



# Oral Health White Paper

Missouri Coalition for Oral Health

Adopted 2008

Position Paper 1

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## Executive Summary

Oral health is a critical health problem facing Missouri. Overcoming Missouri's oral health care crisis will require a comprehensive policy that includes cooperative actions by medical providers, oral health providers, educational entities such as Head Start and school nurses, community agencies, as well as local, state and federal government agencies.

Access to oral health care and treatment in Missouri is limited by barriers that include lack of private or government-funded insurance, a shortage and maldistribution of dentists across Missouri, family poverty and financial gaps caused by severe cuts in federal and state treatment programs. The consequences of reduced or non-existent dental care are extensive, pervasive and costly. Oral disease is cumulative. As the disease worsens, treatment requirements become more complex and costly as the untreated oral disease advances. The low reimbursement rates for dentists and hygienists who participate in the Medicaid program exacerbate the lack of access to oral health services. Oral health care professionals are reimbursed at approximately 40% of the costs for treating Medicaid patients in Missouri; therefore, receiving 35% less than the 75% of usual and customary reimbursement levels necessary to cover the cost of providing the service. Low reimbursement rate discourages dental providers from participating in the Medicaid or MC+ programs, thus creating less access, long waiting lists and compounding the effects of disease.

Missouri has only one dental school and despite efforts by the University of Missouri-Kansas City School of Dentistry to train dentists for service in-state, major gaps remain. For example, there are only 56 licensed pediatric dentists in the state and several counties throughout rural Missouri lack the services of community based, full-time dentists. Today, it costs approximately \$300,000 to educate a dentist and \$100,000 to educate a hygienist. Factoring in the average retirement rate of Missouri dentists over the last decade, it would take a significantly increased commitment to dental education (approximately \$10 million per year) in order to meet the benchmark of 1 dentist and hygienist per 2500 people within 20 years.

Due to a lack of oral health access, education and preventative services, individuals face staggering dental bills, risk of disease and nationally millions of hours of lost school and work time each year. The Missouri Coalition for Oral Health has estimated that for every dollar spent on prevention in oral health care, \$8 to \$50 is saved in restorative and emergency treatment. Despite the projected savings, Missouri offers little in the way of comprehensive programs, coverage or planning for state residents who are most at risk for poor oral health.

Using this document to raise awareness, the Missouri Coalition for Oral Health, in conjunction additional stakeholders, will work with policy makers as well as professionals in the health care and public service arena to implement strategies and the following recommendations to improve oral health for all Missourians.

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Source: MCOH Oral Health White Paper

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**Recommendations:**

- Increase Medicaid reimbursement rates for oral health services
- Increase dental student slots for Missouri residence at UMKC School of Dentistry
- Increase the availability of residency slots for general practice, pediatric and geriatric dentistry
- Develop oral health workforce distance learning educational programs that can provide opportunities and educational services statewide
- Expand the number of section 330-funded Community Health Centers and Federally Qualified Health Centers (FQHC)
- Financially encourage the establishment of contracts between FQHC's and willing community dentists throughout the state
- Increase funding for PRIMO supported loans and scholarships
- Offer dental continuing education to medical health care professionals such as pediatricians, obstetricians, extended care facility caretakers, social service personnel, and school health personnel
- Create and distribute new and existing oral health care materials to all schools, early childhood programs, long-term care facilities and other agencies
- Fluoridate all Missouri water districts
- Implement a statewide comprehensive sealant and varnish program
- Include adult-dental services in the Medicaid program

*Access to dental services for low-income children in Missouri is very limited. MC+/Medicaid recipients in particular have difficulties finding a dentist who will treat them or their children, and they frequently have to travel significant distances to get the care they need. Because of these barriers to access, they often do not seek care until a problem becomes unbearable and endangers their future health.*

