



GOAL 13 Minnesotans.

Promote optimal oral health for all

Over the last 50 years, public health measures combined with professional dental services, have resulted in substantial improvements in oral health, especially in preventing dental caries. This collaboration between the public and private sectors represents one of the major health care success stories in individual and community health.

However, despite a nearly universal community-fluoridated water supply, success in new treatments, increased access, expanded utilization, and heightened personal knowledge, preventable oral disease continues to affect Minnesotans of all ages and all population groups. Specific groups such as the elderly (especially homebound and institutionalized elderly), low-income individuals, children and adults with special health needs, communities of color, and recent immigrants, continue to have unique issues involving access, cost and prevention. Structural barriers such as geography, transportation, and language also complicate the oral health care issues faced by these populations.

Optimal oral health is fundamental to an individual's overall physical, social and emotional well-being. In addition to the obvious advantages for one's health that accrue through freedom from pain, discomfort, and suffering; sound oral health also contributes to an individual's quality of life, including self-image and self-esteem and the role those perceptions play in the social, educational and employment marketplaces.

Dental professionals, supported by dental research, now generally concur that dentition can be maintained throughout one's lifetime with recommended prevention and appropriate treatment. However, continued perseverance among individuals, providers, and communities in acknowledging and encouraging the role of oral health and hygiene is necessary not only to maintain the accomplishments of the past few decades, but also to satisfactorily resolve issues faced by specific population groups.

This chapter includes this topic area:

Oral Health



ORAL HEALTH

Promote optimal oral health for all Minnesotans.

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What Minnesota Populations Are Affected?

All Minnesotans are affected by oral health issues, but specific problems tend to vary by population group. For example, early childhood caries is a clinical condition faced by some infants and toddlers; caries in permanent teeth and lack of sealant applications are issues faced by all children and adolescents; dental caries and periodontal diseases are the two most prevalent clinical conditions in the adult population and affect adolescents as well; and some elderly must still deal with issues of denture use and prostheses quality.

Is Minnesota Gaining Or Losing Ground?

Epidemiologic data on the oral health of Minnesotans is minimal, and data that does exist tend to be on the state's population as a whole, which masks progress or lack thereof for subpopulations within the state.

Data from the Behavioral Risk Factor Surveillance System (BRFSS) indicate an increasing number of adult Minnesotans with dental insurance and making at least one annual dental visit. Data on the percentage of children and adolescents with sealants are available at some provider levels, but are not publicly accessible.

What Are The Data Highlights?

- The percentage of adult Minnesotans aged 18-64 years who reported having dental insurance within the past year has risen each of the last three years, from 53.8 percent in 1994 to 57.7 percent in 1995 and 61.1 percent in 1996.
- The percentage of Minnesotans aged 18 years and over who reported at least one dental visit within the past year has risen each of the last three years, from 72.9 percent in 1994 to 74.8 percent in 1995 and 75.8 percent in 1996.
- Dental sealant utilization in 1996 among children aged 6-12 enrolled in MinnesotaCare and the state's Medicaid program (MA) ranged from 9 percent for the children enrolled in the MA program to 13 percent for the children enrolled in the MinnesotaCare program.

What Are The Potential Benefits Of Reaching These Objectives?

Fluoridation continues to be the most effective strategy in preventing dental caries. Fluoridation combined with sealant application can almost eliminate caries. This means less decay, less periodontal disease, fewer workdays and fewer schooldays missed because of dental appointments, and less cost because of lower restoration utilization. However, in spite of the overwhelming evidence in support of preventing caries, sealant applications continue to be under-utilized. Dental caries and periodontal diseases can lead to tooth loss. Full or partial edentulousness can result in severe and costly medical and dental problems for elderly Minnesotans.

Where Can You Go For Additional Information?

Refer to Appendix A.



ORAL HEALTH

Promote optimal oral health for all Minnesotans.

OBJECTIVES: By The Year 2004 ...

