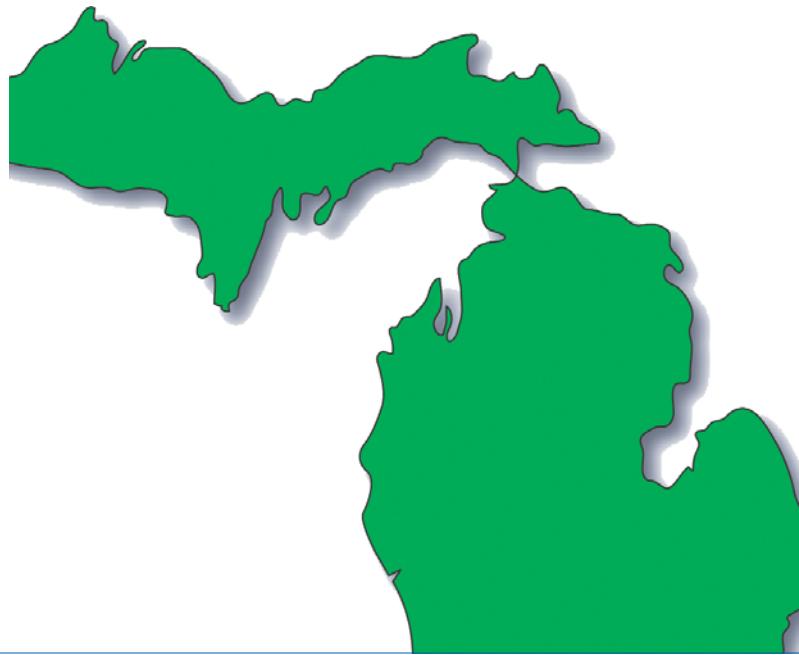
Publicly Supported Dental Clinics

Fifty-one local agencies—including local health departments, community health centers, migrant health clinics, and Indian Health Services—conduct public health dental programs. Information about the services provided is available in *Michigan's Oral Health Program Directory* ([www.michigan.gov/oral health](http://www.michigan.gov/oralhealth)).

The *Healthy People 2010* objective 21-14 is to "Increase the proportion of local health departments and community-based health centers, including community, migrant, and homeless health centers, that have an oral health component" [USDHHS 2000b]. In 2002, 61% of local jurisdictions and health centers had an oral health component [USDHHS 2004b]; the *Healthy People 2010* target is 75%.

Currently, 23 Community Health Centers (CHCs) act as Medicaid dental service providers for people living in rural and urban medically underserved communities. CHCs exist in areas where economic, geographic, or cultural barriers limit access to primary health care.

The Migrant Health Program (MHP) supports the delivery of migrant health services, serving over 650,000 migrant and seasonal farm workers. Among



other services provided, many CHCs and Migrant Health Centers provide dental care services.

Five of the 20 CHCs serve special migrant populations and, in total, the 23 centers serve 40 out of 83 counties. The services provided at each site vary from cleaning to restorations. Some provide services to only children or adults, while others provide a full-range of oral health services to the community.

Seventeen out of 45 local health departments offer Medicaid dental services through a total of 27 clinics. These local health departments and their network of clinics serve 36 counties in Michigan.

Four Native American dental clinics offer Medicaid dental services in Michigan. They serve populations in nine counties.

There are seven hospital and university Medicaid dental providers in Michigan covering six counties.

A 2004 assessment of adolescent health centers found that 27 of the 55 centers had some oral health assessment component. Most of these sites offered some level of oral health education. Eleven centers offered on-site comprehensive oral health assessment, but nine of those centers provided dental services either annually, biannually, or quarterly through mobile dental contractors. One adolescent health center had a full-time dentist on staff while a second had two dentists combining to serve as a 0.3 FTE on-site dentist for the center.

MICHIGAN'S STRATEGIES FOR PREVENTING ORAL DISEASE

The most common oral diseases and conditions can be prevented. Michigan focuses on known preventive measures to achieve optimal oral health—community water fluoridation, topical fluoride and fluoride supplements, dental sealant placement, tobacco control, oral health education, and oral cancer screening.

Community Water Fluoridation

Community water fluoridation is recognized as one of the 10 great achievements in public health of the 20th century [CDC 1999a]. Michigan is proud that this preventive practice was born in Grand Rapids, Michigan, in 1945.

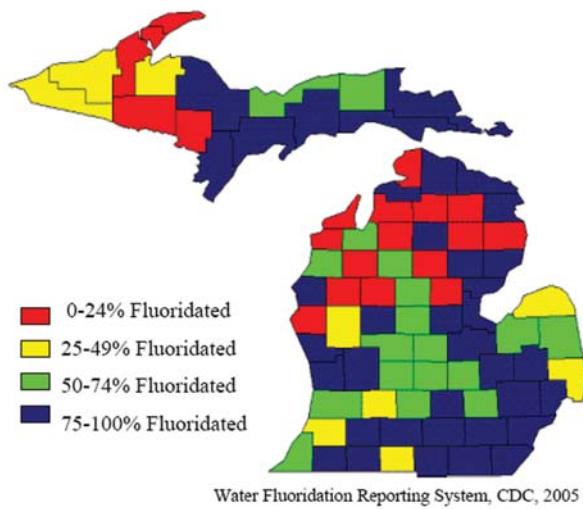
Community water fluoridation is the process of adjusting the natural fluoride concentration of a community's water supply to a level that is best for the prevention of dental caries. In the United States, community water fluoridation has been the basis for the primary prevention of dental caries for 60 years [CDC 1999a]. It is an ideal public health method because it is effective, eminently safe, inexpensive, requires no behavior change by individuals, and does not depend on access or availability of professional services.

Water fluoridation reduces or eliminates disparities in preventing dental caries among different socioeconomic, racial, and ethnic groups. It helps to lower the cost of dental care and dental insurance and helps residents retain their teeth throughout life [USDHHS 2000a].

Recognizing the importance of community water fluoridation, *Healthy People 2010* Objective 21-9 aims to "Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water to 75%." In the United States during 2002, approximately 162 million people (67% of the population served by public water systems) received optimally fluoridated water [CDC 2004]. Seventy-three percent of Michigan residents are served by community water supplies. In Michigan, approximately 6.3 million people received optimally fluoridated water in 2004, representing 86% of the population served by public water systems.

Not only does community water fluoridation effectively prevent dental caries, it is one of very few public health prevention measures that offers a significant cost savings in almost all communities [Griffin et al. 2001]. Approximately every \$1 invested in community water fluoridation saves \$38 in averted costs. The

Figure 9:
Percentage of persons served by community water supplies who receive fluoridated water, by county



cost per person of instituting and maintaining a water fluoridation program in a community decreases with increasing population size.

Figure 9 shows the proportion of persons served by community water supplies who receive adequate fluoridation levels by county. While Michigan exceeds the level of fluoridation set forth by HP2010, there are geographic disparities in community water fluoridation. Fluoridation is at its highest in the Southern Lower Peninsula and the Eastern Upper Peninsula. Conversely, fluoridation is relatively low in the Northern Lower Peninsula and the Western Upper Peninsula. Wells drilled for private use are currently untested for fluoride.

Fluoride levels in Michigan will continue to be monitored and reported by the Michigan Department of Environmental Quality. Through coordination with the MDCH Oral Health Program, the Water Fluoridation Reporting System (WFRS), which monitors the extent and consistency of water fluoridation, will be encouraged.

Topical Fluoride & Fluoride Supplements

Since frequent exposure to small amounts of fluoride each day best reduces the risk for dental caries in all age groups, all people should drink water with an optimal fluoride concentration and brush their teeth twice daily with fluoride toothpaste [CDC 2001].

MICHIGAN'S STRATEGIES FOR PREVENTING ORAL DISEASE

For communities that do not receive fluoridated water and persons at high risk for dental caries, additional fluoride measures might be needed. Community measures include fluoride mouth rinse or tablet programs, typically conducted in schools. Individual measures include professionally applied topical fluoride gels or varnishes for persons at high risk for caries.

Approximately 14,000 children in non-fluoridated communities participated in Michigan's school-based weekly fluoride mouth rinse program in the 2004-05 school year. This number was down from the 2000-2001 school year when 20,444 children participated. The decline occurred primarily due to decreases in the number of schools participating in the program. Participation in the program is completely voluntary.

Fluoride varnish is a protective coating painted on teeth to help prevent new cavities and help stop cavities that have already started. It is sticky, so it attaches to the teeth easily and makes the enamel of the teeth harder. The varnish releases fluoride over several months, which strengthens the teeth in addition to helping prevent decay. As little as one fluoride varnish treatment a year can cut the cavity rate in half for infants and small children. The treatment is easy to administer and has no known side effects.

Dental Sealants

Since the early 1970s, childhood dental caries on smooth tooth surfaces (those without pits and fissures) has declined markedly because of widespread exposure to fluoride. Most decay among school-age children now occurs on tooth surfaces with pits and fissures, particularly the molar teeth.

