

THE BURDEN OF ORAL DISEASE IN NEVADA – 2008



Program Vision: All Nevadans achieve optimal oral health

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I. EXECUTIVE SUMMARY

Why Attention to Oral Health is Important

Oral health is an essential and integral component of overall health and is much more than just healthy teeth. Good oral health not only means being free of tooth decay and gum disease, but it also means being free of chronic oral pain, oral cancer, birth defects such as cleft lip and palate, and other conditions that affect the mouth and throat. Oral health is intimately related to the health of the rest of the body. Mounting evidence suggests that infections in the mouth such as periodontal (gum) diseases may increase the risk of heart disease, may put pregnant women at greater risk of premature delivery, and may complicate control of blood sugar for people living with diabetes. In addition, changes in the mouth often are the first signs of problems elsewhere in the body, such as infectious disease, immune disorders, nutritional deficiencies and cancer.

What is Included in *The Burden of Oral Disease in Nevada - 2008*

This report summarizes the most current information available on the oral disease burden of people in Nevada. When available, comparisons are made with national data and the Healthy People 2010 goals. Statistics from Nevada's State Oral Health Program and other public health-focused oral health programs and collaboratives in Nevada are for the time period July 1, 2007 thru June 30, 2008. Several barriers hinder the ability of some Nevadans to attain optimal oral health. *The Burden of Oral Disease in Nevada - 2008* attempts to identify racial/ethnic, socio-economic as well as geographic discrepancies in disease prevalence and disparities in access to oral disease prevention and treatment resources.

How We Are Doing

When comparing oral disease rates for Nevadans with those available for the nation, more than seven out of ten (71%) of Nevada's third-grade students have tooth decay in comparison to just over half of the children (53%) ages six to eight nationwide. Significantly more adolescents in Nevada (33% vs. 18%) are suffering with untreated dental caries (tooth decay) than their national counterparts. Among third-grade children in Nevada, poorer children have more untreated dental decay (52% vs. 29%) and more caries experience (80% vs. 62%) than other children as well as fewer protective dental sealants (36% vs. 52%). Also among Nevada's third-grade students sampled, a significantly higher proportion of minority children had untreated decay in comparison to white non-hispanic children (78% vs. 61%).

Oral diseases are progressive and cumulative and if left untreated, become more complex and difficult to manage over time. The good news is that the majority

of oral diseases are also preventable. Across the United States in populations with access to community water fluoridation, topical fluorides and dental sealants, reductions in dental diseases are evidenced. Unfortunately these proven preventive practices are not available to all Nevadans. Clark County initiated community water fluoridation in 2000 and currently is the only county in Nevada that has optimally fluoridated water available through their community water systems. Not only does community water fluoridation effectively prevent dental caries, it is one of very few public health prevention measures that offer significant cost savings to almost all communities [Griffin et al. 2001]. It has been estimated that for every one dollar invested in community water fluoridation there is a savings of approximately \$38 in averted dental treatment costs.

Numerous programs across the state are working to improve the oral health of Nevadans through education, prevention and increasing access to dental care. Community based as well as school-based/school-linked initiatives such as dental sealant programs and fluoride varnish programs are reaching out to youth at risk of dental disease. Information on these initiatives, as well as many of Nevada's safety-net dental care providers, is included in this report.

Although appropriate home oral health care and population-based preventive services 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 disease and conditions for people of all ages. Access to professional care is impacted by a wide variety of factors which include: local availability of dental care providers; transportation accessibility; insurance availability and dental care coverage levels; as well as the existence of providers that accept public insurance or offer sliding fee and/or pro bono services for the uninsured.

In conclusion, Nevadans experience many oral diseases and conditions in greater number than their national counterparts. Significant efforts have been made statewide to reduce the incidence of oral diseases; however additional work is needed to reduce the disparities between various groups. Cost-effective measures exist that can improve the quality of life and the health of our residents. In order to reach our vision that "All Nevadans achieve optimal oral health," we must continue to work together to eliminate access-to-care issues and to support and replicate practices that have been proven to prevent oral diseases.

Oral health is essential to general health and well-being and can be achieved.

II. INTRODUCTION AND TIMELINE OF NEVADA'S ORAL HEALTH MILESTONES

The mouth is our primary connection to the world: it is how we take in water and nutrients to sustain life; our primary means of communication; the most visible sign of our mood; and a major part of how we appear to others. Oral health is an essential and integral component of overall health throughout life and is much more than just healthy teeth. Oral refers to the whole mouth: the teeth, gums, hard and soft palate, linings 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, but it also means being free of chronic oral pain conditions, oral cancer, birth defects such as cleft lip and palate, and other conditions that affect the mouth and throat. Good oral health also includes the ability to carry on the most basic human functions such as chewing, swallowing, speaking, smiling, kissing, and singing.

The mouth is an integral part of human anatomy and plays a major role in our overall physiology. Thus, 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) diseases may increase the risk of heart disease, may put pregnant women at greater risk of premature delivery, and may complicate control of blood sugar for people living with diabetes. Conversely, changes in the mouth often are the first signs of problems elsewhere in the body, such as infectious diseases, immune disorders, nutritional deficiencies, and cancer.

This report summarizes the most current information available on the oral disease burden of people in Nevada. It also highlights groups and regions in our state that are at highest risk of oral health problems and discusses strategies to prevent these conditions and provide access to dental care. Comparisons are made with national data whenever possible and to the *Healthy People 2010* goals when appropriate. For some conditions, national data, but not state data, are available at this time. It is hoped that this information will help raise awareness of the need for monitoring the oral health burden in Nevada and guide efforts to prevent and treat oral diseases and enhance the quality of life of Nevada's residents.

The vision of the state Oral Health Program is that "*All Nevadans Achieve Optimal Oral Health.*" To reach this vision we have adopted a mission to improve the oral health of Nevadans through education and prevention. As background on how far we have come in our efforts to address the oral health needs of Nevadans the following timeline is provided.

Nevada's Public Oral Health Milestones

- Pre-1936** ☞ Division of Dental Hygiene, led by Quannah McCall, DDS established by the Nevada Department of Health to provide dental services to children between the ages of two and twelve
- 1948** ☞ Omar Seifert, DDS, MPH appointed as Director of the Division of Dental Hygiene
- ☞ Division provides x-rays, examinations, fluoride and treatment to children up to age 12
- 1968** ☞ Division of Dental Hygiene transitions to become the Bureau of Dental Health directed by William L. Thomasen, DDS
- 1977** ☞ Dental Hygiene education program established at the Community College of Southern Nevada (CCSN)
- 1979** ☞ First class of dental hygiene students graduate from CCSN
- 1981** ☞ Bureau of Dental Health transitions to become the Dental Health Program
- 1983** ☞ Legislature does not fund the Dental Health Program
- 1989** ☞ Dr. Thomasen leaves the Dental Health Program
- 1994** ☞ Saint Mary's establishes the Take Care-A-Van dental sealant program to serve Washoe County and the surrounding rural counties
- 1996** ☞ The meeting, "Developing Partnerships: A Forum on Access to Dental Care for Low-Income Children in Nevada" is convened
- 1998** ☞ The meeting, "Oral Health 2000: Building Effective Community Coalitions" is convened
- ☞ Governor's Maternal and Child Health Advisory Program releases *An Oral Health Action Plan for Nevada*
- ☞ Northern Nevada Dental Coalition for Underserved Populations (CUSP) is established in Washoe County
- ☞ Health Access Washoe County (Reno) starts providing dental services
- ☞ Huntridge Teen Clinic (Las Vegas) starts providing dental services
- ☞ Miles for Smiles mobile program starts delivering dental services in Clark County
- 1999** ☞ Legislature appropriates one-time funding for a Nevada State Health Division Oral Health Initiative
- ☞ Legislature mandates community water fluoridation in counties with a population of 400,000 or more
- ☞ Northern Nevada Dental Health Program is established
- ☞ First class of dental hygiene students starts at Truckee Meadows

- Community College (TMCC)
- 2000
 - ☞ First class of General Practice Residents starts in Las Vegas
 - ☞ Clark County implements community water fluoridation
 - ☞ Healthy Smile/Happy Child ECC prevention program is implemented
 - ☞ Prevent Abuse and Neglect through Dental Awareness (P.A.N.D.A.) is established.
 - 2001
 - ☞ Nevada is awarded a CDC cooperative agreement to fund an oral health program
 - ☞ Legislature enacts licensure by credential for dentists and dental hygienists
 - ☞ Legislature enacts Public Health Endorsement for dental hygienists licensed in Nevada
 - ☞ First class of dental students starts at the UNLV School of Dental Medicine (SDM)
 - ☞ First class of dental hygiene students graduates from TMCC
 - ☞ Crackdown on Cancer program is initiated.
 - 2002
 - ☞ Community Coalition for Oral Health (CCOH) is established in Clark County
 - ☞ State Oral Health Advisory Committee (OHAC) is established
 - ☞ First class of Pediatric Dental Residents starts in Las Vegas
 - ☞ Saint Mary's Take Care-A-Van restorative program is established to serve Washoe and the surrounding rural counties
 - 2003
 - ☞ First Basic Screening Survey (BSS) of children enrolled in third-grade is completed
 - ☞ HAWC opens a second dental clinic in southwest Reno
 - 2004
 - ☞ First BSS of children enrolled in Head Start is completed
 - ☞ 2004 State Oral Health Plan is published
 - ☞ Seal Nevada South and Seal Nevada North programs are established
 - ☞ Healthy Smiles Family Dentistry clinic opens in Yerington
 - ☞ First CCSN Baccalaureate degree in Dental Hygiene class is enrolled
 - 2005
 - ☞ Regional Oral Health Plans are developed
 - ☞ Northeastern Coalition for Oral Health (NECOH) established for Elko, Eureka, Humboldt, Lander, and White Pine Counties
 - ☞ Carson/Douglas Oral Health Coalition established
 - ☞ Central Nevada Oral Health Coalition established for Esmeralda, Lincoln, Mineral, and Nye Counties
 - ☞ First BSS of seniors residing in assisted living facilities is completed

- ☞ First class graduates from UNLV SDM
- ☞ Orthodontic Residency program opens in Las Vegas
- ☞ Legislature votes to accept Western Regional Examination Board for dental and dental hygiene licensure in Nevada
- ☞ Miles for Smiles mobile program initiated in northeastern Nevada
- ☞ Paradise Park Children's Dental Clinic opens in Las Vegas
- ☞ Oral Health America's Smile Across America - Las Vegas program established
- 2006**
 - ☞ Churchill, Lyon, Pershing & Storey Counties' Regional Oral Health Coalition (CLPS ROHC) established
 - ☞ Nevada Health Centers opens Elko Family Dental Clinic
 - ☞ CCOH achieves 501(c) 3 status
 - ☞ CCSN graduates first class of Baccalaureate Degree in Dental Hygiene students
- 2007**
 - ☞ First BSS of Nevada adults with mental or developmental disabilities is conducted
- 2008**
 - ☞ State Oral Health Program awarded second five-year Cooperative Agreement grant from the CDC Division of Oral Health
 - ☞ Silver Springs-Stagecoach Hospital District partners with HAWC to operate satellite dental clinic in Silver Springs
 - ☞ 2008 State Oral Health Plan is published
- 2009***
 - ☞ Legislature passes AB 136 which establishes statutory authority for the State Oral Health Program and the Advisory Committee on the State Program for Oral Health

**Final passage of the bill was completed after the timeframe covered in this report; however, it was such a significant accomplishment (that was the culmination of the efforts of oral health stakeholders throughout Nevada), that it was incorporated into this timeline.*

III. NATIONAL AND STATE OBJECTIVES ON ORAL HEALTH

Oral Health in America: A Report of the Surgeon General (the Report) alerted Americans to the importance of oral health in their daily lives [USDHHS 2000a]. Issued in May 2000, the *Report* 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. The *Report's* message was that oral health is essential to general health and well-being and can be achieved. However, several barriers hinder the ability of some Americans to attain optimal oral health. The Surgeon General's *Report* concluded with a framework for action, calling for a national oral health plan to improve quality of life and eliminate oral health disparities.




One component of an 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. One set of national 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]. *Healthy People 2010* 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 are objectives for key structures, processes, and outcomes related to improving oral health. These objectives represent the ideas and expertise of a diverse range of individuals and organizations concerned about the nation's oral health.




The Surgeon General's report on oral health was a wake-up call, spurring policy makers, community leaders, private industry, health professionals, the media, and the public to affirm that oral health is essential to general health and well-being and to take action. That call to action led a broad coalition of public and private organizations and individuals to generate *A National Call to Action to Promote Oral Health* [USDHHS 2003]. The Vision of the *Call to Action* is "To advance the general health and well-being of all Americans by creating critical partnerships at all levels of society to engage in programs to promote oral health and prevent disease." The goals of the *Call to Action* reflect those of *Healthy People 2010*:

- To promote oral health
- To improve quality of life
- To eliminate oral health disparities

National objectives on oral health such as those in *Healthy People 2010* provide measurable targets for the nation, however most core public health functions of assessment, assurance, and policy development occur at the state level. The *National Call to Action to Promote Oral Health* calls for the development of plans at the state and community levels, with attention to planning, evaluation, and accountability [USDHHS 2003]. The *Healthy People 2010* oral health objectives for the nation and the current status of each indicator for the United States and for Nevada are summarized in Table I.

Table I. *Healthy People 2010* Oral Health Indicators, Target Levels, and Current Status in the United States and Nevada

<i>Healthy People 2010</i> Objective [Objective Number and Description]	Target (%)	National^a (%)	Nevada Status (%)
21-1) Dental caries (tooth decay) experience			
a) Young children, aged 2–4 years	11	24	54 ⁱ
b) Children, aged 6–8 years	42	53	72 ^j
c) Adolescents, aged 15 years	51	56	62 ^k
21-2) Untreated caries (tooth decay)			
a) Young children, aged 2–4 years	9	19	32 ⁱ
b) Children, aged 6–8 years	21	29	44 ^j
c) Adolescents, aged 15 years	15	18	33 ^k
d) Adults, aged 35–44 years	15	28	DNC
21-3) Adults with no tooth loss, aged 35–44 years	42	38	60 ^l 
21-4) Edentulous (toothless) older adults, aged 65–74 years	20	24	17 ^l 
21-5) Periodontal (gum) diseases, adults aged 35–44 years			
a) Gingivitis, aged 35–44 years	41	48 ^c	DNC
b) Destructive periodontal (gum) diseases, aged 35–44 years	14	16	DNC
3-6) Oral and pharyngeal cancer death rates reduction (per 100,000 population)	2.7	2.6	3.0 ^m
21-6) Oral and pharyngeal cancers detected at earliest stages, all	50	35 ^e	31 ⁿ
21-7) Oral and pharyngeal cancer exam within past 12 months, aged 40+ years	20	13 ^d	DNC
21-8) Dental sealants			
a) Children, aged 8 years (1st molars)	50	32	41 ^j
b) Adolescents (1st and 2nd molars) aged 14 years	50	21	54 ^k 
21-9) Population served by fluoridated water systems, all	75	69 ^b	74 ^o
21-10) Dental visit within past 12 months			
Children and adults aged 2+ years	56	43 ^f	DNC

Healthy People 2010 Objective [Objective Number and Description]	Target (%)	National^a (%)	Nevada Status (%)
21-11) Use of oral health care system by adult residents in long-term care facilities	25	19 ^g	41 ^p 
21-12) Low-income children and adolescents receiving preventive dental care during past 12 months, aged 0–18 years	57	31 ^f	DNC
21-13) School-based health centers with oral health component, K–12 a) Dental sealants b) Dental care	--	DNC	0
21-14) Community-based health centers and local health departments with oral health components, all	75	61 ^b	67 ^q
21-15) System for recording and referring infants and children with cleft lip and cleft palate, all	51 (all states and D.C.)	Unknown	Yes 
21-16) Oral health surveillance system, all	51 (all states and D.C.)	Unknown	Yes 
21-17) Tribal, state, and local dental programs with a public health trained director, all a) state and local b) tribal and Indian Health Service	--	DNC	DNC

DNC = Data not collected

Table I Sources:

^a National data, unless otherwise indicated, is from *Trends in Oral Health Status: United States, 1988-1994 and 1999-2004*, U.S. Department of Health and Human Services, Vital and Health Statistics Series II, Number 248, April 2007 [USDHHS2007, data used are from 1999-2004] .

^b Centers for Disease Control and Prevention (CDC), National Oral Health Surveillance (NOHSS), www.cdc.gov/nohss/FSSupplystats.htm). Percentage of U.S. population served by community water systems receiving fluoridated water. Data are for 2006.

^c Data are for 1988-1994.

^d U.S. Department of Health and Human Services. *Healthy People 2010, Progress Review, 2000*. Data are for 1998.

^e U.S. Department of Health and Human Services. *Healthy People 2010, Progress Review, 2000*. Data are for 1996–2000.

^f Data are for 2000.

^g Data are for 1997.

^h U.S. Department of Health and Human Services. *Healthy People 2010, Progress Review, 2000*. Data are for 1999.

ⁱ *Healthy Smile Happy Child Oral Health Survey of Head Start Students – Nevada 2007*

^j *Healthy Smile Happy Child Oral Health Survey of Third-Grade Children – Nevada 2006*

^k Data on 14-year-olds from *Crackdown on Cancer Program*, School Year 2007-2008. Although the *Crackdown of Cancer* data may serve a purpose to assess relative differences, it does not constitute a random statistical sample; therefore, the generalizability of the statistics is somewhat limited.

^l 2006 Nevada BRFSS – Oral Health Module

^m National Cancer Institute, SEER, www.statecancerprofiles.cancer.gov. Data are for 2001-2005.

ⁿ Nevada Interactive Health Databases, <http://health.nv.gov/NIHDS.htm>. Data are for 2000-2003.

^o Water Fluoridation Reporting System (WFRS) - State of Nevada fluoridation status, as of December 31, 2008.

^p *Healthy Smiles for Healthy Living Senior Oral Health Survey – Nevada 2005*

^q HP2010 Objective 21-14 contains two elements that are not well-defined: “Community Health Centers” and an “Oral Health Component”. In an attempt to report this indicator, we have identified 27 community health centers, 3 school-based health centers, 15 tribal health centers, 15 community nursing offices and 3 health districts that seem to meet the definition implied in the objective of a Community Health Center. Forty-two, or 67%, of these offices offer some kind of oral health component; this includes those offices limited to offering only preventive fluoride varnish applications.

IV. THE BURDEN OF ORAL DISEASES

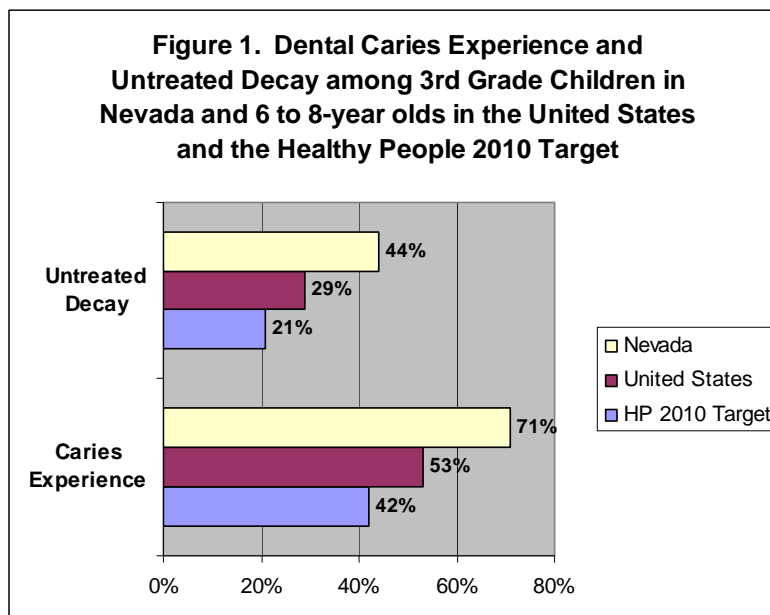
- a. Prevalence of Disease and Unmet Needs
 - i. Children – Caries Experience / Unmet Needs / Cleft Lip or Palate

Caries Experience and Unmet Needs

Nationally, dental caries (tooth decay) is four 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.

The prevalence of decay in children is measured by assessing caries experience (if they have ever had decay and now have fillings), untreated decay (active unfilled cavities), and urgent care (reported pain or a significant dental infection that requires immediate care).

Caries experience and untreated decay are monitored by Nevada consistent with the National Oral Health Surveillance System (NOHSS), which allows comparisons with other states and with the nation. For comparisons between Nevada, the nation, and the *Healthy People 2010* targets, see Figure 1.



National Data Source: *Trends in Oral Health Status: United States, 1988-1994 and 1999-2004*, U.S. Department of Health and Human Services, Vital and Health Statistics Series 11, Number 248, April 2007. [USDHHS2007]
State Data Source: *Healthy Smile Happy Child Oral Health Survey of Third-Grade Children – Nevada 2006*.

Dental caries is not uniformly distributed in the United States or in Nevada. Some groups are more likely to experience the disease and are less likely to receive treatment. The most recent data for third-grade children in Nevada and the nation, for selected demographic groups, are summarized in Table II.

Table II. Dental Caries Experience, Untreated Dental Decay, and Urgent Need for Dental Care Among 6 to 8-year-old Children in the United States and Third Graders in Nevada, by Selected Demographic Characteristics

	Caries Experience		Untreated Decay		Urgent Need for Care
	United States ^a (%)	Nevada ^b (%)	United States ^a (%)	Nevada ^b (%)	Nevada ^b (%)
TOTAL	50	71	26	44	6
Race or Ethnicity					
Hispanic or Latino	DNC	81	DNC	55	11
Mexican American	69	DNC	41	DNC	DNC
Black, non-Hispanic	56	76	37	47	5
White, non-Hispanic	49	63	25	27	4
Sex					
Female	51	74	28	45	6
Male	56	68	30	43	6

DNC = Data not collected

Table II Sources:

^a USDHSS2007; all national data are for children aged 6–8 years old, 1999–2004.

^b State data source: *Healthy Smile Happy Child Oral Health Survey of Third-Grade Children – Nevada 2006*

Cleft Lip and Cleft Palate

Healthy People 2010 goal 21-15 is to increase the number of states, and the District of Columbia, that have a system for recording and referring infants and children with cleft lips, cleft palates, and other craniofacial anomalies to craniofacial anomaly rehabilitative teams. Nationally cleft lip with or without cleft palate is reported in about 1.2 of 1,000 live births, and isolated cleft palate is reported in about 0.56 of 1,000 live births, making these conditions among the most common birth defects. Physicians and nurses in hospital nurseries are usually the first to examine newborns and are responsible for noting any congenital anomalies and describing them on the neonatal medical records. Therefore, hospital personnel must understand the definitions of congenital defects and abnormalities of the lips and palate, properly examine newborns, and correctly record any malformations.