- 13.1 Reduce from 7.1 to no more than six per 100,000 men aged 45 - 74 and from 4.4 to three per 100,000 women aged 45 - 74 deaths due to cancer of the oral cavity and pharynx. (Source: Minnesota Center for Health Statistics, 1993)
- 13.2 Reduce to no more than 15 percent among people aged 35 - 44 the prevalence of destructive periodontal diseases. (Source: Oral Health of U.S. Children, NIH; no Minnesota baseline data available)
- 13.3 Increase the number of children who have received protective sealants on at least one permanent molar tooth.
- 13.4 Increase to at least 75 percent the proportion of children who have received protective sealants on the occlusal (chewing) surfaces of permanent molar teeth. (Source: Oral Health of U.S. Children, NIH; no Minnesota baseline data available)
- 13.5 Achieve 100 percent dental health care coverage for all Minnesotans. (*This objective is also listed as 15.3. See objective 15.3 in Data Table*)
- 13.6 Increase access to dental preventive and treatment services for children, regardless of the source of payment. (Source: Limited Minnesota data available from DHS)
- 13.7 Decrease the percentage of adolescents who use spit tobacco. (Source: Minnesota Student Survey, 1995) (*This objective is also listed as 1.3 and 4.22. See objective 1.3 in Data Table*)

Indicators

<i>Proportion Using Spit Tobacco Weekly</i>	<i>Baseline</i>	<i>2004 Target</i>
Twelfth-grade males	16%	4%
Ninth-grade males	9%	2%

What Needs To Be Done To Meet These Objectives?

The following page shows strategies for promoting optimal oral health for all Minnesotans.



ORAL HEALTH

Promote optimal oral health for all Minnesotans.

Examples of Strategies & Organizational Roles

The list below represents a sampling of strategies that can be used to work on this public health problem. Organizations that may play a role in the implementation of a particular strategy are indicated.

Category: SERVICE DELIVERY SYSTEM
Problem: Oral Health

[Click here to view the updated grid for this problem \(on page 7\).](#)

Organizations with Potential Collaborative Roles

	Governmental Public Health Agencies	Health Plans	Hospitals & Clinics	Educational Systems	Community-based Organizations	Businesses/ Work Sites	Other
Strategy Samples	Conduct outreach activities to increase access to dental services for children	♦	♦	♦	♦		
	Promote the prevention of early childhood caries	♦	♦	♦	♦		Dentists, Dental Hygienists
	Promote tobacco use prevention/cessation in dental offices	♦	♦	♦	♦		Dental Offices, Insurance Companies
	Increase the appropriate use of sealants with children	♦	♦	♦	♦	♦	Dentists, Dental Hygienists



APPENDIX A - GOAL 13

ORAL HEALTH

For more information, contact:

Minnesota Dental Association, 2236 Marshall Avenue, St. Paul, MN 55104
Phone: (651) 646-7454