Pit-and-fissure dental sealants—plastic coatings bonded to susceptible tooth surfaces—have been approved for use for many years and are recommended by professional health associations and public health agencies. First permanent molars erupt into the mouth at about 6 years of age. Placing sealants on these teeth shortly after their eruption protects them from the development of caries in areas of the teeth where food and bacteria are retained. If sealants were applied routinely to susceptible tooth surfaces in conjunction with the appropriate use of fluoride, most tooth decay in children could be prevented [USDHHS 2000b].

Second permanent molars erupt into the mouth at about 12 to 13 years of age. Pit-and-fissure surfaces

of these teeth are as susceptible to dental caries as the first permanent molars of younger children. Young teenagers need dental sealants shortly after the eruption of their second permanent molars.

The *Healthy People 2010* target for dental sealants on molars is 50% for 8-year-olds and 14-year-olds. Nationally, dental sealants are less prevalent among 14-year-olds than among 8-year-olds. Within each age group, African Americans and Mexican Americans are less likely than White non-Hispanics to have sealants. The prevalence of sealants also varies by the education level of the head of household.

According to the 2005-06 Count Your Smiles survey, despite high annual dental utilization, just 23.3% of Michigan third grade children had sealants present on their first molars. Sealant rates varied geographically with the lowest rate of 19.2% occurring in the southern Lower Peninsula. Sealant rates were similar across racial and ethnic groups except in Hispanic children whose sealant rate was 14.6%. Uninsured children had significantly lower sealant rates (16.8%) compared to publicly insured (26.7%) or privately insured (24.3%) [MDCH 2006].

The Michigan Department of Community Health recognizes that sealants are an effective method to

Figure 10:
Proportion of Michigan and U.S. children, age 8 to 9, with sealants applied to first molars, by race, in 2006-06

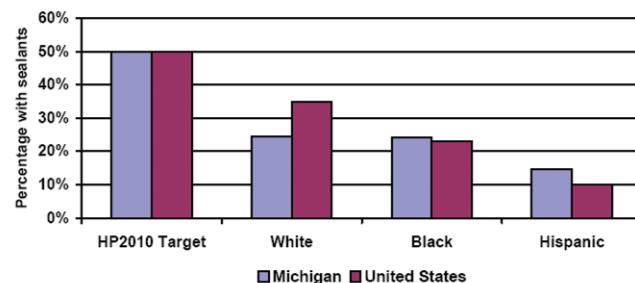
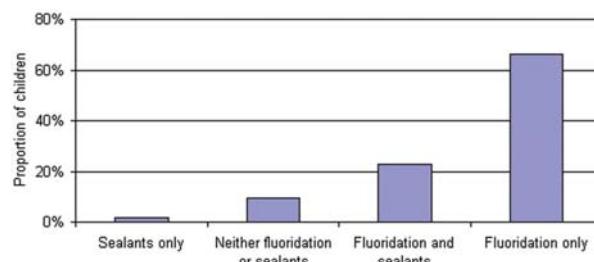


Figure 11:
Proportion of Michigan third grade children by presence of sealants and attendance at a school located in an optimally fluoridated community



prevent tooth decay. In January 2007, MDCH implemented a pilot dental sealant program. A statewide dental sealant program that is school-based and school-linked is expected to begin in October 2007. School-based and school-linked dental sealant programs are a cost savings when delivered to populations at high-risk for tooth decay, such as children in low-income households. The average cost of applying one dental sealant equals five to seven times less than the cost of filling one cavity [American Dental Association, 2000].

Tobacco Control

Use of tobacco has a devastating impact on the health and well-being of the public. More than 400,000 Americans die each year as a direct result of cigarette smoking, making it the nation's leading preventable cause of premature mortality. Smoking caused over \$150 billion in annual health-related economic losses [CDC 2002b]. The effects of tobacco use on the public's oral health are alarming.

The use of any form of tobacco—including cigarettes, cigars, pipes, and smokeless tobacco—has been established as a major cause of oral and pharyngeal cancer [USDHHS 2004a]. The evidence is sufficient to consider smoking a causal factor for adult periodontitis [USDHHS 2004a].

One-half of the cases of periodontal disease in this country may be attributable to cigarette smoking [Tomar & Asma 2000]. Tobacco use substantially worsens the prognosis of periodontal therapy and dental implants, impairs oral wound healing, and increases the risk for a wide range of oral soft tissue changes [Christen et al. 1991; AAP 1999].

The goal of comprehensive tobacco control programs is to reduce disease, disability, and death related to tobacco use by:

- Preventing the initiation of tobacco use among young people
- Promoting quitting among young people and adults
- Eliminating nonsmokers' exposure to secondhand tobacco smoke
- Identifying and eliminating the disparities related to tobacco use and its effects among different population groups

Comprehensive tobacco control also would have a large impact on oral health status.



In 2003, Michigan stakeholders developed a five-year plan aimed at building upon past tobacco-related achievements and continuing to develop evidence-based practices. This plan included increasing the cost of cigarettes, increasing the number of clean air environments, implementing quit-lines, tobacco cessation opportunities, and a media campaign to encourage quitting tobacco. In FY2004, the tobacco tax was increased from \$1.25 to \$2.00 per pack of 20 cigarettes, which is currently the fourth highest tobacco tax among all states.

The dental office provides an excellent venue for providing tobacco intervention services. More than one-half of adult smokers see a dentist each year [Tomar et al. 1996] as do nearly three-quarters of adolescents [NCHS 2004]. Dental patients are particularly receptive to health messages at periodic check-up visits, and oral effects of tobacco use provide visible evidence and a strong motivation for tobacco users to quit.

Because dentists and dental hygienists can be effective in treating tobacco use and dependence, the identification, documentation, and treatment of every tobacco user they see needs to become a routine practice in every dental office and clinic [Fiore et al. 2000]. However, national data from the early 1990s indicated that just 24% of smokers who had seen a dentist in the past year reported that their dentist advised them to quit, and only 18% of smokeless tobacco users reported that their dentist ever advised them to quit.

Oral Health Education

Oral health education for the community is a process that informs, motivates, and helps people to adopt and maintain beneficial health practices and lifestyles; advocates environmental changes as needed to facilitate this goal; and conducts professional training and research to the same end [Kressin and DeSouza 2003]. Although health information or knowledge alone does not necessarily lead to desirable health behaviors, knowledge may empower people and communities to take action to protect their health.

There are no formal oral health education programs currently administered by the State of Michigan; however, there are many educational programs instituted at the community and clinic level.

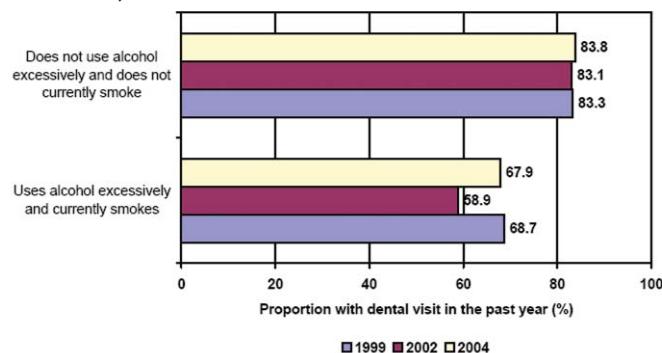
Oral health education is typically performed at the dental office during the regular dental visit. In addition, community college dental and dental hygiene students provide community oral health education through elementary classroom teaching and population-based education. For example, community college projects include providing oral health care to long-term care staff and residents. Community dental, dental hygiene, and dental assisting societies provide oral health education to classrooms and to groups such as Head Start.

The "Sip All Day Get Decay" publicity campaign was launched by the Michigan Dental Association to encourage public awareness of the relationship between high incidence of caries and soda pop. The University of Michigan is launching a billboard campaign to improve oral cancer awareness. The Central District Dental Society and the Oral Health Task Force recently started a "Baby Bottle Tooth Decay" campaign in Ingham County. These are just a few examples of oral health education campaigns currently delivered within Michigan communities.

Schools teach limited oral health education through the Michigan Model for Comprehensive School Health Education—the fastest growing school health education program in the nation. Ninety percent of Michigan schools—nearly 1 million students in public and private schools—receive school health programs in Michigan. The Michigan Model is directed by the Michigan Department of Community Health, the Department of Education, the Family Independence Agency, and the State Police. Dental health is part of the "Personal Health Care Practices" component of the Michigan Model.

Figure 12:

Percentage of adults, age 40 and above, with a dental visit in the past year, by excessive alcohol use and current smoking status, BRFSS 1999, 2002 & 2004



Oral Cancer Screening

Oral cancer detection is accomplished by a thorough examination of the head and neck and an examination of the mouth including the tongue and the entire oral and pharyngeal mucosal tissues, lips, and palpation of the lymph nodes. Although the sensitivity and specificity of the oral cancer examination have not been established in clinical studies, most experts consider early detection and treatment of precancerous lesions and diagnosis of oral cancer at localized stages to be the major approaches for secondary prevention of these cancers [Silverman 1998; Johnson 1999; CDC 1998]. If suspicious tissues are detected during examination, definitive diagnostic tests are needed, such as biopsies, to confirm diagnosis.

Oral cancer is more common after age 60. Known risk factors include use of tobacco products and alcohol. The risk of oral cancer is increased 6 to 28 times in current smokers. Alcohol consumption is an independent risk factor and, when combined with the use of tobacco products, accounts for most cases of oral cancer in the United States and elsewhere [USDHHS 2004]. Individuals also should be advised to avoid other potential carcinogens, such as exposure to sunlight (risk factor for lip cancer) without protection (use of lip sunscreen and hats recommended).

