Healthy Smiles for Healthy Living

Senior Oral Health Survey
Nevada 2005

Bureau of Family Health Services
Nevada State Health Division
Department of Health and Human Services

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Introduction

At the beginning of the 20th century, four percent of the population (3.1 million) was age 65 or older. More than a tenfold increase to 12.7 percent (34.3 million) had occurred by 1998. The senior population will continue to grow, and healthcare will become an even more urgent issue considering the heterogeneity that will exist within a population that spans over 20 years in ages[1]. According to the Nevada State Demographer's projections, seniors age 65 and older will make up 13 percent of the state's population in 2005. Nevada will thus have to evaluate healthcare just as the rest of the aging nation.

Within the past two years, the Nevada Oral Health Program (OHP) has conducted two open-mouth screening surveys statewide. The Healthy Smile – Happy Child screenings have provided insight and baseline data regarding the prevalence of oral disease in pre-school aged children and in third graders. This year, the population screened was seniors. The Healthy Smiles for Healthy Living Screening Survey was created for seniors 65 and older who reside in assisted living facilities statewide. Eleven facilities were included and visited over the course of five months. OHP staff collected prevalence data on caries experience, untreated decay, edentulism (loss of all natural teeth), and the need for urgent care. The survey results, presented in this report, serve as an initial estimate of the need for dental care among a cross-section of the senior population.

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[1] All figures in paragraph from http://www.cda.org/member/pubs/journal/jour999/future.html.

This report is available on the State Health Division website www.health2k.state.nv.us/oral. Comments, suggestions, and requests for further information may be addressed to:

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Sampling and Methodology

This survey was based on the methods outlined in the Association of State and Territorial Dental Directors' (ASTDD) 1999 publication *Basic Screening Surveys: An Approach to Monitoring Community Oral Health.*

All assisted living facilities in Nevada with at least 20 beds composed the sampling frame. At the time the sample was chosen, there were 1,882 residents of age 65 years and over in 25 facilities statewide. The facilities were first grouped by region (Washoe County, Clark County, and Rest of State) and then by number of beds. Fifty percent of the facilities (12) were then systematically chosen to construct the sample. Two of the facilities refused to participate and replacements were chosen. However, one of the replacements also declined. Due to lack of time and funding, the final sample included only 11 facilities.

A package was sent to each facility in preparation for the screenings. Each package contained a set of flyers to be posted around the facility, along with sign-up sheets where residents could reserve a 15-minute time slot for his/her screening. Envelopes with a free magnifying lens and brochure on senior oral health were also distributed to every resident in the chosen facilities as an incentive for participation. All residents in the facilities age 65 and over were eligible for the screening.

At each facility, two stations were set up, one for interviewing the participant and another for the visual screening. One staff member interviewed the participants using a questionnaire with seven items. The questionnaire included four items from the Behavioral Risk Factor Surveillance Survey and three others from the ASTDD screening guide. After the participant was interviewed, he/she was asked to sign a release of liability consenting to the visual screening. One Nevada licensed dental hygienist performed all the screenings using a flashlight, gloves, and disposable mirrors.

The data were collected in real-time and stored in an MS Access database. The condition of each tooth was recorded as sound, filled, decayed, decayed and filled, missing, or not recordable. A tooth was marked "decayed" if there was visible untreated decay (as described in the ASTDD guidelines) present. Teeth with amalgam and composite fillings or crowns, and missing teeth replaced with bridges, were marked "filled." Any tooth with an existing restoration and visible recurrent decay was marked "decayed and filled." A Treatment Urgency rating was also assigned to each senior by the criteria below:

Urgent Care – signs or symptoms that include pain, infection, swelling, or soft tissue ulceration of more than two weeks duration (determined by questioning)

Needs Restorative Care – visible caries without accompanying signs or symptoms, individuals with spontaneous bleeding of the gums, or suspicious white or red soft tissue areas

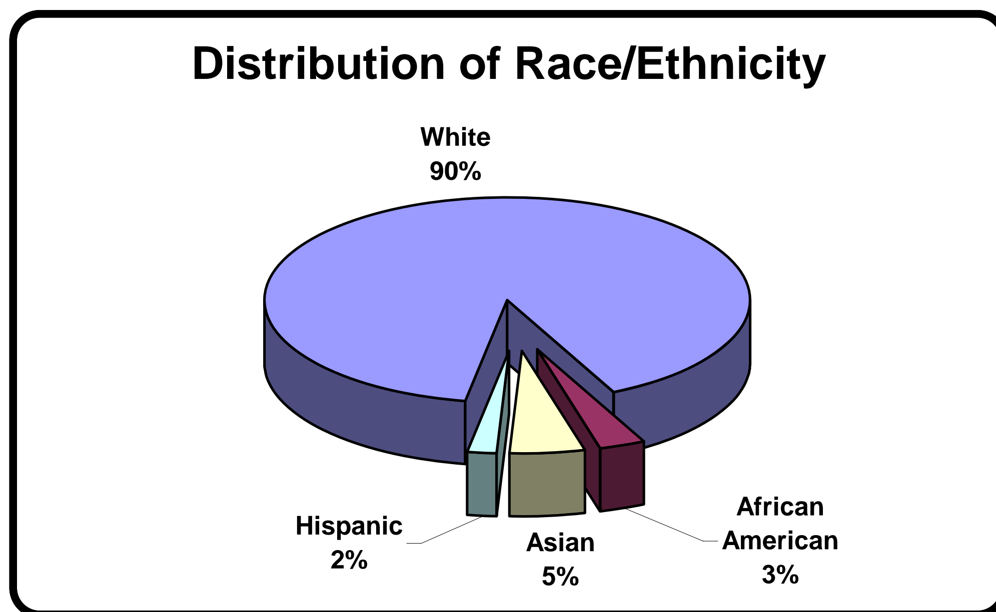
No Obvious Problem/Needs Routine Preventive Care – any senior without the above problems