## The State of Missouri's Oral Health

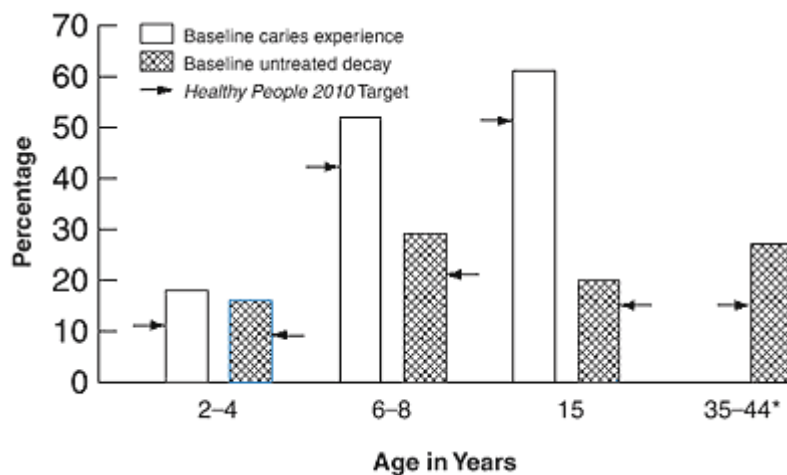
The issue of access to oral health is not a discussion about cleaning teeth. It is an overall effort to keep patients healthy, out of hospital emergency rooms, to prevent acute emergent medical conditions that threaten people's lives. As a result of preventing and correctly treating oral disease Missouri's health care system will save an enormous amount of money and time. The fact is that many oral health problems can be prevented in early stages, when the cost is far less than what might be required a few years later. Recent medical research indicates that oral infections may pose a higher risk factor than smoking and cholesterol for acute medical conditions like heart attacks and stroke. Oral infections are also implicated in acute diabetic complications and in low birth weight pre-term baby syndrome.

Oral health care in America is often viewed as separate from general health care; however, oral health affects a person's overall health. The National Rural Health Association noted in a recent policy brief, "When they have focused on oral health, policymakers, health care providers and the general public alike have focused primarily on teeth, rather than the person around the teeth." However, oral health represents a critical part of a person's well being, affecting everything from physical appearance, self-esteem and systemic health to the ability to speak and eat. In the case of children, nearly 51 million school hours are lost nationally each year due to oral pain or disease.

## STATISTICS

- The UMKC School of Dentistry is only dental school in the state of Missouri. Two thirds of the dentists currently practicing in Missouri received their D.D.S. from the UMKC School of Dentistry.
- The cost of educating one dentist is \$300,000; the cost of one dental hygienist is \$100,000.
- There are only 56 licensed pediatric dentists in the state.
- Several rural Missouri counties lack the services of community based, full-time dentists.
- 80% of tooth decay in children occurs among Medicaid & uninsured populations.
- Appointment wait times for Medicaid patients can be six months or longer.
- The number of dentists treating Medicaid patients declined from 866 in 1995 to 416 in 2001.
- 71% of Missouri dentists do not take MC+/Medicaid patients at all.
- 38% of Missouri's 115 counties have no dentist willing to accept MC+/Medicaid patients.
- In 2000 a telephone survey of MC+ dentists found that only 30% of the dentists in private practice from the list were actually accepting any MC+/Medicaid.
- A child in the Missouri Head Start program has an average of 6.5 weeks for a dental appointment.

Meeting Healthy People 2010 Objectives



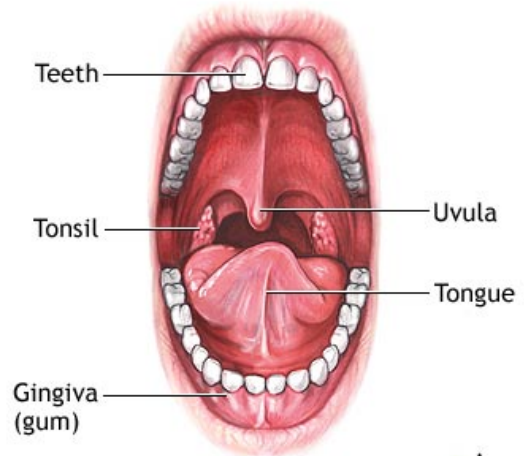
\*There is no Healthy People 2010 objective for adult caries; 94% of adults who have one or more natural teeth have experienced tooth decay. Source: U.S. Department of Health and Human Services. *Healthy People 2010*, vol II, 2<sup>nd</sup> ed. Washington, DC: U.S. Government Printing Office, 2000:21-11 to 21-15.

## Access to Oral Health Services

In 2005 more than 600,000 Missourians lacked basic health insurance; moreover, changes in the Medicaid system left additional individuals uninsured or with far fewer options for care. In addition, dental coverage under Medicaid was eliminated for some of Missouri's most vulnerable groups, including the disabled and elderly, leaving them without safety net insurance. This lack of comprehensive coverage resulted in untreated oral health problems, emergency room visits and sometimes hospitalization, results far more costly than what would have been needed if the patient had access to basic oral health services.