Figure 12 compares adults over the age of 40 with both primary preventable risk factors for oral cancer, current smoker and excessive alcohol user, to those adults over the age of 40 with neither primary preventable risk factor. This figure demonstrates that persons most at risk for oral cancer are less likely to visit the dentist and are thus less likely to be screened for oral cancer.



Children's Special Health Care Services

Children's Special Health Care Services (CSHCS) is a program within the Michigan Department of Community Health. It is for children and some adults with special health care needs and their families. Children must have a qualifying medical condition and be 20 years old or under. Persons 21 and older with cystic fibrosis or certain blood coagulation disorders may also qualify for services. CSHCS covers more than 2,500 diagnoses.

Nationally, the Association for State and Territorial Dental Directors (ASTDD) recognizes four major barriers to accessing dental services for Children with Special Health Care Needs:

- Lack of dental professionals in both the public and private sectors who have received appropriate education and training and who are willing to provide comprehensive care to children and adolescents with special health care needs (especially those enrolled in Medicaid)
- Inadequate referral and tracking mechanisms
- Inadequate public or private dental insurance coverage
- Lack of communication and coordination among health care and dental professionals, parents, and supportive service workers

Michigan Dental Program

The Michigan Dental Program (MDP) covers dental care for persons living with HIV/AIDS who qualify for the program. Covered services include preventive and restorative care including but not limited to cleanings, x-rays, fillings, crowns, bridges, root canals, dentures, extractions, bite splints, and periodontal work. Effective May 1, 2006, MDP is closed to enrollment.

2002 Michigan Behavioral Risk Factor Surveillance System

The 2002 Michigan Behavioral Risk Factor Surveillance System (BRFSS) estimates the prevalence of certain behaviors, conditions, and practices regarding oral health in Michigan adults. These estimates are based on data collected from a random-digit dial telephone survey of Michigan households. The BRFSS is designed to be statewide

The Michigan Department of Community Health (MDCH) implements and monitors statewide dental health programs to reduce the incidence of oral disease, reduce disparities, promote healthy behaviors, and increase quality of life.

Donated Dental Services

The Donated Dental Services (DDS) program is a network of volunteer dentists that provides dental care to persons who are mentally and physically disabled, medically compromised, or elderly and indigent. It was launched in 1995 by the Michigan Dental Association and the Foundation of Dentistry for the Handicapped.

Since the program's inception, 766 volunteer dentists and 177 volunteer laboratories have contributed \$4 million worth of comprehensive direct-service dental treatment for 2,660 disabled or aged individuals. In 2005 alone, 426 people received over \$1 million worth of dental and dental laboratory services. Client acceptance is limited as time on the waiting list for most areas exceeds two years.

Developmental Disabilities Oral Health Program

A limited dental treatment fund provides dental care for persons with developmental disabilities who have difficulty accessing Medicaid dental providers.

and population-based, and is much broader in comparison to the Michigan Oral Data System (MOD). Although the MOD is not population-based or statewide, data from it has provided some insight on the status of oral disease. The MOD system is being phased out for a more comprehensive, state-based data collection system called Sealant Efficiency (SEALS). SEALS will begin in FY2008 with the implementation of the statewide school-based/school-linked dental sealant program.

Count Your Smiles Survey

The 2005-06 *Count Your Smiles* (CYS) survey was designed to address dental outcomes in Michigan that pertain to *Healthy People 2010* objectives. It provides the first statewide estimates of child dental disease in Michigan and addresses health disparities among children for both dental disease and access to care.

Participants were recruited from 76 elementary schools. Consent to work with the schools was first obtained through mailings to district superintendents. Upon confirmation, school principals were contacted to obtain school consent, classroom selection, persons to contact for follow-up. Consent forms were sent to 2,337 parents for signed approval to permit their children to participate in the survey.



Public Act 161

In 2005, Public Act 161 revised the criteria for an agency to be designated as a grantee health agency. The purpose was to increase opportunities for dentists and dental hygienists to provide services to dentally underserved populations.

One reason people do not always receive appropriate dental care is that they don't have easy access to a dentist's office, whether due to geographical location, income level, or residence in a nursing home.

House Bill 4996 amended provisions of PA 58 of 1991 to remove barriers that have prevented many well-intended programs. As a result, dental hygienists are now able to provide services to residents of nursing homes, schools, and other underserved groups. The same level of supervision by dentists over dental hygienists is still required as in the original legislation.

This legislation is an example of good public policy. As children receive early screenings and fluoride treatments, dental caries will decrease. As nursing home residents receive appropriate dental care, respiratory ailments associated with gum disease should also decrease. In addition, preventive measures and access to health care providers is a way of controlling health care-related costs.



The Michigan Oral Health Coalition's mission is to improve oral health in Michigan throughout the lifespan by focusing on prevention, health promotion, surveillance, access, and the link between oral health and total health.

The Michigan Oral Health Coalition (MOHC) is an interagency partnership that formed under a grant awarded to the Michigan Department of Community Health by the Centers for Disease Control and Prevention to address the lack of oral health infrastructure and funding in the State of Michigan.

Primary care clinicians, oral health clinicians, dental benefit providers, advocacy and provider organizations, state and local government officials, and consumers compose the Michigan Oral Health Coalition and work together to improve oral health in Michigan.

The Michigan Oral Health Coalition's primary activities include developing and implementing the State Oral Health Plan, supporting program management, and developing partnerships to promote oral health initiatives. This is accomplished through the efforts of four workgroups—Data Workgroup; Prevention, Education & Awareness Workgroup; Funding

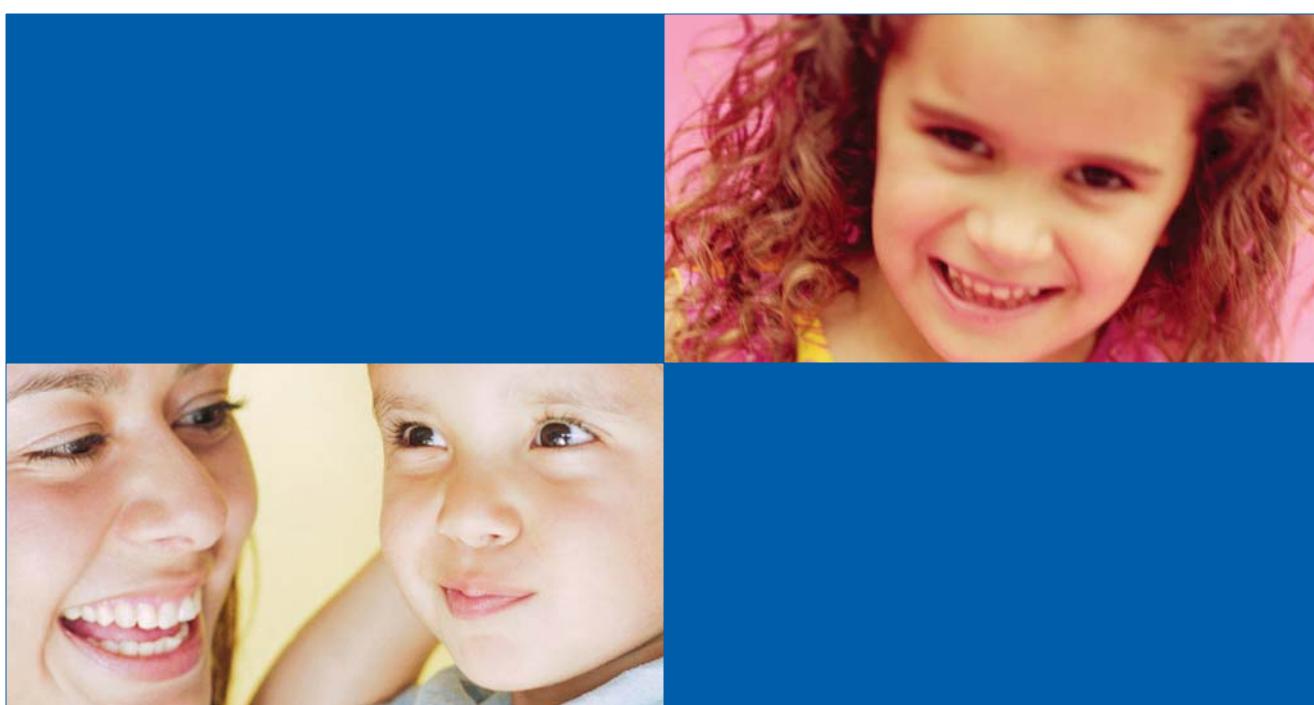
Michigan Oral Health Coalition Timeline

December 2003	Kick-Off Meeting
September 2005	Oral Health Plan of Action adopted by the State of Michigan
February 2006	Articles of Incorporation filed and approved

Workgroup; and Workforce Workgroup—and a Board of Directors.

Members of the Coalition work daily to meet oral health goals by addressing recommendations outline in the State Oral Health Plan.

For more information about the Michigan Oral Health Coalition, visit www.mohc.org.