The MS Access data file was imported to SPSS (Statistical Package for the Social Sciences) for editing and analysis. The data were weighted for non-response. Complete lists of the assisted living facilities and their participation rates can be found in the Appendix (Table 12).

Screening Results

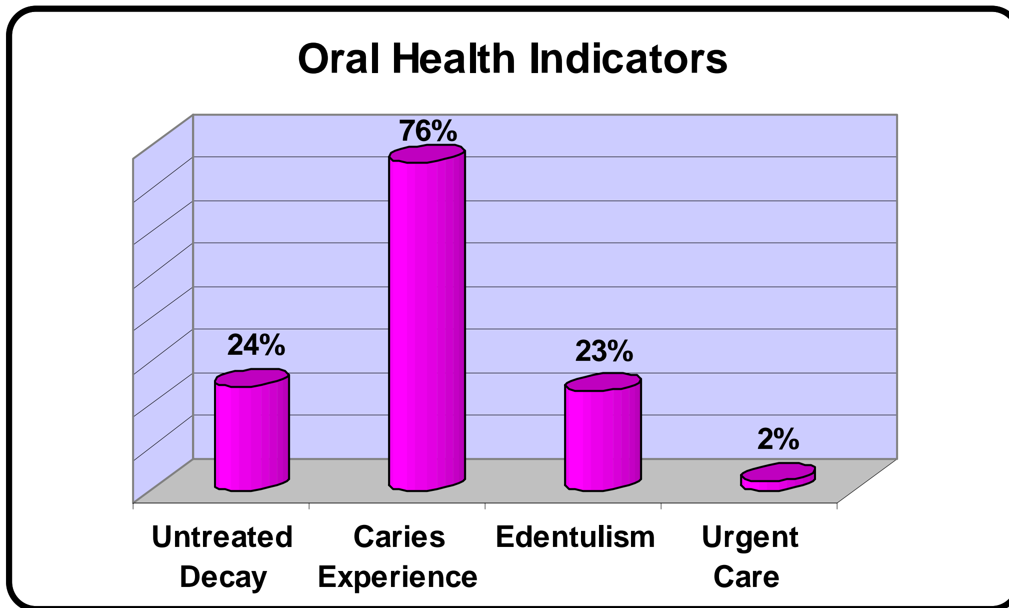
A total of 269 seniors were screened out of a possible 839, resulting in a 32 percent response rate. The average age of participants screened was 83 years. According to the Nevada State Demographer's 2005 projections, the percentage of women who are age 65 years and over is about 53 percent. However, in our sample, 75 percent were female. Ninety percent of the seniors screened were White, Non-Hispanic, with only a few distributed between the other races/ethnicities. This may be attributed mostly to cultural differences where Hispanic and Asian families, for instance, are more likely to care for their elderly members. Thus, the data support no conclusions on the differences in oral health between racial/ethnic groups.

Figure 1.



The oral health indicators of interest are the prevalence of untreated decay, caries experience, edentulism (loss of all natural teeth), and the percentage of seniors in need of urgent dental treatment. Statewide prevalence rates are depicted in Figure 2. Expanded results, including confidence intervals, can be found in the Appendix (Tables 1-11).

Figure 2.



Although no differences between racial groups could be determined, the data could be grouped and analyzed by region. The distribution of seniors screened in each region differed from that of the senior population throughout the state (Clark: 69%, Washoe: 15%, Rest of State: 16%). Oral health indicators are shown in Figure 4 for each region.

Figure 3.