In the report *Oral Health in Missouri: Policy Recommendations for Prevention, Education and Access*, the Missouri Coalition for Oral Health notes that the two factors most commonly cited as reasons for not receiving oral health care are cost and lack of access to services. Additionally cited are:

- Many Missouri residents do not have dental insurance. Less than 40% of Missouri employees are covered by dental health insurance. Private employer dental coverage is extremely limited and many families must pay for expenses out-of-pocket. The elimination of adult Medicaid dental services has also left thousands of individuals without dental coverage. Thus, dental treatment is often postponed until there is an emergency or the patient requires a more costly treatment.
- Missouri has a shortage and mal-distribution of dental health care providers. The shortage is worse in rural areas and it is increasing with time. Missouri has seen a decline in the number of dentists practicing within the state and it is estimated by the Missouri Department of Economic Development that the decline will continue.



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The low reimbursement rates for dentists and hygienists who participate in the Medicaid program exacerbate the lack of access to oral health services. Oral health care professionals are reimbursed at approximately 40% of the costs for treating Medicaid patients in Missouri; therefore, receiving 35% less than the 75% of usual and customary reimbursement levels necessary to cover the cost of providing the service. In rural areas dentists donate care at an average of \$23,000 per year and 36% participate in the Medicaid program while only 26% participate in larger non-metropolitan areas. For urban areas, participation in the Medicaid program is far less. The concern about financial costs is considerable: 65% of rural dentists expressed concern about reimbursement rates and funding issues in their practice.

Many dentists, particularly those in individual practice, cannot absorb the financial strain of low reimbursement rates and are unable to provide service to the populations, including children and the elderly, who are often most vulnerable to oral health problems. Further, since there is a significant shortage and mal-distribution of dental providers, many current practices are already at capacity and cannot take more patients. Therefore, children in programs such as Head Start may wait several weeks before they can get a dental appointment. The elderly and infirm in nursing homes may not receive dental treatment unless it is medically necessary.

Reimbursement issues create long-term oral health care problems on another front. As graduates from dental school assume more debt for their education and practice costs, they are less likely to practice in rural Missouri where they will be faced with high Medicaid populations and low reimbursement rates. The lack of access to oral health care professionals remains one of the most challenging barriers to overcome in the pursuit of healthy lives for all Missourians.

Children in rural areas suffer the dual impact of generally lower family income as well as reduced access to dental care. While Medicaid is required to provide oral health care for children, barriers to care include a lack of participating providers, transportation or logistical issues in reaching those providers, and cultural and language hurdles. At least 71% of Missouri dentists do not participate in MC+ or Medicaid and 38% of Missouri counties do not have a dentist who accepts Medicaid patients. The lack of oral health care for many of Missouri's children results in lost school time, eating and sleeping difficulties as well as behavioral issues in social and school settings. Moreover, poverty contributes to and compounds the effects of poor dental health, including increased tooth decay and decreased dental visits, lowered self-esteem and the potential for poor nutrition and quality of life through adulthood.

At the other end of the age spectrum, Missouri's elderly face different barriers that produce a similar result: reduced access to oral health care. While residents in nursing homes and long term care facilities do receive Medicaid-provided dental coverage, for the elderly not residing in nursing homes or skilled care facilities, access to dental care may be impossible on a fixed income. Many retirees are not covered by dental insurance once they retire, and lack of dental coverage by Medicare means that all dental costs are out of pocket expenses at a time in life when financial resources are limited. This leaves a vulnerable population in Missouri facing possible additional health care issues due to a lack of oral health access and treatment.