Proper diagnosis is important because newborns with cleft lip or cleft palate should be referred immediately to an interdisciplinary core craniofacial team to assess these infants and to counsel the parents prior to discharge. Sending infants home without comprehensive instructions for their parents or caregivers can seriously compromise the health of the infants. Surgical repair of the lips often is performed soon after birth; repair of the palate usually should be performed before age 18 months. Appropriate intervention will minimize the extent to which physical and psychosocial trauma adversely affects child development.

During calendar year 2007, according to Nevada's Birth Outcomes Monitoring System, 56 newborns in Nevada were identified with cleft lip and/or cleft palate, equating to 1.36 of 1,000 live births. Nevada's Children with Special Health Care Needs (CSHCN) Program provides limited assistance for some severe, chronic, or disabling disorders. Cleft palate is listed as a covered condition for those meeting the program's residential and financial criteria.

Little is known about how to prevent oral-facial clefts. Research suggests that folic acid taken before conception and during the first two months of pregnancy may help prevent cleft lip/palate and isolated cleft palate. Other studies have shown that consumption of alcohol during pregnancy increases the risk of cleft lip/palate and smoking during pregnancy increased the risk for isolated cleft palate. Because some types of medications have been linked to an increased risk of cleft lip/palate, all pregnant women should only use medications prescribed by a physician who knows of the pregnancy, and obtain early and regular prenatal care. Families with a history of cleft lip/palate may wish to discuss the chances of recurrence with a genetic counselor prior to conception.

ii. *Adults*
 Dental Caries / Tooth Loss / Periodontal (Gum) Diseases / Oral Cancer

People are susceptible to dental caries throughout their lifetime. Like children and adolescents, adults can experience new decay on the crown (enamel covered) portion of the tooth. Adults can 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 percent of U.S. adults had at least one tooth with decay or a filling on the crown. Root surface caries affects 50 percent of adults aged 75 years or older [USDHHS 2000a].

Not only do adults experience dental caries, but a substantial proportion of that disease is untreated at any point in time. The prevalence of untreated dental decay in the United States for adults aged 35–44 years or 65–74 years, by selected demographic groups, is summarized in Table III. Nevada data on untreated dental caries in adults is not currently available.

Table III. Proportion of Adults* with Untreated Dental Caries, by Selected Age Groups and Demographic Characteristics

	Age 35-44 Years	Age 65+ Years
	United States^a (%)	United States^a (%)
<i>Healthy People 2010 Target</i>	15	n/a
TOTAL	28	18
Race or Ethnicity		
Black, non-Hispanic	40	37
White	23	16
Hispanic or Latino	DNA	DNA
Mexican American	40	41
Sex		
Female	25	16
Male	30	20
Education Level		
Less than high school	50	26
High school graduate	36	18
At least some college	18	14

DNA = Data not analyzed

Table III Source:

^a USDHHS2007, data are for 1999–2004.

* Excludes edentulous adults (persons without natural teeth).

Dental Caries / Tooth Loss / Periodontal (Gum) Diseases / Oral Cancer

A full dentition is defined as having 28 natural teeth, exclusive of third molars (the wisdom teeth) and teeth removed for orthodontic treatment . 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 also can result from infection, unintentional injury, and head and neck cancer treatment. In addition as mentioned above, 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. Women tend to have more tooth loss than men of the same age group. African Americans are more likely than whites to have tooth loss. The percentage of African Americans who have lost one or more permanent teeth is more than three times as great as for whites. Among all predisposing and enabling factors, low educational level often has been found to have the strongest and most consistent association with tooth loss. Data for Nevada and the United States on the percentage of adults who have had no teeth extracted because of disease and the percentage who have lost all of their permanent teeth are presented in Table IV.

Table IV. Proportion of Adults Aged 35–44 Years Who have Lost No Teeth and Proportion of Adults Aged 65–74 Years Who have Lost All Natural Teeth, by Selected Demographic Characteristics

	Aged 35–44 Years No Tooth Extractions		Aged 65–74 Years Lost All Natural Teeth	
	United States ^a (%)	Nevada ^b (%)	United States ^b (%)	Nevada ^b (%)
<i>Healthy People 2010 Target</i>	42	42	20	20
TOTAL	38	60	24	17
Race or Ethnicity				
Black, non-Hispanic	27	50	25	DSU
White, non-Hispanic	42	69	23	15
Hispanic or Latino	DNA	50	DNA	DSU
Mexican American	38	DNC	18	DNC
Sex				
Female	34	58	25	20
Male	43	62	22	14
Education Level				
Less than high school	22	27	43	27
High school graduate	29	52	23	26
At least some college	47	70	13	11
Disability Status				
Persons with disabilities	DNA	50	DNA	19
Persons without disabilities	DNA	62	DNA	16

DNA = Data not analyzed

DSU = Data are statistically unreliable or do not meet criteria for confidentiality

Table IV Sources:

^a USDHHS2007, data are for 1999–2004.

^b 2006 Nevada BRFSS – Oral Health Module.

Periodontal (gum) disease is an infection of the tissues surrounding and supporting the teeth. It is a major cause of tooth loss in adults. Periodontal disease is caused by plaque, a sticky film of bacteria that constantly forms on the teeth. These bacteria create toxins that can damage the gums.



In the early stage of periodontal disease, called gingivitis, the gums can become red, swollen and bleed easily. Gingivitis is usually reversible with good oral hygiene. Daily removal of dental plaque from the teeth 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].

The prevalence of gingivitis and destructive periodontitis in the United States is summarized in Table V. Nationally, the prevalence of gingivitis is highest among American Indians and Alaska Natives, Mexican Americans, and adults with less than a high school education. 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. Nevada data on gingivitis and destructive periodontitis has not been collected.

Table V. Proportion of Adults aged 35–44 Years with Gingivitis or Adults Aged 35–44 Years with Destructive Periodontal Disease, by Selected Demographic Characteristics

	Aged 35–44 years Gingivitis	Aged 35–44 Years Destructive Periodontal Disease*
	United States^a (%)	United States^c (%)
<i>Healthy People 2010 Target</i>	41	14
TOTAL	48	16
Race or Ethnicity		
American Indian or Alaska Native	96 ^b	DNA
Black, non-Hispanic	51	23
White, non-Hispanic	45	14
Hispanic or Latino	DNA	DNA
Mexican American	61	16
Sex		
Female	45	12
Male	52	20
Education Level		
Less than high school	60	34
High school graduate	52	18
At least some college	42	22

DNA = Data not analyzed

Table V Sources:

* Defined as 1 or more teeth with 4 mm or more loss of periodontal attachment.

^a National data on gingivitis are from NHANES III, 1988–1994, unless otherwise indicated.

^b Data are for Indian Health Service areas, 1999.

^c USDHHS2007, data are from 1999-2004.

Cancer of the oral cavity or pharynx (oral cancer) is the fourth most common cancer in African American men and the seventh most common cancer in white men in the United States [Ries et al. 2004]. For 2008, the American Cancer Society estimated 35,310 new cases of oral cancer and 7,590 deaths from these cancers in the United States. During 2001 - 2005 the age-adjusted (to the 2000 U.S. population) incidence rate of oral cancer in the United States was 10.4 per 100,000 persons. During the same time period, the incidence was more than twice as high among men (15.5) than among women (6.1), as was the mortality rate (4.0 vs. 1.5). Nearly 90 percent of cases of oral cancer in the United States occur among persons aged 45 years and older.

Survival rates for oral cancer have not improved substantially over the past 25 years. More than 40 percent 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. The 5-year relative survival rate for persons with oral cancer diagnosed at a localized stage is 83 percent. In contrast, the 5-year survival rate is only 52 percent once the cancer has spread to regional lymph nodes at the time of diagnosis and is just 28 percent for persons with distant metastasis.

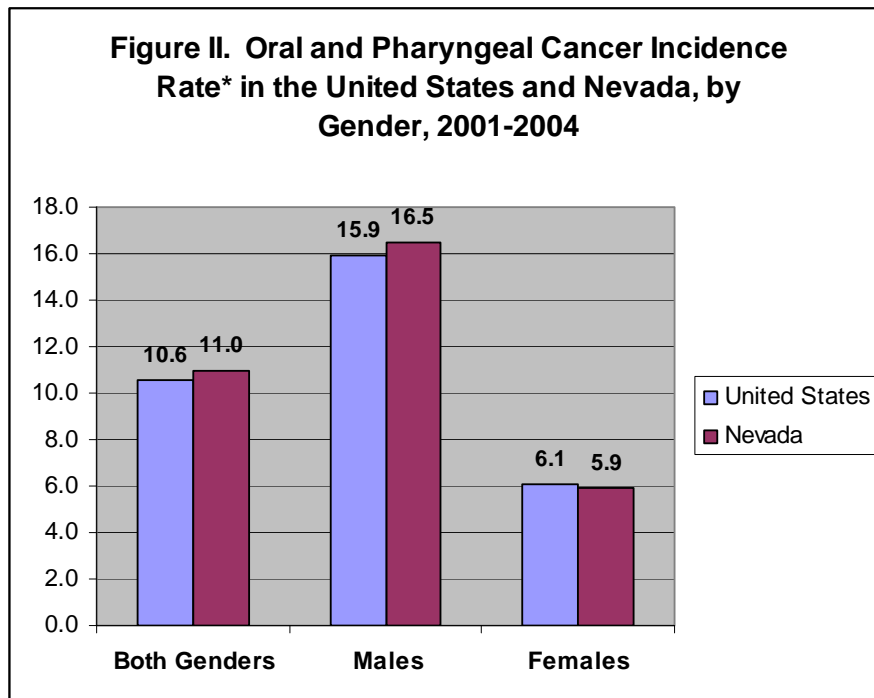
Oral Cancer Signs & Symptoms

- A sore on the lip or in the mouth that does not heal
- A lump on the lip or in the mouth
- A lump in the neck
- A white or red patch on the gums, tongue or lining of the mouth
- Unusual bleeding, pain or numbness in the mouth
- Oral pain that does not go away or a feeling that something is caught in the throat
- Difficulty or pain with chewing or swallowing
- Difficulty with jaw opening
- Swelling of the jaw that causes dentures to fit poorly or become uncomfortable
- Tooth loosening
- Bad breath
- Sensory loss of the face

Cigarette smoking and alcohol are the major known risk factors for oral cancer in the United States, accounting for more than 75 percent of these cancers [Blot et al. 1988]. The use of tobacco, including smokeless tobacco [USDHHS 1986; IARC 2005] and cigars [Shanks & Burns 1998] also increases the risk of oral cancer. 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]. Evidence suggests that human papilloma viruses (HPV) may be a factor in the development of around 20 percent to 30 percent of oral and oropharyngeal cancers. HPV are a group of more than 100 related viruses. Most HPV types cause warts on various parts of the body, but a few types seem to be involved in some cancers. For example, nearly all cancers of the

cervix are related to infection with certain HPV types. These same HPV types (especially HPV 16) are found in some oral and oropharyngeal cancers. Radiation from sun exposure is a risk factor for lip cancer [Silverman et al, 1998].

Some groups experience a disproportionate burden of oral cancer. Nationally, African Americans are more likely than whites to develop oral cancer and much more likely to die from it. The incidence rates of cancers of the oral cavity and pharynx for Nevada and the United States is shown in Figure II. The oral cancer death rate by sex and race/Hispanic Origin for Nevada and the United States is shown in Table VI.



*Per 100,000, age-adjusted to 2000 U.S. population

Source: National Cancer Institute, SEER, available at <http://statecancerprofiles.cancer.gov/>

Table VI. Oral Cavity & Pharynx Cancer – Death Rate – Death Years 2001-2005, by Selected Demographic Characteristics

	Annual Death Rate over rate period*	
	United States	Nevada
<i>Healthy People 2010 Target</i>	2.7	2.7
TOTAL	2.6	3.0
Female, All races/ethnicities	1.5	1.9
Female, White (Includes Hispanic)	1.5	1.8
Female, Black (Includes Hispanic)	1.6	**
Female, Hispanic (any race)	0.8	**
Male, All races/ ethnicities	4.0	4.2
Male, White (Includes Hispanic)	3.8	4.4
Male, Black (Includes Hispanic)	6.7	**
Male, Hispanic (any race)	2.6	**

*Per 100,000, age-adjusted to 2000 U.S. population

** Data has been suppressed to ensure confidentiality and stability of rate estimates.

Source: National Cancer Institute, SEER, www.state.cancerprofiles.cancer.gov, accessed 11/24/08.

Based on available evidence that oral cancer diagnosed at an early stage has a better prognosis, several *Healthy People 2010* objectives specifically address early detection of oral cancer: Objective 21-6 is to “Increase the proportion of oral and pharyngeal cancers detected at the earliest stage,” and Objective 21-7 is to “Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancer” [USDHHS 2000b]. Data for Nevada and the United States on the proportion of oral cancer cases detected at the earliest stage (stage I, localized) are presented in Table VII.

Table VII. Proportion of Oral Cancer Cases Detected at the Earliest Stage, by Selected Demographic Characteristics

	United States^a (%)	Nevada (%)^b
Healthy People 2010 Target	50	50
TOTAL	34	28
Race or Ethnicity		
American Indian or Alaska Native	28	DSU
Asian or Pacific Islander	29	DNA
Asian	DNA	34
Black or African American	21	22
White	38	29
Hispanic or Latino	36	28
Sex		
Female	41	36 ^c
Male	30	30 ^c

DNA = Data not analyzed

DSU = Data statistically unreliable

Table VI Sources:

^a Surveillance Epidemiology and End Results (SEER 17), available at <http://seer.cancer.gov/faststats/>. National data is for 2000-2005.

^b Nevada Data Source, unless otherwise indicated: Nevada State Health Division, *Report on Cancer in Nevada 2000-2004, Lip, Oral Cavity and Pharynx Cancer*, available at http://health.nv.gov/vs_cancerRpt2000-2004.htm. Data is for 2000-2004.

^c Nevada Interactive Health Databases, <http://health.nv.gov/NIHDS.htm>. Data is for 2000-2003.

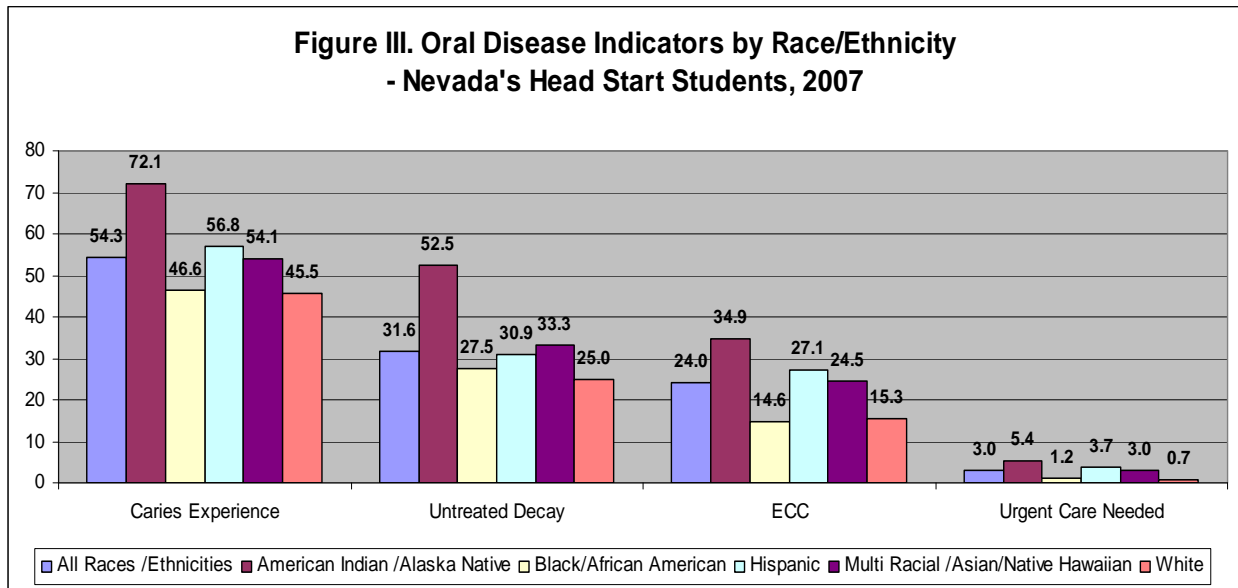
b. Disparities

i. Racial and Ethnic Groups

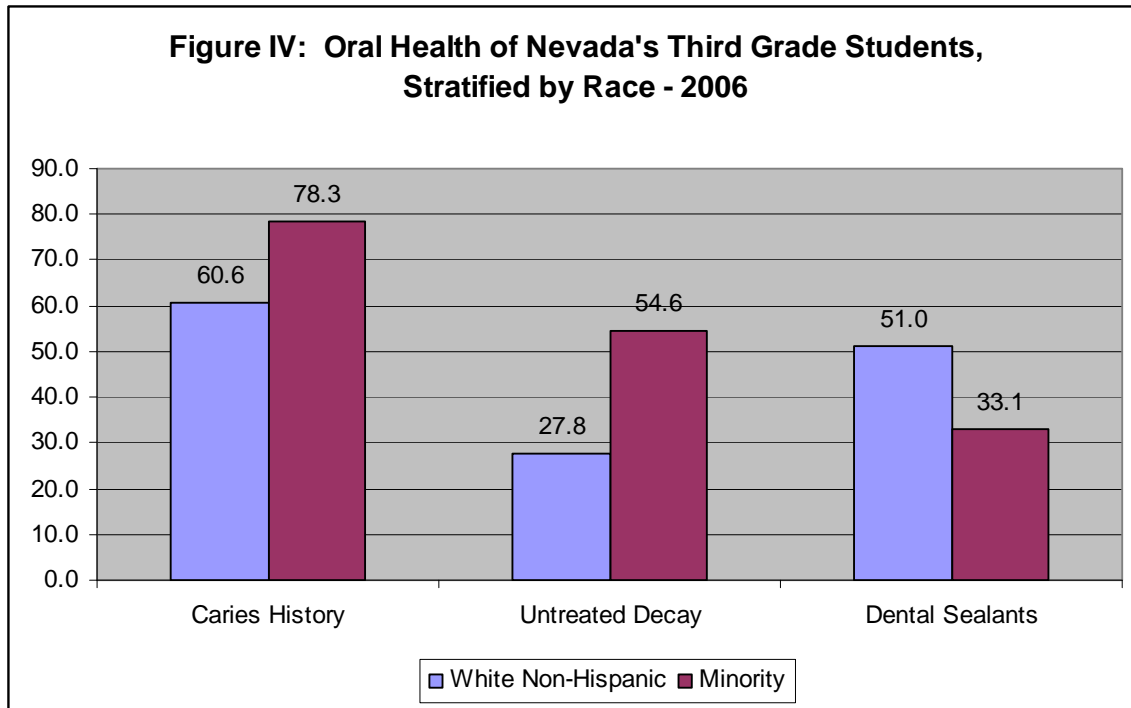
Although gains in oral health status have been achieved for the population as a whole, they have not been evenly distributed across subpopulations. Non-Hispanic blacks, Hispanics, and American Indians and Alaska Natives generally have the poorest oral health of any of the racial and ethnic groups in the U.S. population. As reported above, these groups tend to be more likely than non-Hispanic whites to experience dental caries in some age groups, 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. National statistics show that compared with white Americans, African Americans are more likely to develop oral or pharyngeal cancer, are less likely to have it diagnosed at early stages, and experience a worse 5-year survival rate.



There is evidence of racial and ethnic disparities in several Nevada subpopulations. For the at-risk population of Head Start children, fewer white, non-Hispanic children had caries experience, untreated decay, early childhood caries (ECC), or were identified in need of urgent care during a 2007 open mouth survey, than nearly all other racial/ethnic groups (See Figure III).



An open mouth survey conducted during 2005-06 confirms that these disparities are still present as the children attend third grade. A significantly higher proportion of minority children have untreated decay in comparison to white non-Hispanic children (78% vs. 61%). In addition, a significantly higher proportion of minority children have untreated decay (55% vs. 28%), and a significantly lower proportion of dental sealants (33% vs. 51%). (See Figure IV.) Unfortunately, sample sizes in individual race/ethnic categories were too small to report statistical differences.



ii. Women's Health

Most oral diseases and conditions are complex and are 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 of oral diseases. For example, the comparative longevity of women, compromised physical status over time, and the combined effects of multiple chronic conditions and side effects from multiple medications used to treat them 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 than do men [Redford 1993; USDHHS 2000a]. Women are less likely than men at each age group to have severe periodontal disease. Both African American and white women have a substantially lower incidence rate of oral and pharyngeal cancers than do African American and white men, 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 a high number of families it is the responsibility of a woman (mother, grandmother or female guardian) to schedule children's health care appointments, including their dental treatments. For this reason, a woman's personal feelings about dental visits and their level of knowledge about oral health prevention and treatment options influence how and when their children access professional care.

A woman's oral health status may also have significant implications for birth outcomes and for their children's oral health. According to a September 2006 article in the *Maternal and Child Health Journal* entitled *Oral Health in Women During Preconception and Pregnancy: Implications for Birth Outcomes and Infant Oral Health*, a woman's preconception and pregnancy experience with the two most prevalent diseases of the mouth – periodontal disease and dental caries – not only influences her own oral health status but also may increase her risk of other diseases such as atherosclerosis, rheumatoid arthritis, and diabetes; impact pregnancy outcome and her offspring's risk of developing early and severe dental caries.

Data is emerging that identifies maternal periodontal disease as an infectious risk factor for preterm birth and other adverse outcomes of pregnancy. The evidence supporting interventions before, during, and after pregnancy to reduce caries transmission (mother-to-child) is well documented.

iii. 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 to inability to receive the personal and professional health care needed to maintain oral health. More than 54 million persons are defined as disabled under the Americans with Disabilities Act; including almost one million children under six years of age and 4.5 million children between six and sixteen years of age. People with disabilities may have trouble accessing dental treatment services because of complicated medical, physical, social, or psychological conditions.