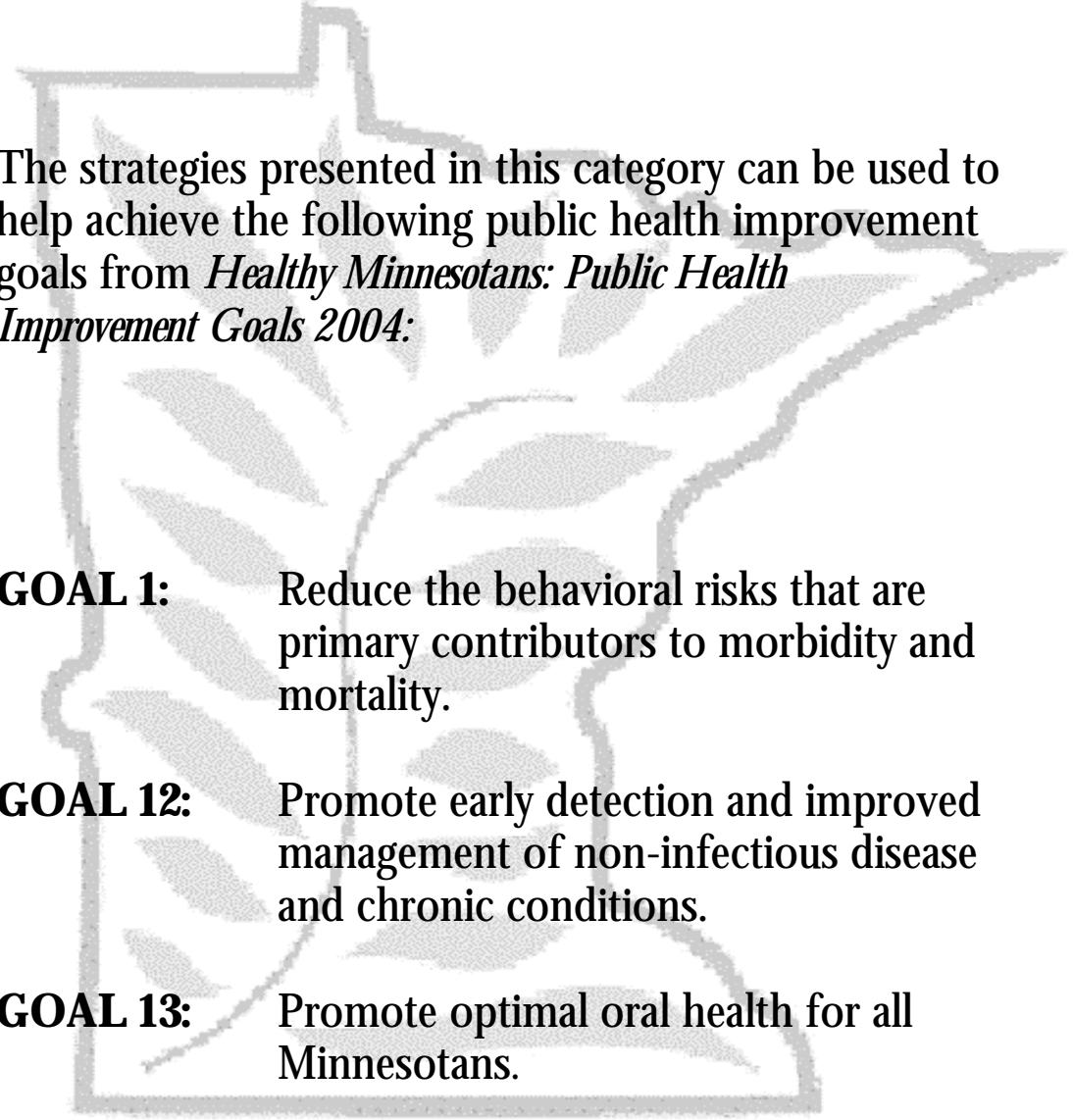
* MDH, Dental Health Program
Mildred Hottman Roesch
Phone: (612) 676-5529

University of Minnesota School of Dentistry, 15-209 Moos Tower,
515 Delaware Street, S.E., Minneapolis, MN 55455
Phone: (612) 625-9982

Category:

CHRONIC/ NONINFECTIOUS DISEASE

The strategies presented in this category can be used to help achieve the following public health improvement goals from *Healthy Minnesotans: Public Health Improvement Goals 2004*:

- 
- GOAL 1:** Reduce the behavioral risks that are primary contributors to morbidity and mortality.
- GOAL 12:** Promote early detection and improved management of non-infectious disease and chronic conditions.
- GOAL 13:** Promote optimal oral health for all Minnesotans.

CATEGORY: Chronic/Noninfectious Disease

TOPIC: ORAL HEALTH

The strategies below can be used to work on this topic.
Organizations that may play a role in implementing each strategy are indicated.

	Governmental Public Health Agencies	Health Plans	Hospitals & Clinics	Educational Systems	Community- based Organizations	Businesses/ Work Sites	Other
Conduct outreach activities to increase access to dental services for children.	✓	✓	✓	✓	✓		Dentists, Dental Hygienists, other health care professionals
Promote the prevention of early childhood caries.	✓	✓	✓	✓	✓		Dentists, Dental Hygienists, other health care professionals
Promote tobacco use prevention and cessation in dental offices.	✓	✓	✓	✓	✓		Dental offices, Insurance companies
Increase the appropriate use of sealants with children.	✓	✓	✓	✓	✓		Dentists, Dental Hygienists, other health care professionals

Preventable oral diseases continue to affect Minnesotans of all ages and all population groups. This is the case despite nearly universal compliance with the Minnesota fluoridation statute and multiple other methods of receiving both topical and ingested fluoride; an increased transfer of science-based oral health practices; increased demand and utilization of oral health services; and increased proactive involvement by dental advocacy groups and organizations.