## **Workforce Development**

According to *Health Care State Rankings 1999: Health Care in the 50 United States*, Missouri has 46 dentists per 100,000 residents, while the national average is 60 dentists per 100,000. More than 90% of Missouri dentists, like their national counterparts, are private practitioners in small office settings who work in regions or communities where there is a demand for their services. While it seems obvious that rural settings may not provide dentists with adequate calls for service, urban settings may also lack sufficient dental services due to socioeconomic issues. The lack of sources for new oral health professionals is problematic: Missouri has only one dental school and despite an increase in dental and hygienist students, the school is unable to fill the gap. Annually Missouri has approximately 70 dentists retire compared with approximately 45-50 new dental graduates staying in state to practice. Using 2001 licensure data these statistics mean that Missouri had a statewide shortfall of:

- 249 dentists
- 834 hygienists

There are two methods that health care planners use to determine appropriate provider-to-population ratios to assure access to care. Those two methods are:

A needs-based planning model and

A use-based planning model

Typically, the needs-based model more accurately reflects the requirements of the population because it is based on scientifically derived projections of morbidity (needs) of the specific population. A needs-based projection of necessary care providers is always higher than a use-based projection of care provider requirements because the needs-based model assumes 100% of the population will come forward for necessary treatment. A use-based projection model is based on the ratio of care providers to populations in areas considered to be adequately served. Use-based models assume that a given percentage of the population will fail to seek all but emergency care. Generally health care planners use both projections and average the two to estimate the number of providers necessary for a given population to have adequate access to care. The UMKC School of Dentistry has done both projections and a summary of the outcomes and the implications follows:

*Needs-Based Projection of Necessary Dental Health Care Providers for Missouri*

The needs-based projection started with age and gender specific dental morbidity data accessed from the third National Health and Nutrition Examination Survey (NHANES III). Data is assembled for 19 age-gender cohorts and three oral health status indicators. The specific oral health needs of Missouri’s population can be reasonably projected using this method.

Using a set of specific assumptions about treatment time necessary for given conditions, the amount of treatment time necessary to care for Missouri’s oral health care needs can be determined. These assumptions include:

Healthy people require 2 preventive/health maintenance dental visits per year to maintain their oral health status.

People with decay require 1 additional visit a year.

People with periodontal disease require additional visits depending on the severity of their diagnosis.

Where counties lack water fluoridation, we add 30% to the presumed decay rate for each age cohort

Using Pregnancy/population ratios – 1 additional visit for each pregnancy

Using Diabetes data – 2 additional visits per case of diabetes (computed by multiplying prevalence rate by population)

Utilizing State of Missouri population data from the 2000 Census, the needs-based model projects a need for 15,321,847 dental visits annually. The needs can be further projected to define the need for dental specialists to treat Missouri’s citizens (visits / year):

GPs	Endodontists	Oral Surgeons	Pediatric Dentists	Periodontists	Prosthodontists
13,291,702	151,686	502,557	910,118	281,922	183,862

Using this methodology, the projected need for oral healthcare for the citizens of Missouri is 15,321,847 provider-hours / year.

Based on data from the ADA’s Survey of Dental Practice and the Missouri Dental Board’s 2004-2006 re-licensure surveys, the annual productivity of dental teams can be estimated as follows:

	GPs	Endo-dontist	Oral Sur-geon	Ortho-dontist	Pediatric Dentists	Perio-dontists	Prosthodontists
Dental Hyg.	1	0	0	0	0	2	1
Dental Asst.	2	3	4	4	3	1.5	1
Annual Visits	3,893	2,322	3,620	7,565	5,045	3,795	2,159

Finally, by dividing the projected number of visits needed by the projected productivity of the different teams, we are able to project the needs for the respective team members, as shown in the table below, once again, using the State of Missouri as an example.

	GPs	Endo- dontist	Oral Sur- geon	Ortho- dontist	Pediatric Dentist	Perio- dontist	Prosthodontist	Total
Visits	15,321,847	151,686	502,557	792,843	910,118	281,922	183,862	16,114,690
Per team	3,893	2,322	3,620	7,565	5,045	3,795	2,159	--
Dentists	3,414.3	65.3	138.8	104.8	180.4	74.3	85.2	4,063.1
DHs	3,414.3	0	0	0	0	148.6	85.2	3,648.0
DAs	6,828.5	196.0	555.3	419.2	541.2	111.4	85.2	8,736.9

Missouri is a leading state in assistant training and utilization through the Missouri Expanded Functions Dental Assisting (EFDA) program. Delegation of basic preventive services to dental assistants, perhaps assistants with advanced training, frees dentists and hygienists to perform more complex procedures commensurate with their training and responsibilities of licensure. Studies indicate that dentists utilizing EFDA dental assistants may accomplish up to 40% greater productivity, while offering higher pay for this increased productivity and increasing morale for the dental workforce.

