The Burden of Oral Disease in Nevada-2003

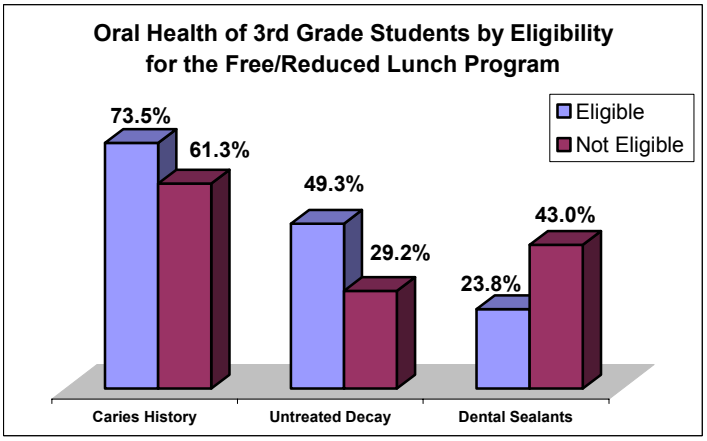
In 1948, the World Health Organization defined health as "a complete state of physical, mental, and social well-being, and not just the absence of infirmity." As new research continues to discover associations between chronic oral disease with heart and lung diseases, low birth-weight, and diabetes, it is becoming clear that a person cannot attain a complete state of good health without good *oral* health. Although safe and effective methods exist for preventing disease and improving oral health, populations with lower socioeconomic status and lack of access to care suffer disproportionately from oral diseases and are more likely to have untreated conditions. Unfortunately, Nevada is not lacking in these populations; 10.5 percent of the population was at or below the Federal Poverty Level in 1999.

The State Oral Health Program is releasing data from its first annual report to summarize the burden of oral disease in Nevada. Oral health data is organized by age group: children (estimated by 3rd grade students), adolescents, adults and seniors. Incidence and mortality rates of Nevadans due to oral cancer, which includes disease of the lips, pharynx, and oral cavity, are also reported.

Children

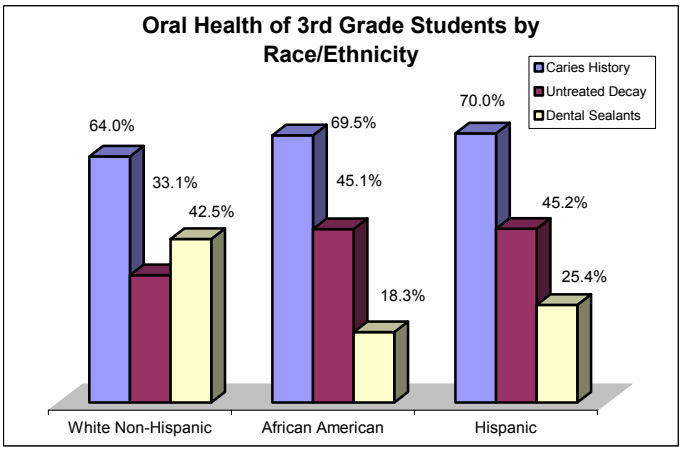
Oral diseases are cumulative and become more complex over time. They progressively affect a person's ability to eat, communicate, and function in society. According to *Oral Health in America: A Report of the Surgeon General*, tooth decay is the single most common chronic childhood disease, with poor children experiencing twice as much decay as nonpoor children. The Oral Health Program uses participation in the Free/Reduced Lunch Program as an indicator of socioeconomic status. A study of third grade children in Nevada (2003) showed that a significantly higher proportion of children eligible for the meal program, compared to those not eligible, had a history of caries (74% vs. 61%), had untreated decay (49% vs. 29%), and had a need for urgent dental care because of pain or infection (11% vs. 3%).

Figure 1.



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

Figure 2.