However, specific groups, such as the elderly (especially homebound and institutionalized seniors), low-income individuals, children and adults with special health needs, communities of color and recent immigrants, continue to have unique oral health issues, such as, access and cost. Additional barriers such as geography, transportation, cultural customs and language complicate the oral health care issues faced by many of these populations.

Optimal oral health is fundamental to an individual's overall physical, social, and emotional well being. In addition to the obvious health advantages that accrue through freedom from pain, discomfort, and suffering, sound oral health contributes to an individual's quality of life through its affects on self-image and self-esteem, and the role those perceptions play in the social, educational, and employment marketplaces.

In addition to those presented here, other effective oral health strategies include community water fluoridation; daily brushing with a fluoride-containing toothpaste and flossing; regular professional dental care; oral health educational programs in schools and communities; eliminating use

of tobacco products and choosing smoke-free environments; healthy eating habits; using protective gear to prevent oral-facial sports injuries; and maintaining only milk, formula or water in baby bottles.

Strategy: Conduct outreach activities to increase access to dental services for children.

	Systems	Community	Individual
Primary	✓		
Secondary			
Tertiary			

Background:

The purpose of this strategy is to improve children's access to preventive and restorative dental services, primarily those child recipients of public health care programs.

Minnesota's publicly funded health care programs provide for comprehensive preventive and restorative dental services for children. However, with inadequate current funding levels for dental public health care programs, optimum utilization by participants and eligible participants, and health care provider availability continue to be policy issues. Outreach activities, however, have continued to receive renewed emphasis in both the federal Medicaid and the state MinnesotaCare programs.

Full enrollment of eligible children in these programs will be a significant step in removing consumers' financial barriers to both medical and dental care. For related strategies see those on "Health Care Coverage" in the *Service Delivery System*

category. In addition, increased dental health provider reimbursement levels and critical access dental provider designations for the purpose of receiving enhanced payment rates for dental services to public program recipients appears to have stabilized the participating dental health care provider network.

In the past several years, dental access issues have been addressed by diverse constituents of interested individuals and groups, including but not limited to organized dental associations, dental educational institutions, governmental agencies, and dental insurance plans.

Additional resources:

Bibliographic resources:

- ▶ Centers for Disease Control and Prevention, *Improving Oral Health: Preventing Unnecessary Disease Among All Americans*, at (770) 488-6054, www.cdc.gov/oralhealth, Atlanta, GA.
- ▶ Center on Human Development and Disability. 2001. *Promoting Oral Health of Children with Neurodevelopmental Disabilities and Other Special Health Needs*, University of Washington, Seattle, WA.
- ▶ Edelstein, BL. 1997. *Public Financing of Dental Coverage for Children: Medicaid, Medicaid Managed Care and State Programs*, Children's Dental Health Project, National Center for Education in Maternal and Child Health.
- ▶ General Accounting Office/HEHS-98-93. 1998. *Demographics of Non-enrolled Children Suggest State Outreach Strategies*.
- ▶ U.S. Department of Health and Human Services. 2000. *Opportunities to Use Medicaid in Support of Oral Health*

Services, Maternal and Child Health Bureau, Health Resources and Services Administration.

- ▶ U.S. Department of Health and Human Services. 2000. *Oral Health in America: A report of the Surgeon General*.

Organizational resources:

- ▶ Minnesota Dental Association, at (651) 646-7454, 2236 Marshall Avenue, St. Paul, MN.
- ▶ Minnesota Department of Human Services, Health Care Purchasing and Services Delivery Division, at (651) 297-7303, 444 Lafayette Road, St. Paul, MN.