#### Education

When the Surgeon General released the "National Call to Action to Promote Oral Health," he argued strongly for changing the perceptions of oral health and enhancing oral literacy in the general public. Two primary concerns of the report were that "no one should suffer from oral diseases or conditions that can be effectively prevented and treated," and "dental caries (tooth decay) is the single most common chronic childhood disease." The report also noted that the social impact goes far beyond a bad tooth. Children, adults and the elderly with poor oral health may face chronic pain, problems in eating, speaking and possible complications with diseases such as diabetes and heart disease. Sharing information about oral health care through all levels of the community can provide long-term improvement to the general health and well-being of Missourians of all ages and backgrounds.

A number of Missouri organizations have created and coordinated extensive outreach efforts to provide information about accessing dental care and the importance of, as well as methods for improving, dental health through good daily hygiene. Prevention and education programs have been offered by the Missouri Department of Health and Senior Services, Women, Infants, Children (WIC) Supplemental Food Program agencies, Head Start and the Missouri Coalition for Oral Health. More than 800,000 children have enjoyed free shows about oral health at the Delta Dental Health Theatre in St. Louis. The UMKC School of Dentistry, the Missouri Primary Care Association's Oral Health Network, and Missouri's FQHCs also offer outreach programs. State government and educators have partnered to create special curricula that focus on oral health, with a goal of creating an integrated program that follows children throughout their educational experience and encourages lifelong oral health awareness. Individual programs such as "Bright Smiles" promote oral health throughout the community and the Missouri Dental Association supports education and outreach programs for its members and the general public. Educating a community about the benefits of oral health results in more children receiving access to services. When WIC health care assistants were advised to refer children in the program to dentists, the number of children in the program who had a dental visit doubled.

While these programs represent a good start, Missouri must increase its oral health education efforts. While providing information increases knowledge, repeated contact with audiences and reinforcement of message about oral health are also needed. Thus, funding must be provided to support ongoing educational programs that target children as well as parents and health care providers.

Educating Missourians about their oral health is an investment in the future. Although education takes time, money and effort, the benefits of statewide oral health are entirely worthy of the commitment of these valuable resources.

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Recent medical research has established a link between oral infections and heart disease, stroke, diabetic complications, and pre-term low birth weight baby syndrome. The need to solve access problems for oral health has become an urgent discussion. The following is a summary of recent medical research:

**Heart Disease:** The presence of specific bacteria in patients with periodontal disease has been linked to an increased risk for acute coronary syndrome (ACS) or sudden heart attacks. Researchers also found an increased risk of coronary heart disease for people who have periodontal disease. Patients with severe periodontitis have an increased risk of forming atherosclerotic plaques, which are responsible for myocardial infarction and ischemic stroke.

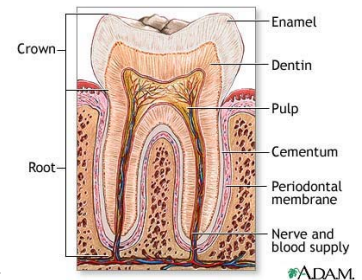
**Stroke:** People with advanced periodontal disease resulting in tooth loss are at greater risk for stroke. This seems to be related to elevated levels of the inflammatory C-reactive protein (CRP) and the increased risk of forming atherosclerotic plaque.

**Diabetes:** Patients' periodontitis (gum infections) may exacerbate diabetes by causing hyperlipidemia, immune cell alterations, and diminished tissue repair capacity. It may also be possible for chronic periodontitis to induce diabetes. Diabetic patients with periodontal disease have a higher risk for acute diabetic complications than patients without periodontal disease. Diabetic patients with periodontal disease have higher levels of lipid peroxide (LPO), triglycerides, and white blood cell counts.

**Pre-term, Low-birth Weight Baby Syndrome:** Preterm and low-birth-weight infants are at elevated risk for death, neurodevelopmental disabilities, cognitive impairment, and behavioral disorders. Recent studies suggest that periodontitis is associated with an increased risk of preterm birth, as well as low birth weight and preeclampsia. About 11% of singleton births in the United States occur before 37 weeks of gestation, and the rate of premature delivery has increased during the past 15 years.