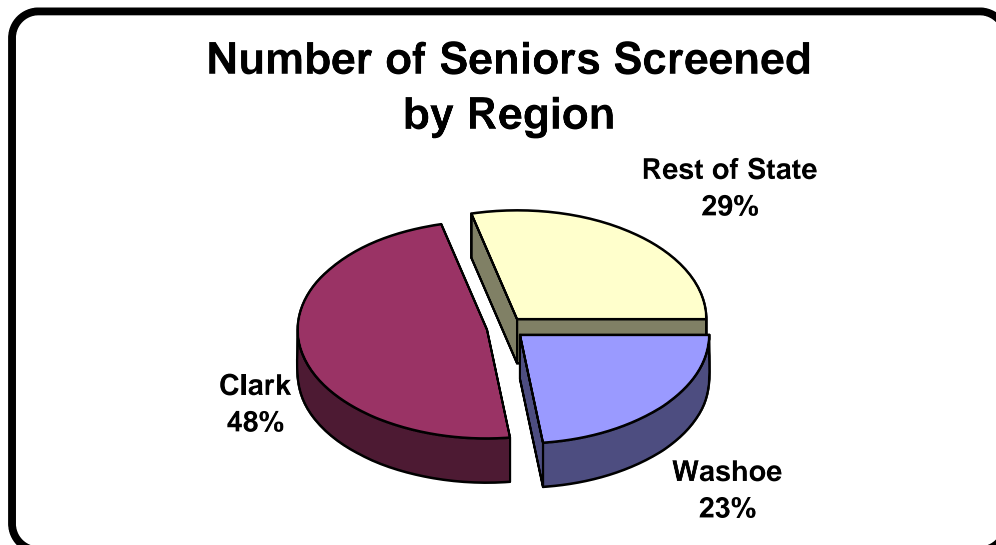
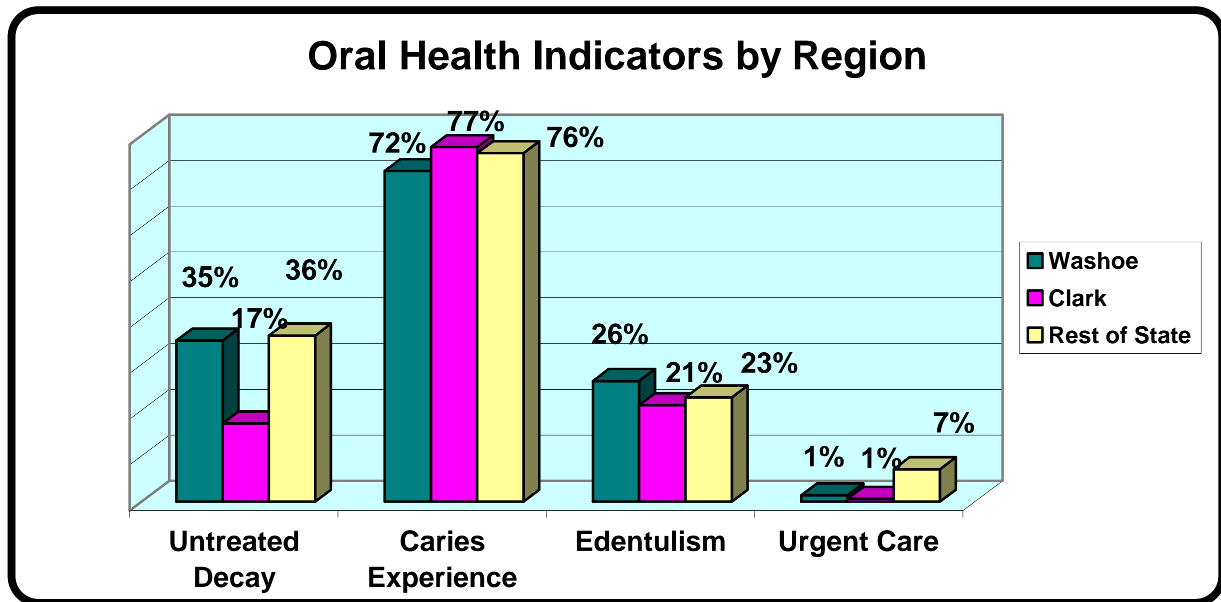


Figure 4.



No statistical differences could be concluded for the indicators of caries experience and edentulism. However, differences were found between regions for untreated decay and need for urgent care. Nearly 20 percent more seniors in Washoe County (35%) and the rest of the state (36%) had untreated decay than seniors in Clark County (17%). There were no differences in the need for urgent care in Washoe County and Clark County (1% in each region). However, both regions differed from the rest of the state, where seven percent of seniors needed urgent care.