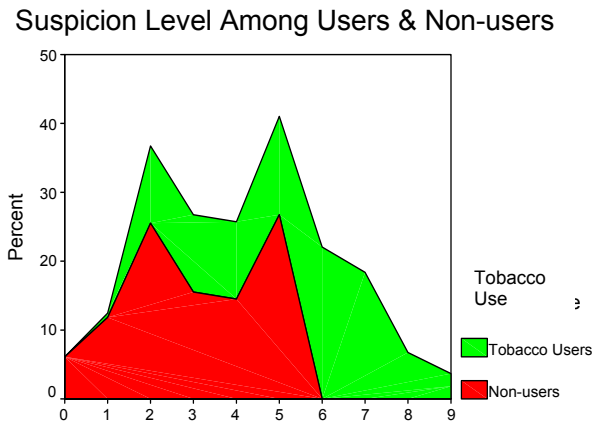
Other key findings of the study showed:

- 67% of children had cavities/fillings
- 33% of children had dental sealants
- Only 58% of parents reported that their child had seen a dentist within the last 12 months
- 11% of parents reported that their child had never been to a dentist
- 20% reported that they had trouble accessing dental care during the last year; the primary reasons being cost and no insurance
- 65% reported that their child had some type of dental insurance coverage

Adolescents

New risk factors are introduced in the teen cohort, such as eating disorders, alcohol consumption and tobacco use. Data provided by the Crackdown on Cancer program shows that these risk factors may have an effect on oral health. It is estimated that 19.4 percent of adolescents are tobacco users. Sixty-eight percent of serious tissue abnormalities (suspicion level 6-10) were found among tobacco users, compared to thirty-two percent of non-users.

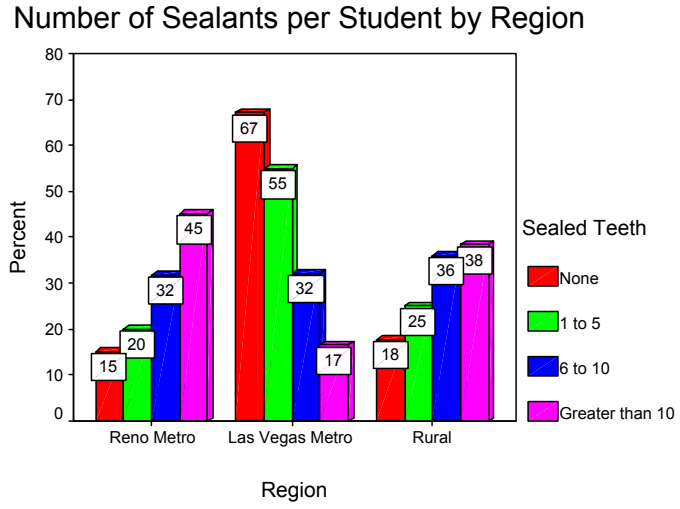
Figure 4.



*Suspicion levels indicate severity of the lesion on a scale of 1-10. The more sever a lesion, the better the chance it will progress to oral cancer.

For the 2002-2003 academic year, students age 14-18 had an average of 2.5 sealants. Students from Northern Nevada and rural areas tended to have more sealants than those from the Las Vegas area.

Figure 5.



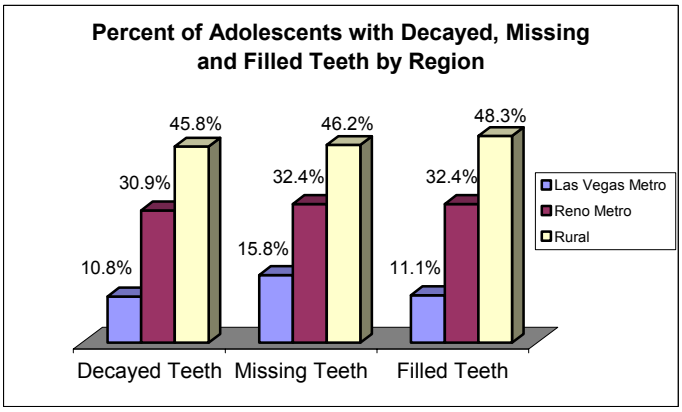
*adjusted for non-response
*bars of the same color add up to 100%

The program was able to record the actual number of teeth affected by dental caries in each student. It was found that the average number of

- decayed teeth per student was 1
- missing teeth per student was 0.3
- filled teeth per student was 1.7

The percentage of adolescents with decayed, missing, and filled teeth is shown below by region.