Summary of Michigan's Goals

Data Workgroup	<ul style="list-style-type: none">■ Develop a statewide oral health surveillance system to provide a routine source of actionable data■ Increase the sustainability of the statewide oral health surveillance system■ Provide assistance in the collection and analysis of oral health data related to major policy changes and prevention and intervention initiatives
Prevention, Education & Awareness Workgroup	<ul style="list-style-type: none">■ Increase access to evidence-based prevention practices that maintain optimal oral health■ Develop a statewide education program aimed at increasing knowledge about the relationship between oral health and systemic health■ Assure the availability of comprehensive, culturally competent, oral health education resources for all ages as well as those designed to enhance patient involvement through self management■ Increase the education of non-dental health care providers on the importance of oral health■ Encourage health care providers to discuss with patients the oral effects of tobacco use (cigarettes, cigars, pipes, and spit tobacco)■ Increase the education of dental professionals about the signs and symptoms of abuse and neglect
Funding Workgroup	<ul style="list-style-type: none">■ Create a Medicaid adult oral health benefit that ensures access to and is consistent with high quality of care standards■ Support efforts to roll out Healthy Kids Dental as the preferred model for optimal oral health care in children with the gradual expansion to additional counties based on those counties with greatest need and funding availability■ Develop a system of care that ensures access to oral health services for low-income uninsured populations■ Support efforts of all Michigan Oral Health Coalition workgroups to assess resources needed to implement their initiatives■ Ensure the successful implementation of the State Oral Health Plan through the acquisition of needed resources
Workforce Workgroup	<ul style="list-style-type: none">■ Increase access to oral health services in medically underserved communities and for medically underserved populations by allowing the provision of high-quality dental care through qualified health care providers■ Develop and support incentive programs to attract oral health professionals to underserved areas and to serve medically underserved populations■ Create and maintain a process for assessing and responding to the supply of and demand for oral health professionals■ Develop a dental director leadership position in state government or at the Michigan Department of Community Health to serve as the focal point of oral health activity for the state■ Facilitate provider education and medical care facility access to improve oral health care for persons with special needs■ Periodically evaluate progress and modifications of strategies and/or implementation plan as appropriate

MICHIGAN'S GOALS & ACTION STEPS

In 2003, the Michigan Department of Community Health (MDCH) recognized the need for Michigan to develop a coordinated effort around improving the oral health status of residents. It submitted a proposal to the Centers for Disease Control and Prevention (CDC) to build up the oral health infrastructure in Michigan and develop a State Oral Health Plan with the assistance of the interagency Michigan Oral Health Coalition.

The Coalition consists of four workgroups—Data; Prevention, Education & Awareness; Funding; and Workforce—that focus on the development of goals and objectives related to their specific area of focus.

Each workgroups' work plan was incorporated into the *Plan of Action for Improving the Oral Health Status of Michigan Residents*. In 2005, it was presented at community meetings in Grand Rapids, Detroit, Gaylord, Saginaw, and Marquette via video conference to gain feedback. These comments were summarized in a report prepared by Public Sector Consultants and incorporated into the Plan. The Plan was then approved by the Director of MDCH, Janet Olszewski, in August 2005, and adopted as the Michigan Oral Health Plan.

Workgroups continue to convene as necessary to implement each of the activities outlined in the SOHP. They will also continue to identify best practices that can be replicated in Michigan and share practices that may be helpful to other states through continued collaboration with the Association of State and Territorial Dental Directors (ASTDD) and the CDC.

GOAL 1: Develop a statewide oral health surveillance system to provide a routine source of actionable data.

Why: Routine surveillance will allow for estimating the magnitude of oral health disease in Michigan; monitoring trends in oral health indicators; evaluating the effectiveness of implemented programs and policy changes; indicating vulnerable population groups; and providing information for decision making when allocating resources.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Explore options to measure the proportion of children and adolescents who have dental caries in their primary or permanent teeth through the use of open mouth screenings.	Volunteer dental staff; participation from schools, parent-teacher organizations, and parents; the Basic Screening Survey (BSS)	Data Workgroup, MDCH	Consistency of caries measurement by dental providers would need to be standardized using a recommended calibration system.	Count Your Smiles survey completed FY2005-06; next survey FY2008-09
2 Measure the proportion of children and adolescents with untreated dental decay by exploring the use of open mouth screenings.	Volunteer dental staff; participation from schools, parent-teacher organizations, and parents; the Basic Screening Survey (BSS)	Data Workgroup, MDCH	Consistency of caries measurement by dental providers would need to be standardized using a recommended calibration system.	Count Your Smiles survey completed FY2005-06; next survey FY2008-09
3 Measure the proportion of adults who have never had a permanent tooth extracted because of dental caries or periodontal disease.	Behavioral Risk Factor Surveillance System (BRFSS)	BRFSS Coordinator	BRFSS response rates	Annual

MICHIGAN'S GOALS & ACTION STEPS

Goal 1 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
4 Measure the proportion of older adults who have had all their natural teeth extracted.	BRFSS	BRFSS Coordinator	BRFSS response rates	Annual
5 Investigate options to measure the prevalence of periodontal disease.	National Health and Nutrition Examination Survey (NHANES); use of self-assessment questions as methodology is currently being examined by a CDC workgroup	Data Workgroup	NHANES response rates	As conducted
6 Measure the proportion of oral and pharyngeal cancers detected at the earliest stage.	State Cancer Registry, Detroit Cancer Registry	Collaboration with the cancer registries	Internal data quality assurance through the registry	Annual
7 Explore options to measure the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers.	BRFSS could be used to obtain patient oriented results or a DDS survey could obtain information from providers	Data Workgroup		As conducted
8 Measure the proportion of children who have received dental sealants on their molar teeth through the use of open mouth screenings.	Basic Screening Survey (BSS) is an open mouth screening; it would require volunteer dental staff and participation from schools, parent-teacher organizations, parents, MDA, MDHA, and the Michigan Department of Education	Data Workgroup, MDCH	Consistency among dental providers would need to be measured using a recommended calibration system	Count Your Smiles survey completed FY2005-06; next survey FY2008-09
9 Measure the proportion of the Michigan population served by community water systems with optimally fluoridated water.	The Michigan Department of Environmental Quality (DEQ) can provide information on community water supplies, including those artificially fluoridated, and the Environmental Protection Agency (EPA) provides information on naturally fluoridated community water supplies	DEQ, MDCH	Internal monitoring mechanisms	Annual

MICHIGAN'S GOALS & ACTION STEPS

Goal 1 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
10 Measure the proportion of children and adults who use the oral health care system each year through review of claims data.	Claims data from private insurers and Medicaid; adult information through the BRFSS; care provided to the uninsured through safety net dental programs will also be examined	Data Workgroup, BRFSS Coordinator, MDCH		Annual
11 Measure the proportion of long-term care residents who use the oral health care system each year.	Minimum Data Set for Home Care Survey; the Data Workgroup might also examine additional resources to identify oral disease among long-term care residents, as the MDS is not an accurate tool for this assessment	Collaboration between the Community and Home-Based Waiver Program, the Data Workgroup, and MDCH	This survey has been previously validated as a measurement for use of the oral health care system	Annual
12 Measure the proportion of low-income children and adolescents who received any preventive dental service during the past year.	Medicaid claims data	MDCH		Annual
13 Measure the proportion of school-based health centers with an oral health component.	Survey of school-based health centers	School-Community Health Alliance of Michigan, MDCH		As conducted (every 2 years)
14 Measure the proportion of local health departments and community-based health centers, including community, migrant, and homeless health centers, that have an oral health component.	Oral Health Program Directory	MDCH, MPCA	Updated annually	Annual
15 Measure the quality of the system for recording and referring infants and children with cleft lips, cleft palates, and other craniofacial anomalies to craniofacial anomaly rehabilitative teams.	Birth Defects Registry	Birth Defects Registry	Internal through the Birth Defects Registry	Annual
16 Develop an oral and craniofacial health surveillance system.	All oral health data resources available in the state	Data Workgroup	Ongoing	Annual

MICHIGAN'S GOALS & ACTION STEPS

Goal 1 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
17 Measure the number of tribal, state (including the District of Columbia), and local health agencies that serve jurisdictions of 250,000 or more persons that have in place an effective public dental health program directed by a dental professional with public health training.	Oral Health Program Directory	MDCH, MPCA	Updated annually	Annual
18 Assess the distribution and diversity of the oral health workforce.	Licensing survey for dentists and hygienists	Data Workgroup, MDCH	Participation rate	Annual

GOAL 2: Increase the sustainability of the statewide oral health surveillance system.

Why: A surveillance system should be feasible, adaptable, representative, and acceptable.

A passive surveillance system should work towards minimizing resource costs while maximizing data quality and stability yet remain adaptable to changing needs.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Enlist the cooperation of dental insurance providers in obtaining information regarding utilization of dental services.	Dental insurance providers, MDCH	MDCH, Michigan Oral Health Coalition	Participation by insurers, quality of information provided	Ongoing
2 Explore integration of technological alternatives to oral health screenings for future statewide surveillance measures (e.g. the use of Electronic Medical Records).	Data Workgroup	Data Workgroup, MDCH	Methodology developed for major policy changes and/or statewide initiatives	Ongoing

GOAL 3: Provide assistance in the collection and analysis of oral health data related to major policy changes and prevention and intervention initiatives.