Survey Results

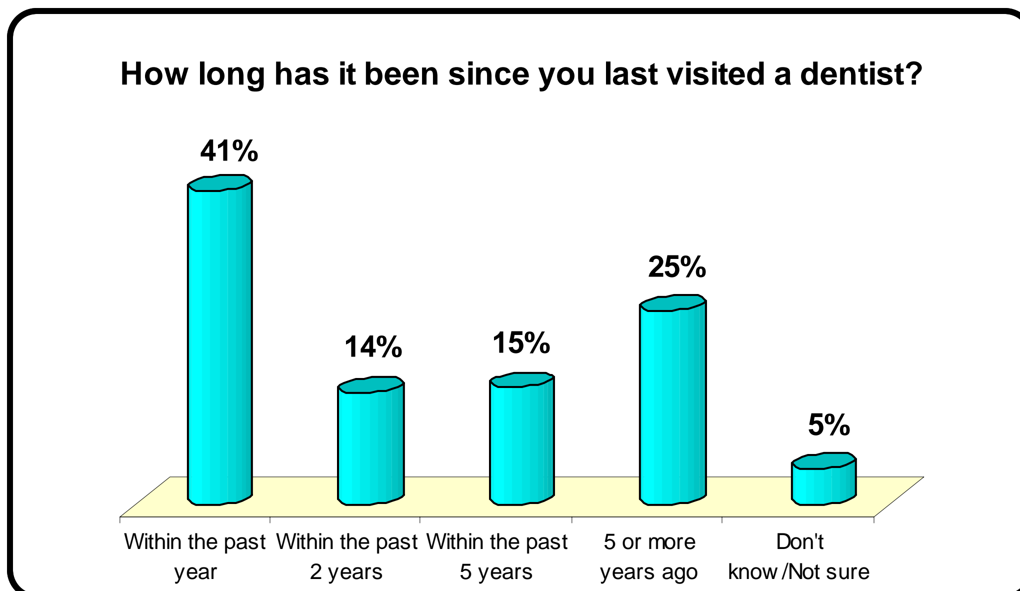
All participants were asked a set of seven questions before being screened. The questions served to paint a picture of the frequency of dental care sought by seniors in the facilities and also their access to dental care. The seven questions and their sources were:

1. How long has it been since you last visited a dentist? (BRFSS & ASTDD)
2. What was the main reason you last visited a dentist? (ASTDD)
3. How many of your permanent teeth have been removed because of tooth decay or gum disease? Do not include teeth lost for other reasons, such as injury or orthodontics. (BRFSS)
4. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare? (ASTDD)
5. Do you have any kind of insurance coverage that pays for some or all of your routine dental care, including dental insurance, prepaid plans such as HMOs, or government plans such as Medicare? (BRFSS & ASTDD)
6. During the past 12 months, was there a time when you needed dental care but could not get it at that time? (ASTDD)

7. What is the main reason you have not visited the dentist in the past year? (ASTDD; asked only if the answer to question 6 was "Yes")

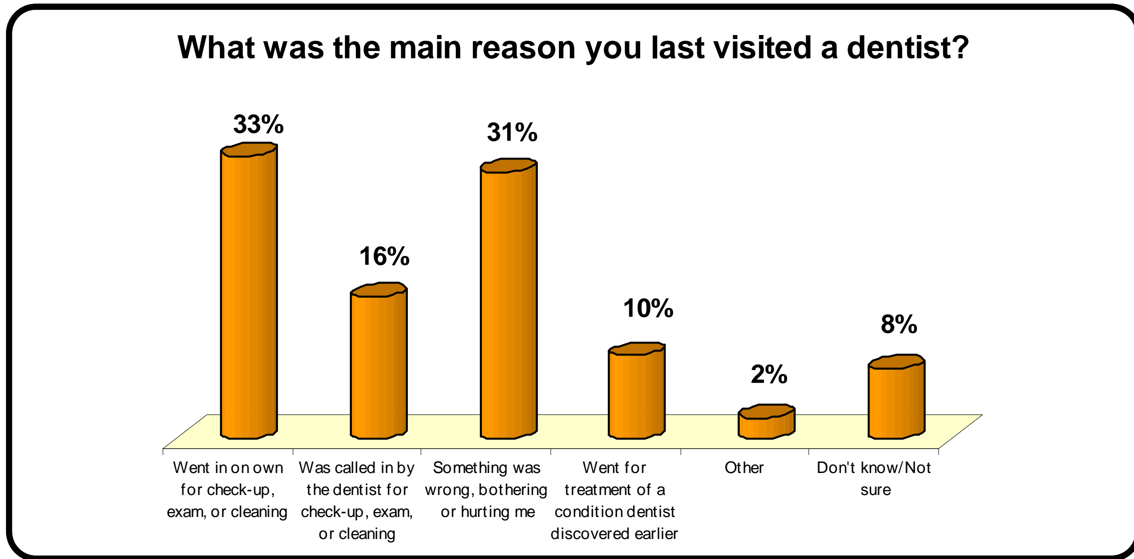
The results for each question, however, must be interpreted with caution. Data quality from the interviews was compromised due to the high number of participants with dementia or memory loss. Very few staff members were able to answer the questions on behalf of the residents. Also, many seniors were not in charge of their own finances and thus were not informed of what insurance plans they had. These duties were normally given over to the seniors' family members. The following charts present the results to each question:

Q1.