Limited 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 intellectual disability or other developmental disabilities has significantly higher rates of poor oral hygiene and needs for periodontal disease treatment than the general population, due, in part, to limitations in individual understanding of and physical ability to perform personal prevention practices or to obtain needed services. The limited availability of dental providers trained and willing to serve people with special needs, and limited third-party support for the delivery of complex dental care, further complicates the problem of limited access to oral health services. Caries rates among people with disabilities vary widely among people with disabilities but overall their caries rates are higher than those of people without disabilities [USDHHS 2007].

According to the 2006 Basic Risk Factor Surveillance Survey (BRFSS), significantly more adult Nevadans who reported being “limited in any way” have had some or all of their permanent teeth extracted than those who reported “no limitations” (64% vs. 43%, respectively). A 2006 survey of dentists licensed to practice in Nevada by the Medical Education Council of Nevada found that 55 percent of dentists reported that they currently treated patients with special needs. Overwhelmingly “need additional training” was cited by dentists as the most important reason for their not currently treating patients with special needs.

At the request of the Governor’s Commission on Mental Health and Developmental Services, in the fall of 2007 the Nevada State Health Division Oral Health Program, University of Nevada, Las Vegas (UNLV) School of Dental Medicine (SDM), Desert Regional Center (DRC), and Rawson Neal Psychiatric Hospital (RNPH) partnered to conduct an oral health needs assessment of DRC and RNPH clients.

The goals of the needs assessment were to:

- Improve the health of the individuals who participated by identifying those who were in need of oral health services;
- Pilot the data collection process with a small group so that lessons learned could be applied to future oral health surveys;
- Collect data that could be used to improve the oral health of individuals with special needs through program planning, advocacy and evaluation;
- Provide dental students with an opportunity to work with clients with special needs and determine if doing so impacted their attitude about working with these populations.

The needs assessment found that clients of DRC and RNPH have significant untreated oral health needs, 65 and 68 percent respectively. According to the National Health and Nutrition Examination Survey (NHANES), 1999-2004, 25 percent of adults aged 20-64 in the United States had untreated tooth decay. This is significantly lower than the two population groups screened in Nevada's needs assessment. Although the results are not statistically comparable they do provide an indication that efforts are needed to improve the oral health of Nevadans with mental or developmental disabilities.

According to the 2005-2006 National Children with Special Health Care Needs Survey, there are an estimated 65,900 children with special health care needs (CSHCN) in Nevada. Nearly nine percent of Nevada's CSHCN parents reported that their child had unmet needs for preventive dental care, in comparison to six percent nationwide. Over four percent of these Nevada parents reported that their child had other dental care needs that were not met. Two State Oral Health Program publications that have been published this year (2008) addressed oral health care for CSHCN; *Visiting the Dentist – Children with Special Health Care Needs* and *A Healthy Mouth for Children with Special Health Care Needs – A Parent's Guide*. Available at: http://health.nv.gov/CC_OH_ChildrenSpecHealth.htm.



The nation's aging adult population is especially at high risk for dental problems, particularly those elderly with health problems or other disabilities. An estimated 70 percent of the nation's two-million-plus nursing home population has dental problems, including dentures that do not fit, loss of some or all of their teeth, and most significantly, poor oral hygiene. The number of people in the United States population over 65 has increased more than tenfold from 1900 to 2000, and represents almost 13 percent of the total population. The number of these older adults is expected to grow to 70 million

by 2030, when they will represent 20 percent of the population [Glassman & Subar].

According to projections from the U.S. Census Bureau, the proportion of the population of Nevada that is aged 65 and over will grow from 11.0 percent in 2000 to 18.6 percent in 2030. It is also projected that the number of Nevadans aged 85 and over will increase from 16,989 to 82,573 during the same time period. This oldest old-age group is especially important for the future of our health care system, because these individuals are not usually covered by dental insurance that pays for some or all of their care, have limited financial resources, and they also tend to be in poorer health and require more services. People are living longer and are keeping their teeth longer, increasing the need for a dental care service delivery system that focuses on maintaining oral health across the lifespan and treating oral diseases in the elderly.

The Special Care Dentistry Act, introduced in 2005, would provide for adult Medicaid benefits in every state for low-income individuals who are “aged, blind, or disabled.” An analysis of the rationale and cost of this measure indicated that it would cost less than 0.5 percent of the national expenditures under Medicare and Medicaid, and would be likely to reduce expenditures for those programs in excess of the cost [Glassman, Folse].

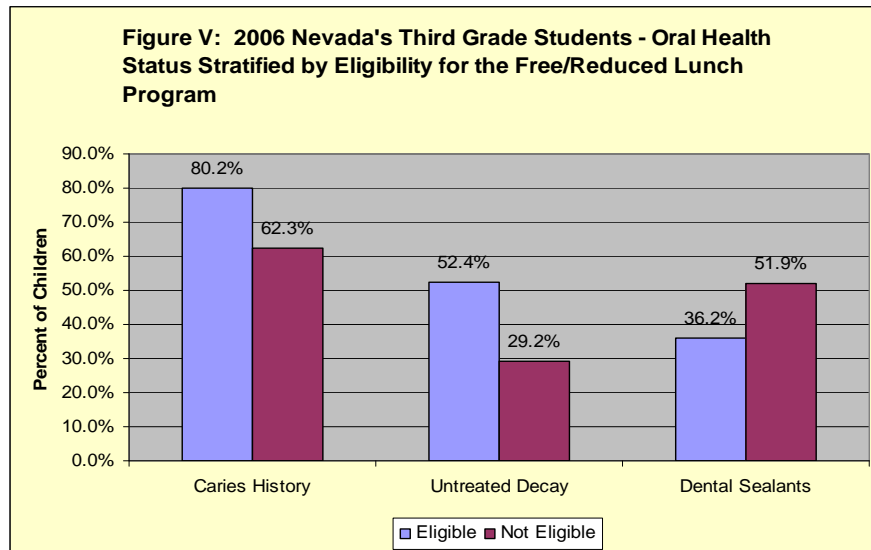
iv. Socioeconomic Disparities

People living in low-income families bear a disproportionate burden from oral diseases and conditions. For example, despite progress in reducing dental caries in the United States, children and adolescents in families living below the poverty level experience more dental decay than do children who are economically better off. Furthermore, the caries seen in individuals of all ages from poor families is more likely to be untreated than caries in those living above the poverty level. Nationally, 33 percent of poor children aged two to 11 years have one or more untreated decayed primary teeth, compared with 15 percent of non-poor children. Poor adolescents aged 12 to 19 years in each racial/ethnic group have a higher percentage of untreated decay in the permanent teeth than does the corresponding non-poor adolescent group. The pattern is similar in adults, with the proportion of untreated decayed teeth being higher among the poor than the non-poor. At every age, a higher proportion of those at the lowest income level than at the higher income levels have periodontitis. Adults with some college (11%) have significantly less destructive periodontal disease than do adults with high school (18%) or with less than high school (34%) levels of education. Overall, a higher percentage of Americans living below the poverty level are edentulous (have lost all their natural teeth) than are those living above.

Among persons aged 65 – 74 years, 42 percent of persons with less than a high school education were edentulous, compared with 11 percent of persons with at least some college [USDHHS 2007].

People living in rural areas also tend to have significantly poorer oral health than non-rural residents – with higher rates of untreated dental decay, lower frequency of visits to dentists, and higher probability of having lost all of their natural teeth. They are older, have poorer overall health status, and have higher rates of poverty. Difficulties in accessing preventive and treatment services are due to limited numbers of new and existing providers locating in rural areas and lack of public transportation. Rural areas are also less likely to be on community water systems, and therefore less likely to have access to water fluoridation, one of the major public health tools to prevent tooth decay.

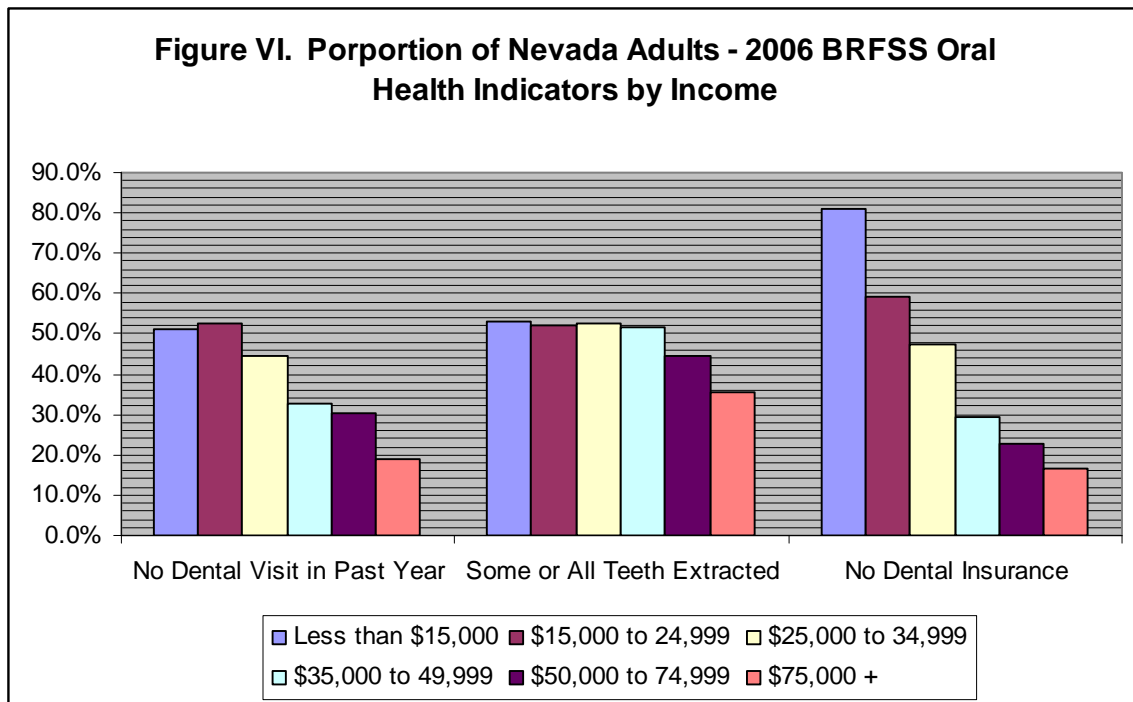
In Nevada’s 2005-06 open mouth screening of Nevada’s third grade students, a questions on the parent consent form asked “During the past twelve months, was there a time when your child needed dental care but could not get it at that time?” Over 18 percent of parents responded “yes.” Of these, 56.7 percent stated the primary reason was because they could not afford it, 18.9 percent could not get care because of a lack of insurance coverage and 5.6 percent reported that it was because the dentist did not accept Medicaid.



In reporting the results of Nevada’s 2006 *Healthy Smile Happy Child Oral Health Survey of Third Grade Students*, eligibility for the free and/or reduced price meal program was used as an indicator of overall socio-economic status. A significantly higher proportion of children eligible for the meal program, compared to those not eligible, had a history of caries (80% vs. 62%), had untreated dental decay (52% vs. 29%), and had a need for urgent dental care

because of pain or infection (7% vs. 3%). (See Figure V.) On average, children eligible for the free or reduced lunch program had more than twice as many teeth with untreated decay as children who were not eligible (1.6 teeth vs. 0.7 teeth).

As shown in Figure VI, the 2006 Nevada BRFSS reported that adults in the lowest income group exhibit significantly more negative oral health indicators, than adults in the other income levels. Fifty-one percent (51%) of the adults with incomes less than \$15,000 had not visited a dentist in the past year and 81 percent did not have any insurance that covered dental care. In contrast, only 19 percent of adults in the highest income group (\$75,000 or more) had not visited a dentist during the past year and only 16 percent did not have dental insurance. Also, among adults in the two lowest income brackets, over fifty percent of those who had not visited a dentist in the past year reported the primary deterrent was “cost” or “cannot get to the dental office.”



c. Societal Impact of Oral Disease

i. *Social Impact*

Oral health is related to well-being and quality of life as measured along functional, psychosocial, and economic dimensions. Diet, nutrition, sleep, psychological status, social interaction, school, and work are affected by impaired oral and craniofacial health. Oral and craniofacial diseases and conditions contribute to compromised ability to bite, chew, and swallow foods; limitations in food selection; and poor nutrition. These conditions include tooth loss, diminished salivary functions, oral-facial pain conditions such as temporomandibular disorders, alterations in taste, and functional limitations of prosthetic replacements. Oral-facial pain, as a symptom of untreated dental and oral problems and as a condition in and of itself, is a major source of diminished quality of life. It is associated with sleep deprivation, depression, and multiple adverse psychosocial outcomes.

More than any other body part, the face bears the stamp of individual identity. Attractiveness has an important effect on psychological development and social relationships. Considering the importance of the mouth and teeth in verbal and nonverbal communication, diseases that disrupt their functions are likely to damage self-image and alter the ability to sustain and build social relationships. The social functions of individuals encompass a variety of roles, from intimate interpersonal contacts to participation in social or community activities, including employment. Dental diseases and disorders can interfere with these social roles at any or all levels. Perhaps due to social embarrassment or functional problems, people with oral conditions may avoid conversation or laughing, smiling, or other nonverbal expressions that show their mouth and teeth.

ii. *Economic Impact*

Direct Costs of Oral Diseases / Indirect Costs of Oral Diseases

Expenditures for dental services in the United States in 2007 were \$95.2 billion, 4.2 percent of the total spent on health care that year. A large proportion of dental care is paid out-of-pocket by patients. Nationally in 2007, 44 percent of dental care was paid out-of-pocket, 49 percent was paid by private dental insurance, and six percent was paid by federal or state government sources. In comparison, ten percent of physician and clinical services were paid out-of-pocket, 49 percent were covered by private medical insurance, and 34 percent were paid by government sources (Centers for Medicare & Medicaid Services, see <http://www.cms.hhs.gov/NationalHealthExpendData/>).

In addition, a review of 2005 data on Nevada hospital and emergency room use by patients for whom the primary diagnosis code was dental caries, gum disease or an abscessed tooth indicates that approximately 6,431 patients were seen for these basic dental services, which are more appropriately treated in a dental office or clinic. The estimated total cost of these emergency room visits was \$3,963,519. Conditions such as cleft palate, oral cancer and disorders of the temporomandibular (jaw) joint were specifically excluded as these are conditions for which a hospital setting may be considered to be most appropriate. Out-patient data was also excluded from the request because very young children, medically compromised individuals, and individuals with special needs are frequently (and appropriately) treated in an out-patient hospital setting due to the fact that they may need to be under general anesthesia in order to receive treatment.

Direct Costs of Oral Diseases / Indirect Costs of Oral Diseases

Oral and craniofacial diseases and their treatment place a burden on society in the form of lost days and years of productive work. In 1996, the most recent year for which national data are available, U.S. schoolchildren missed a total of 1.6 million days of school as a result of acute dental conditions, which is more than three days for every 100 students [USDHHS 2000a]. Acute dental conditions were responsible for more than 2.4 million days of work loss and contributed to a range of problems for employed adults, including restricted activity and bed days. In addition, conditions such as oral and pharyngeal cancers contribute to premature death and can be measured by years of life lost.

iii. Oral Disease and Other Health Conditions

Oral health and general health are integral to each other. Many systemic diseases and conditions including diabetes, HIV, and nutritional deficiencies, have oral signs and symptoms, and these manifestations may be the initial sign of clinical disease and therefore may serve to inform health care providers and individuals of the need for further assessment. The oral cavity is a portal of entry as well as the site of disease for bacterial and viral infections that affect general health status. Recent research suggests that inflammation associated with periodontitis may increase the risk of heart disease and stroke, premature births in some women, difficulty in controlling blood sugar in persons with diabetes, and respiratory infection in susceptible individuals [Dasanayake 1998; Offenbacher et al. 2001; Davenport et al. 1998; Beck et al. 1998; Scannapieco et al. 2003; Taylor 2001]. More research is needed in these areas.

Diabetes and Oral Health

An extensive body of evidence supports diabetes as a risk factor in periodontal disease. Indirect and direct evidence also supports the concept that periodontal infection adversely affects glycemic (blood sugar) control in people with diabetes. Additional oral manifestations of diabetes include burning mouth syndrome, candidiasis (yeast infection), dental caries, gingivitis, salivary dysfunction and taste dysfunction. Approximately one-third of adults with diabetes in the United States are undiagnosed. Therefore, dental professionals can play an important role in diagnosing and managing patients with diabetes.

Diabetes prevalence rates increased in Nevada's adults from 4.2 percent in 1996 to eight percent of the population in 2007. Current diabetes care and management recommendations include advice to get a dental exam two times each year to prevent gum disease and loss of teeth and to tell your dentist you have diabetes.

National *Healthy People 2010* Objective 5-15 is to "increase the proportion of adults with diabetes who have an annual dental examination to at least 71 percent (71%)". According to the 2006 BRFSS, for those adult Nevadans who have been told by a doctor that they have diabetes, excluding females told only during pregnancy, only 44 percent visited a dentist within the last 12 months.

V. RISK AND PROTECTIVE FACTORS AFFECTING ORAL DISEASES

The most common oral diseases and conditions can be prevented. Safe and effective measures are available to reduce the incidence of oral disease, reduce disparities, and increase quality of life.

a. Community Water Fluoridation

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 and has been recognized as one of 10 great achievements in public health of the 20th century [CDC 1999].



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 is equally effective in preventing dental caries among different socioeconomic, racial, and ethnic groups. Fluoridation helps to lower the cost of dental care and helps residents retain their teeth throughout life [USDHHS 2000a].

Recognizing the importance of community water fluoridation, *Healthy People 2010* Objective 21-9 is to increase the proportion of the U.S. population served by community water systems with optimally fluoridated water to 75 percent. In the United States during 2006, approximately 184 million persons (69 percent of the population served by public water systems) received optimally fluoridated water. As of December 31, 2008 the CDC's National Water Fluoridation Reporting System (WFRS) described Nevada's fluoridation status as approximately 1,752,797 Nevadans receiving optimally fluoridated water, representing 73.6% of the state's population.

Not only does community water fluoridation effectively prevent dental caries, it is one of very few public health prevention measures that offer significant cost savings to almost all communities [Griffin et al. 2001]. It has been estimated that every \$1 invested in community water fluoridation saves approximately \$38 in

averted costs. The cost per person of instituting and maintaining a water fluoridation program in a community decreases with increasing population size. During fiscal year 2009/2010 Southern Nevada Water System estimates that the cost of providing community water fluoridation to their customers in Clark County will be \$0.616 per person per year.

b. Topical Fluorides and Fluoride Supplements

Because frequent exposure to small amounts of fluoride each day will best reduce the risk of 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]. For communities that do not receive fluoridated water and persons at high risk of dental caries, additional fluoride measures might be needed. Community measures include fluoride mouth rinse or tablet programs, which typically are conducted in schools. Individual measures include professionally applied topical fluoride gels or varnish for persons at high risk of caries.

Several organizations and medical/dental professionals throughout Nevada are using fluoride varnish. Some of these are briefly listed below:

Medical:

- Southern Nevada Health District Nurses – Nurses see children and parents on home visits and in health clinics, perform an oral screening on the children, give oral health information to parents/guardians, and do a fluoride varnish up to four times per year.
- Family Resource Centers of Northeastern Nevada – This program involves nurses going into the schools through the Clinic on Wheels (COW) bus.
- Community Health Nurse in Ely in conjunction with Little People’s Head Start does fluoride varnish on the children at least twice a year.
- Orvis Health Center in Reno – This clinic is affiliated with the University of Nevada, Reno has started applying fluoride varnish on children.
- Private physician offices – Private practice physicians and health clinics perform fluoride varnish on at-risk children throughout the state.

Dental:

- Indian Health/Tribal Dental Clinics – Clinics have been using fluoride varnish for over eleven years.
- Nevada Health Centers, Inc. Miles for Smiles Van – This mobile dental clinic provides services at schools and community locations.

- Dental and Dental Hygiene Schools – The students are applying fluoride varnish in the dental/dental hygiene school clinics and in some community locations, like Head Start programs.
- Private dental offices – It is probable that most dental offices still use the conventional fluoride treatment (acidulated phosphate gel/foam). The private sector may convert to fluoride varnish over time.

c. Dental Sealants

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

Pit-and-fissure dental sealants – plastic coatings bonded to susceptible tooth surfaces – have been approved for use for many years and have been recommended by professional health associations and public health agencies. Targeting schools in which 50 percent or greater of the children enrolled are eligible for the federal free and reduced meal program (FRP) is considered an effective way to reach large numbers of at-risk children.

First permanent molars erupt into the mouth at about age six years. 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 age 12 to 13 years. Pit-and-fissure surfaces of these teeth are as susceptible to dental caries as the first permanent molars of younger children. Therefore, young teenagers need to receive dental sealants shortly after the eruption of their second permanent molars.

Racial and geographic disparities exist with regards to sealant prevalence in Nevada's children. Results of the third grade screening in 2006 showed that while 68 percent of children in Washoe County and 56 percent of children in rural areas have at least one sealant, only 41 percent of children in Clark County have sealants. Adolescent rates show similar geographic trends with only 40 percent of students (age 14) in Clark County with sealants. In Washoe County, 76 percent and in the rural areas, 76 percent of the adolescents were found to have one or more dental sealants. In third grade children in Nevada, compared to White non-Hispanic children, a significantly lower proportion of African

American and Hispanic children have dental sealants (60% vs. 40% and 36% respectively). Among fourteen year-olds, 68 percent of White, non-Hispanic youth have sealants, while only 48 percent of Hispanic teens and 30 percent of Black/ African American teens in Nevada have sealants during the 2007-2008 school year.

Disparities in sealant prevalence in Nevada's third-grade students also exist between those children with dental insurance (49%) and those who are uninsured (27%). Uninsured adolescents (41%) also had significantly fewer dental sealants than those with dental insurance (61%). A comparison of the data collected in 2006 and an earlier assessment conducted in 2003 shows that there has been improvement in statewide rates for sealants in third-grade children from 33 percent to 41 percent. Improvement was noted in every demographic group previously reported. For adolescents (ages 12-18) data collected in 2007 showed slight improvement in the prevalence of sealants statewide (54%) from data collected just one year earlier in 2006 (52%).

In 2005, Nevada received a \$65,000 a year for a two-year HRSA (Health Resources and Services Administration) grant to implement school-based sealant programs in eastern and southern Nevada. When the funding ended in the summer of 2007, Nevada lost the ability to continue the program which had reached 2,973 children during the two-year grant period. Following the loss of this funding, the Community Coalition for Oral Health (CCOH) in Clark County was awarded funds through the Fund for a Healthy Nevada (Tobacco Settlement Dollars) to re-build a dental sealant program in southern Nevada. The elimination of the previous funding source significantly decreased the number of children receiving dental sealants, applied through school-based sealant programs in Nevada, from a high of 3,118 in the 06-07 school year to only 1,408 children during the following year.