## Prevention

The *Surgeon General's Report on Oral Health* notes that although tooth decay is the most prevalent chronic childhood disease and can cause long-term health problems, it is also the most preventable through home care and preventive treatments. By age 17, nearly 80% of children have had dental caries and more than 18% of children between the ages of two and four have visible tooth decay. Children who grow up in lower-income homes have a higher incidence of oral health issues. In Missouri nearly half of the children who are hospitalized for dental conditions and more than 50% of the children who experience emergency room visits for dental problems are enrolled in Medicaid and MC+. Unfortunately, these children suffer the consequences of a condition that was preventable by education and early treatment.



There is no doubt that early preventive measures in dental care reduce medical costs and increase quality of life. Tooth decay is a transmissible disease and early treatment can reverse destruction of tissue. Good oral care can help keep teeth healthy for a lifetime, reducing the disease burden on an already-stressed oral health care system. (See Anatomy of the Tooth diagram, source: <http://www.nlm.nih.gov/medlineplus/ency/imagepages/1121.htm>)

Research indicates that the pathogenic organisms implicated in periodontal disease and decay are transmitted from mother to infant and that prenatal interventions to promote a healthy mouth in the pregnant mother confer lasting benefits in the development of healthy teeth and gums in children. Xylitol studies in Scandinavian countries indicate reductions of decay of 80% in children whose mothers chewed Xylitol gum during the last trimester and through the first six months of nursing. In addition to oral health benefits, the same groups experienced reductions in inner ear infections (40%) and in episodes of enterocolitis (40%).

The American Academy of Pediatric Dentistry recommends that oral health risk assessments in children begin no later than 12 months of age. Adults also need to have periodic oral assessments in order to check for periodontal disease and other abnormalities. As part of lifelong oral health care, both children and adults should have a "dental home" where comprehensive and uninterrupted oral health services are available. This dental home should also provide patients with education about oral health and a place where oral health is viewed as part of, and not apart from, general health care practices. Neglected dental care can result in restorative treatments that cost ten times or more than preventive treatment, yet Medicaid and SCHIP plans are often difficult to access for even high-risk children from low-income families.

## The Future

Improving and expanding dental health care in Missouri is challenging, but with the support of oral health care professionals, educators, legislators and the general public the goal can be accomplished. Recognizing that all Missourians should have the same opportunity - to maintain good overall health instead of treating disease - is the first step in envisioning programs that provide access to all in need of dental care, regardless of age, background or socioeconomic status. Missourians need to forge partnerships for oral health and expand the "traditional" oral health network to include teachers, pediatricians and other primary care providers. Missouri needs to replicate programs that work in other regions, engage the community to make oral health policy choices, include dental exams in school health care screenings, and support legislation that encourages dental health professionals to care for the underserved. Nearly 70% of rural dentists noted in the "Missouri Rural Dental Survey 2003" that there was a significant unmet need for oral health care in their communities and called for enhanced funding for existing clinics and programs, patient responsibility, improved Medicaid reimbursement and increased incentives for rural dentists. Creating a comprehensive dental health care system will continue to take time, effort, cooperation, patience and funding, but the reward will be worth

REFERENCES:

National Rural Health Association, "Meeting Oral Health Care Needs in Rural America," April, 2005.

U.S. Department of Health and Human Services, *National Call to Action to Preserve Oral Health*, Spring 2003, NIH Publication NO. 03-5303.

Fact Sheet, *Cover Missouri Project*, Missouri Foundation for Health, January 2006.

Missouri Coalition for Oral Health Access, "Oral Health in Missouri: Policy Recommendations for Prevention, Education and Access," May, 2002.

Missouri Coalition for Oral Health Access, 4.

Ibid, 3.

Missouri Rural Dentist Survey 2003.

Edelstein, Burton. (2000), "Public and Clinical Policy Considerations in Maximizing Children's Oral Health," *Pediatric Clinics of North America*, Vol . 47 No. 3.

CMC, "Oral Health Care Availability and Access," April 2000.

Edelstein, 2.

Moran, K.O. and Moran, S. (1997) *Health Care State Rankings 1999: Health Care in the 50 United States*, Lawrence:KS: Morgan Quinto Press.

American Dental Association, "State and Community Models for Improving Access to Dental Care for the Underserved," October 2004.

*Oral Health in Missouri*, 10.

Danneman B et al. UMKC Dental Workforce Ad Hoc working papers

Division of labor among generalists and specialists determined by utilizing CDT-2 data taken from the ADA's 1999 *Survey of Dental Services Rendered*.