Why: Policy changes related to oral health can have both positive and negative implications for the oral health status of Michigan residents. Measuring the effect of these changes is necessary to develop sound oral health policy. The impact of these changes cannot always be identified by the proposed surveillance system.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Coordinate with the MDCH Oral Health Program Director to monitor policy changes and new prevention and intervention initiatives.	MDCH	MDCH	Policy changes and initiatives brought to the Data Workgroup for discussion	Ongoing
2 Collect and analyze information related to the changes.	Varied by intervention/policy change; the MDCH Data Warehouse	Data Workgroup, MDCH	Analysis completed for major policy changes and/or statewide initiatives	Ongoing

GOAL 4: Increase access to evidence-based preventive practices that maintain optimal oral health.

Why: There are a number of safe, evidence-based methods to prevent dental caries, including nutrition education, sealants, water fluoridation, and fluoride varnishes.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Support communities in efforts to maintain and implement optimal levels of water fluoridation.	County Your Smiles survey	MDCH, MDA	Percent of communities with optimally fluoridated water maintained or increased	Ongoing
2 Support efforts by MDCH to implement a school rinse program in non-fluoridated communities.	Funding Workgroup, Michigan Department of Education	MDCH, Michigan Oral Health Coalition	School rinse program implemented	Ongoing
3 Support efforts by MDCH to implement a school-based school-linked sealant program.	Funding Workgroup, Michigan Department of Education	MDCH, Michigan Oral Health Coalition	School-based/school-linked sealant program implemented	January 2007
4 Support efforts by MDCH to implement the application of fluoride varnishes during well child visits.	Head Start; Michigan Department of Education; ensure this is allowable under the scope of practice for physicians and nurses; check with insurance companies to insure they will accept dental codes from medical providers	MDCH; Prevention, Education, & Awareness Workgroup	Fluoride varnishes incorporated into well child visits according to annual query of insurance claims by MDCH; number of fluoride varnishes applied according to Early Head Start survey and Medicaid data	October 2006
5 Evaluate the effectiveness for improving oral health by mandating an oral health exam prior to entrance into kindergarten.	Michigan Department of Education; research on other areas for which this has been done and its effectiveness	Delta Dental, MDCH, Michigan Oral Health Coalition	Study of effectiveness completed	August 2007
6 Explore preventive practices for prenatal and postpartum oral health care.	Research of best practices	MDCH	Research completed and recommendations made to the Michigan Oral Health Coalition	June 2007
7 Provide training on the CDC's Guidelines for Infection Control in Dental Health Settings.	CDC guidelines as a mode; oral health conference as a training venue	MDCH; Prevention, Education & Awareness Workgroup	Training provided	June 2007

GOAL 5: Develop a statewide education program aimed at increasing knowledge about the relationship between oral health and systemic health.

Why: Oral health is essential to systemic health. When developing health policy, oral health must be considered primary care.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Coordinate a statewide public education and awareness campaign.	MDCH, Delta Dental, Blue Cross Blue Shield, private industry partners, local broadcasting and other media	MDCH; Prevention, Education & Awareness Workgroup; Funding Workgroup	Public relations plan and campaign developed	FY2006 and annually
2 Continue to build networks throughout the state to improve education on the importance of oral health for individuals of all socioeconomic levels and special populations throughout the lifespan, particularly for the elderly.	Partners: Michigan State Medical Society (MSMS), Michigan Osteopathic Association (MOA), Michigan Association of Health Plans (MAHP), MPCA, Michigan Dental Association (MDA), Michigan Dental Assistants Association (MDAA), Michigan Dental Hygiene Association (MDHA), MDCH, Michigan Resource Center (MRC), cancer societies, diabetes associations, dietitians, Maternal Support Services/ Infant Support Services (MSS/ISS) groups, Michigan Department of Education (DOE), Delta Dental, Blue Cross Blue Shield (BCBS), Michigan Action for Healthy Kids (MAHK), Michigan Model Coordinators, School-Community Health Alliance of Michigan, etc.	Oral Health Coalition and partners	Networking continues	FY2006 and annually

Although health information or knowledge alone does not necessarily lead to desirable health behaviors, knowledge may empower people and communities to take action to protect their health.

MICHIGAN'S GOALS & ACTION STEPS

Goal 5 continued

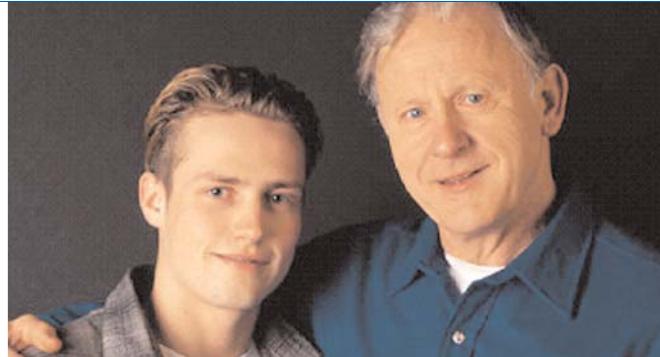
Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
3 Coordinate a statewide oral health observance for the month of February.	MDA, MDHA, MPCA, dental hygiene programs, and other dental societies as well as educational institutions for materials	Delta Dental, BCBS, MDA, MDHA, MDAA, and others for funding	Michigan Dental Association annual observance coordinated	FY2006 and annually
4 Partner with the Michigan Surgeon General to promote oral health.	MDCH Surgeon General's office	Michigan Oral Health Coalition	Oral health recognition in documents released by Surgeon General's office	FY2006 and annually

GOAL 6: Assure the availability of comprehensive, culturally competent, oral health education resources for all ages as well as those designed to enhance patient involvement through self-management.

Why: In order to increase awareness about the importance of oral health, age appropriate information should be provided to health professionals, parents, teachers, etc.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Partner with Head Start agencies in their project to ensure oral health education and prevention activities are available.	Curricula development, staff coordination	Michigan Head Start Association; Prevention, Education & Awareness Workgroup; MDCH	Materials available	October 2007
2 Identify existing health resource clearinghouses for dissemination of electronic information and written materials, particularly for oral health (e.g. the Prevention Resource Center).		Michigan Oral Health Coalition	Existing resources identified	October 2007

MICHIGAN'S GOALS & ACTION STEPS



Goal 6 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
3 Identify funding for a clearinghouse of oral health materials that would direct people to appropriate resources.	Funding Workgroup; funding for staffing and technology; distribution of materials; etc.	Michigan Oral Health Coalition	Funding obtained	October 2007
4 Establish the clearinghouse for oral health.	Funding Workgroup; funding for staffing and technology; distribution of materials; etc.	Michigan Oral Health Coalition	Clearinghouse established	October 2007
5 Provide information on the availability of the clearinghouse as a resource to health providers, educators, etc.	Brochures, links to other commonly visited websites	MPCA, MDCH, Michigan Education Association (MEA), Michigan Surgeon General, Michigan Oral Health Coalition members	Increase in the use of the clearinghouse	October 2007
6 Work with the Michigan Department of Education to continue oral health modules in school curriculum.	Michigan Model	Michigan Department of Education; MDCH; Prevention, Education & Awareness Workgroup	Oral health modules continued	Ongoing
7 Provide a self-management curriculum focused on oral health to Women, Infant and Children (WIC) providers; Maternal Support Services/Infant Support Services (MSS/ISS) providers; Children's Special Health Care Services (CSHCS); school-based health centers; after school day care centers; and summer care programs.		Prevention, Education & Awareness Workgroup; MDCH	Curriculum provided	Ongoing

GOAL 7: Increase the education of non-dental health care providers on the importance of oral health.

Why: To optimize patient care by assuring that oral health is an integral component of primary care.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Ensure that annual trainings/continuing education opportunities are available annually for all health care providers on topics such as: <ul style="list-style-type: none"> ■ the relationship between oral health and maternal health ■ the role that oral health can play with chronic diseases, such as diabetes ■ the oral side effects of many medications ■ the role of tobacco in oral health and screening ■ screening and referral for early signs of decay in infants/children ■ the relationship between oral health and systemic health ■ optimizing oral health in medically-compromised populations. 	Staff; funding; Funding Workgroup; make available speakers for health professional conferences such as those hosted by the American College of Obstetrics and Gynecology (ACOG), American Academy of Pediatrics (AAP), Michigan Association of Family Practice (MAFP), American Association of Retired People (AARP), Society of Public Health Educators (SOPHE), MSMS, MOA, Michigan Nurses Association (MNA), MDCH, MPCA, MDA, Delta Dental, Blue Cross Blue Shield, etc.; online continuing education; website links on MPCA, MDA, MDCH, etc.	MPCA, MDCH	Trainings on listed topics available annually and a list of trainings widely distributed across the state	June 2005 and annually
2 Ensure that medical school and nursing school curricula include information on the interplay between oral health and physical health, as well as information on empowering self-management in patients.	Staff time; medical school deans; nursing school directors; nursing educators associations; MDCH, MPCA; Prevention, Education & Awareness Workgroup	Deans, nursing school directors	Information included in curricula	September 2008



GOAL 8: Encourage health care providers to discuss with patients the oral effects of tobacco use (cigarettes, cigars, pipes, and spit tobacco).