Evidence for strategy:

Dental access is a large, multi-faceted problem with inter-twining and co-dependent variables. In many parts of the country, different strategies and combinations of strategies are being tested. There may never be a single formula that works in all situations, but time will demonstrate that some strategies are more effective optimizing dental health care access than others.

Numerous studies have demonstrated that children with health/dental insurance are more likely to receive preventive and primary care than are uninsured children. While a substantial number of Minnesota's children have coverage through their parents' employer, other children have publicly-funded coverage through either Medicaid or MinnesotaCare. Extensive national analyses of Medicaid-eligible children not enrolled in the Medicaid program have revealed multiple barriers that are being addressed by outreach and educational efforts.

These barriers include families= lack of knowledge about the Medicaid program itself, a lack of perceived need for the program=s benefits, a lack of knowledge about eligibility criteria, stigma associated with the program, cultural and language issues, complicated enrollment processes. A variety of states (as documented in the 1998 GAO report cited above) have demonstrated that innovative and targeted outreach programs can overcome many of these barriers and thereby increase enrollment.

Has this strategy been implemented in Minnesota?

Yes, Minnesota has implemented dental health initiatives authorized to address access issues. Included in these programs are payment rate increases for children’s x-rays and exams; payment rate increases for critical access dental providers; established dental access advisory committee; expanded authorization for dental hygienists; expanded duties for dental auxiliary personnel; licensure of foreign-trained dentist; retired dentist program; volunteered services considered toward Rule 101 participation agreement; dental practice donation program; dental access grants; community clinic expansion grants; dental access grants to teaching institutions and clinical training sites; dental student loan forgiveness program; dental services demonstration project; and regulatory simplification for state health program providers.

In addition, the state provides funds to improve outreach strategies for its MinnesotaCare program. While this activity is targeted towards increasing enrollment in a state-subsidized program that is primarily

medical insurance, its implications are applicable to dental health issues.

Indicators for this strategy:

- ▶ Percentage of children enrolled in the MA program that has received preventive dental services.
- ▶ Percentage of children enrolled in the MinnesotaCare program that has received preventive dental services.
- ▶ Percentage of licensed dentists, by county, with MA patients.

For more information contact:

Mildred Hottmann Roesch, at (651) 281-9895, mildred.roesch@health.state.mn.us, MDH Dental Health Program, Division of Family Health.

Strategy: Promote the prevention of early childhood caries.

	Systems	Community	Individual
Primary		✓	✓
Secondary			
Tertiary			

Background:

The purpose of this strategy is to reduce the rate of early childhood caries in children aged four and under through providing education and health promotion about the involvement of infectious agents in this disease process. The primary target audiences of education and health promotion are pregnant women, mothers of infants, and primary providers of health care services.

Early childhood caries (ECC) is a condition of extensive dental caries found in infants and toddlers. It is referred to by a number of

other names, including baby bottle tooth decay and nursing caries. Like other forms of dental decay, ECC is caused by cariogenic bacteria, or bacteria that are capable of causing dental decay. ECC may often require expensive treatment in a hospital setting.

Many academicians and researchers perceive ECC as a pediatric health problem not just a dental health problem because cariogenic bacteria have been demonstrated to transfer from mother to infant. New research has also demonstrated transmission of cariogenic bacteria from father to child and also laterally from child to child in a day care setting. Accordingly, prevention and health promotion activities should begin with the pregnant woman in the prenatal period.

Additional resources:

Bibliographic resources:

- ▶ Febres, C., Echeverri, EA., and Keene, HJ. 1997. Parental awareness, habits, and social factors and their relationship to baby bottle tooth decay. *Pediatric Dentistry* 19:22-27.
- ▶ National Center For Education in Maternal and Child Health. November, 1998. *Early Childhood Caries Resource Guide*, Arlington, VA.
- ▶ Slavkin, HC. 1997. First encounters: Transmission of infectious oral diseases from mother to child. *Journal of the American Dental Association*, 128:773-778.
- ▶ Tinanoff, N., and O-Sullivan, DM. 1997. Early childhood caries: Overview and recent findings. *Pediatric Dentistry* 19:12-16.
- ▶ University of Iowa, College of Dentistry and Medicine. 2000. *Oral management*

of pediatric patients for non-dental professionals: A study guide.