The *Healthy People 2010* target for dental sealants on molars is 50 percent for both eight-year-olds and 14-year-olds. The most recent estimates of the proportion of children aged eight years with dental sealants on one or more molars are presented in Table VII. Within each age group, African Americans and Mexican Americans are less likely than non-Hispanic whites to have sealants.

Table VII. Percentage of Children in United States and Nevada with Dental Sealants on Molar Teeth, by Age and Selected Characteristics

Children, Selected Ages, 1999–2000 (unless otherwise indicated)	Dental Sealants on Molars			
	21-8a. Aged 8 years		21-8b. Aged 14 years	
	United States, (8-year-olds) (%) [*]	Nevada, 3 rd graders ^d (%)	United States* (%)	Nevada ^e (%)
Healthy People 2010 Target	50	50	50	50
TOTAL	32	41	38	54
Race or ethnicity				
American Indian or Alaska Native	63 ^a	DNC	46 ^a	63
Asian or Pacific Islander	DSU	DNC	DSU	42
Asian	DNC	46	DNC	DNC
Native Hawaiian or other Pacific Islander	20 ^b	64	DNC	DNC
Black or African American, non-Hispanic	23	40	26	30
White, non-Hispanic	38	60	44	68
Hispanic or Latino	DSU	36	DSU	48
Mexican American	19 ^c	DNC	27	DNC
Sex				
Female	32	39	39	56
Male	32	42	36	60

DNA = Data not analyzed

DNC = Data not collected

DSU = Data are statistically unreliable or do not meet criteria for confidentiality

Table VII Sources:

* USDHHS2007, data are from 1999-2004, unless otherwise indicated.

^a Data are for IHS service areas, 1999.

^b Data are for Hawaii, 1999.

^c Data are from NHANES III, 1988–1994.

^d Healthy Smile Happy Child Oral Health Survey of Third-Grade Children – Nevada 2006

^e 14-year-olds data from *Crackdown on Cancer Program*, School Year 2007-2008. Although the *Crackdown of Cancer* data may serve a purpose to assess relative differences, it does not constitute a random statistical sample; therefore, the generalizability of the statistics is somewhat limited.

d. Preventive Visits

Maintaining good oral health takes repeated efforts on the part of the individual, caregivers, and health care providers. Daily oral hygiene routines and healthy lifestyle behaviors play an important role in preventing oral diseases. Regular preventive dental care can reduce the development of disease and facilitate early diagnosis and treatment. One measure of preventive care that is being tracked, as shown in Table VIII, is the percentage of adults who had their teeth cleaned in the past year. Having one's teeth cleaned by a dentist or dental hygienist is indicative of preventive behaviors.

Table VIII. Percentage of Adults Aged 18 or Older Who Had Their Teeth Cleaned Within the Past Year, 2006

	United States ^a (%)	Nevada ^b Status (%)
Total	70	63
Age		
18 – 24 years	69	65
25 – 34 years	66	55
35 – 44 years	73	65
45 – 54 years	73	64
55 – 64 years	73	66
65 + years	67	65
Race		
White	73	66
Black	64	55
Hispanic	59	53
Other	70	65
Multiracial	65	66
Sex		
Male	67	59
Female	72	67
Education Level		
Less than high school	47	45
High school or G.E.D.	63	57
Some post high school	72	64
College graduate	81	76
Income		
Less than \$15,000	48	45
\$15,000 – 24,999	55	46
\$25,000 – 34,999	64	48
\$35,000 – 49,999	71	62
\$50,000+	82	DNA
\$50,000 – 74,999	DNA	66
\$75,000+	DNA	77

DNA = Data not analyzed.

Table VIII Sources:

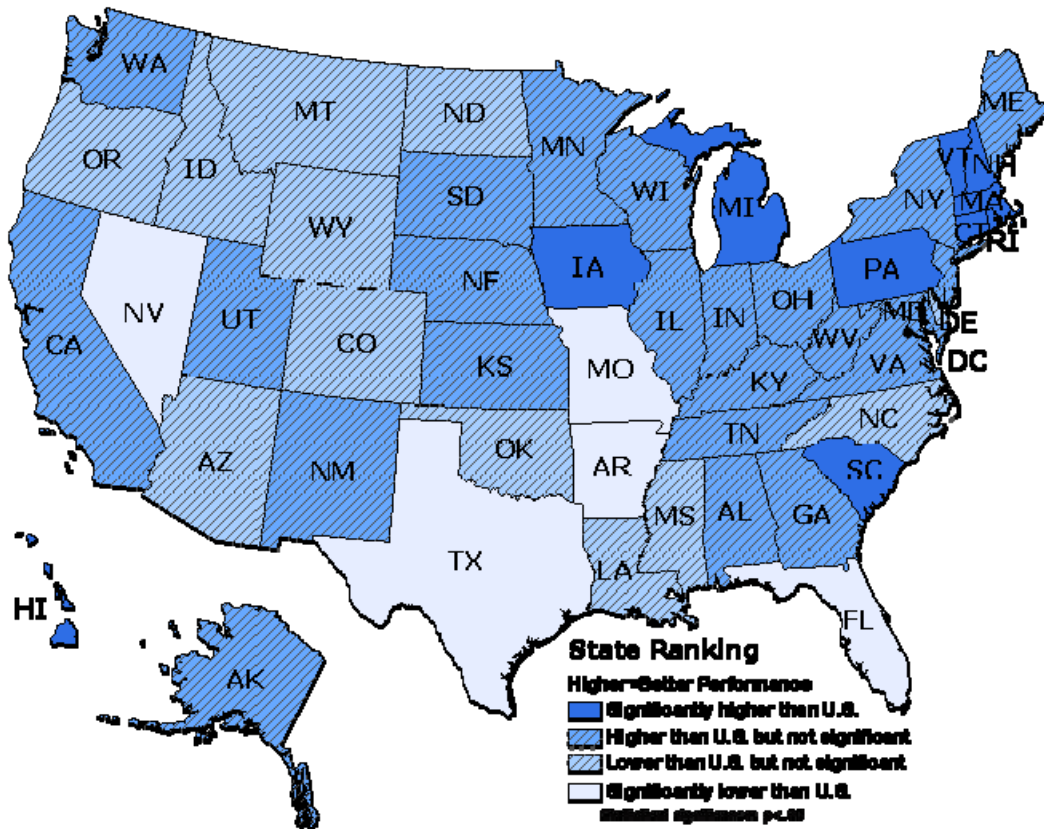
^a Behavioral Risk Factor Surveillance System Online Prevalence Data, 2006. Available at www.cdc.gov/brfss.

^b 2006 Nevada BRFSS – Oral Health Module

According to the 2007 National Survey of Children's Health (NSCH), only 73.1 percent of Nevada's children had a preventive dental visit in the past year which is significantly lower than the national average of 78.4 percent. In addition to Nevada, four other states, Arkansas (74.7%), Florida (68.5%), Missouri (75.4%), and Texas (74.0%), were reported to have significantly lower percentages of children who had received preventive dental care than their national counterparts.

Figure VI. Preventive Dental Care

Percent of children with a preventive dental visit in the past year
2007 National Survey of Children's Health



Source: http://nschdata.org/Rankings/RankingMap.aspx?item=07_ind4_2chbk

e. Screening for Oral Cancer

Oral cancer detection is accomplished by a thorough examination of the head and neck; an examination of the mouth including the tongue, the entire oral and pharyngeal mucosal tissues, and the 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 an examination, definitive diagnostic tests, such as biopsies, are needed to make a firm diagnosis.

Oral cancer is more common after the age of 60 years. Known risk factors include use of tobacco products and alcohol. The risk of oral cancer is increased six 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 2004a]. Individuals should also be advised to avoid other potential carcinogens, such as exposure to sunlight (a risk factor for lip cancer) without protection (use of lip sunscreen and hats is recommended).

Recognizing the need for dental and medical providers to examine adults for oral and pharyngeal cancer, *Healthy People 2010* Objective 21-7 is to increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancers. Nationally, relatively few adults aged 40 years and older (13%) reported receiving an examination for oral and pharyngeal cancer, although the proportion varied by race/ethnicity (TABLE X). Nevada specific data on oral and pharyngeal cancer examinations in adults has not been collected.

Table X. Proportion^a of Adults in the United States and Nevada Who Were Examined for Oral and Pharyngeal Cancer in the Preceding 12 Months

Adults Aged 40 Years and Older	United States (1988) (%)
<i>Healthy People 2010 Target</i>	20
TOTAL	13
Race or ethnicity	
American Indian or Alaska Native	DSU ^b
Asian or Pacific Islander	12 ^b
Asian	12 ^b
Native Hawaiian and other Pacific Islander	DSU ^b
Black or African American only	7 ^b
White only	14 ^b
2 or more races	DNC
American Indian or Alaska Native; White	DNC
Black or African American; White	DNC
Hispanic or Latino	6
Not Hispanic or Latino	14
Black or African American, not Hispanic or Latino	6 ^b
White, not Hispanic or Latino	15 ^b
Sex	
Female	14
Male	12 ^b
Education Level	
Less than high school	5
High school graduate	10
At least some college	19

Table X Sources:

Healthy People 2010, Progress Review, 2000. U.S. Department of Health and Human Services.
Available at www.cdc.gov/nchs/ppt/hpdata2010/focusareas/fa21.xls.

DNC = Data not collected

DSU = Data are statistically unreliable or do not meet criteria for confidentiality

^a Age adjusted to the year 2000 standard population.

^b Persons reported only one race or reported more than one race and identified one race as best representing their race.

f. Tobacco Control



Tobacco use has a devastating effect 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, and smoking causes over \$150 billion in annual health-related economic losses [CDC 2002]. The effects of tobacco use on the public's oral health are also 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 of a wide range of oral soft tissue changes [Christen et al. 1991; AAP 1999].

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

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]. 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 percent of smokers who had seen a dentist in the past year reported that their dentist advised them to quit, and only 18 percent of smokeless tobacco users reported that their dentist *ever* advised them to quit.

Data from the 2007 BRFSS show that in Nevada only 51 percent of smokers reported having a dental cleaning in the past year, compared to 67 percent of non-smokers. More adult Nevadans who were current smokers reported having had some teeth extracted due to decay or gum disease (62%) than non-smokers (42%). However, there is no state data on whether any adults who saw a dentist were counseled on the negative effects of tobacco use on oral health. The prevalence of untreated tooth decay is more than twice as high in U.S. adults, ages 35-44, who currently smoke (46%), than those who reported never smoking (21%) [USDHHS2007, 1999-2004].

Cigarette smoking among adults 18 years older is described in Table XI. Data from the Youth Risk Behavior Surveillance System on students who smoked or used other tobacco products are shown in Table XII.

Table XI. Cigarette Smoking among Adults aged 18 Years and Older

	United States (%)	Nevada Status (%)
Healthy People 2010 Target:	12	12
Total	20	22
Race or Ethnicity		
Black	22	DNA
White	20	21
Hispanic	17	19
Other	18	13
Multi-Racial	24	34
Sex		
Female	18	20
Male	21	23

DNA – Data not available.

Table XI Source:

BRFSS 2007 – Data available at <http://apps.nccd.cdc.gov/brfss>. Age-adjusted to the Year 2000 standard population.

Table XII. Percentage of Students in High School (Aged 12–21 years) who Smoked Cigarettes or who Used Chewing Tobacco or Snuff One or More of the Past 30 Days

	Cigarettes United States (%)	Cigarettes Nevada^a (%)	Chew United States (%)	Chew Nevada^a (%)
Total	20	14	8	5
Race				
White	23	16	10	6
Black	12	7	1	4
Hispanic	17	11	5	3
Other	17	18	6	5
Sex				
Female	19	14	2	2
Male	21	13	13	7

Table XII Sources:

Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System Online, available at <http://apps.nccd.cdc.gov/yrbss> (2007 YRBSS data used for both U.S. & Nevada statistics.)

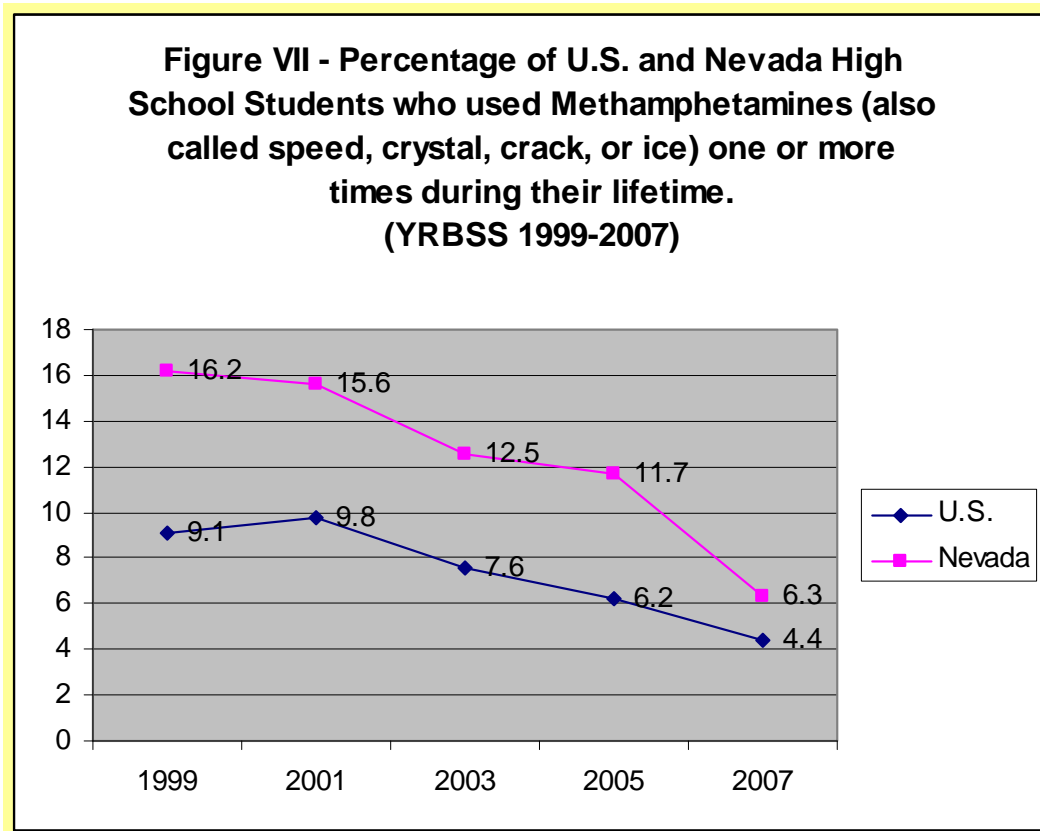
During the 2007-08 school year, the University of Nevada, Las Vegas School of Dental Medicine (UNLV SDM) Crackdown on Cancer Program provided tobacco education to 23,838 elementary, middle and high school students in Nevada. A total of 7,547 high school students were screened for oral cancer, with parental consent. Individual counseling is provided for students that use tobacco. Referrals are given for follow up care that may be needed as well as tobacco cessation services. The results from the screenings show that more tobacco users had untreated decay (44% vs. 31%) and caries experience (50% vs. 44%) than non-users.

g. Methamphetamine Use and Oral Health

The oral effects of methamphetamine use can be devastating. Reports have described rampant caries that resembles ECC and is commonly referred to as “meth mouth.” The rampant caries associated with methamphetamine use is attributed to the acidic nature of the drug, the drug’s xerostomic (dry mouth) effect, its propensity to cause cravings for high calorie carbonated beverages, tooth grinding and clenching and its long duration of action leading to extended periods of poor oral hygiene.

Results of the Youth Risk Behavior Surveillance System (YRBSS) from 1999-2007 indicate significantly more Nevada high school students historically using

methamphetamines than their national counterparts. In 2007, 4.4 percent of high school students surveyed nationally reported that they had used methamphetamine vs. 6.3 percent of Nevada's high school students. As revealed in Figure VII, there has been a substantial reduction in total youth reporting any methamphetamine use in both the U.S. and Nevada. This positive trend may have been attributed in part to efforts of oral health stakeholders on the national, state and local levels to reduce the incidence of meth mouth by collaborating on outreach activities targeting youth, communities and policy makers.



h. Oral Health Education

Health education and promotion is an important piece of any public health initiative. 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 help empower people and communities to take action to protect and improve their health.

Many people do not understand the importance of seeking care or preventive services. The public is generally not aware that dental disease is a transmissible disease caused by bacteria and that simple behavior changes can limit the risk and/or prevent dental decay and periodontal disease. The Oral Health Program continues to offer courses relevant to the population concerning improving the oral health of Nevadans. These programs include the following:

Healthy Smile Happy Child

This presentation includes the definition, identification, risk factors, financial impact, and the treatment strategies of ECC. An *ECC Prevention Anticipatory Guidance Manual* with age-specific prevention objectives is included along with English and Spanish handouts. A *Fluoride Varnish Manual* is also provided with application protocol, ordering information, handouts, and consent forms in English and Spanish. The PowerPoint presentation (short and long versions) and the text is available at <http://health.nv.gov> along with the brochures, *ECC Prevention – English and Spanish*, and *Cavities – Fix Them or Forget Them? – English and Spanish*. There is also an *ECC Prevention Presenter Manual*. This course continues to be presented to a variety of groups, Family Resource Centers (staff and parents), health care professionals, Tribal and Indian Health Service, Head Start, and school teachers and nurses. This program was presented to 50 people in SFY2008.



Prevent Abuse and Neglect through Dental Awareness (P.A.N.D.A.)

Prevent Abuse and Neglect through Dental Awareness (P.A.N.D.A.), currently available in 44 states and six countries, provides training courses and materials to dental professionals and others regarding how to recognize, report, and prevent suspected child abuse and neglect. The P.A.N.D.A. booklet and P.A.N.D.A. brochure are on the Health Division website. This is also an ongoing course and

is presented to dental hygiene students at Truckee Meadows Community College and College of Southern Nevada. This program was presented to 35 people in SFY2008. (Please note that some of this information is also included in other courses provided for the school nurses and other health care providers.)

Oral Screening K-12

Due to the prevalence of oral disease in our school age children, the Nevada State Health Division Oral Health Program offers a free continuing education course, *Oral Screening K-12*, to school nurses, community health nurses and to other health care providers. The course includes how to identify normal and abnormal hard and soft tissue in the mouth, and the techniques of performing an oral cancer screening, anticipatory guidance and referral. This program was presented to seven people in SFY2008.

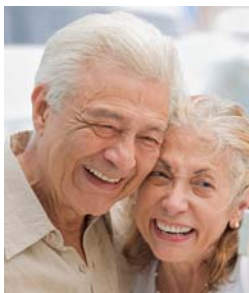
Healthy Teeth for a Healthy Head Start and Healthy Teeth and Fluoride

These two PowerPoint presentations are for Head Start staff and parents covering basic oral health education topics and the role of fluoride. All slides are in English and Spanish and there are presenter's notes in English and Spanish. During SFY08 approximately 30 people attended Healthy Teeth for a Health Head Start and Healthy Teeth and Fluoride presentations given by the Health Division's Oral Health Program Health Educator.



The presentation slides are available on the Health Division website (<http://health.nv.gov/PDFs/OH/headstart.pdf>) and have been used independently by many organizations within Nevada and throughout the United States.

Smiles for Seniors



An oral health education presentation developed in 2006 is a revision of the *Smiles for Seniors* program from the Ohio Dental Association. The revision was developed in cooperation with the Alliance of the American Dental Association, the Community Coalition for Oral Health, the Nevada State Health Division Oral Health Program, and the UNLV SDM. The target audience includes caregivers in assisted living and long-term care facilities. Between 1990 and 2000 the number of Nevadans age 65 and over increased nearly 72 percent. In comparison during the same time period the United States saw a 12 percent increase in population aged 65 and over. According to U.S. Census projections,

in the United State the population aged 65 and over is expected to grow 104 percent between 2000 and 2030. The U.S. population aged 85 and over is expected to grow 127 percent. During the same time period Nevada is expected to experience an overall population growth of 114 percent (1,998,257 – 4,2892,102) with a corresponding increase of 264 percent in those Nevadans aged 65 and over and an estimated increase of 386 percent in individuals aged 85 and over. (Source: www.census.gov/population/projections/SummaryTabB1.pdf) This program was presented to 45 people in SFY 2008.

Diabetes and Oral Health

This is a newly developed (2008) PowerPoint presentation designed at the request of the Diabetes Network. It is for individuals, groups and health care providers who provide care and support for people with diabetes. It includes information on the relationship between oral health and diabetes, the importance of oral health, and general information on etiology and prevention of dental disease. The PowerPoint is available at www.nvoralth.org and http://health.nv.gov/CC_OralHealth.htm

Miscellaneous Presentations/Publications

Additional oral health education programs have been developed and presented for various groups including: high school students, Diabetes Network members, Carson Tahoe Medical Center, Diabetes Health Fair participants, dental hygiene students, and parents and children at a community immunization event. These programs/events reached over 240 people during SFY2008.

Two new brochures developed by Nevada's Oral Health Program in 2008 are designed for the parents of children with special health care needs. *A Healthy Mouth for Children with Special Care Needs – A Parent's Guide* provides parents and caregivers information on locating a dentist; information on some of the increased risks children with special health care needs may have for developing dental problems; and helpful tips on daily oral health care. *Visiting the Dentist – Children with Special Health Care Needs* discusses choosing a dentist and establishing a dental home; what to expect at the first dental visit and during treatment; and what is included in making a preventive plan and a treatment plan. Both brochures are in English and Spanish and are available at: http://health.nv.gov/CC_OH_ChildrenSpecHealth.htm. Plans for SFY09 include outreach to the families of children with special health care needs and the individuals and organizations that advocate on their behalf.

i. Nevada's Oral Health Coalitions

Nevada's Oral Health Coalition Network (NOHCN) consists of the Advisory Committee on the State Program for Oral Health (AC4OH) and six regional coalitions representing all 17 counties in Nevada. Currently 65 organizations participate in one or more of the six regional oral health coalitions. Each of the six regional coalitions has representation on the 13-member advisory committee. The AC4OH meets four times a year. The committee monitors, identifies, and supports implementation of the State Oral Health Plan and provides recommendations on the development and activities of the State Oral Health Program. The representatives bring information and direction back to their communities so that activities that support the State Oral Health Plan can be implemented on a local level.