Why: There is a direct link between tobacco use and oral health.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Measure and improve the level of oral cancer knowledge in medical education.	Survey of medical schools; oral cancer curricula	MDCH	Survey completed	June 2006
2 Incorporate tobacco prevention and cessation training in health education program curriculum (dental, dental hygiene, dental assisting, nursing, and other medical programs).	MDCH; Prevention, Education & Awareness Workgroup; support of faculty and deans of schools	Faculty and deans of schools	Information included annually in curriculum	September 2008
3 Increase oral cancer screenings by all health care providers, including dentists and dental hygienists.	CEU courses; support of faculty and deans of schools; MDCH; Prevention, Education & Awareness Workgroup	Michigan Oral Health Coalition	Annual data collected by MDCH will indicate an increase in oral cancer screenings; QHP Annual Report and Delta Dental utilized	Ongoing
4 Encourage participation by dental professionals in state and local tobacco coalitions.	Michigan Oral Health Coalition	MDA, MDHA, Tobacco Free Michigan (TFM), Michigan Oral Health Coalition partners	Increased participation by dental professionals	Ongoing
5 Explore grant opportunities for tobacco prevention, cessation, and control activities.	Federal and foundation funding, Michigan Association of Health Plans (Taking on Tobacco)	Michigan Spit Tobacco Education Program Coordinator, MDCH Tobacco Prevention Program	Funding for tobacco related activities is obtained	Ongoing

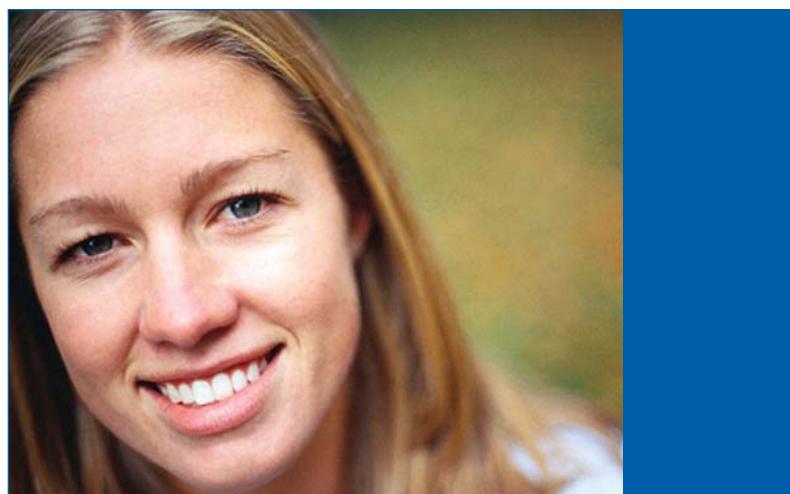
The Michigan Cancer Surveillance Program and the Metropolitan Detroit Surveillance System reported 10,581 new (incident) cases of invasive oral cancer in adults between 1991 and 2000 with 47% coming from Metropolitan Detroit.

Prevent Abuse and Neglect through Dental Awareness (PANDA) is an educational project funded by Delta Dental Fund of Michigan to aid dentists, dental hygienists, and dental staff in their assessment of suspected cases of abuse and neglect of children.

GOAL 9: Increase the education of dental professionals about the signs and symptoms of abuse and neglect.

Why: Increasing knowledge and awareness of family violence is the first step dental professionals need to take in order to meet their obligation of recognizing the signs and symptoms of abuse or neglect.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Develop and provide educational programs that will increase knowledge and awareness of family violence and neglect.	MDA, MDHA, MDCH	MDCH; Prevention, Education & Awareness Workgroup	Trainings documented	October 2007



MICHIGAN'S GOALS & ACTION STEPS

GOAL 10: Create a Medicaid adult oral health benefit that ensures access to and is consistent with high quality of care standards.

Why: Research has shown that poor oral health has a tremendous impact on an individual's overall health. Poor oral health has been linked to health problems such as pre-term births, uncontrolled diabetes, and heart disease. The elimination of the adult dental benefit will result in increased Medicaid medical costs since the services sought by individuals unable to get appropriate dental services are still covered by the Medicaid program.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Reinstate a Medicaid adult dental benefit at sufficient levels to encourage provider participation.	\$10 million in general fund dollars	MDCH, Michigan Oral Health Coalition	Benefit reinstated	Adult Medicaid dental benefit reinstated at 2003 levels on October 1, 2005
2 Implement an effective and efficient adult Medicaid dental benefit that provides meaningful access by increasing provider reimbursement and encouraging provider participation.	Determined based on plans	MDCH, MDA, MALPH, MPCA, Michigan Oral Health Coalition	<i>Primary:</i> Utilization, provider participation <i>Secondary:</i> Bi-annual review of payment rates compared to UCR	Phase-in completed by FY2009
3 Encourage MDCH to provide the local match required for local health departments to access Title V dollars.	\$1.2 million	Dental Clinics North, MALPH	State funds provided for local match	FY2006
4 Work with the MDCH to modify the Medicaid oral health benefits to reflect the current standards of practice.	Staff time	Michigan Dental Association	Benefit reflects current standards of practice	Ongoing
5 Support efforts to mandate oral health as part of the Medicaid package.	Commitment and staff time	MPCA will work with NACHC and the ASTDD; MDA will work with ADA; MDHA will work with the ADHA	Dental services are a mandatory benefit for Medicaid	Ongoing

In Michigan in fiscal year 2005, \$68 million were spent on dental services, primarily for children. As of December 2005, 818,454 children aged 0-18 were enrolled in Medicaid.

MICHIGAN'S GOALS & ACTION STEPS

GOAL 11: Support efforts to roll out Healthy Kids Dental as the preferred model for optimal oral health in children with the gradual expansion to additional counties based on those counties with greatest need and funding availability.

Why: Research has shown that poor oral health has a tremendous impact on an individual's overall health. Michigan must commit itself to giving our children the best possible start at a healthy life.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Support efforts to roll out Healthy Kids Dental as the preferred model and explore strategies to expand.	Staff time, MDCH	Michigan Oral Health Coalition	Common strategy formed by partners	Expansion to 59 of 83 counties in January 2006; ongoing

GOAL 12: Develop a system of care that ensures access to oral health services for low-income uninsured populations.

Why: Research has shown that poor oral health has a tremendous impact on an individual's overall health.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Inventory existing programs and resources in Michigan.	Staff time	Michigan Oral Health Coalition	Inventory created	October 2007
2 Research and inventory models that work across the country.	Staff time	Michigan Oral Health Coalition	Inventory Created	October 2007
3 Look at employer incentives to provide dental coverage.	Staff time	Michigan Oral Health Coalition	Summary of options available	October 2007
4 Determine best possible strategy(s) for Michigan to increase access to oral health services.	Meeting of partnership and facilitated discussion	Michigan Oral Health Coalition	Common strategy is formed by partners	October 2007
5 Identify legislative or administrative changes necessary to implement strategy.	Staff time	MDCH, MDA, Michigan Oral Health Coalition	Potential challenges identified	October 2007

MICHIGAN'S GOALS & ACTION STEPS

Goal 12 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
6 Implement plan developed to overcome challenges identified in Action Step 3.	Meeting of partnership and facilitated discussion	MDA, MPCA	Plan created	October 2007
7 Implement plan initiated.	Dependent on plan	Each partner organization	Activities in plan completed	Initiated immediately with completion dependent on plan and availability of funding



GOAL 13: Support efforts of all Michigan Oral Health Coalition workgroups to assess resources needed to implement their initiatives.

Why: To maximize the Coalition's efforts to implement initiatives proposed as part of the State Oral Health Plan.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/ Frequency
1 Support efforts of all Coalition workgroups to assess resources needed to implement initiatives.	Staff time, Michigan Oral Health Coalition workgroups	Determined by initiative under study, Michigan Oral Health Coalition workgroup chairs	Workgroup recommendations accompanied by resource-needed estimates	Determined by initiative under study

MICHIGAN'S GOALS & ACTION STEPS

GOAL 14: Ensure the successful implementation of the State Oral Health Plan through the acquisition of needed resources.

Why: In order to successfully complete many of the initiatives listed in the State Oral Health Plan, the Coalition will need to pursue additional financial resources.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/ Frequency
1 Pursue funding sources to support recommendations.	Partner meetings, staff time	Michigan Oral Health Coalition, MDCH	Plan implemented with annual progress review	Ongoing with completion September 2010

GOAL 15: Increase access to oral health services in medically underserved communities and for underserved populations by allowing the provision of high quality dental care through qualified health care providers.