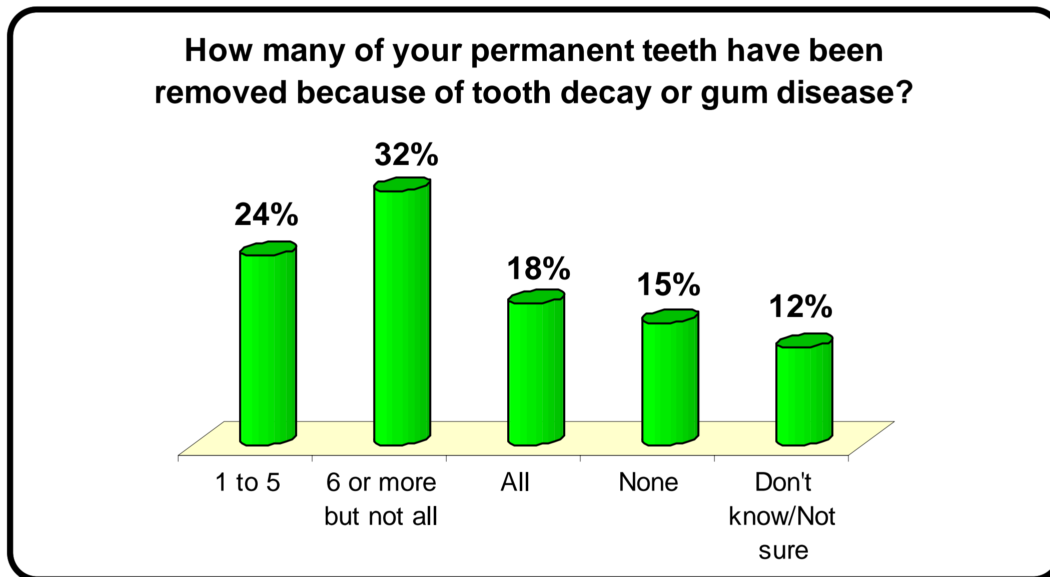
- Forty-one percent of participants claimed that they had visited a dentist within the past year. According to the results of the 2004 Behavioral Risk Factor Surveillance Survey (BRFSS), a statewide telephone survey conducted yearly, 65 percent of seniors age 65 and older had visited a dentist, dental hygienist, or dental clinic within the past year. It is counter-intuitive that more members of the general population would have visited a dentist within the past year, given that those in assisted living facilities presumably have transportation and more thorough medical/dental supervision. Inaccurate reporting, thus, may have skewed these results.

Q2.



- Although 33 percent of seniors went in for dental check-ups on their own, over 57 percent saw a dentist for some other reason. Most only visited the dentist when they had a problem. This is evidence that the senior population might not perceive preventive dental care as an important part of their health. Perhaps oral health education is needed even at older ages.

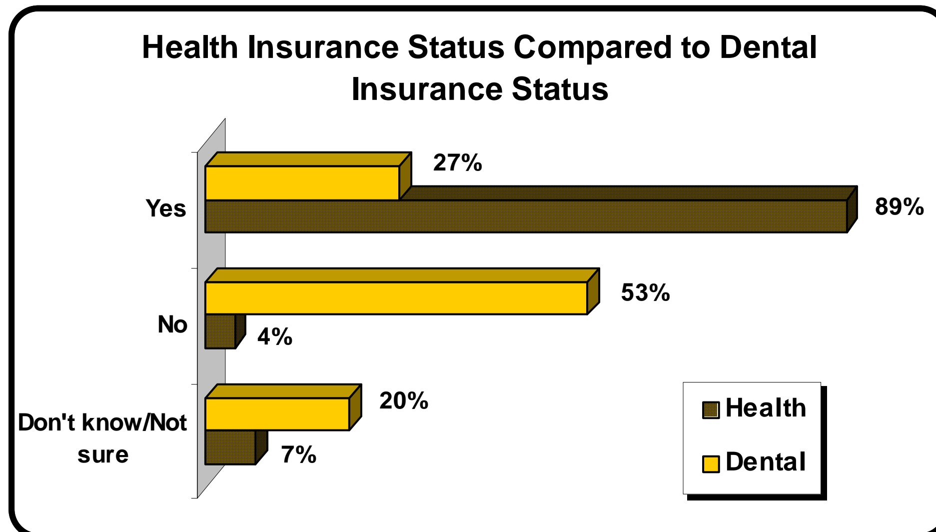
Q3.



- The proportion of survey participants who have had all teeth removed due to decay or gum disease (18%) is similar to that of the respondents of the BRFSS (17%). The results for the remaining categories are not as accurate. Among “1 to 5,” “6 or more but not all,” and “None,” 44 percent of the respondents had misclassified themselves, as evidenced by the comparison between screening and

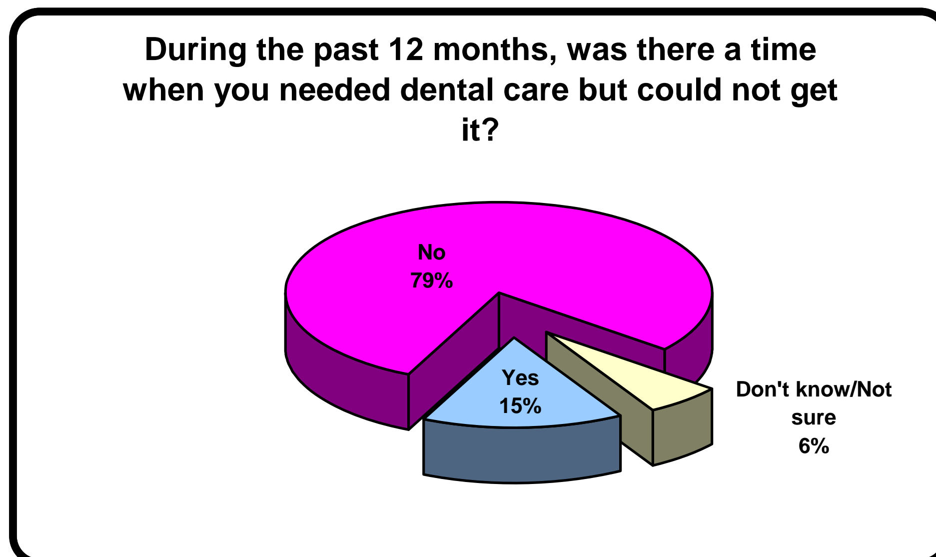
survey data. It was very common for the seniors to also be unaware of the true reason why their teeth had been removed.