The vast distances between communities create significant logistical challenges even when trying to bring regional stakeholders together in one physical location. To address this, the regional members convene regularly through face-to-face and/or telephone conference meetings. In addition to geographic challenges, community needs and the resources to address these needs vary significantly. The regional concept supports the engagement of community members who are familiar with the issues and resources in their local communities. They know who "the players" are in their local communities and who needs to be engaged in order to "get the work done." The *Network* allows the regional coalitions to share successes and challenges and collaborate on statewide issues. Agendas and minutes for all meetings are posted on a shared website, www.nvoralhealth.org. The website is hosted by Great Basin Primary Care Association. Additional highlights on coalition activities are listed in *Appendix A: State, County and Local Oral Health Programs and Collaboratives* within this Burden of Oral Disease document.

<u>Regional Oral Health Coalition Name & Service Area</u>	<u>Primary Contact</u>
Carson Douglas Oral Health Coalition (CDOHC) <i>Carson City and Douglas County</i>	Rota Rosaschi Coalition Chair rota@nphf.org
Central Nevada Oral Health Coalition (CNOHC) <i>Esmeralda, Lincoln, Mineral & Nye Counties</i>	Millie McClain, PhD Coalition Chair millie.mcclain@unlv.edu
Churchill, Lyon, Pershing & Storey Counties' Regional Oral Health Coalition (CLPS ROHC)	Laura Webb, CDA, RDH, MS Coalition Chair lwebb@ljweduserv.com
Community Coalition for Oral Health (CCOH) <i>Clark County</i>	Robert Talley, DDS Coalition Chair robert.talleydds@nvda.org

Northeastern Coalition for Oral Health (NECOH)
Elko, Eureka, Humboldt, Lander & White Pine Counties

Keyth Durham
Coalition Chair
ldurham95@yahoo.com

**Northern Nevada Dental Coalition for Underserved Populations
(CUSP)**
Washoe County

Mark J. Rosenberg, DDS, MPH
Coalition Chair
mjrosenberg@juno.com

VI. PROVISION OF DENTAL SERVICES

a. Dental Workforce and Capacity

The oral health care workforce is critical to society's ability to deliver high-quality dental care in 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. Some sources indicate a possible shortage of dentists; however, a greater problem may be the distribution of oral health professionals. Too few dentists care for publicly insured, uninsured, indigent and special needs patients. In addition some people (e.g., those in rural and frontier areas) have very limited access to dental professionals, while others may have no difficulty in obtaining oral health care.

The Medical Education Council of Nevada (MECON) undertook a major analysis of the dental workforce in Nevada during fall 2006. MECON was charged by the Nevada State Legislature to "determine the workforce needs for the provision of health care services in Nevada" and to make recommendations to "the legislature on the status and need of health practitioners, other providers of health care, and other personnel of health care facilities or programs in Nevada." Their report, *Dentist Workforce in Nevada* (October 2007), presents the major findings of a survey of all dentists with an active license to practice in the State of Nevada. A companion report, *Dental Hygienist Workforce in Nevada* (July 2008), reports the findings of a survey of all licensed dental hygienists in Nevada. Both documents are available online at:

<http://www.medicine.nevada.edu/CEHSO/pubs.html>.

Findings from the surveys, detailed in the workforce reports, provide an improved understanding of many aspects of the professional dental workforce, including some social and demographic indicators, employment characteristics, income and earnings, and job and career satisfaction of dentists and dental hygienists in Nevada. The following charts, from the workforce reports, illustrate the distribution of licensed dental professionals within the state of Nevada. The estimated number of dentists and dental hygienists, as well as the full time equivalents (FTEs) per 100,000 population by region and statewide are given. The FTE concept combines the number of hours worked divided by personnel as follows. One dentist FTE is equal to one dentist working 40 hours per week. One dental hygienist FTE is equal to one dental hygienist working 32+ hours per week.

Table XIII. Estimated Dentists and Dentist FTEs per 100,000 residents in Nevada – 2006

Region	Dentists Employed (Estimated)	FTEs	2006 Population	Dentists per 100,000	Dentist FTEs per 100,000
Urban South	819	638.6	1,805,109	45.4	35.4
Urban North	268	210.9	489,102	54.8	43.1
Rural / Frontier	69	55.0	328,839	21.0	16.7
Nevada Total	1,156	904.5	2,623,050	44.1	34.5

Table XIV. Estimated Dental Hygienists and Dental Hygienist FTEs per 100,000 residents in Nevada – 2006

Region	Dental Hygienists Employed (Estimated)	FTEs	2006 Population	Dental Hygienists per 100,000	Dental Hygienist FTEs per 100,000
Urban South	559	327.3	1,805,109	31.0	18.1
Urban North	272	193.8	489,102	55.6	31.7
Rural / Frontier	64	51.8	328,839	19.5	15.8
Nevada Total	894	572.9	2,623,050	34.1	21.8

b. Dental Workforce Diversity

One cause of oral health disparities is a 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 [USDHHS 2000b]. 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 percent of active dentists in the United States identified themselves as black or African American, although that group constituted 12.1 percent of the U.S. population. Hispanic/Latino dentists made up 2.7 percent of U.S. dentists, compared with 10.9 percent of the U.S. population that was Hispanic/Latino. A similar survey was conducted by the ADA in 2006. Unfortunately the more recent version did not collect race/ethnicity data from the dentists; however reviewing statistics on recent dental graduates does not indicate a narrowing of the gap between population and dentist proportions

across race/ethnicity categories. According to 2003-04 data from the United States Workforce Profile, only five percent (5%) of new dental (DDS, DMD) degree recipients were Black and only five percent (5%) were Hispanic/Latino.

c. Nevada's Dental Education Institutions

University of Nevada, Las Vegas School of Dental Medicine (UNLV SDM)

UNLV SDM accepted its inaugural class of student dentists in August, 2002 and currently operates with a capacity of 300 student dentists in a four-year DMD program. In 2004, a state-of-the-art clinical facility opened on the university's Shadow Lane Campus, containing electronic patient records, financial systems, and digital radiographic and photographic images along with state-of-the-art dental operatories. A contemporary simulation facility allows students to perform common dental procedures on mannequins, providing preclinical teaching and offering unique opportunities for continuing education. In its short history the school has developed a national reputation for innovation in its curriculum. Over 2,900 individuals applied for its inaugural class of 75 students. The inaugural class graduated in May, 2006.

In 2005 the SDM began offering a 24-month program in orthodontics. A new program in pediatric dentistry began with four residents in the fall of 2008. A new 44,000-square-foot building will house additional advanced education/specialty program in endodontics, oral/maxillofacial surgery and periodontics.

In addition to educating future dentists, the SDM also provides quality, oral health care to southern Nevadans. For information submitted by the SDM on their clinical services, please see *Appendix A: State, County and Local Oral Health Programs and Collaboratives*.

College of Southern Nevada (CSN) Dental Hygiene Program

The CSN program began in 1978 at the Cheyenne campus and is currently at the West Charleston Campus of CSN. Twenty-four Associate of Science (AS) students graduated from the program in May 2008. An additional 13 students graduated from the Bachelor of Science (BS) degree completion program. CSN transitioned from an AAS degree to an Associate of Science (AS) degree and beginning in fall 2006 all graduates have been awarded the AS degree.

Truckee Meadows Community College (TMCC)

The TMCC Dental Hygiene Program began in 1999. Each fall the program admits 12-14 students, per class into its two-year program. It has graduated six classes, averaging 11 students each. Students typically score in the top three percentile in the National Dental Hygiene Boards and all graduates have passed the Nevada State Boards. Many graduates have also chosen to take California and Western Regional Boards. The student population has been primarily female and Caucasian with a few female Hispanic, Asian and American Indian students. Three male students have graduated so far. TMCC also has a dental assisting program which accepts 24 students per year into its nine-month program.

Both dental hygiene training programs offer clinical services to the community. For information, please see *Appendix A: State, County and Local Oral Health Programs and Collaboratives*.

Western Interstate Commission for Higher Education (WICHE) - Health Care Access Program (HCAP)

The Western Interstate Commission for Higher Education (WICHE) is responsible for providing higher educational opportunities and sharing resources to enhance the workforce and economic development in Nevada. WICHE offers educational, financial, and professional assistance to Nevada citizens and provides highly trained, qualified professionals in areas of established need statewide. In dentistry, WICHE currently offers funding through their HCAP loan repayment program (in contrast to its previously offered HCAP loan forgiveness program). Upon completion of their education, WICHE assists dental students in paying back their school loans. Professionals are granted 100 percent of WICHE funds if they successfully complete a two-year service agreement in the state with an underserved population, emphasizing underserved areas.

During the past ten years (1998-2007) through its HCAP programs, WICHE dentists have provided services in 12 counties and 25 cities/towns across Nevada. Of the total 85 WICHE dentists who received funding during this decade, 72 have met their contractual service obligation, resulting in a return rate of 85 percent. Seven (8%) continued to carry an obligation to return and provide services, leaving a default of only six (7%). Approximately 74 percent worked in urban areas and 26 percent worked in rural/frontier areas; 75 percent of WICHE-funded dentists have worked with underserved populations of people (rural and urban areas combined). Further retention data revealed that approximately two out of three (68%) WICHE dentists who completed their service obligation have

remained in Nevada to continue providing dental services. Economically, in 2008, a total of 54 WICHE-funded dentists were actively working throughout the state. These professionals generated an additional 36 jobs resulting in an estimated annual payroll impact of \$12,186,726 for Nevada.

d. Use of Dental Services
i. *General Population*

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, and 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. People who have lost all their natural teeth are less likely to seek periodic dental care than those with teeth, which, in turn, decreases the likelihood of 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. Persons with visits to the dentist in the last 12 months are shown in Table XV.



Table XV. Proportion of Persons Aged 2 Years and Older Who Visited a Dentist in the Previous 12 Months^a

	Dental Visit in Previous Year	
	United States* ^a (%)	Nevada (%)
TOTAL	45	DNC
Race and ethnicity		
American Indian or Alaska Native	33	DNC
Asian or Pacific Islander	44	DNC
Black or African American	30	DNC
White	47	DNC
Hispanic or Latino	29	DNC
Black or African American, not Hispanic or Latino	30	DNC
White, not Hispanic or Latino	50	DNC
Sex		
Female	48	DNC
Male	41	DNC
Education Level (persons aged 25 years and over)		
Less than high school	20	47 ^{d,e}
High school graduate	41	61 ^{d,e}
At least some college	59	73 ^{d,e}
Disability Status		
Persons with disabilities	41	DNC
Persons without disabilities	46	DNC
Select populations		
Children aged 2 to 17 years	52	DNC
Children at first school experience (aged 5 years)	55 ^b	DNC
3rd grade students	63	58 ^c
Children, adolescents, and young adults aged 2 to 19 years <200% of poverty level	31	DNC
Adults aged 18 years and older	42	66 ^d
Adults aged 65 years and older	43	62 ^d
Dentate adults aged 18 years and older	46	68 ^d
Edentate adults 18 and older	25	26 ^d
Adults aged 18 years and older with disabilities	35	61 ^d

Table XV Sources:

Medical Expenditure Panel Survey (MEPS). Survey at <http://www.meps.ahrq.gov/>.

DNA = Data not analyzed

* National data are for 2004.

^a Age-adjusted to 2000 U.S. standard population.

^b Data are for children aged 5–6 years.

^c *Healthy Smile Happy Child Oral Health Survey of Nevada's Third Grade Students*, January 2006.

^d *2006 Behavioral Risk Factor Surveillance Survey (BRFSS) Results: Oral Health Module*, Nevada State Health Division, June 2008

^e Data are for adults aged 18 years and older

ii. Special Populations
Schoolchildren



National YRBS data collected in 2003 reported that 68.7 percent of teens surveyed indicated that they had visited a dentist during the past 12 months. According to Nevada's Crackdown on Cancer program, during 2007, 65 percent of our state's teens reported that they had a dental visit during the past year. In 2006, only 59.8 percent of the parents of Nevada's third-graders participating in an open-mouth oral health screening reported that their child had visited a dentist during the past 12 months. In comparison, according to National Health and Nutrition Examination Survey (NHANES) data for 1999-2004, 76.8 percent of children in the United States, ages six to eleven years old, had visited the dentist within the past year.

Children with Special Health Care Needs

It is estimated that over ten percent of Nevada's children and youth ages 0-17 have special health care needs, defined as the presence of a chronic physical, developmental, behavioral, or emotional condition and a need for health care services beyond what is required by children in general. According to the National Survey of Children with Special Health Care Needs (CSHCN) Chartbook 2005-2006, nationally, 16 percent of CSHCN were reported to need at least one health care service that they did not receive in the past year, and six percent needed more than one service that they did not receive. The service most commonly reported as needed but not received was preventive dental care; 6.3 percent of CSHCN overall needed but did not receive preventive dental care. Other relatively common services needed but not received were mental health care (3.7%), therapies (3.1%), specialty care (2.8%), and other dental care (2.6%). Poorer children, uninsured children, children with lapses in insurance, and children with greater limitations attributable to disability had significantly greater odds of unmet dental care needs.

Pregnant Women

Studies documenting the effects of hormones on the oral health of pregnant women suggest that 25 percent to 100 percent of these women experience gingivitis and up to ten percent 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 of preterm or low birthweight deliveries [Offenbacher et al. 2001].

A study by a New York University dental research team has discovered evidence that pregnant women with periodontal disease are more likely to develop gestational diabetes mellitus than pregnant women with healthy gums. Inflammation associated with periodontal disease is believed to play a role in the onset of gestational diabetes, perhaps by interfering with the normal functioning of insulin, the hormone that regulates glucose metabolism [Dasanayake 2008]. During pregnancy, a woman may be particularly amenable to disease prevention and health promotion interventions that could enhance her health or that of her fetus [Gaffield et al. 2001].

According to Michalowicz, et al [2008], it is safe to deliver oral health services during the perinatal period, and delaying necessary treatment could result in harm to the mother and indirectly to the fetus. Preserving a woman's oral health throughout the perinatal period can also help establish a solid foundation for promoting the oral health of her children after they are born.



Children whose mothers have poor oral health are five times more likely to have oral health problems than children whose mothers have good oral health [Clothier, et al 2007].

In northern Nevada Saint Mary's Foundation received funding through the Trust Fund for Public Health to conduct a project entitled, "Oral Health as Prevention of Low Birth Weight and Premature Births." Activities of the project proposed to provide oral health education, prophylaxis (teeth cleaning), root planing and general dentistry (as needed) to 225 pregnant at-risk women identified through the Saint

Recommendations for Promoting Oral Health During the Perinatal Period

All health professionals should inform women that ...

- Oral health care is safe and effective during pregnancy.
- First trimester diagnosis (including necessary dental X-rays) and treatment for conditions requiring immediate attention are safe.
- Necessary treatment can be provided throughout pregnancy; however, the period between the 14th and the 20th week is the best time to provide treatment.
- Elective treatment can be deferred until after delivery.
- Delay in necessary treatment could result in significant risk to the mother and indirectly to the fetus.

Kumar & Smelson, eds. 2006

Mary's Women, Infant and Children (WIC) Program. (WIC is a United States Department of Agriculture program providing food and education to nutritionally at-risk pregnant and nursing women and young children.) The goal of Saint Mary's project was to eliminate any preventable barriers within their means to achieving full-term healthy deliveries (thereby reducing low birthweight or preterm deliveries).

The Saint Mary's project provided much-needed dental care and oral health screenings for hundreds of low-income, pregnant women. Many of the women reported that this was their very first dental appointment. By far the most significant impact, as reported by the program in January 2008, was the significant decline in the number of preterm and low birthweight babies as opposed to averages for the State of Nevada and the nation. Utilizing comparison data from 2004 reported by the Kaiser Family Foundation, the number of preterm births as a percent of all births in Nevada was 13.5 percent and 12.5 percent in the country compared with 5.6 percent of this initiative's participants. The Saint Mary's program also reported a 4.1 percent of low birthweight babies in comparison to eight percent in Nevada and 8.1 percent nationally.



d. Dental Medicaid and State Children's Health Insurance Programs

Medicaid is the primary source of health care for low-income families, the elderly and disabled persons 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, dental, and long-term care assistance to people who meet certain eligibility criteria. Eligibility is determined on the basis of state and national criteria. Dental services are a required service for most Medicaid-eligible individuals under the age of 21 years, 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 [Centers for Medicare and Medicaid, 2004].

Medicaid covers full dental services for children and for adults covered dental services are limited to emergency and palliative care, which includes partials and full dentures. Nevada Check Up, Nevada's State Children's Health Insurance Program (SCHIP), provides low cost, comprehensive health insurance for low-income children from birth through age 19 who do not qualify for Medicaid and do not have private insurance. Effective September 1, 2008, changes were made to the Nevada Check Up (NCU) benefit plan. NCU eliminated coverage for orthodontia services and they instituted an annual benefit limit of \$600 per child for dental care.

The February 2009 reauthorization of the Children's Health Insurance Program includes eight dental provisions that may positively impact children's oral health in the future. The eight provisions are a dental coverage guarantee (which will revoke the current \$600 dental care cap); a dental wrap-around benefit option, mandatory performance reporting; involvement in quality assurance programs; new parent education requirements; allowance of public-private contracting; studying dental access; and mandatory information for beneficiaries.

A Government Accountability Office (GAO) report from September 2008 notes that dental disease and inadequate receipt of dental care remain a significant problem for children in Medicaid with only about one in three children in Medicaid receiving dental care in the prior year. By contrast, more than half of children with private insurance had received dental care in the prior year. The report also notes improvement in some areas, for example, children age 6-18 in Medicaid who received at least one dental sealant increased nearly threefold from 1994 to 2004.

In 2008, the Centers for Medicare & Medicaid Services (CMS) conducted State dental reviews to obtain information on dental services provided to Medicaid beneficiaries that would further enhance national initiatives to improve oral health care in the United States. The reviews surveyed States' efforts to address the rate of children's dental utilization, to identify potential issues with adherence to Federal Medicaid statute or regulations, and to identify promising or notable practices States have implemented to improve the delivery of oral health services to Medicaid eligible children. States with reported dental utilization rates of 30 percent or less, as submitted on the CMS-416 annual report for fiscal year 2006, were selected for review. With only approximately 20 percent of the state's total Medicaid-eligible children receiving a dental service in 2006, Nevada was one of the states selected for review.

The Nevada Division of Health Care Financing and Policy (DHCFP) is the single State agency that administers the Medicaid program in Nevada. Children residing in Nevada's two largest counties are mandatorily enrolled in one of two managed care plans, unless they meet certain exemption criteria. As reported to CMS on the 416 report, there were over 155,000 children under the age of 21 eligible for Medicaid in Nevada during 2006; all of these children were eligible to receive dental benefits. An overwhelming majority of children in Nevada (more than 80 percent) are designated to receive dental services in a managed care environment. Nevada has not elected continuous eligibility for children; any monthly changes in income or circumstances may render a child ineligible for Medicaid. Approximately 20 percent of total Medicaid-eligible children received a dental service in 2006, this increased to nearly 24 percent in 2007 as reported to CMS by the State.

According to Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group, public expenditures for dental care totaled \$6.1 billion in 2007, nine percent of all medical expenditures paid with public (federal, state or local) funds, or six percent of the \$95.2 billion spent on dental services nationally by all funding sources, public and private. For Nevada SFY08, the DHCFP Fact Book 2009 reported that \$16 million was paid by Medicaid for dental care. This represents just over one percent of the \$1.2 billion they reported paying for all covered services during the same year.

e. Community and Migrant Health Centers and other State, County, and Local Programs

Community Health Centers (CHCs) provide family-oriented primary and preventive health care services 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 more than 650,000 migrant and seasonal farm workers. Among other services provided, many CHCs and Migrant Health Centers provide dental care services.

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]. Nationally in 2002, 61 percent of local jurisdictions and health centers had an oral health component [USDHHS 2004b]; the *Healthy People 2010* target is 75 percent.

Many organizations throughout the state are providing education, prevention and treatment services to improve the oral health of Nevada residents. These organizations and programs are essential to achieving the intermediate and long-term outcomes described in this report.

The following is a list of programs who have submitted a program profile of their oral health activities. The table below provides the program name, geographic area served and indicates what type of oral health services are provided and which populations each program primarily serves. (*For a complete description of an individual program, including contact information, please see Appendix A.*)

State, County and Local Oral Health Programs

Program Name:	Primary Geographic Service Area:	Types of Dental Services:					Primary Age Groups:			
		Prevention	Screening	Treatment/ Restorative	Public Education	Other (See Appendix A for details)	Early Childhood (ages 0-5)	School-age children and youth (ages 6-18)	Non-senior adults (ages 19-59)	Seniors (ages 60 and over)
Access to Healthcare Network	Northern Nevada for Medical, Statewide for Dental & Vision	√	√	√	√		√	√	√	√
AccessHealth Las Vegas	Clark County	√	√	√	√		√	√	√	√
Carson Douglas Oral Health Coalition	Carson City & Douglas County	√	√		√		√	√	√	√
Central Nevada Oral Health Coalition	Esmeralda, Lincoln, Mineral & Nye Counties	√	√		√	√	√	√	√	√
Churchill, Lyon, Pershing & Storey Counties' Regional Oral Health Coalition (CLPS ROHC)	Churchill, Lyon, Pershing & Storey Counties	√	√		√	√	√	√	√	√
College of Southern Nevada – Dental Hygiene Program	Southern Nevada	√	√		√	√	√	√	√	√
Community Coalition for Oral Health (CCOH) (Includes info on IDAY and Seal Nevada South)	Clark County	√	√	√	√	√	√	√	√	√
Community Services Agency – Head Start	Washoe, Churchill & Lyon Counties	√	√	√	√	√	√ ^a			
Crackdown on Cancer	Statewide		√		√	√		√		
Frontier and Rural Public Health (Nevada State Health Division)	Lander County, Pershing County, Northern Nye County, Esmeralda County, White Pine County & Southern Nye County	√	√		√	√	√	√		
Health Access Washoe County (HAWC), Inc.	Northern Nevada	√	√	√	√	√	√	√	√	√
Healthy Smiles Family Dentistry	Lyon County	√	√	√	√		√	√	√	√
Huntridge Teen Clinic Dental Clinic	Clark County	√	√	√	√			√ ^b		
Nevada Dental Association	Statewide	√	√	√	√		√	√	√	√
Nevada Dental Association Foundation for Oral Health	Statewide	√	√	√	√		√	√	√	√

Program Name:	Primary Geographic Service Area:	Types of Dental Services:					Primary Age Groups:			
		Prevention	Screening	Treatment/ Restorative	Public Education	Other (See Appendix A for details)	Early Childhood (ages 0-5)	School-age children and youth (ages 6-18)	Non-senior adults (ages 19-59)	Seniors (ages 60 and over)
Nevada Health Centers, Inc.	Elko and Clark Counties, plus sites in Lander & Humboldt Counties	√	√	√	√		√	√	√	√
Northeastern Coalition for Oral Health (NECOH)	Elko, Eureka, Humboldt, Lander & White Pine Counties	√	√	√	√	√	√	√	√	√
Northern Nevada Dental Health Program	Northern Nevada	√	√	√	√		√	√		
Paradise Park Children's Dental Clinic	Clark County (Las Vegas)	√	√	√	√	√	√	√		
ReachOut Healthcare America School-Based Dental Program	Clark County	√		√	√			√		
Ready to Learn "Reading for Smiles"	Clark County				√		√			
Saint Mary's Dental Sealant Program	Northern Nevada (Limited)	√	√		√			√		
Saint Mary's Mobile Dental Clinic	Washoe County	√	√	√	√		√	√		
Saint Mary's Outpatient Oral Surgery Program	Northern Nevada	√	√	√			√	√	√ ^c	
Southern Nevada Health District	Clark County	√	√				√	√		
Truckee Meadows Community College – Dental Hygiene Program	Reno, Tahoe, Sparks	√	√		√	√		√	√	√
UNLV School of Dental Medicine (SDM)	Clark County	√	√	√	√		√	√	√	√
Washoe Tribal Health Center	Douglas County	√	√	√	√		√	√	√	√

^a Serves ages 3-5.