Why: There is a serious shortage of dentists willing to care for the uninsured and publicly insured populations. In addition, a number of communities lack enough dentists to care for even the commercially insured population. This strategy will allow us to increase the number of people who receive regular, high quality oral health care from qualified professionals.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Inquire with potential partners to identify willingness to participate.	Staff time	Michigan Oral Health Coalition	Partnership formed	Ongoing
2 Research approaches used by other states to address access issues with current workforce.	Staff time	Michigan Oral Health Coalition	Assessment completed	September 2006
3 Develop a plan to address issues identified in survey completed by Data Workgroup.	MDA, MDHA, MDAA, MPCA	Michigan Oral Health Coalition	Plan developed	July 2007

MICHIGAN'S GOALS & ACTION STEPS

Goal 15 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
4 Identify any legislative or administrative changes necessary to implement strategy.	Staff time	Michigan Oral Health Coalition	Potential challenges identified	July 2007
5 Implement plan.	MDA, MDHA, MDAA, MPCA	Michigan Oral Health Coalition	Plan implemented, annual review	July 2008
6 Periodic evaluation of progress and modification of strategies and/or implementation plan made as appropriate.	MDA, MDHA, MDAA, MPCA	Michigan Oral Health Coalition	Quarterly meetings of the partnership	Ongoing

GOAL 16: Develop and support incentive programs to attract oral health care professionals to underserved areas and to serve the medically underserved populations.

Why: There is a serious shortage of dentists willing to care for the uninsured and publicly insured populations. In addition, a number of communities lack the dentists to care for even the commercially insured population. This strategy will allow us to increase the number of people who receive regular, high quality oral health care from qualified professionals.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Inventory existing state and federal incentive programs and include benefits/limitations and impact information	Staff time	Michigan Oral Health Coalition	Inventory created	August 2006
2 Research approaches used by other states to address access issues with incentive programs.	Staff time	MPCA	Summary of creative approaches	October 2006
3 Determine best possible strategy(s) for Michigan.	Meeting of Workforce workgroup and facilitated discussion	Michigan Oral Health Coalition	Common strategy identified	November 2006

MICHIGAN'S GOALS & ACTION STEPS

Goal 16 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
4 Identify and support legislative or administrative changes necessary to implement changes to existing programs or create new ones.	Staff time	Michigan Oral Health Coalition	Potential challenges identified	January 2006
5 Implement plan.	MDA, MDHA, MDAA, MPCA	Michigan Oral Health Coalition	Plan created	March 2007

GOAL 17: Create and maintain a process for assessing and responding to the supply of and demand for oral health professionals.

Why: Very little quantifiable information is gathered and analyzed on the amount of oral health resources currently available. Until we can determine what we already have, it will be difficult to gather enough momentum to change the system to better meet our needs.

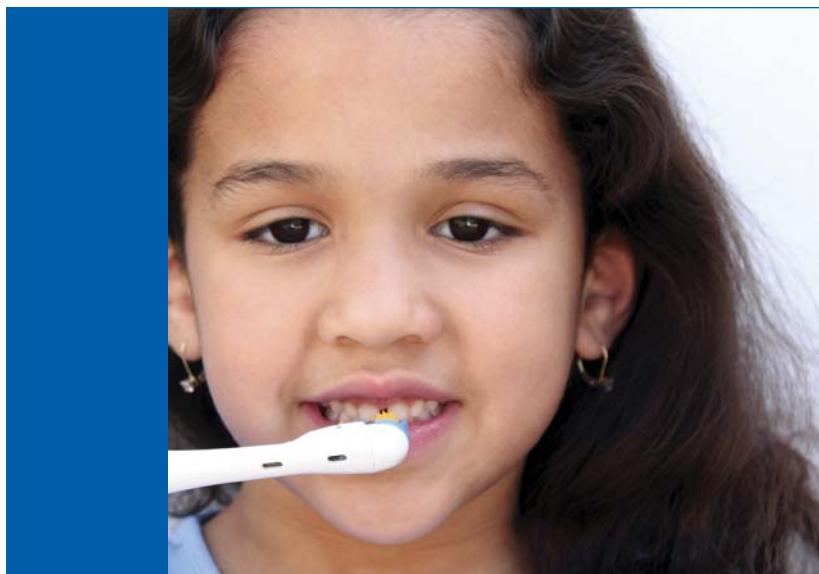
Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Inventory other states' approaches for monitoring workforce supply and/or demand.	Staff time	Michigan Health Council	Inventory created	July 2006
2 Estimate resources required to implement most promising processes identified in Action Step 1.	Staff time	MDCH, Michigan Health Council	Resources estimated for most promising processes	August 2006
3 Determine best possible process(s) for Michigan.	Meeting of Workforce Workgroup and facilitated discussion	Michigan Oral Health Coalition	Best process for Michigan identified	September 2006
4 Identify legislative or administrative changes necessary to implement identified strategy.	Staff time	Michigan Oral Health Coalition	Potential challenges identified	November 2006
5 Develop plan.	Staff time	MDCH	Plan created	March 2007
6 Implement plan.	Dependent on plan	Each partner organization	Activities in plan completed	Annually

MICHIGAN'S GOALS & ACTION STEPS

GOAL 18: Develop a dental director leadership position in state government or at the Michigan Department of Community Health to serve as the focal point of oral health activity for the state.

Why: There is a lack of leadership in oral health within the State of Michigan administration that can effectively work with all components of the health care system and professional training programs.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Initiate conversations regarding Coalition's support for a dental director.	Staff time	Michigan Public Health Association - Oral Health Section; MDA; MDHA; Michigan Oral Health Coalition	Conversations began	January 2007
2 Develop qualifications for the dental director position.	Staff time	Michigan Public Health Association - Oral Health Section; Michigan Oral Health Coalition	Wish list created	January 2007
3 Support a dental director leadership position in state government which has the power and authority for policy development and implementation.	Meetings	MPHA, MDA, Michigan Oral Health Coalition	Position established and filled with qualified candidate	October 2007



MICHIGAN'S GOALS & ACTION STEPS

GOAL 19: Facilitate provider education and medical care facility access to improve oral health care for persons with special needs.

Why: Medically compromised and mentally impaired individuals often need sedation that requires a medical facility or hospital setting for dental care delivery. The state's current programs cannot adequately address access both in terms of wait time and travel time. For those patients who can receive care in an ambulatory setting, there is a shortage of providers who feel they have the training and who are comfortable with special needs patients in their practices. Curriculum in the dental schools includes only minimal training and clinical experience with special needs patients for general dentists resulting in their thinking only specialists can treat them.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Explore the need for additional hospital dentistry programs in Michigan.	Assessment of hospital programs, including radiation oncology centers; assessment of dentists regarding their current hospital involvement and experience; assessment of oral health access for developmentally disabled population	Data Workgroup partnering with universities; MDCH	Assessment completed	December 2006
2 Conduct meetings with key state groups to get their input and their support for the program.	MDA, MDHA, MHA, Michigan State Medical Society, Schools of Dentistry, and Hygiene	Workforce Workgroup	Documentation of meetings	Ongoing
3 Foster relationships between local dental groups and their community hospital and other medical facilities.	Schools of Dentistry, Schools of Dental Hygiene	Workforce Workgroup, Schools of Dentistry	Documentation of meetings	Ongoing
4 Provide training to dentists on practicing in a hospital/medical facility setting.	Residency programs, continuing education programs	Schools of Dentistry	Documentation of trainings	Annual
5 Provide information to dentists in areas of hospital protocol, credentialing, billing medically-related care, etc. that will encourage their involvement.	Residency programs, continuing education programs, handbook to provide information to others on how it's done, MDCH	Schools of Dentistry	Documentation of training material development and distribution	Ongoing
6 Provide training and education programs for dental hygienists and dental assistants practicing in public health and hospital/medical facility settings.	Continuing education; curriculum development; off-campus placement; Prevention, Education & Awareness Workgroup	Schools of Dental Hygiene; Dental Assisting training programs	Documentation of trainings	Annual

MICHIGAN'S GOALS & ACTION STEPS

Goal 19 continued

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
7 Seek financial and legislative support for the development of additional geographically diverse medical facilities.	Meetings with MDA, MHA, Michigan State Medical Society, and Schools of Dentistry; staff time	Schools of Dentistry	Documentation of meetings	December 2006
8 Provide training to providers on treating special needs patients in an ambulatory setting through online courses and other continuing education.	Staff time	Schools of Dentistry, MDA, Schools of Dental Hygiene	Documentation of materials and trainings completed	December 2006
9 Identify network of providers who will accept special needs patients in their practice.	Meetings with MDA to discuss survey development and implementation; staff time	Workforce Workgroup, Schools of Dentistry, Schools of Dental Hygiene	Development of the network	December 2007
10 Meet with the Schools of Dentistry to discuss changes in the curriculum and increased clinical experience for dental students to improve their aptitude for treating special needs patients.	Staff time	Workforce Workgroup	Documentation of meetings	December 2006
11 Explore the needs, barriers, and strategies for improving oral health for persons with special needs.	Developmentally Disabled Council, CSHCN, parent groups, educators, medical and dental providers, MDCH	Prevention, Education & Awareness Workgroup; Workforce Workgroup; Schools of Dentistry and Dental Hygiene	Documentation of meetings	Ongoing

GOAL 20: Periodically evaluate progress and modifications of strategies and/or implementation plan as appropriate.

Why: To ensure the State Oral Health Plan is effective and efficient.