Q4-5.



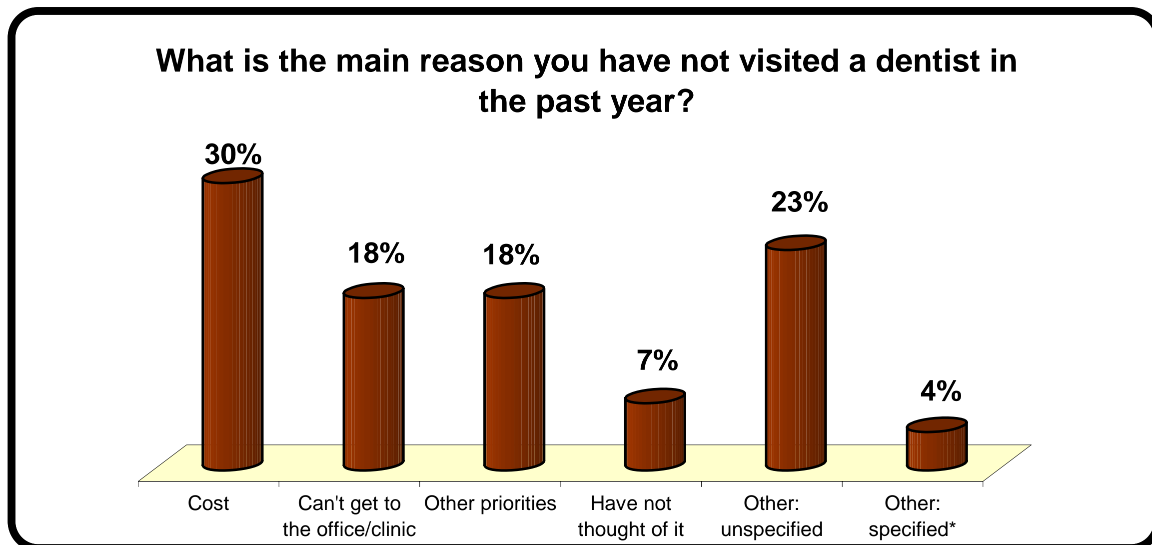
- In most cases, survey respondents had knowledge of whether or not they had health insurance. However, very few were aware of their dental insurance status. A common response was that one of their children or family members took care of their finances. According to the survey results, one senior had dental insurance to every 3 who had health insurance. The data on this may be skewed, however, because in order to qualify for any assisted living center in the sample, residents were required to be able to pay with either private funds or Medicare. Fifty-three percent of seniors had no coverage for their routine dental care. Fifty-eight percent of seniors contacted in the BRFSS had no dental coverage.

Q6.



- Question 6 is meant to estimate the ease with which seniors can access dental care when it is needed. Fifteen percent of respondents recognized that they needed dental care within the past year but were not able to receive it. This number is likely an underestimate, as numerous participants with visible dental problems answered that they did not need dental care. Specifically, 63 seniors who were in need of either restorative care or urgent care claimed that they did not need dental care. This amounts to at least 23 percent of survey participants misclassifying themselves for this survey item.

Q7.



*"Other: specified" includes the following choices: Fear, Do not have/know a dentist, No reason to go, Don't know/not sure.

- Among those seniors who could not access dental care within the past year, cost was the most common reason why care was not received. Additional reasons were distributed fairly equally between lack of transportation, other priorities, and other.

Discussion

The OHP has performed the BSS for three consecutive years. During the first two years of screening, data was collected on third graders and preschool children (from Head Start). The cost per person screened for those years was approximately $5.25 and $9.00, respectively. For the senior BSS, the cost per person screened was $53.85. Furthermore, this cost is underestimated as many of the supplies used were already in the OHP's inventory from previous years, and nearly half of the dental hygienist's time was excluded (the hygienist is OHP staff and only overtime costs were included).

Why was the senior screening 6-10 times as expensive as previous screenings?

The per capita cost of the project alone implies that the screening was not ideal in several areas. OHP staff was met with adversity from the beginning stages through the end. Although the accuracy of the prevalence data itself was not compromised, the estimates inferred from them and the survey results are sketchy; it is worth discussing the obstacles encountered and treating this BSS as a learning experience for the OHP and for other states.