^b Serves ages 12-18.

^c Serves adults with disabilities.

VII. CONCLUSIONS

While we have experienced a considerable increase in the number of dentists in Nevada in recent years, there are still significant numbers of our population that experience disparities in access to dental treatment and prevention services in some of our communities and population sub-groups. For example, in many areas dental services for adults, other than privately insured individuals, are extremely limited. Partnerships among dental providers, community health organizations, patient advocates, schools and others are bringing dental care services to many local communities. These groups are filling gaps in service and identifying needs for future interventions. 2007-08 was a year of exceptional accomplishments for many organizations around the state working to improve oral health in Nevada.

We are continuously updating our surveillance and data collection systems to be able to measure the state's oral disease burden and share the success stories of our public oral health leaders. It is hoped that the information in this document and others published by Nevada's Oral Health Program will be useful to those stakeholders working toward decreasing oral disease disparities and replicating successful programs throughout Nevada.

To reach our vision that "*All Nevadans achieve optimal oral health,*" we must work together to eliminate access-to-care issues and to increase and continue to support practices that have been proven to prevent oral diseases. Cost-effective measures exist that can improve the quality of life and the health of our residents.

Oral health is essential to general health and well-being and can be achieved!

VIII. 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*, 2006. Chicago, IL: American Dental Association Survey Center; 2008.
- Beck JD, Offenbacher S, Williams R, Gibbs P, Garcia R. Periodontics: a risk factor for coronary heart disease? *Ann Periodontol* 1998;3(1):127-41.
- Blot WJ, McLaughlin JK, Winn DM, Austin DF, Greenberg RS, Preston-Martin S. Smoking and drinking in relation to oral and pharyngeal cancer. *Cancer Res* 1988;48(11):3282-7.
- Brown LJ, Wagner KS, Johns B. Racial/ethnic variations of practicing dentists. *J Am Dent Assoc* 2000; 131:1750-4.
- Bureau of Primary Health Care. *Health Centers: America's Primary Care Safety Net Reflections on Success, 2002-2007*. Available at: <http://bphc.hrsa.gov/success/>.
- Burkey J, Packham J, Griswold T. *Dentist Workforce in Nevada*. October 2007. Medical Education Council of Nevada. Available at http://www.medicine.nevada.edu/cehso/Documents/mecon_dental_1007.pdf.
- Griswold T, Packham J, Burkey J. *The Registered Dental Hygiene Workforce in Nevada*. July 2008. Available at http://www.medicine.nevada.edu/cehso/Pubs/rdh_july08.pdf.
- 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 Medicare and Medicaid Services. National Health Expenditure (NHE) amounts by type of expenditure and source of funds. Last modified 1/06/09. Available at http://www.cms.hhs.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.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.

Dasanayake AP. Poor periodontal health of the pregnant woman as a risk factor for low birth weight. *Ann Periodontol* 1998;3:206-12.

Dasanayake AP, Chhun N, Tanner ACR, Craig RG, Lee MJ, Moore AF, Norman RG. Periodontal Pathogens and Gestational Diabetes Mellitus. *Journal of Dental Research*, Apr 2008;87:328-333

Davenport ES, Williams CE, Sterne JA, Sivapathasundram V, Fearn J, Curtis MA. The East London study of maternal chronic periodontal disease and preterm low birth weight infants: Study design and prevalence data. *Ann Periodontol* 1998;3:213-21.

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.

Federal Interagency Forum on Aging Related Statistics. Older Americans 2000: Key Indicators of Well Being 2000.

Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville, MD: U.S. 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.

Genco RJ. Periodontal disease and risk for myocardial infarction and cardiovascular disease. *Cardiovasc Rev Rep* 1998;19(3):34-40.

Glassman P, Folse G. Financing oral health services for people with special needs; projecting national expenditures. *J Calif Dent Assoc* 2005;33(9):731-40.

Glassman P, Subar P. Improving and Maintaining Oral Health for People with Special Needs. *Dent Clin N Am* 2008;52:447-461

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.

Komaromy M, Grumbach K, Drake M, Vranizan K, Lurie N, Keane D, Bindman AB. The role of black and Hispanic physicians in providing health care for underserved populations. *N Engl J Med* 1996; 334(20):1305-10.

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.

Kumar J, Saleson R, eds. 2006. *Oral Health Care During Pregnancy and Early Childhood: Practice Guidelines*. Albany, NY: New York State Department of Health. <http://www.health.state.ny.us/publications/0824.pdf>.

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.

Mealey BL. Periodontal implications: medically compromised patients. *Ann Periodontol* 1996;1(1):256-321.

Michaelowicz BS, DiAngelis AJ, Novak MJ, Buchanan W, Papapanou PN, Mitchell DA, Curran AE, Lupo VR, Ferguson JE, Bofill J, Matseoane S, Deinard AS Jr, Rogers TB. 2008. Examining the safety of dental treatment in pregnant women. *Journal of the American Dental Association* 139(6):685-695.

Morse DE, Pendry 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.

Nevada Department of Health and Human Services. *2005 Nevada Hospital In-Patient and Emergency Room Use for Cavities, Gum Disease and Dental Abscesses*. Carson City, NV: Nevada State Health Division, May 2007. Available at http://health.nv.gov/CC_OH_Publications.htm.

Nevada Department of Health and Human Services. *2006 Behavioral Risk Factor Surveillance Survey Results – Oral Health Module*. Carson City, NV: Nevada State Health Division, June 2008. Available at http://health.nv.gov/CC_OH_Publications.htm.

Nevada Department of Health and Human Services. *Healthy Smile Happy Child Oral Health Survey of Head Start Students – Nevada 2007*. Carson City, NV: Nevada State Health Division, July 2007. Available at http://health.nv.gov/CC_OH_Publications.htm.

Nevada Department of Health and Human Services. *Healthy Smiles Happy Child Oral Health Survey Nevada 2006*. Carson City, NV: Nevada State Health Division, January 2007. (Third Grade Students) Available at http://health.nv.gov/CC_OH_Publications.htm.

Nevada Department of Health and Human Services. *Healthy Smiles for Healthy Living – Senior Oral Health Survey – Nevada 2005*. Carson City, NV: Nevada State Health Division, August 2005. Available at http://health.nv.gov/CC_OH_Publications.htm.

Nevada Department of Health and Human Services. *Special Populations Oral Health Survey Nevada 2008*. Carson City, NV: Nevada State Health Division, May 2008. Available at http://health.nv.gov/CC_OH_Publications.htm.

Offenbacher S, Jared HL, O'Reilly PG, Wells SR, Salvi GE, Lawrence HP, et al. Potential pathogenic mechanisms of periodontitis associated pregnancy complications. *Ann Periodontol* 1998;3(1):233-50.

Offenbacher S, Lieff S, Boggess KA, Murtha AP, Madianos PN, Champagne CM, et al. 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, et al. (eds). SEER Cancer Statistics Review, 1975-2001, National Cancer Institute: Bethesda, MD; National Cancer Institute; 2004. Available at http://seer.cancer.gov/csr/1975_2001/.

Scannapieco FA, Bush RB, Paju S. Periodontal disease as a risk factor for adverse pregnancy outcomes. A systematic review. *Ann Periodontol*. 2003;8(1):70-8.

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: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Cancer Institute, 1998.

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

Taylor GW. Bidirectional interrelationships between diabetes and periodontal diseases: An epidemiologic perspective. *Ann Periodontol* 2001;6(1):99-112.

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. *Dental Use, Expenses, Dental coverage, and Changes, 1996 and 2004*. Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, MEPS Chartbook No. 17.

U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. *The National Survey of Children with Special Health Care Needs Chartbook 2005-2006*. Rockville, Maryland: U.S. Department of Health and Human Services, 2008.

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: U.S. 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: U.S. 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 edition. 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. *National Call to Action to Promote Oral Health*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Dental and Craniofacial Research; 2003. NIH Publication No. 03-5303.

U.S. Department of Health and Human Services. *The health consequences of smoking: A report of the Surgeon General*. Atlanta, GA: U.S. 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*, 2nd Edition. Washington, DC; U.S. Government Printing Office; 2000.

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

Weaver RG, Ramanna S, Haden NK, Valachovic RW. Applicants to U.S. dental schools: an analysis of the 2002 entering class. *J Dent Educ* 2004;68(8):880-900.

IX. APPENDICES

Appendix A – State, County and Local Oral Health Programs and Collaboratives

Access to Healthcare Network

Lead organization:

Other partner organizations involved in the program: Renown Health, Saint Mary's Hospital, Washoe County District Health Department, Washoe County, Ryan White Title II, Saint Mary's Health First, Home Town Health Plan, Orvis School of Nursing, Bank of America, Sierra Pacific Power, State Health Division, Nevada State Medical Society, Wells Fargo Bank, Reno Gazette Journal, University of Nevada School of Medicine, Washoe County Social Services, Covering Kids and Families and over 350 local health care providers.

Geographic area served: Northern Nevada for medical, statewide for dental and vision benefits

Primary contact person: Sherri Rice, Executive Director

Address: 235 West 6th St.
Reno, NV 89503

Phone number: 775-770-6035 Fax: 775-770-3335

Email address: sherri@accesstohealthcare.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Access to Healthcare Network (AHN) is the first Non-Profit Medical Discount Plan in the state of Nevada. AHN is a community partnership that utilizes a shared responsibility model to offer comprehensive health care services to the uninsured working poor in Northern Nevada.

AHN is a comprehensive network of hospitals and primary, specialty, dental and ancillary health care providers (over 350 local providers) generously offering their services to the uninsured at a reduced fee. AHN is not health insurance; it is a Medical Discount Plan registered with the State of Nevada Division of Insurance. AHN does not make payments directly to the providers. AHN members must pay cash at the time of service.

AHN members are uninsured Nevada residents living between 100 and 250 percent of the federal poverty level, who are not currently on employer sponsored insurance and are unable to qualify for Medicaid, Medicare or Nevada Check Up. An important component of AHN's comprehensive health services is our dental program. Every member of AHN receives access to our dental providers at 100 percent of Medicaid rates. Every member of AHN is assigned a primary care home and a dental home of their choosing. Recently AHN has agreed to allow anyone who meets our income guidelines and does not have dental and vision insurance to become a member of AHN and receive our dental and vision rates. This includes Medicaid, Medicare, VA beneficiaries as well as those covered by private medical plans that do not include coverage for dental and vision care. Since our dental and vision providers are located throughout the State, our AHN Dental and Vision Program will be marketed statewide beginning November 2008.

As a charity care program, AHN accepts donations, endowments, grant funding and all charitable contributions to our Patient Care Fund, the charitable giving component of our program. The Patient Care fund was established to support our members if needed, on a sliding scale basis with their cash at the time of service fee.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:..... 1,500 enrollees

Program achievements during the period July 1, 2007 – June 30, 2008:

Because of the Patient Care Fund we have been able to help many uninsured individuals in our community who would have no other alternative for their specialty care and ancillary services. Ryan White Title II has donated funds to AHN to be used for the health care of uninsured HIV/AIDS patients in Washoe County, including dental services. During the 2007-2008 fiscal year AHN was able to provide \$88,000 of dental care to 33 HIV/AIDS patients for the cost of \$25,000. But AHN's story is not told just in the savings of dollars, it is told in the stories of gratitude and appreciation by our members when they are finally able to receive the care that they so desperately needed.

Challenges currently faced in conducting program activities:

None specifically noted.

A Success Story

A gentleman had suffered from a stroke, in part due to the poor condition of his oral health. He had no dental coverage and his health was getting progressively worse. A local clinic referred him to AHN and he became a member. The necessary extractions had to be done by an oral surgeon due to his compromised medical condition. Even with our vast discounts, at his limited income level, the cost was prohibitive. With the assistance of a private funder, who had donated generously to our Patient Care Fund, we were able to share the responsibility of the treatment cost with this member and get him the care that he so desperately needed. Since receiving his surgery and dentures, this grateful AHN member is now able to perform his daily activities. He is now able to resume a normal diet. His pain has subsided and his health, overall outlook on life and quality of life are improving daily.

AccessHealth Las Vegas

Lead organization: Great Basin Primary Care Association

Other partner organizations involved in the program: Lincy Foundation
Clark County School District
Clark County Commission
AHEC Southern Nevada
Nevada Health Centers
University Medical Center
North Vista Hospital
St. Rose Dominican Hospital
El Dorado Medical Center

Geographic area served: Clark County

Primary contact person: Linda Candelari, Project Director

Address: 2801 S. Valley View #12
Las Vegas, NV 89102

Phone number: 702-430-3580 702-430-3583 fax

Email address: lcandelari@gbpca.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

AccessHealth links medically uninsured adults and families to primary and specialty health care services at discounted rates. Services include comprehensive oral health prevention and treatment. AccessHealth currently has over 6,000 persons enrolled. Program details can be viewed at www.gbpca.org/accesshealth.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:..... 620

Program achievements during the period July 1, 2007 – June 30, 2008:

AccessHealth added the above 620 patient referrals to oral health services to the total of 2,069 patients receiving oral health care through the program since 2005. AccessHealth recently received a grant of \$500,000 from the Lincy Foundation to initiate the Clark County School District Expansion Project in partnership with CCSD to provide services to children and their families at 16 schools during this year. Currently, Doris Reed Elementary, Martin Luther King Elementary and Doris Hancock Elementary are engaged in the first of four cohorts of schools, staff of the schools, including school nurses are able to refer children to primary and specialty care health services, including dental, through AccessHealth.

Challenges currently faced in conducting program activities:

While the program budget for AccessHealth approaches \$1,000,000 for this coming year, it will take another \$2,000,000 of core funding to reach the 25,000 patients targeted by the program for 2011-12

Carson Douglas Oral Health Coalition (CDOHC)

Lead organization: None – collaborative

Other partner organizations involved in the program: Northern Nevada Dental Society
Carson City School District
Douglas County School District
General Dentists
Douglas County Social Services
Community Health Nurse, Douglas County/NVHD
Nevada Public Health Foundation
Washoe Tribe Head Start
Carson City Health and Human Services
Bureau of Child, Family and Community Wellness, NVHD

Geographic area served: Carson City and Douglas County

Primary contact person: Rota Rosaschi, Chairperson

Address: c/o Nevada Public Health Foundation
3579 Highway 50 E., Suite C
Carson City, NV 89701

Phone number: 775-884-0392 775-884-0274 (fax)

Email address: rota@nphf.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

1. The CDOHC started an oral screening and fluoride varnish treatment program for two pre-school classes at Mark Twain Elementary School, Carson City. A presentation on oral health was done for the school Parent Teachers Association (PTA) and they donated money to purchase the fluoride varnish. The Carson City chief school nurse (coalition member) did the oral screenings and applied fluoride varnish three times within the school year. Coalition members provided assistance with the screening and fluoride varnish, Spanish translation for the children and parents, as well as information on Medicaid and Nevada Check Up benefits, eligibility and registration. Information and referral resources for identified needs were sent home for the parents and follow-up was done by the school nurse. A toothbrush, cup and timer were given to each child.
2. The CDOHC started an oral screening and fluoride varnish treatment program for all the kindergarten and special needs classes at CC Meneley Elementary in Douglas County. The screenings and fluoride varnish were done two times within the school year. The school nurse and coalition members provided the screening and fluoride varnish, Spanish translation for the children and parents, as well as information on Medicaid and Nevada Check Up benefits, eligibility and registration. Information and referral resources for

**Oral Health & General Health
- Disease Prevention Partnership –**

The CDOHC seized the opportunity to partner with existing Immunization Day events and added free oral health screenings, fluoride varnish applications and oral health education to the scheduled activities. Through this collaboration, the following benefits were achieved:

- Over 200 children received an oral screening and fluoride varnish application.
- Families were able to have all of their children screened, even those not scheduled to be immunized. Some families attended the event only because oral health prevention services were being offered.
- Children, parents and participating healthcare providers increased their awareness of oral health-general health links and the importance of preventing oral diseases.
- Event's success increased likelihood of future oral health/general health collaborative activities.

Tips for Success:

- Participating in the activity planning in the early stages, allowed the coalition to include information about the oral health screenings in all of the outreach materials.
- Combining services in a one-day event was helpful for families by decreasing transportation expenses and the time needed to access valuable, disease prevention services.
- Having Spanish/English translators on-site and materials available in both languages increased usability of services.

- identified needs were sent home for the parents and follow-up was done by the school nurse. A toothbrush, cup and timer were given to each child.
3. The CDOHC participated in the National Immunization Day in both Carson City and Douglas County. We had a dentist at each location and offered free oral screenings, fluoride varnish, and oral health education and resources.
 4. The CDOHC developed a dental treatment resource list to aid in access to treatment. It lists the dentist in the areas, their office location, days, office hours, address and phone numbers, if they accept insurance, including Medicaid/Nevada Check Up, if they are accepting new patients and emergency patients, and if the office is handicapped accessible.
 5. The CDOHC developed oral health education resource packets for local agencies and nonprofit groups, which includes the treatment resource list.
 6. The CDOHC is in the beginning stages of collaboration with the AT&T Telecom Pioneer group to assist in the organization of a program for dental treatment for homeless children in the Carson City School District.
 7. The CDOHC participated in the Children’s Dental Health Month and the Give Kids a Smile activities and recognized the participating dentists with a framed certificate.
 8. The CDOHC provided oral health education classes (twice) for the Parenting Class at the Family Resource Center in Douglas County; an oral health screening and oral health education class for the Carson City School District nurses and staff; and, a class on oral health screening, early childhood caries prevention and application of fluoride varnish for the nursing staff at the Carson City Health District.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....300

Units of service:

1. Oral screenings550
2. Fluoride varnish applications550
3. Number of classes conducted4
4. Total number of participants in classes conducted30

Program achievements during the period July 1, 2007 – June 30, 2008:

- The initiation of oral screenings and fluoride varnish application in two schools
- The partnering with the Immunization Day program to include oral screenings and fluoride varnish applications
- The Carson City Health District policy to include an oral screening and fluoride varnish as part of the EPSDT appointments

Challenges currently faced in conducting program activities:

- The challenge of having member representation at the meetings
- Moving the coalition to a non-profit status
- Lack of funding sources

Central Nevada Oral Health Coalition

Lead organization: None - Collaborative

Other partner organizations involved in the program: Community Health Nurses
County Human Services/Social Services
Family Resource Center
Nevada Dental Association
Nevada State Health Division
Nye Communities Coalition
Private Practice Dentists
University of Nevada, Las Vegas School of Dental Medicine

Geographic area served: Esmeralda, Lincoln, Mineral, and Nye Counties

Primary contact person: Mildred A. McClain, Chair

Address: 1001 Shadow Lane, MS 7410

City, state and zip code: Las Vegas, NV 89106-4124

Phone number: 702-774-2642

Email address: millie.mcclain@unlv.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Facilitate information and resource sharing between partners.

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The Central Nevada Oral Health Coalition is a group of healthcare professionals and community stakeholders committed to working together to promote oral health education, disease prevention and access to dental treatment within our communities.

Program achievements during the period July 1, 2007 – June 30, 2008:

1. In September 2007, the Central Nevada Oral Health Coalition hosted a Dental Health Fair in Pahrump. Eighty-five community members were screened for dental caries and oral cancer. Dental sealants and fluoride varnish applications were provided as indicated. Oral health education materials were prepared and distributed and referrals for follow up care were

provided as needed. The coalition is actively planning a second dental health fair to be held in Pahrump in March of 2009.

2. The Central Nevada Oral Health Coalition members actively participated in updating the State Oral Health Plan and supporting the goals identified during the process.
3. The Central Nevada Oral Health Coalition actively participated in development of policy briefs on community water fluoridation and statutory authority for a State Oral Health Program.

Challenges currently faced in conducting program activities:

Coalition growth and effectiveness could be strengthened by increasing membership, identifying and electing a full slate of officers, formalizing the organizational structure and/or partnering with a fiscal agent.

Churchill, Lyon, Pershing & Storey Counties' Regional Oral Health Coalition (CLPS ROHC)

Lead organization: None - Collaborative

Other partner organizations involved in the program:

CSA Head Start	Nevada Dental Association
Community Chest	Nevada State Health Division
Community Health Nurses	Northern Nevada Dental Society
County Human Services/Social Svcs	Northern Nevada Dental Health Program
Local School District Nursing Staff	Private Practice Dentists & Hygienists
HAWC Silver Stage Dental Center	Silver Springs-Stagecoach Hospital Dist.
Healthy Smiles Family Dentistry	Tribal Dental Clinics
ITCN Head Start	And, many more...

Geographic area served: Churchill, Lyon, Pershing & Storey Counties

Primary contact person: Laura Webb, Coalition Co-Founder

Address: P.O. Box 2279
Fallon, NV 89407

Phone number: 775-423-7773

Email address: lwebb@ljweduserv.com

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Facilitate information and resource sharing between partners.

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

CLPS ROHC is a group of healthcare professionals and community stakeholders committed to working together to promote oral health education, disease prevention and access to dental treatment within our communities.