U.S. Department of Health and Human Services, *National Call to Action to Preserve Oral Health*, Spring 2003, NIH Publication NO. 03-5303.

McCunniff MD, Damiano PC, Kanellis M, Levy SM. The impact of WIC dental screenings and referrals on utilization of dental services among low-income children. *Pediatric Dent* 1998;20:181-7.

Spod AM, Anderson R, Treasure E. Effective oral health promotion: a literature review. Cardiff, University of Wales: Health Promotion Wales, 1996.

Renvert S, Pettersson T, Ohlsson O, Persson GR. Bacterial profile and burden of periodontal infection in subjects with a diagnosis of acute coronary syndrome. *J Perio* 2006, Vol. 77, No. 7, Pages 1110-1119

Geismar K, Stoltze k, Sigurd J, Gyntelberg F, Holmstrup P. Periodontal disease and coronary heart disease J Perio 2006, Vol. 77, No. 9, Pages 1547-1554

Lee H, Garcia R, Jankett S, Jones J. The association between cumulative periodontal disease and stroke history in older adults

Iacopino, I M. Periodontitis and Diabetes Interrelationships: Role of Inflammation. Annals of Periodontology December 2001, Vol. 6, No. 1, Pages 125-137

Sonoki K, Nakashima S, Takata Y, Naito T, Fujisawa K, Oosubo T, Wakisaka M, Iwase M, Iida M, Yokodo M. Decreased Lipid Peroxidation Following Periodontal Therapy in Type 2 Diabetic Patients. J Perio 2006, Vol. 77, No. 11, Pages 1907-1913

MacDorman MF, Martin JA, Mathews TJ, Hoyert DL, Ventura SJ. Explaining the 2001-02 infant mortality increase: data from the linked birth/infant death data set. Natl Vital Stat Rep 2005;53:1-22., Bhutta AT, Cleves MA, Casey PH, Cradock MM, Anand KJ. Cognitive and behavioral outcomes of school-aged children who were born preterm: a meta-analysis. JAMA 2002;288:728-737., Vohr BR, Wright LL, Dusick AM, et al. Neurodevelopmental and functional outcomes of extremely low birth weight infants in the National Institute of Child Health and Human Development Neonatal Research Network, 1993-1994. Pediatrics 2000;105:1216-1226.

Bogges KA, Lieff S, Murtha AP, Moss K, Beck J, Offenbacher S. Maternal periodontal disease is associated with an increased risk for preeclampsia. Obstet Gynecol 2003;101:227-231., Goepfert AR, Jeffcoat MK, Andrews WW, et al. Periodontal disease and upper genital tract inflammation in early spontaneous preterm birth. Obstet Gynecol 2004;104:777-783., Offenbacher S, Bogges KA, Murtha AP, et al. Progressive periodontal disease and risk of very preterm delivery. Obstet Gynecol 2006;107:29-36. Martin JA, Hamilton BE, Sutton PD, Ventura SJ, Menacker F, Munson ML. Births: final data for 2003. Natl Vital Stat Rep 2005;54:1-116.

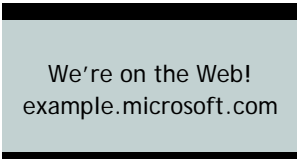
Oral Health Care and Availability.

Sinclair SA and Edelstein B, Children's Dental Health Project, *Cost Effectiveness of Preventive Dental Services*, Washington DC, February, 2005.

Mouradian, JAMA, Vol. 284 (20), Nov.22, 2000.



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## Back Page Story Headline

This story can fit 175-225 words.

If your newsletter is folded and mailed, this story will appear on the back. So, it's a good idea to make it easy to read at a glance.

A question and answer session is a good way to quickly capture the attention of readers. You can either compile questions that you've received since the last edition or you can summarize some generic questions that are frequently asked about your organization.

A listing of names and titles of managers in your organization is a good way to give your newsletter a personal touch. If your organization is small, you may want to list the names of all employees.

If you have any prices of standard products or services, you can include a listing of those here. You may want to refer your readers to any other forms of communication that you've created for your organization.

You can also use this space to remind readers to mark their calendars for a regular event, such as a breakfast meeting for vendors every third Tuesday of the month, or a biannual charity auction.

If space is available, this is a good place to insert a clip art image or some other graphic.



Caption describing picture or graphic.