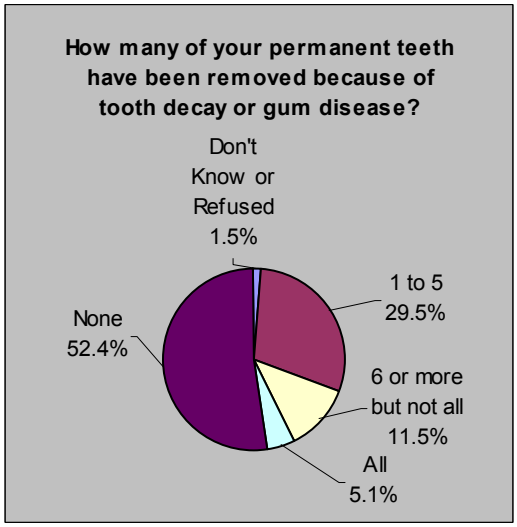
Figure 6.



Adults and Seniors

Although nearly 60 percent of adults have visited a dentist or dental clinic within the past year, there is much room for improvement. About 23 percent have not received dental services for 2 or more years. Approximately two percent have never seen a dentist nor been to a dental clinic. Also, a large percentage of adults and seniors have lost one or more teeth due to tooth decay or gum disease.

Figure 7.



In 1999, a study by Cristman Associates estimated that 16.5 percent of seniors had lost all of their natural teeth. Problems such as difficulty chewing, swallowing, pain, or possible gum disease were also researched. The results are summarized in Figure 7 below.

Figure 8.

Responses by by Staff Report at LTC/SNFs & Senior Reports at Community Senior Centers (1999)	
Item of Inquiry about Oral Health	**General Community**
Chewing problems	24%
Swallowing problems	
Mouth pain	8%
Have dentures or removable bridges	58%
Have lost some natural teeth, but have no dentures or partial plate	23%
Lost all natural teeth, but no dentures	6%
Broken, loose or carious teeth	14%
Inflamed gums (gingiva), swollen or bleeding gums	6%
Oral infections, ulcers or rashes	3%

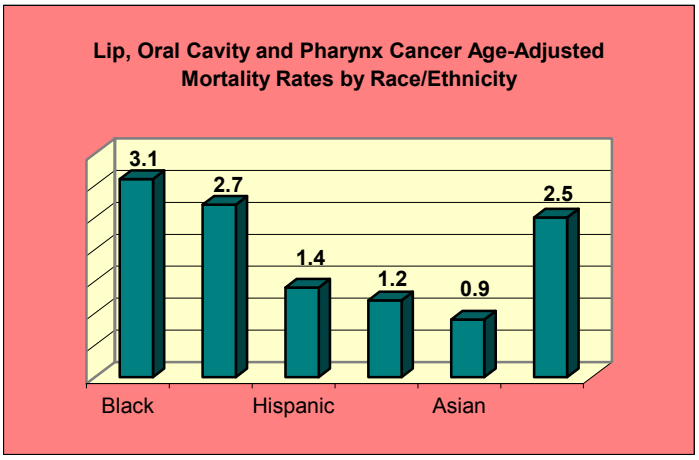
*LTC/SNF – Long Term Care/Skilled Nursing Facilities

Oral Cancer

In 2000, Nevada recorded 210 cases of oral cancer, representing 2.3% of all cancers in Nevada. The rate for these cancers was twice as high for men as for women (13.84 cases per 100,000 compared to 6.85, respectively). With a high of 11.09 and a low of 9.12, the incidence rate of oral cancer in Nevada has remained fairly constant in recent years. Nevada's total incidence rate (10.4) was lower than the national rate (11.0). Whites experienced the highest incidence rate of any other racial/ethnic group at 11.5 cases per 100,000 population.