Organizational resource:

- ▶ University of Minnesota School of Dentistry, Children’s Dental Clinic, at (612) 625-7171, 515 Delaware Street SE, Minneapolis, MN.

Evidence for strategy:

In their 1997 review of the literature of the etiology, implications, and prevention of dental caries in infants and toddlers, Tinanoff and O-Sullivan describe a number of studies, all based on education and counseling of parents about early childhood caries (ECC). Most of these studies demonstrated a reduction of ECC prevalence in the research group. The authors conclude, however, that there is a need to explore additional methods to foster preventive behavior in parents whose children are at high risk for ECC.

Has this strategy been implemented in Minnesota?

There are number of new initiatives being implemented through grants and organizational efforts that address the infectious nature of dental decay; the use of topical fluoride varnishes; expanding the function of dental auxiliary to provide treatment modalities to children; utilizing the practice settings and services of pediatric physicians and nurses to provide dental health education and topical fluoride varnishes; and adoption of a public health/medical model to treat dental caries.

Indicators for this strategy:

- ▶ Number and kinds of education and health promotion activities conducted.
- ▶ Number of women and health care providers reached.

- ▶ Changes in knowledge regarding ECC.
- ▶ Number of health care providers who consider ECC to be both a pediatric and a dental health issue.
- ▶ Changes in infant feeding practices.
- ▶ Reduction of incidence of ECC.

For more information contact:

Mildred Hottmann Roesch, at (651) 281-9895, mildred.roesch@health.state.mn.us, MDH Dental Health Program, Division of Family Health.

Strategy: Promote tobacco use prevention and cessation in dental offices.

	Systems	Community	Individual
Primary		✓	✓
Secondary		✓	✓
Tertiary			

Background:

The purpose of this strategy is to increase the collaboration between and among dental professionals to incorporate tobacco use prevention and cessation protocols into dental offices= practice in order to reduce tobacco use among patients.

The role of tobacco use in oral diseases has been extensively described and documented, particularly in the area of soft tissue changes, periodontal diseases, leukoplakia, and cancers of the oral cavity and pharynx. All forms of tobacco use including use of smokeless tobacco and second hand smoke are of concern in the epidemiology of oral diseases.

In his forward to the 1986 surgeon general report on the health consequences of using

smokeless tobacco, then-Surgeon General, C. Everett Koop, stated, "It is critical that our society prevent the use of this health hazard (smokeless tobacco) and avoid the tragic mistake of replacing the ashtray with the spittoon."

As noted in the strategy narrative in the section on tobacco use in this document, research indicates the greatest impact of prevention programs results from a broad range of strategies and sustained participation among the public, private, and nonprofit sectors. Thus the dental office becomes an ideal site for professional reinforcement of all forms of tobacco use prevention and cessation, especially the use of smokeless tobacco. Screening for tobacco use is not uniformly integrated into either medical or dental practices. However, research demonstrates that health care providers in physician and dental offices play pivotal roles in prevention and cessation messages, particularly for adolescents. Adolescents, while difficult to reach with prevention messages, value these health care professionals as credible sources of information. Involvement of multiple types of health care providers enhances the success of the prevention and cessation messages. See the Tobacco section of the *Alcohol, Tobacco and Other Drugs* category for related prevention strategies.

Additional resources:

- ▶ Agency for Health Care Policy and Research. 1996. *Smoking Cessation: Clinical Practice Guidelines*, (Number 18). Rockville, MD: U.S. Department of Health and Human Services. AHCPR Publication #96-0692.
- ▶ Promoting oral health: Interventions for preventing dental caries, oral and

pharyngeal cancers, and sports-related craniofacial injuries, *MMWR*, November, 2001.