Program achievements during the period July 1, 2007 – June 30, 2008:

1. CLPS ROHC participated in a number of community-based health promotion events. Oral health education materials were prepared and distributed. At a community-wide health fair in Fallon, CLPS ROHC partnered with TMCC dental hygiene program and local dentists to provide brief dental screenings and fluoride varnish for children and adults. Events were also used to identify and recruit new coalition participants.
2. A CLPS ROHC member generously donated their overstock of fluoride varnish which was shared with other members of CLPS ROHC and other regional oral health coalitions. This provided more than 500 applications of fluoride within Nevada.
3. Over 700 toothbrushes were distributed with oral health education materials to local schools and community health nursing offices.
4. CLPS ROHC was invited to participate in an innovative Youth and Family Activity Night with the Boys & Girls Club in Fallon. A bubble blowing contest for all ages using sugar-free gum with xylitol was fun and well received by the participants. Coalition members also provided oral health education displays and materials.
5. CLPS ROHC members actively participated in updating the State Oral Health Plan and supporting the goals identified during the process.
6. Coalition members contributed to writing a successful USDA Rural Business Enterprise Grant for a panoramic x-ray machine for the Silver Springs-Stagecoach Hospital District and HAWC Silver Stage Dental Center.



Challenges currently faced in conducting program activities:

Coalition growth and effectiveness could be strengthened by identifying and electing official representatives, formalizing the organizational structure and/or partnering with a fiscal agent.

College of Southern Nevada (CSN) – Dental Hygiene Program

Lead organization: College of Southern Nevada

Other partner organizations involved in the program:

Geographic area served: Clark County

Primary contact person: Sharon Peterson RDH, M.Ed.

Address: 6375 W. Charleston Blvd. W1A
Las Vegas, NV 89146

Phone number: 702-651-5853 702-651-7401 fax

Email address: Sharon.peterson@csn.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Tobacco Cessation Programs

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The CSN Dental Hygiene students provide comprehensive preventive services at reduced cost to residents of Clark County and surrounding communities. Preventive services include oral assessment, radiographic services, dental cleanings, periodontal assessment, periodontal therapy, fluoride treatments, tobacco cessation, nutritional counseling, dental sealants and pain management including local anesthesia and nitrous oxide analgesia. Students frequently provide services to individuals who have low or no income and who have not had regular dental care. After preventive services are provided, patients are provided with a referral for a diagnostic examination by a dentist and subsequent restorative services.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....1,088

Units of service:

1. Screenings completed..... 1,088
2. Prophylaxis/Periodontal Scaling completed.....963
3. Fluoride Treatments completed.....924
4. Sealants placed 192
5. Tobacco Cessation Program 25 patients

Program achievements during the period July 1, 2007 – June 30, 2008:

- 23 Associate of Science degree students graduated in May 2008.
- 8 Bachelor of Science degree students graduated in May 2008.
- All A.S. students passed their National Dental Hygiene Board Examination.
- All A.S. students passed state or regional licensing examinations.
- Senior dental hygiene students participated in community rotations and provided the following:
 - Southern Nevada Women’s Prison – 36 inmates received periodontal cleanings
 - Head Start – 736 fluoride varnish applications on children
 - CCSD Elementary Schools – 3,562 students received oral health education and supplies.
- 3 students competed at the American Dental Hygienists’ Association Annual Research poster competition.
- 580 oral health screenings were conducted for the National Guard.
- 183 children attended the CSN Children’s Dental Health Fair where they received oral health education and supplies pertaining to plaque control, nutrition and tobacco/substance abuse prevention.
- Over \$12,000 was awarded in scholarships to the graduating dental hygiene students from Sigma Phi Alpha, the national dental hygiene honor society.
- 756 children ages 5-16 in Mexico received fluoride varnish treatments, oral health and nutrition counseling by four A.S. degree students and one dental hygiene faculty member. This program is a biannual event.

Challenges currently faced in conducting program activities:

Acquiring and sustaining patients with substantial calculus and periodontal conditions. Even with reduced fees, the overall volume of patients has decreased from previous years and patients are expressing that they are not able to pay the reduced fees.

Community Coalition for Oral Health (CCOH) – (Report includes information on the IDay Program and Seal Nevada South)

Lead organization: None - Collaborative

Other partner organizations involved in the program: Acelero Learning - Clark County Head Start
Boulder City Hospital
Center for Independent Living/HELP of Southern Nevada
Children's Dental Care International / Paradise Park Children's Dental Clinic
Clark County School District
Clark County Social Services
College of Southern Nevada
Culinary Health Fund
Great Basin Primary Care Association
Helping Kids Clinic
Huntridge Teen Clinic
Las Vegas-Clark County Urban League
Las Vegas Rescue Mission
Nevada Covering Kids and Families
Nevada Dental Association
Nevada Dental Hygienists' Association
Nevada Health Centers
Nevada Partners, Inc.
Nevada Partnership for Homeless Youth
Nevada State Board of Dental Examiners
Nevada State Health Division
Safe Nest
Salvation Army
Sigma Phi Alpha, Beta Beta Beta Chapter
Southern Nevada Dental Hygienists' Association
Southern Nevada Dental Society
Southern Nevada Health District
St. Rose Hospitals Positive Impact Program
Sunrise Children's Foundation
University of Nevada, Las Vegas School of Dental Medicine
Vegas PBS
Westcare

Geographic area served: Clark County

Primary contact person: Marcia Ditmyer, Chair

Address: 1001 Shadow Lane MS 7410

City, state and zip code: Las Vegas, NV 89106-4124

Phone number: (702) 774-2646

Email address: marcia.ditmyer@unlv.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Facilitate information and resource sharing between partners.

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The mission of CCOH is to achieve optimal oral health for all residents of Clark County by advocating for increased prevention, access, and awareness.

Program achievements during the period July 1, 2007 – June 30, 2008:

1. The 1DAY program matches uninsured children with volunteer dental providers. Children are served two ways; at the annual Give Kids a Smile clinic held in partnership with the Southern Nevada Dental Society and through an ongoing, year-round program that matches uninsured children with volunteer dentists who treat the children in their own offices. Through these two programs, nearly \$300,000 worth of treatment was delivered using more than 500 volunteers, improving the oral health of 432 patients.
2. The Coalition also administers the Smiles Across America, Las Vegas program. Smiles Across America, Las Vegas is a partnership with Oral Health America, the nation's premier, independent advocacy organization dedicated to improving oral health for all Americans. Smiles Across America, Las Vegas provides support to CCOH member organizations to offset the cost of providing preventive oral health services to uninsured children.
3. Seal Nevada South is another program administered by CCOH. The program is supported with funding from the Stern Foundation and from the Fund for a Healthy Nevada. Seal Nevada South provides free dental sealants and fluoride varnish treatments to children in Clark County that have 50 percent or greater free and reduced eligibility.
4. In the summer of 2008, the coalition implemented a new program to serve homeless adults in Clark County. Over 300 homeless individuals received comprehensive dental treatment through the CCOH Homeless program.
5. CCOH members actively participated in updating the State Oral Health Plan and supporting the goals identified during the process.
6. CCOH actively participated in development of policy briefs on community water fluoridation and statutory authority for a State Oral Health Program.

Challenges currently faced in conducting program activities:

Coalition growth and effectiveness could be strengthened by increasing membership and active participation in the coalition.

Community Services Agency

Lead organization: Head Start Program

Other partner organizations involved in the program: Saint Mary's Dental Mobile Dental Clinic, Health Access Washoe County (HAWC) and Dr. Lloyd B. Austin

Geographic area served: Washoe, Churchill and Lyon County

Primary contact person: Leanna Dyer, Interim Director

Address: 1090 East 8th Street
Reno, NV 89510

Phone number: 775-786-6023 775-786-5743 fax

Email address:

Types of services provided related to oral health:

We solicit providers to perform the following services for Head Start students:

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Refer to Medicaid and Nevada Check-up

Primary age group(s) targeted by the program:

- Early childhood (ages 3 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

- We facilitate network resourcing for our clients to our community partners, according to the results of our screening process.
- Small Smiles sends their hygienist to educate the Head Start parents and their children on the importance of oral hygiene.
- Saint Mary's Dental Outreach sends one of their hygienists to each of our classrooms to apply fluoride varnish.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:670

Units of service:

- 1. Received Preventive Dental Care590
- 2. Receiving Dental Treatment.....361

Program achievements during the period July 1, 2007 – June 30, 2008:

- Number of children who have completed a professional dental examination within the last 12 months669
- Number of children diagnosed as needing treatment254
- Number of children who have received, or are receiving, treatment.....210

Challenges currently faced in conducting program activities:

One of the challenges is finding dentists who accept Medicaid and Nevada Check Up, especially in the rural areas. The program would like to increase the numbers of families that apply to Nevada Check Up; unfortunately some program families are undocumented and cannot enroll in this program.

Crackdown on Cancer

- Lead organization:** UNLV School of Dental Medicine
- Other partner organizations involved in the program:** Referrals to community clinics or local dentists as well as referral for tobacco cessation services.
- Geographic area served:** Nevada (statewide), 16 of the 17 counties
- Primary contact person:** Dr. Christina A. Demopoulos
- Address:** 1001 Shadow Lane, M/S 7410
Las Vegas, NV 89106-4124
- Phone number:** 702-651-5587
- Email address:** Christina.Demopoulos@unlv.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Public education on oral health issues (tobacco education and oral cancer screenings)

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Crackdown on Cancer provides tobacco education to elementary, middle and high school students in Nevada. It also provides oral cancer screenings to high school students, with parental consent, as well as information on the self-exam process. Individual counseling is provided for students that use tobacco. Referrals are given for follow up care that may be needed as well as tobacco cessation services.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:

Screenings	7,547
Educated	23,838

Units of service:

1. Number of students at presentations.....23,838
2. Number of presentations
3. Number of students counseled.....1,081
4. Number of students screened.....7,547

Program achievements during the period July 1, 2007 – June 30, 2008:

The program was offered to the majority of the public middle and high schools in Nevada. This is the first year that the program targeted the elementary schools. Depending on the school schedule and funding, additional services will be provided to elementary schools in SFY09. Ninety-eight high schools and 58 middle schools participated along with various elementary schools, Boys & Girls Clubs, and private schools. The program also offered presentations to professional societies and parent groups. In addition to providing tobacco education and oral cancer screenings, both the Las Vegas and Reno teams participated in health fairs and provided oral hygiene instruction to young kids.

Crackdown on Cancer was successful in scheduling several new schools.

Challenges currently faced in conducting program activities:

One of the major challenges this year was to provide the same level of service with reduced funding. Another challenge that existed was scheduling schools when there were other events in the community or at the school. Creative scheduling and a flexible work schedule helped us overcome both of these challenges.

Frontier and Rural Public Health (Nevada State Health Division)

Lead organization: Nursing Program

Other partner organizations involved in the program:

Geographic area served: Lander County, Pershing County, Northern Nye County (Tonopah, Round Mountain), Esmeralda County (Goldfield, Silver Peak, Dyer), White Pine County, Southern Nye County

Primary contact person: Pam Graham, Program Manager

Address: 3427 Goni Road, Suite 108
Carson City, NV 89706

Phone number: 775-684-4208 775-684-3492 fax

Email address: pgraham@health.nv.gov

Types of services provided related to oral health (*check all that apply*):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify):

Primary age group(s) targeted by the program (*check all that apply*):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

- Dental screenings and apply varnish in well child clinics.
- Dental screening and apply varnish during immunization visits.
- Community Health Nurses provided dental screening and varnish at school with parental permission as part of fluoride varnish program.
- Coordinated and participated in Health/Dental fairs.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....800

Units of service:

1. Number of people screened630
2. Number of fluoride varnish applications450
3. Number of classes conducted30

Program achievements during the period July 1, 2007
– June 30, 2008:

- Community developed a list of dental providers for Medicaid/Nevada Check Up and insured clients.
- Advocate for school-based dental sealants/health services.
- Increase parents' awareness of dental health.
- Partner with Miles for Smiles for uninsured/underserved to have access to affordable dental care.

Challenges currently faced in conducting program activities:

- Many frontier areas do not have dental care available in area for underserved/uninsured.
- Continuing lack of parent concern/knowledge of importance of children's dental health.

Increased Awareness, Plus

Due to a partnership with the nurse at Crescent Valley Elementary School, through a school-wide health fair the Community Health Nursing Program brought oral health education, oral disease prevention services and knowledge of potential dental treatment providers to a community without access to local dental caregivers:

- Students were able to receive dental screenings and fluoride varnish treatments.
- Parents were educated about the importance of dental care.
- Parents were given information about the Miles for Smiles dental care van's services and sliding fees.

Health Access Washoe County (HAWC) Community Health Center

Lead organization: HAWC

Other partner organizations involved in the program:

Geographic area served: Washoe County / Northern Nevada

Primary contact person: Linda Costa

Address: 1055 S. Wells Ave.
Reno, NV 89502

Phone number: 775-329-6300 775-348-3896 fax

Email address: lcosta@hawcinc.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Emergency Services

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The HAWC Community Health Center’s Dental Program was established in 1998 and provides comprehensive primary care dentistry for all populations, all ages, focusing primarily on the uninsured, under-insured, low-income. HAWC accepts Medicaid, Medicare, Nevada Check Up and offers a sliding fee scale for eligible patients. Dental services include preventative care, oral health screenings and education, prophys, fluoride treatments, sealants, as well as restorative services including fillings, root canal treatments, extractions, and dentures.

The three hygienists also perform cleaning, scaling, polishing, fluoride treatments and sealants, along with oral health education and counseling.

Patients Express Their Gratitude

“... in October you performed oral surgery on my mouth. I had been in pain for two months...I was very apprehensive and nervous...but needed immediate medical attention. I was happy to know people cared and could help me. The attitude and professionalism demonstrated and kindness shown to me were something I will never forget.”

Another patient shared, “I needed new upper and lower teeth; the Veteran’s Administration couldn’t help me, as they weren’t service disability connected. They recommended that I go to the HAWC Community Health Center. ...they [HAWC] helped me to get a grant to help me pay for my teeth. If it wouldn’t have been for that I wouldn’t have been able to have my teeth fixed. I would recommend HAWC to anyone.”

From a very happy young girl, “Thank you for being so gentle with me and for holding my hand, letting me watch a movie and doing a great job on my teeth.”

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....15,596

Units of service:

1. Oral Exams5,964
2. Prophylaxis.....3,246
3. Sealants.....2,464
4. Fluoride Treatments2,709
5. Oral Surgery989
6. Restorative Services4,372

Program achievements during the period July 1, 2007 – June 30, 2008:

During the program period, HAWC hired an additional two full-time dentists, bringing the total to four dentists available at their two locations; two at 1055 Wells Avenue and two at 6490 S. McCarran. We also participated in the Give Kids A Smile Day on Friday, February 1, 2008, providing outreach, education, training, toothbrushes, toothpaste, and other oral health care items to Veteran's and Robert Mitchell Elementary Schools.

Challenges currently faced in conducting program activities:

- Increasing costs of providing comprehensive, quality oral health care services
- Declining economy is producing more uninsured patients
- Decreasing revenues, reduction of grants, donations and contributions

Healthy Smiles Family Dentistry Clinic

Lead organization: Healthy Smiles Family Dentistry, Inc.

Other partner organizations involved in the program:

Geographic area served: Primarily South Lyon County

Primary contact person: Travis Crowder, Board President

Address: 120 Bovard Street
Yerington, NV 89447

Phone number: 775-463-1800 775-463-4810 (fax)

Email address:

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Healthy Smiles Family Dentistry is a non-profit, full service dental clinic. The clinic accepts most insurance plans, including Medicaid and Nevada Check Up. A sliding fee scale is offered for uninsured patients.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:..... *Sorry, not available at this time*

Program achievements during the period July 1, 2007 – June 30, 2008:

- Official notification of non-profit status received.
- HSFD partnered with Churchill, Lyon, Pershing and Storey Counties' Regional Oral Health Coalition on community outreach activities.

Challenges currently faced in conducting program activities:

Economic conditions and significant changes in staffing have presented some challenges. HSFD Board members have personally dedicated considerable time and effort into the maintenance and preservation of this important community resource, with promising results.

The Huntridge Teen Clinic Dental Program

Lead organization:	The Huntridge Teen Clinic
Other partner organizations involved in the program:	United Way of Southern Nevada, MAP Coalition, Southern Nevada Health District
Geographic area served:	Clark County
Primary contact person:	Steve Williams, Executive Director Annette Lincicome, BS, RDH
Address:	2100 S. Maryland Parkway, Suite 5 Las Vegas, NV 89104
Phone number:	702-732-8776 702-732-8521 (fax)
Email address:	Steve – htcdental@lvcoxmail.com Annette – vegaslinicomes@yahoo.com

Types of services provided related to oral health (*check all that apply*):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease

- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 12 to 18 only)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The Huntridge Teen Clinic Dental Program serves youths 12-18 who are uninsured and ineligible for services at county agencies. Dental services include oral health screenings, oral health education, prophylaxes, fluoride treatments, sealants, fillings, root canal treatments, extractions, and referrals to an oral surgeon when appropriate. Dental appointments are \$10.00 for each visit, but fees may be waived for those unable to pay.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....1,036

Units of service:

- 1. Oral Health Instruction (direct chairside).....700
- 2. Prophy/Fluoride.....510
- 3. Fillings (surfaces).....1,009
- 4. Root Canal Treatments.....45
- 5. Extractions.....139
- 6. Sealants.....339

Program achievements during the period July 1, 2007 – June 30, 2008:

Within the last twelve months The Huntridge Teen Clinic has established a relationship with a low cost, certified dental lab, and is now able to provide porcelain fused to non-precious metal crowns for our patients receiving root canal treatments. Patients must pre-pay all associated lab fees.

Challenges currently faced in conducting program activities:

As a non-profit organization receiving funding solely from grants and/or donations, funding is always a challenge. The number of patients continues to rise and may increase dramatically due to downturns in the state and national economies.

Nevada Dental Association

Lead organization: Nevada Dental Association

Other partner organizations involved in the program: Southern Nevada Dental Society
Northern Nevada Dental Society
Northeast Nevada Dental Society

Geographic area served: Nevada

Primary contact person: Robert H. Talley, DDS

Address: 8863 W. Flamingo Rd., Ste. 102
Las Vegas, NV 89147

Phone number: 702-255-4211 702-255-3302 (fax)

Email address: nda@lasvegas.net

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Advocacy for all of the above

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

- As the primary voice of dentistry we actively promote the highest standards of oral health.
- Our members will improve oral health through involvement in community activities.
- We favorably influence the legislative process by championing a commitment to high quality oral health care, along with excellent professional standards.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:n/a

Program achievements during the period July 1, 2007 – June 30, 2008:

- Supported the six regional oral health coalitions in Nevada

Challenges currently faced in conducting program activities:

- Fluoridation of Washoe County and legislative support for the Oral Health Program in statute.

Nevada Dental Association Foundation for Oral Health

Lead organization: Nevada Dental Association

Other partner organizations involved in the program: Southern Nevada Dental Society
Northern Nevada Dental Society
Northeast Nevada Dental Society

Geographic area served: Nevada

Primary contact person: Robert H. Talley, DDS

Address: 8863 W. Flamingo Rd., Ste 102
Las Vegas, NV 89147

Phone number: 702-255-4211 702-255-3302 (fax)

Email address: nda@lasvegas.net

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Foundation that solicits funds from members and friends of the dental association that are used to support access to care programs, payment of dentists to work in underserved areas, and to support dental education.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....200

Units of service:

1. Patient visits200

Program achievements during the period July 1, 2007 – June 30, 2008:

- Secured donations from members, supported the program “Helping Kids”, and finished the IRS’s documents for the foundation.

Challenges currently faced in conducting program activities:

- Fundraising

Nevada Health Centers, Inc.

Lead organization: Nevada Health Centers, Inc.

Other partner organizations involved in the program: Oral health coalitions in northern and southern Nevada

Geographic area served: Elko County, Clark County, select sites in Lander and Humboldt Counties

Primary contact person: Shirley A. Hampton, RN

Address: 1802 N. Carson Street
Carson City, NV 89701

Phone number: 775-888-6619 775-887-7047 (fax)

Email address: shampton@nvrhc.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)

- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Nevada Health Centers, Inc. provides dental screening and dental restorative care to all people age 4 and over. We offer a sliding fee scale based on the patients ability to pay for the uninsured. Our services include exams, cleanings, filings and other restorative services, sealants, fluoride treatments, extraction, x-rays and oral health education. NVHC has two fixed sites, one in Elko and one in Las Vegas. In addition we have a Ronald McDonald Bus that provides dental care to children at select sites in Elko, Lander and Humboldt Counties and a Miles for Smiles Bus that serves people in Clark County.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....5,970

Units of service:

- 1. Patient visits 15,552
- 2. Children educated..... (estimated) 5,000
- 3a. Dental sealants applied (# of children)466
- 3b. Dental sealants applied (# of teeth sealed)1,867

Program achievements during the period July 1, 2007 – June 30, 2008:

- NVHC opened our first fixed dental site in Clark County in the early summer of 2008. It is called Eastern Medical and Dental Center and offers three dentists with ten dental suites. Grants from the Lincy Foundation and the City of Las Vegas assisted in building remodeling efforts.
- A Fund for a Healthy Nevada grant helps to offset the cost of providing health care to uninsured children.
- The Trust Fund for Public Health provided funding to purchase equipment for three dental suites.
- The MGM/Mirage Voice Foundation provided funding for the children who were seen on the Miles Bus in Las Vegas.
- The Division for Aging Services provided a grant to give low income, uninsured seniors needed dental care.

Challenges currently faced in conducting program activities:

- NVHC does not have a pediatric dentist so we do not provide services to children under age four.
- NVHC offers a sliding fee scale to the uninsured but many uninsured have difficult covering even this reduced cost.
- The uninsured population is growing.
- Dental services are needed in more areas of Nevada.
- There will be a decreased availability of grant funds in the future.

Northeastern Coalition for Oral Health (NECOH)

Lead organization: None - Collaborative

Other partner organizations involved in the program: County Human Services/Social Services
Family Resource Center
Head Start of Northeastern Nevada
Indian Health Service
Nevada Dental Association
Nevada Health Centers
Nevada State Health Division, Community Health Nurses
Nevada State Health Division, Oral Health Program
Nursing Department, Great Basin College
P.A.C.E Coalition
School Nurses
University of Nevada, School of Medicine
Wendover Resources Council

Geographic area served: Elko, Eureka, Humboldt, Lander, and White Pine Counties

Primary contact person: Keyth Durham, Chair

Address: PO Box 2544

City, state and zip code: West Wendover, NV 89883

Phone number: (775) 340-5993

Email address: ldurham95@yahoo.com

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Facilitate information and resource sharing between partners.