Groundwork for the Senior Oral Health Survey began in summer 2004. After much discussion it was decided that the most feasible sampling frame would be assisted living facilities because a) the general senior population was too difficult and expensive to access b) residents of skilled nursing facilities were drastically different in nature from seniors in the general population c) residents of assisted living facilities would be "captive," more available for screenings on any given day and d) residents in assisted living would be closer health-wise to seniors in the general population. Unfortunately, the two assumptions made about the seniors in assisted living were untrue. Not only were the residents less cooperative than expected, their health was not as good as the OHP staff predicted. Thus, flexibility was a key component in the screening process. Situations arose where residents had signed up to be screened and then chose not to participate; had not signed up and wanted to participate; or had difficulty or were unable to move from one chair to another. A number of residents had dementia and required extra time and patience on the part of the screening team.

The other main hindrance in the screening process was the cooperation of assisted living facility staff. The high turnover in staff at most facilities affected the screenings in a myriad of ways. It led to the staff not having as much knowledge about the residents. There were several incidences where the staff did not realize that a resident had a removable partial or denture. When asked for additional information about the patients, the staff was often unaware when the seniors' last dental visits were and what type of insurance they held. This was also a result of the variability in how long residents had stayed in the facilities. Some were there temporarily because of recovery from surgery and some had been moved from other assisted facilities; it was discovered that many seniors had not lived in Nevada for very long (mostly true in Southern Nevada). Thus, any data gleaned from that population would not give the OHP much information about the need for senior oral health education in Nevada.

The facility staffs affected the screening mostly by how they went about transporting and recruiting residents. With no staff assistance, the time needed to transport residents to the screening area was greatly increased. In terms of recruitment, even though screening schedules and flyers were sent out well in advance, signing-up residents often did not occur at all or was not made a priority by the staff.

The following recommendations are for future consideration in the interest of improving the senior screening.

- Increase the sample size by one hundred percent if doing screening in assisted living facilities. The residents are still very independent and their decision to participate is influenced by other events occurring on the day of the screening.

- Realize that staff turnover in assisted living facilities is fairly high and that you may deal with several different individuals throughout the approval and scheduling process.

- Specifically request that a staff member who is well acquainted with the residents be on hand the day of the screening. This person can help identify the residents who have signed up to be screened as well as help find others who might be interested in being screened. If the person is well acquainted with the residents they may also be able to help the resident answer the questionnaire.

Appendix

*Note: “95% Lower Bound” and “95% Upper Bound” are the respective bounds for 95% confidence intervals in each data table

Chart 1.

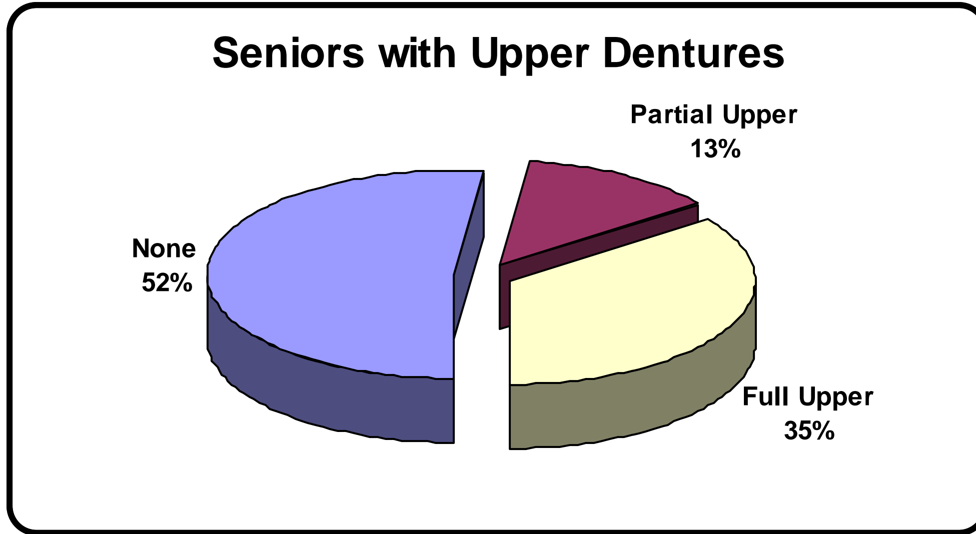


Chart 2.