- ▶ National Institutes of Health. 1986. *The Health Consequences of Using Smokeless Tobacco: A Report of the Advisory Committee to the Surgeon General*, NIH Publication #86-2874, Bethesda, MD, Department of Health and Human Services.
- ▶ National Institutes of Health. 1994. *Tobacco and the Clinician: Interventions for Medical and Dental Practice*, Smoking and Tobacco Control Monograph No. 5, Bethesda, MD: Department of Health and Human Services, NIH Publication #94-3693.

Evidence for strategy:

The Agency for Health Care Policy and Research (AHCPR) convenes panels of experts to review scientific studies and develop clinical guidelines for health care practitioners based on those studies. In its monograph on smoking cessation, the AHCPR notes that clinicians have unique access to individuals who use tobacco since more than 70 percent of smokers visit a clinician each year. Recommendations within AHCPR guidelines are rated based on strength of evidence. Its recommendation that all health care clinicians should repeatedly and consistently deliver smoking cessation interventions to their patients was given its highest rating.

Has this strategy been implemented in Minnesota?

The MDH Dental Health Program along with the MN Dental Hygienists' Association and the American Cancer Society have formed a tobacco issues focus group to promote increased dental office activities

surrounding the issues of tobacco use and prevention, such as patient identification, patient record documentation, and education and cessation patient centered activities. Second-hand smoke issues are also being addressed.

Indicators for this strategy:

- ▶ Percentage of children and adolescents who have received screening, counseling, and referral related to nicotine use and/or addiction.
- ▶ Percentage of dental practices that incorporate practice guidelines related to tobacco use into patient care (e.g., AHCPR guidelines).

For more information contact:

Mildred Hottmann Roesch, at (651) 281-9895, mildred.roesch@health.state.mn.us, MDH Dental Health Program, Division of Family Health.

Strategy: Increase the appropriate use of sealants with children.

	Systems	Community	Individual
Primary	✓		✓
Secondary			
Tertiary			

Background:

The purpose of this strategy is to increase the appropriate use of dental sealants for children to reduce dental caries on the occlusal surfaces of posterior teeth through consumer and provider education and to support grants to school-based/linked dental sealant projects.

Dental sealants are plastic physical barriers that keep food particles and microorganisms from adhering to pits and fissures on the teeth. Applied in just a few minutes, usually to the first and second permanent molars, they harden within 60 seconds. Sealants are a preventive measure and are highly effective in protecting teeth from dental decay. Properly applied dental sealants combined with optimal fluoride use can eliminate dental caries in many children.

Since sealants can be applied successfully in school and other “field” settings, a proven way to reach low-income children is through school-based programs with links to local dental partners. Sealants have become an important, noninvasive oral health strategy that works.

Additional resources:

- ▶ National Maternal and Child Oral Health Resource Center. 2000. *Dental Sealant Resource Guide*, Arlington, VA.
- ▶ Selwitz, RH. The prevalence of dental sealants in the U.S. population: Findings from NHANES III, 1998-91. *Journal of Dental Research* 75:652-61, Special Issue.
- ▶ Siegal, MD., and Kumar, JV. 1995. Workshop on guidelines for sealant use, preface and recommendations. *Journal of Public Health Dentistry* 55(5), Special Issue.

Evidence for strategy:

Over the last 15 to 20 years, a number of epidemiologic studies have demonstrated the efficacy of sealants. When used in conjunction with fluoridation and other accepted oral health practices teeth can remain virtually caries-free for a lifetime. Community water fluoridation and school-

based dental sealant delivery programs are strongly recommended by the Centers for Disease Control and Prevention’s Task Force on Community Preventive Services (see Community Guide at http://www.thecommunityguide.org/home_f.html).

Has this strategy been implemented in Minnesota?

Yes, even though dental sealants are not always appropriately utilized, they are available in (all) dental offices and all public health dental clinics. School-based/linked dental sealant programs are encouraged and promoted.

Indicators for this strategy:

- ▶ Decreased rate of dental caries on occlusal surfaces of posterior teeth.
- ▶ Increased percentage of children who have received a sealant on one or more teeth.

For more information contact:

Mildred Hottmann Roesch, at (651) 281-9895, mildred.roesch@health.state.mn.us, MDH Dental Health Program, Division of Family Health.