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The mission of the Northeastern Coalition for Oral Health is to provide accessible oral health services and education to all underserved populations while building community involvement and support for oral health issues and needs within northeastern Nevada.

Program achievements during the period July 1, 2007 – June 30, 2008:

1. NECOH established a Memorandum of Understanding with United Way of the Great Basin in which United Way agreed to serve as the fiscal agent for NECOH. As a result, NECOH was able to secure donations from local businesses to support dental screenings and fluoride varnish treatments for uninsured children. The coalition has also secured funding to support the installation of electrical plugs in communities that are not currently served by the Elko based Miles for Smiles program. Installation of the plugs will permit the mobile program to visit communities they have previously not been able to serve. The coalition has been able to get several local newspapers to publish articles about oral health. The coalition is now actively planning to hold a series of community-based events in February of 2009. Dental screenings, fluoride varnish, dental sealants and referrals for follow up care will be provided in five different communities in the NECOH service area.
2. NECOH members actively participated in updating the State Oral Health Plan and supporting the goals identified during the process.
3. NECOH actively participated in development of policy briefs on community water fluoridation and statutory authority for a State Oral Health Program.

Challenges currently faced in conducting program activities:

Coalition growth and effectiveness could be strengthened by increasing membership.

Northern Nevada Dental Health Program

Lead organization:	Northern Nevada Dental Society
Other partner organizations involved in the program:	Saint Mary's
Geographic area served:	Northern Nevada
Primary contact person:	Lori Benvin, Executive Director & NNDHP Liaison
Address:	161 Country Estates Circle, Suite #1B Reno, NV 89511
Phone number:	775-337-0296 775-337-0298 (fax)
Email address:	nnds@nndental.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

NNDHP is a program providing low-cost oral health care to qualified economically disadvantaged children who reside in Northern Nevada. Services include:

- Preventive oral health care including: education, fluoride varnish, dental sealants and teeth cleaning.
- Comprehensive restorative oral health care including general dentistry and specialty care.
- English and Spanish language capability for better communication.
- Nevada Medicaid and Nevada Check-up billing.

Dentists, utilizing their own offices, provide treatment and prevention services to patients. After qualifying for the program, children are scheduled into needed care.

Relieved, Happy Parents!

Just wanted to say thank you very, very much for all of your help, (patient's name) would not of been able to get this treatment without the help of this wonderful doctor in your program. I am very grateful.

I want to express my sincere thanks for helping find Dr. T. for my child, the office staff was so nice and kind to my child. Without this program I would not have been able to take care of my child. Thank you also for listening and understanding.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....467

Units of service:

1. Total patient/dental visits891
2. Number of Providers 126
3. Pro-bono dentistry services provided\$300,000
4. Total dollar amount of all dentistry services provided\$441,029

Program achievements during the period July 1, 2007 – June 30, 2008:

- 98 percent increase in the number of children treated since 2005
- 176 percent increase in the number of children treated pro-bono since 2005

- 100 percent participation in our annual golf tournament fundraiser for NNDHP raising over \$32,000 for the program
- Taxi and bus vouchers for patient families donated by our Saint Mary's affiliate Kids to Senior Korner – these vouchers help keep the no-show rate down
- NNDHP provides translation services to the patient families when applying for the program and at the dental appointments if needed

Challenges currently faced in conducting program activities:

- Collecting the new NNDHP access fee from patients who do not have Medicaid or NV Check-up, and then making the determination that patient families are not taking advantage of our services by manipulating our qualifications in order to get free care.
- Credentialing the providers
- Collecting billable charges from Medicaid

Paradise Park Children's Dental Clinic

Lead organization: Children's Dental Care International

Other partner organizations involved in the program: Clark County Grant Funding

Geographic area served: Las Vegas

Primary contact person: Connie Issa

Address: 4770 Harrison Drive
Las Vegas, NV 89121

Phone number: 702-432-3334

Email address: Connie_issa@yahoo.com

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): Laughing Gas, Conscious Sedation, General Anesthesia

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Paradise Park Children’s Dental Clinic provides comprehensive oral health care to children in Las Vegas with no other access to care. Care is provided by pediatric dentists and experienced, gentle staff. Preventive, restorative, and emergency treatment is provided. Services offered include: exams, xrays, cleanings, fluoride treatment, oral health education, sealants, restorations, caps, extractions, laughing gas, conscious sedation, and general anesthesia. In addition, the staff participates in community health fairs and school programs. Finally we also support international programs. This month we have donated supplies and equipment to be used in Cuba, Thailand and Brazil.

No More Pain!

A recent young immigrant from Africa arrived at our office dressed up for his very first visit to the dentist, complete with suit and tie (with plenty of room to grow) and shoes that were two sizes too big. Our exam showed he had severe dental infections and rampant decay. Although there was a language barrier (family spoke Swahili), we understood he was in serious pain and unable to eat or sleep without discomfort. His treatment plan included ten extractions, four crowns and two fillings.

It was extremely rewarding to see his smiling face at the post op visit. What an amazing transformation!

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....2,090

Units of service:

- 1. New Patients.....451
- 2. Recall Patients573
- 3. Charitable Write-Off\$166,549

Challenges currently faced in conducting program activities:

Educating and motivating caretakers continues to be a challenge as well as securing program funding. We remain committed and encouraged as we work towards becoming the dental home for more children in Las Vegas who have no other access to care.

ReachOut Healthcare America School-Based Dental Program

Lead organization: ReachOut Healthcare America

Other partner organizations involved in the program: Clark County School District

Geographic area served: Clark County

Primary contact person: Allen Hersh

Address: 1904 W. Parkside Lane, Suite 201
Phoenix, AZ 85027

Phone number: 623-434-9343 623-434-9358 (fax)

Email address: ahersh@reachouthealthcare.com

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Comprehensive dental care services delivered using portable equipment to under-served children without a current dental home. Services are provided in school-based clinics throughout Clark County School District.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

1. Patient visits..... 10,612
2. Cleanings 10,429
3. Fluoride treatments 10,385
4. X-ray films (all digital)38,872
5. Sealants..... 23,381
6. Fillings 18,013
7. Pulpotomies 887
8. Stainless Steel Crowns.... 483
9. Extractions 818

Challenges currently faced in conducting program activities:

Anthem Wellpoint cutting back drastically on the providers it will credential to see its (Medicaid) members.

Ready to Learn “Reading For Smiles”

Lead organization: Vegas PBS

Other partner organizations involved in the program: Clark County School District, Las Vegas Clark County Library District, Henderson Parks and Recreation

Geographic area served: Clark County

Primary contact person: Candace Thompson

Address: 4210 Channel 10 Drive
Las Vegas, NV 89119

Phone number: 702-799-1010 702-799-2960 (fax)

Email address: cthompson@vegaspbs.org

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Vegas PBS staff work to provide dental health resources to families in need. This project, initiated in October 2001 and dubbed Reading for Smiles, consists of family workshops featuring video clips, songs and hands-on activities. Children who participate in these workshops take home resource bags stuffed with new toothbrushes, dental flossers, an age-appropriate dental health book, and a variety of resource materials for parents. A large number of participating families speak only Spanish, therefore the RFS program make every effort to have materials translated into their primary language.



Summary of service levels for the period July 1, 2007 – June 30, 2008:

1. # of parents attending Reading for Smiles workshops907
2. Workshops conducted59
3. Children reached.....2,234
4. Books/Dental Resource bags distributed.....2,234

Program achievements during the period July 1, 2007 – June 30, 2008:

In January 2007, RFS was presented the Outreach Community Impact Award by the National Education Telecommunications Associate (NETA). RFS was praised for its innovation and creativity, especially in serving Latino families.

Challenges currently faced in conducting program activities:

- Funding for staff and materials.
- Keeping with the growing population and being able to provide the necessary resources and services to community members in need.
- Language is also a barrier.

Saint Mary's Dental Sealant Program

Lead organization:	Saint Mary's
Other partner organizations involved in the program:	Washoe County School District Churchill County School District Lyon County School District Carson City Schools
Geographic area served:	Washoe, Lyon and Churchill Counties and Carson City
Primary contact person:	Kathy Barlow
Address:	6770 So. McCarran Blvd., Ste. 102 Reno, NV 89519
Phone number:	775-770-3559 775-770-6110 (fax)
Email address:	kathy.barlow@chw.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

This free program provides oral health education, screening and sealants to second and sixth grade students who attend targeted, “at-risk” elementary schools.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:2,048

Units of service:

- 1. Number of students receiving classroom education2,348
- 2. Children screened2,048
- 3. Children receiving sealants1,201
- 4. Number of sealants placed.....3,400
- 5. Fluoride application.....1,996

Program achievements during the period July 1, 2007 – June 30, 2008:

- The most significant event of the year for the program was the total refurbishment of the Take Care-a-Van. This rehab was done at the factory during the first six months of program operation and was possible because of the generosity of donors committed to this outreach.
- Huge thanks go to the State Oral Health Program which allowed us to borrow portable equipment so as to continue the program during the “face lift” of the 10 year-old van.

Challenges currently faced in conducting program activities:

- Because this program is substantially funded by the Tobacco Settlement funds, there is uncertainty as to future funding.
- For many parents the concept of “prevention” is not critically important and not culturally valued. The challenge of educating parents and getting them to return signed consent forms (even for a free program) is an ongoing issue.

Saint Mary's Mobile Dental Clinic

Lead organization: Saint Mary's

Other partner organizations involved in the program: Washoe County School District
Northern Nevada CSA – Head Start

Geographic area served: Washoe County

Primary contact person: Garret L. Earley

Address: 6770 South McCarran Blvd., Suite 102
Reno, NV 89519

Phone number: 775-770-7888 775-770-6110 (fax)

Email address: garret.earley@chw.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The goal of Saint Mary's Mobile Dental Clinic is to improve access to dental care for the underserved and uninsured in Washoe County. The Dental Clinic operates at 12 community sites, offering a full range of preventive and restorative dental services

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of unduplicated patients:2,209
Total number of patient visits:.....5,554

Units of service:

1. Number of preventive care procedures (includes prophylaxis procedures, space maintainers placed and placed sealants)7,828
2. Number of restorative care procedures.....2,422

Program achievements during the period July 1, 2007 – June 30, 2008:

- Utilized volunteer dentists who provided care to patients from the community while using volunteer hours to count toward licensure.
- Began service at the Washoe County Juvenile Detention Facility to ensure that detained youth have access to dental care.
- Grant funding provided dental care to Saint Mary's WIC (Women, Infant & Children) pregnant mothers. Program goal was to decrease number of preterm and low birth weight babies.
- Continued integration of Dental Clinic with other Saint Mary's services. Children and families are referred to other appropriate areas such as Saint Mary's clinics, NNDHP and Saint Mary's WIC Programs.
- Assessed uninsured families for potential eligibility for Medicaid and Nevada Check-up and assisted with the application process.

Challenges currently faced in conducting program activities:

- The \$600 annual limit for dental procedures recently imposed by the state for Nevada Check Up is projected to produce limits on preventive care and restorative treatment.
- Educating patients on the importance to their oral health of keeping scheduled appointments can impact production if the appointment is unable to be filled.

Saint Mary's Outpatient Oral Surgery Program

Lead organization:	Saint Mary's
Other partner organizations involved in the program:	Saint Mary's Outpatient Surgery Center at Galena
Geographic area served:	Northern Nevada
Primary contact person:	Garret L. Earley
Address:	6770 South McCarran Blvd., Suite 102 Reno, NV 89519
Phone number:	775-770-7888 775-770-6110 (fax)
Email address:	garret.earley@chw.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease

- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults *with disabilities* (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

This program improves access for children and handicapped adults who cannot be treated in a traditional dental setting. Preventive and restorative dental services are performed under general anesthesia in an outpatient surgery center.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....468

Units of service:

- 1. Restorative care procedures.....3,470
- 2. Preventive care procedures.....1,768

Program achievements during the period July 1, 2007 – June 30, 2008:

- Increased number of patients served from program inception from 114 in 2005 to 380 in 2007.
- Developed enhanced charity care policy using current research on poverty levels and federal poverty levels.

Challenges currently faced in conducting program activities:

- Educating a patient population, who traditionally have not accessed dental services, on the importance of regular preventive care for optimal health. The specific intent with this education is to preclude the patient from getting into a situation where they again need our services to remedy preventable rampant decay which was caused by lack of attention to basic prevention techniques.
- Unknown fiscal impact on program due to cap of \$600 on treatment provided to Nevada Check Up enrollees.

Southern Nevada Health District / Community Health Nursing & Smiles Across America

Lead organization: Southern Nevada Health District

Other partner organizations involved in the program:

Geographic area served: Clark County

Primary contact person: Margarita DeSantos / Edith Burns

Address: 652 Shadow Lane
Las Vegas, NV 89127

Phone number: 702 -759-0897

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

Beginning in July 2007 the Community Health Nursing Group of the Southern Nevada Health District (SNHD) spearheaded a program to provide fluoride varnish applications to Medicaid and Nevada Check Up eligible children who were not receiving dental services.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Number of children provided with fluoride varnish & screening.....2,377
Number of children screened (only) for oral health issues.....2,762

Program achievements during the period July 1, 2007 – June 30, 2008:

Nurses were stationed at neighborhood public health centers for the sole purpose of providing “Healthy Kids Exams” and fluoride varnish. As a result 1,320 children who had previously been without dental care were screened and at the very minimum provided with fluoride varnish applications.

Thanks to a grant from Smiles Across America an additional 1,057 children without any insurance or access to dental care were provided with fluoride varnish applications via health fairs, project homeless and World Refugee Day.

Challenges currently faced in conducting program activities:

None listed.

Truckee Meadows Community College – Dental Hygiene Program

Lead organization: Truckee Meadows Community College

Other partner organizations involved in the program:

Geographic area served: Northern Nevada

Primary contact person: Vickie Kimbrough-Walls, RDH, MBA
Director

Address: 7000 Dandini Blvd. RDMT 417-H
Reno, NV 89512

Phone number: 775-674-7554 775-673-8242 (fax)

Email address: vkimbrough@tmcc.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): radiographs, periodontal disease adjunct therapies, PSR screenings

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)

- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

TMCC dental hygiene students work with all ages of the community in providing dental hygiene procedures and education. Licensed dental faculty monitor and evaluate all student work. TMCC works to target special populations to improve access to dental health services as well as referring patients seen in the school clinic to the dental care providers in the area.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....possible 750 – 900 new patients

Units of service:

1. Patient visits~1,800
2. Sealants.....~200
3. Prophylaxis'~600
4. Root Planning~1,200
5. Radiographs (BWX/FMX)~1,500

Program achievements during the period July 1, 2007 – June 30, 2008:

See above.

Challenges currently faced in conducting program activities:

Increase public awareness of offered services.

***University of Nevada Las Vegas – School of Dental Medicine
(UNLV SDM)***

- Lead organization:** University of Las Vegas
- Other partner organizations involved in the program:** Clark County School District
Southern Nevada Dental Society (SNDS)
Huntridge Teen Clinic
Nevada Dental Hygienists' Association (NDHA)
Student National Dental Association (SNDA)
American Student Dental Association (ASDA)
Colgate
Crest
- Geographic area served:** Clark County
- Primary contact person:** Victor A. Sandoval, DDS, MPH

Address: 1001 Shadow Lane, MS 7410
Las Vegas, NV 89106-4124

Phone number: 702-774-2500

Email address: Victor.sandoval@unlv.edu

Types of services provided related to oral health (check all that apply):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (check all that apply):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

The SDM clinics provide a full range of oral health services for qualified recipients, including emergency care on a walk-in basis. Oral health education and disease prevention are primary goals of the program.

Other Services and Activities:

- Oral health, nutrition, and prevention instruction (pre-school and “at-risk” elementary schools, assisted living centers, Alzheimer patient care-givers, parents clubs);
- Screening for caries and other oral diseases (pre-school and “at-risk” elementary schools, assisted living centers);
- Treatment/restorative services for “Give Kids a Smile” – National Children’s Dental Health Month;
- Treatment /restorative services for residents of the Shade Tree Women’s Shelter;
- Public education (health fairs, Crackdown on Cancer);
- Partnership with Huntridge Teen Clinic to treat homeless;
- Sgt. Ferrin Memorial Clinic (for Nevada Army National Guard members with no dental insurance)



Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....51,222

Units of service:

1. Diagnostic.....	28,460
2. Preventive.....	3,775
3. Restorative.....	8,054
4. Endodontics.....	728
5. Periodontics.....	4,087
6. Removable Prosthodontics.....	1,688
7. Fixed Prosthodontics.....	986
8. Oral Surgery.....	9,982
9. Implants.....	221
10. Orthodontics (active patient cases).....	1,466
11. Adjunctive Services.....	3,195

Program achievements during the period July 1, 2007 – June 30, 2008:

- Expanded outreach to more “at-risk” elementary schools and Assisted Living Centers;
- Again hosted local “Give Kids A Smile” activities (Children’s Dental Health Month) at UNLV SDM Clinics;
- Again partnered with Colgate “Bright Smiles/Bright Futures” program to provide oral health screening/education at selected local elementary schools;
- Increased number of clinical services provided over previous year;
- Increased number of patients served over previous year;

Challenges currently faced in conducting program activities:

- Demand for services continues to exceed capacity for rendering care;
- Budget cuts due to Nevada’s budget crisis, which threaten to further reduce staff and faculty positions;
- Need for identification of additional outreach sites;
- Need for additional referral sources for those lacking dental insurance or coverage by Medicaid or Nevada Check Up;
- Curriculum density can hinder dental student involvement in some community activities;
- Poor oral health of patient population;
- High no-show rate for scheduled appointments;
- Transportation problems of patient population affects their ability to keep appointments;
- Difficult in contacting some patients due to continual changes in addresses/phone numbers.
- Lack of patient awareness of issues related to maintenance of good oral health.

Washoe Tribal Health Center (WTHC)

Lead organization: Washoe Tribe of California & Nevada

Other partner organizations involved in the program: None

Geographic area served:

Primary contact person: Dr. John Dioquino, Chief Dentist WTHC

Address: 1559 Watasheamu Road
Gardnerville, NV 89460

Phone number: 775-265-4215 ext. 218

Email address: Jd414@netzero.net

Types of services provided related to oral health (*check all that apply*):

- Prevention of oral disease (sealants, fluoride, prophylaxis, other)
- Screening for caries or other oral disease
- Treatment/restorative services
- Public education on oral health issues
- Other (Please specify): _____

Primary age group(s) targeted by the program (*check all that apply*):

- Early childhood (ages 0 to 5)
- School-age children and youth (ages 6 to 18)
- Non-senior adults (ages 19 to 59)
- Seniors (ages 60 and over)

Description of services provided and/or activities conducted:

- Oral examination, oral diagnosis and treatment planning
- Intra-oral and extra-oral radiography (low dose x-rays)
- Preventive / non-surgical periodontal care (professional cleanings)
- Restorative dentistry (alloy and resin fillings)
- Limited fixed prosthodontics (crown and bridge)
- Limited endodontic services (premolar, anterior and some molar root canal treatment)
- Limited periodontal surgical services (gingivoplasty)
- Oral surgery (extractions, soft tissue surgeries, biopsies)
- Off-site biopsy service (oral pathology laboratory diagnostic services)
- Professional consultation with family members regarding patient care
- Referral to community-based dental specialists as needed.

Summary of service levels for the period July 1, 2007 – June 30, 2008:

Total number of people served:.....1,336

Units of service:

- 1. Dental patient visits3,791
- 2. Dental services4,652
- 3. Minutes of service (with RVUs of 10,391.12) 100,401

Program achievements during the period July 1, 2007 – June 30, 2008:

- Tooth brushing and sealant programs in Tribal Head Start Schools.
- Teaching good dental care to patients of all ages, especially those with diabetes and those at risk for diabetes.

Challenges currently faced in conducting program activities:

- One major challenge is to educate parents on the importance of dental care for children. Some parents base treatment directly upon their self-perceived need for care rather than a need detected during an oral examination.

b. Appendix B – Acronyms Used In This Report

AAP	American Academy of Periodontology
AAPD	American Academy of Pediatric Dentistry
ADA	American Dental Association
AS	Associate of Science
BRFSS	Basic Risk Factor Surveillance Survey
BS	Bachelor of Science
BSS	Basic Screening Survey
CCOH	Community Coalition for Oral Health (Clark County)
CSN	College of Southern Nevada
CDC	Centers for Disease Control and Prevention
CDOHC	Carson/Douglas Oral Health Coalition
CHC	Community Health Centers
CLPS ROHC	Churchill, Lyon, Pershing, and Storey Counties' Regional Oral Health Coalition
CNOHC	Central Nevada Oral Health Coalition (Esmeralda, Lincoln, Mineral & Nye Counties)
CUSP	Northern Nevada Dental Coalition for Underserved Populations (Washoe County)
DDS	Doctor of Dental Surgery
DMD	Doctor of Dental Medicine
DNA	Data not available / Data not analyzed
DNC	Data not collected
DSU	Data statistically unreliable
ECC	Early Childhood Caries
EPSDT	Early Periodic Screening, Diagnosis and Treatment
FPL	Federal Poverty Level
FQHC	Federally Qualified Health Center
HAWC	Health Access Washoe County, Inc.
HCAP	Health Care Access Program
HP2010	Healthy People 2010
HPSA	Health Professional Shortage Areas
HRSA	Health Resources and Services Administration
IARC	International Agency for Research on Cancer
IHS	Indian Health Service
MECON	Medical Education Council of Nevada
NCHS	National Center for Health Statistics
NECOH	Northeastern Coalition for Oral Health (Elko, Eureka, Humboldt, Lander, and White Pine Counties)
NHANES	National Health and Nutrition Examination Survey
NSBDE	Nevada State Board of Dental Examiners
NSCH	National Survey of Children's Health
NSDUH	National Survey on Drug Use and Health
OHAC	Oral Health Advisory Committee

PANDA	Prevent Abuse and Neglect through Dental Awareness
SCHIP	State Children's Health Insurance Program
SFY	State Fiscal Year
TMCC	Truckee Meadows Community College
UCCSN	University and Community College System of Nevada
UNLV	University of Nevada, Las Vegas
UNLV SDM	University of Nevada, Las Vegas, School of Dental Medicine
USDHHS	United States Department of Health and Human Services
WICHE	Western Interstate Commission for Higher Education
YRBSS	Youth Risk Behavior Surveillance System