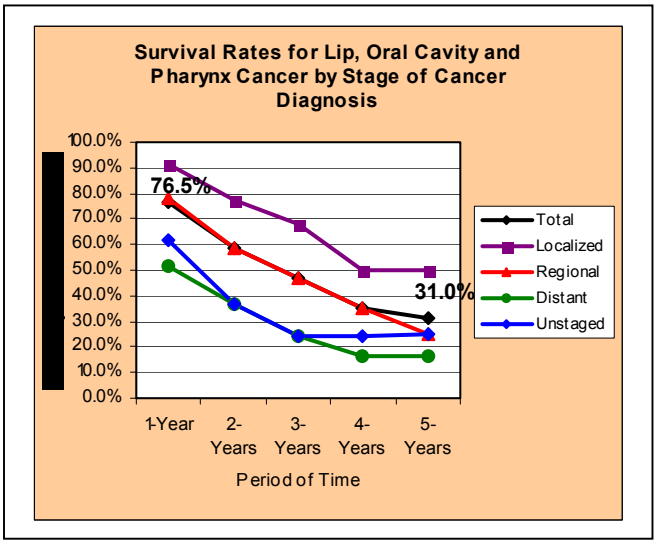
Similarly, the mortality rate for men (3.2) from lip, oral cavity and pharynx cancer was higher than that for women (1.8). African Americans experienced the highest mortality rate of any other racial/ethnic group. Between 1996 and 2000, Nevada had 213 deaths from oral cancer, equaling a mortality rate of 2.5 per 100,000 population.

Figure 9.



The median age at diagnosis of Lip, Oral Cavity and Pharynx Cancer for Nevada residents between 1996 and 2000 was 62 years. Nevadans were diagnosed at one of five possible stages: in situ, localized, regional, distant, and unstaged (unknown). A decline in survival rates is suggested as the extent of disease increases in severity. The five-year survival rate for Nevadans with oral cancer at the localized stage was 49.9 percent. Survival rates for those at the regional and distant stages were 25.0 percent and 16.1 percent, respectively. Between 1996 and 2000, the five-year survival rate for women (28.5%) was slightly less than that for men (33.6%).

Figure 10.



Progress

Healthy People 2010 is a comprehensive plan for nationwide heath promotion and disease prevention. Although it focuses on improving the heath of the entire nation, it does provide a guideline for Nevada's efforts. Nevada has met only three of the Healthy People 2010 objectives for oral health described below (indicated by *).

1. Reduce the proportion of children and adolescents with dental caries experience

	Nevada Now	HP2010 Target
Children	67%	42%
Adolescents*	38%	51%

2. Reduce the proportion of children and adolescents with untreated dental decay

	Nevada Now	HP2010 Target
Children	39%	21%
Adolescents	33%	15%

3. Reduce the proportion of older adults who have had all their natural teeth extracted

	Nevada Now	HP2010 Target
Seniors*	20%	20%

4. Increase the proportion of adults who have never had a permanent tooth extracted because of dental caries or periodontal disease

	Nevada Now	HP2010 Target
Adults*	52%	42%

5. Increase the proportion of oral cancers diagnosed in Stage I (localized)

	Nevada Now	HP2010 Target
Stage I diagnosis	32%	50%

6. Increase the proportion of the population served by community water systems with optimally fluoridated water

	Nevada Now	HP2010 Target
Fluoridated	69%	75%

7. Increase the proportion of children and adolescents with dental sealants

	Nevada Now	HP2010 Target
Children	33%	50%
Adolescents	40%	50%

8. Increase the proportion of low-income children and adolescents who received any preventive dental services in the past year

	Nevada Now	HP2010 Target
Ages 0-18	39%	57%

Summary

Pain and suffering due to oral diseases can lead to problems in eating, speaking, and attending to everyday tasks for people of all ages, rendering Nevadans unproductive and unhappy. More than 51 million school hours and 164 million work hours are lost each year due to dental related illness. Nevada must focus on prevention of oral diseases to combat these negative effects.

Considerable improvement is needed in order to bring Nevada's oral health status up to the Healthy People 2010 standards. Some proportions must be improved by as much as 18 percent. These disparities imply that the quality of life of Nevadans can, and must, be improved. To accomplish this, the State Oral Health Program is developing public education and media campaigns, creating a surveillance system, and establishing public and private partnerships. It is hoped that the efforts of the program will help reduce the burden of oral disease in Nevada, as oral health is an essential component of health throughout life.