Action Step	Resources/Contribution Needed	Responsible Individual/Organization	Monitoring Mechanism/Evaluation	Completion Date/Frequency
1 Systematically evaluate the progress and modifications of strategies and/or implementation plan as appropriate.	Michigan Oral Health Coalition workgroups	Michigan Oral Health Coalition Board of Directors	Quarterly meetings	Ongoing

Oral health is vital for general health. Caries, periodontal disease, gingivitis, and oral cancer are all facets of oral disease that can detrimentally affect overall well-being. The bad news is that not all consumers in Michigan enjoy oral health. The good news is that this can be changed, that oral disease is preventable.

The Michigan Oral Health Plan outlines the state's goals and action steps toward ensuring optimal oral health for all its citizens and for achieving the standards of *Healthy People 2010*. It builds upon Michigan's established oral health programs, proposes the creation of new programs to address unmet need, and calls for the combined efforts of dental providers, educational institutions, state departments, dental insurance providers, dental societies, state associations, medical school deans and faculty, and other partnering organizations. It is only through this collaborative effort and the sharing of resources that change and improvement can be made.

For more information about this document or other oral health information, contact the Michigan Department of Community Health, Oral Health Program at 517/335-8388. Or visit the State of Michigan's Oral Health website at <http://www.michigan.gov/oralhealth> or e-mail oralhealth@michigan.gov.

REFERENCES

- Amar S, Chung KM. Influence of hormonal variation on the periodontium in women. *Periodontol* 2000 1994;6:79-87.
- American Academy of Periodontology. Position paper: Tobacco use and the periodontal patient. *J Periodontol* 1999;70:1419-27.
- American Dental Association. *Distribution of dentists in the United States by Region and State*, 1997. Chicago, IL: American Dental Association Survey Center; 1999.
- American Dental Association. *Survey of Predoctoral Dental Education*, 2002-03, Vol 1. Chicago, IL. American Dental Association Survey Center, 2004.
- Blot WJ, McLaughlin JK, Winn DM, et al. Smoking and drinking in relation to oral and pharyngeal cancer. *Cancer Res* 1988;48(11):3282-7.
- Brooks JK, Hooper KA, Reynolds, MA. Formation of mucogingival defects associated with intraoral and perioral piercing: case reports. *J Am Dent Assoc.* 2003; 134: 837-43.
- Bureau of Licensing & Health Professions. Michigan Department of Community Health. Number of Licensed Dentists and Dental Hygienists by County in Michigan, 2004.
- Burt BA, Eklund BA. *Dentistry, dental practice, and the community*. 5th ed. Philadelphia: WB Saunders; 1999.
- Centers for Disease Control and Prevention. Preventing and controlling oral and pharyngeal cancer. Recommendations from a national strategic planning conference. *MMWR* 1998; 47(No. RR-14):1-12.
- Centers for Disease Control and Prevention. Achievements in public health, 1900-1999: fluoridation of drinking water to prevent dental caries. *MMWR* 1999;48(41):933-40.
- Centers for Disease Control and Prevention. Populations receiving optimally fluoridated public drinking water - United States, 2000. *MMWR* 2002;51(7):144-7.
- Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the United States. *MMWR Recomm Rep* 2001;50(RR-14):1-42.
- Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and economic costs - United States, 1995-1999. *MMWR* 2002;51(14):300-3.
- Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1996.
- Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1999.
- Centers for Disease Control and Prevention (CDC). *Behavioral Risk Factor Surveillance System Survey Data*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2002.
- Centers for Disease Control and Prevention (CDC). National Center for Health Statistics, State and Local Area Integrated Telephone Survey, *National Survey of Children's Health*, 2003..

REFERENCES

- Centers for Disease Control and Prevention (CDC). National Center for Health Statistics, State and Local Area Integrated Telephone Survey, *National Survey of Children with Special Health Care Needs*, 2001.
- Centers for Medicare and Medicaid Services. National Health Expenditure (NHE) amounts by type of expenditure and source of funds: calendar years 1965-2013. Updated October 2004. Available at: http://www.cms.hhs.gov/oral_health/6.asp
- Christen AG, McDonald JL, Christen JA. The impact of tobacco use and cessation on nonmalignant and precancerous oral and dental diseases and conditions. Indianapolis, IN: Indiana University School of Dentistry; 1991.
- De Stefani E, Deneo-Pellegrini H, Mendilaharsu M, Ronco A. Diet and risk of cancer of the upper aerodigestive tract--I. Foods. *Oral Oncol* 1999;35(1):17-21.
- Eklund, SA. Michigan Child Dental Coverage Validation Survey, 2003. August 2003.
- Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services, Public Health Service; 2000. Available at: http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf
- Gaffield ML, Gilbert BJ, Malvitz DM, Romaguera R. Oral health during pregnancy: an analysis of information collected by the pregnancy risk assessment monitoring system. *J Am Dent Assoc* 2001;132(7):1009-16.
- Griffin SO, Jones K, Tomar SL. An economic evaluation of community water fluoridation. *J Public Health Dent* 2001;61(2):78-86.
- Herrero R. Chapter 7: Human papillomavirus and cancer of the upper aerodigestive tract. *J Natl Cancer Inst Monogr* 2003; (31):47-51.
- International Agency for Research on Cancer (IARC). IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 89, Smokeless tobacco and some related nitrosamines. Lyon, France: World Health Organization, International Agency for Research on Cancer; 2005 (in preparation).
- Johnson NW. Oral Cancer. London: FDI World Press, 1999.
- Kressin NR, De Souza MB. Oral health education and health promotion. In: Gluck GM, Morganstein WM (eds). *Jong's community dental health*, 5th ed. St. Louis, MO: Mosby; 2003:277-328.
- Levi F. Cancer prevention: epidemiology and perspectives. *Eur J Cancer* 1999;35(14):1912-24.
- McLaughlin JK, Gridley G, Block G, et al. Dietary factors in oral and pharyngeal cancer. *J Natl Cancer Inst* 1988;80(15):1237-43.
- (MDCH) Michigan Department of Community Health. Michigan Oral Health Program Directory. March 2005. http://www.michigan.gov/documents/directory_29654_7.pdf.
- (MDCH) Michigan Department of Community Health. Minimum Data Survey for Long-Term Care Waiver Participants. 2003.
- (MOPCN) Michigan Oral Cancer Prevention Network. Epidemiology of Oral Cancer in Michigan. May 2003.
- Morse DE, Pendrys DG, Katz RV et al. Food group intake and the risk of oral epithelial dysplasia in a United States population. *Cancer Causes Control* 2000;11(8):713-20.

REFERENCES

National Center for Health Statistics. Health, United States, 2004, with chartbook on trends in the health of Americans. Hyattsville, Maryland: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2004. DHHS Publication No. 2004-1232. Available at: <http://www.cdc.gov/nchs/data/hus/hus04.pdf>

Offenbacher S, Lieff S, Boggess KA, Murtha AP, Madianos PN, Champagne CM, McKaig RG, Jared HL, Mauriello SM, Auten RL Jr, Herbert WN, Beck JD. Maternal periodontitis and prematurity. Part I: Obstetric outcome of prematurity and growth restriction. *Ann Periodontol* 2001;6(1):164-74.

Phelan JA. Viruses and neoplastic growth. *Dent Clin North Am* 2003; 47(3):533-43.

Redford M. Beyond pregnancy gingivitis: bringing a new focus to women's oral health. *J Dent Educ* 1993;57(10):742-8.

Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Feuer EJ, Edwards BK (eds). SEER Cancer Statistics Review, 1975-2001, National Cancer Institute. Bethesda, MD; 2004. Available at: http://seer.cancer.gov/csr/1975_2001/

Shanks TG, Burns DM. Disease consequences of cigar smoking. In: National Cancer Institute. Cigars: health effects and trends. Smoking and Tobacco Control Monograph 9 edition. Bethesda, MD: US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Cancer Institute, 1998.

Silverman SJ Jr. Oral cancer. 4th Edition edition. Atlanta, GA: American Cancer Society, 1998.

Tomar SL, Asma S. Smoking-attributable periodontitis in the United States: findings from NHANES III. *J Periodontol* 2000;71:743-51.

Tomar SL, Husten CG, Manley MW. Do dentists and physicians advise tobacco users to quit? *J Am Dent Assoc* 1996;127(2):259-65.

U.S. Department of Health and Human Services. The health consequences of using smokeless tobacco: a report of the Advisory Committee to the Surgeon General. Bethesda, MD: US Department of Health and Human Services, Public Health Service; 1986. NIH Publication No. 86-2874.

U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: US Department of Health and Human Services, National Institutes of Health, National Institute of Dental and Craniofacial Research; 2000a. NIH Publication No. 00-4713.

U.S. Department of Health and Human Services. Oral Health. In: Healthy People 2010 (2nd ed). With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office; 2000b.

U.S. Department of Health and Human Services. The health consequences of smoking: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2004a. Available at: http://www.cdc.gov/tobacco/sgr/sgr_2004/index.htm .

U.S. Department of Health and Human Services. Healthy People 2010 progress review: oral health. Washington, DC: US Department of Health and Human Services, Public Health Service; 2004b. Available at: <http://www.healthypeople.gov/data/2010prog/focus21/>

University of Washington School of Dentistry, 2003. Available at <http://www.dental.washington.edu/departments/oralmed/decod/>.



Michigan Department of Community Health

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