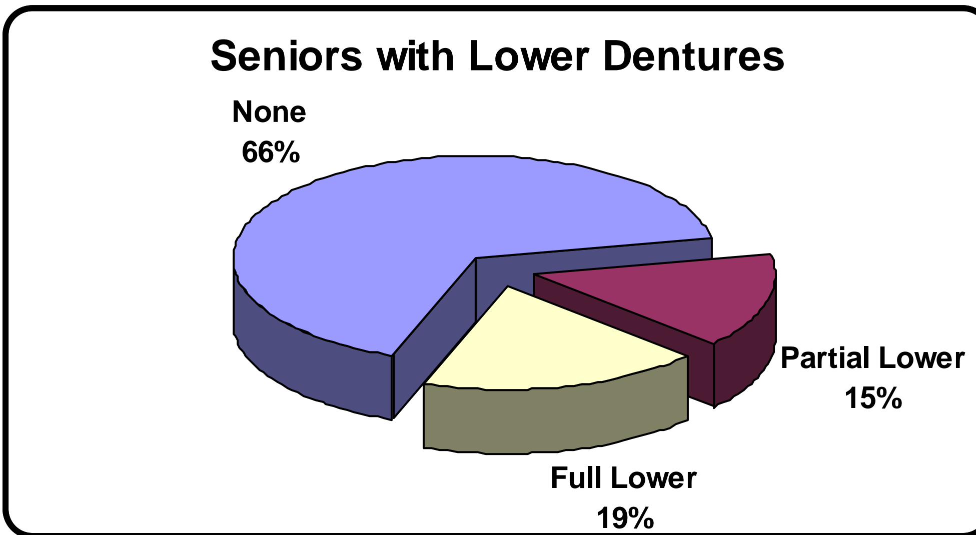


Table 1.

Treatment Urgency

Nevada Total	95% Lower Bound	Percentage	95% Upper Bound
No Obvious Problem	72%	75%	78%
Needs Restorative Care	20%	23%	26%
Urgent Care	1%	2%	3%

Table 2.

Untreated Decay

Region	95% Lower Bound	Percentage	95% Upper Bound
Washoe	27%	35%	43%
Clark	14%	17%	20%
Rest of State	29%	36%	44%
Nevada Total	21%	24%	27%

Table 3.

Caries Experience

Region	95% Lower Bound	Percentage	95% Upper Bound
Washoe	65%	72%	80%
Clark	74%	77%	81%
Rest of State	69%	76%	83%
Nevada Total	73%	76%	79%

Table 4.

Edentulism

Region	95% Lower Bound	Percentage	95% Upper Bound
Washoe	19%	26%	34%
Clark	17%	21%	25%
Rest of State	16%	23%	29%
Nevada Total	20%	22%	25%

Table 5.

Urgent Treatment

Region	95% Lower Bound	Percentage	95% Upper Bound
Washoe	0%	1%	3%
Clark	0%	1%	1%
Rest of State	3%	7%	11%
Nevada Total	1%	2%	3%

Table 6.

How long has it been since you last visited a dentist?

Answer	95% Lower Bound	Percentage	95% Upper Bound
Within the past year	38%	41%	44%
Within the past 2 years	12%	14%	16%
Within the past 5 years	13%	15%	17%
5 or more years ago	22%	25%	28%
Don't know/Not sure	3%	5%	7%

Table 7.

What was the main reason you last visited a dentist?

Answer	95% Lower Bound	Percentage	95% Upper Bound
Went in on own for check-up, exam, or cleaning	30%	33%	36%
Was called in by the dentist for check-up, exam, or cleaning	13%	16%	19%
Something was wrong, bothering or hurting me	28%	31%	34%
Went for treatment of a condition dentist discovered earlier	8%	10%	12%
Other	1%	2%	3%
Don't know/Not sure	6%	8%	10%

Table 8.

How many of your permanent teeth have been removed because of tooth decay or gum disease?

Answer	95% Lower Bound	Percentage	95% Upper Bound
1 to 5	21%	24%	27%
6 or more but not all	29%	32%	35%
All	15%	18%	21%
None	13%	15%	17%
Don't know/Not sure	10%	12%	14%

Table 9.

Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicaid?

Answer	95% Lower Bound	Percentage	95% Upper Bound
Yes	87%	89%	91%
No	2%	4%	5%
Don't know/Not sure	5%	7%	9%

Table 10.

Do you have any kind of insurance coverage that pays for some or all of your routine dental care, including dental insurance, prepaid plans such as HMOs, or government plans such as Medicaid?

Answer	95% Lower Bound	Percentage	95% Upper Bound
Yes	24%	27%	30%
No	49%	53%	56%
Don't know/Not sure	17%	20%	23%

Table 11.

During the past 12 months, was there a time when you needed dental care but could not get it?

Answer	95% Lower Bound	Percentage	95% Upper Bound
Yes	13%	15%	18%
No	76%	79%	82%
Don't know/Not sure	4%	6%	7%

Table 12.

Participation Rates at Assisted Living Facilities Sampled

Facility Name	City	Number of Residents 65+	Number of Seniors Screened	Participation Rate
Silver Rose Manor	Fallon	33	18	55%
Sierra Place Retirement Community	Carson City	60	27	45%
Mountain Springs Assisted Community	Carson City	72	33	46%
Concorde Senior Citizen Residence	Las Vegas	75	39	52%
Loyalton of Las Vegas.	Las Vegas	71	31	44%
Margaret Rose Residential Care Center	Las Vegas	78	22	28%
The Palms at Sienna	Las Vegas	113	11	10%
The Grand Court Las Vegas	Las Vegas	173	25	14%
Odd Fellows Retirement Manor Inc	Reno	60	19	32%
Monaco Ridge	Reno	37	9	24%
Alterra Wynwood of Sparks	Sparks	67	35	52%