NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs *for all*
Department of Health and Human Services

Oral Health Survey of New Hampshire Older Adults, 2014

Background

Within the next 20 years, the number of New Hampshire adults 65 years old and older will grow to about 350,000 or 21% of the State's population.[1] Among this age group, oral diseases are highly prevalent.[2] Oral diseases have a negative impact on overall health. A number of health conditions associated with older age in particular are linked to oral health and disease.[3] Older adults are at an increased risk for dry mouth, a side effect of many medications. Many older adults suffer from gum disease that is worsened by other chronic conditions, declining self-care or ill-fitting dentures and bridges. Gum recession, often seen among older adults, increases the risk for root decay while the inability to regularly access dental care only aggravates existing problems.[4]

Because New Hampshire-specific data on the oral health of older adults are very limited, during the winter 2013 and spring 2014, the New Hampshire Division of Public Health Services, Oral Health Program (OHP) conducted a statewide oral health survey of older adults. Based on collected data, oral health prevention and treatment programs for older adults will be planned, implemented and progress toward improved oral health will be measured over time.

Methods

Thirty-two senior centers and congregate meal sites were eligible for selection as survey sites. Eligibility was determined by the usual number of older adults served (at least 35 older adults attending/participating in activities). Every older adult attending the selected site was eligible for participation in the survey. Nine dental hygienists were trained to use the Basic Screening Survey (BSS) for Older Adults[5] tool and to uniformly evaluate the older adults' oral health status. During a brief visual screening, the hygienist assessed denture use, presence of tooth decay, untreated decay, gingivitis, root fragments, suspicious soft tissue lesions, teeth mobility, and need for dental treatment. Survey participants completed a short self-administered questionnaire related to their background, dental care, dental insurance, smoking, and whether they participated in the Commodity Supplemental Food Program (CSFP).[6] Any survey participant that was identified as needing urgent dental care or presenting with a suspicious soft tissue lesion was referred to one of the collaborating dentists for treatment.

Each survey site was assigned urban or rural status utilizing the Rural Urban Commuting Area codes.[7] Data were analyzed using SAS 9.3 software to estimate proportions with respective 95% confidence intervals (95% CI), and data were adjusted for a clustered sample design and corrected for a finite population. Responses 'I do not know' and those missing where excluded from denominators. Non-overlapping confidence intervals were considered statistically significant. The Rao-Scott chi-square test was used to test for associations and p-values < 0.05 were considered statistically significant.

Results

Twenty-five New Hampshire senior centers and congregate meal sites were randomly selected and agreed to participate as sites for oral health screenings. The number of participants per center ranged from 10-46 (median 24), with a total of 610 adults age 60 years and older screened. The age of the participants ranged between 60 and 97 years, with an average age of 76 years. Altogether 425 (71%) participants were females (data on gender were missing for 11 participants), and 588 (96%) reported their race as white. The majority of participants (66%) were screened at sites categorized as rural.

Table 1 summarizes the self-reported information gathered during the screenings and Table 2 depicts results of the "open mouth" oral health assessments. Table 3 presents data stratified by urban and rural status of the site. Table 4 presents results stratified by income status that is approximated by the eligibility (130% federal poverty guidelines) to participate in the CSFP. Chart 1 and Chart 2 present selected indicators from Table 3 and Table 4.

Table 1 – Responses to selected survey questions

	N	% (95%CI)
Tobacco use (everyday/someday/chew)	607	6.1 (5.1-7.1)
Having some type of dental insurance	593	18.4 (16.5-20.3)
Having a particular dentist/dental clinic	607	66.2 (63.7-68.7)
Having an oral cancer check	565	43.5 (40.9-46.2)
Receiving commodity supplemental food	590	9.3 (7.9-10.8)

Table 2 – Results of "open-mouth" assessment

	N	% (95%CI)
Having removable upper denture	610	38.9 (36.2-41.5)
Wears denture while eating	236	94.1 (92.4-95.7)
Having removable lower denture	610	24.6 (22.8-26.4)
Wears denture while eating	150	89.3 (86.7-92.0)
Has upper or lower denture	610	42.3 (39.9-44.7)
No functional contact	607	28.0 (24.9-31.1)
Assessed with dentures in place		
Edentulous adults (no teeth)	610	15.9 (13.8-18.0)
Edentulous, having neither upper or lower denture	97	5.2 (3.0-7.3)
Dry mouth	610	13.0 (8.6-17.3)
Suspicious lesions	608	4.6 (3.4-5.8)
Need for early dental care	610	15.6 (13.5-17.6)
Need for urgent dental care	610	3.3 (2.5-4.1)
Need for urgent or early care	610	18.9 (16.7-21.0)
Following indicators were assessed only among those with remaining natural teeth		***N= 513***
Substantial oral debris	512	14.5 (11.3-17.6)
Gingivitis	512	8.8 (6.8-10.8)
Untreated decay	512	22.1 (18.7-25.4)
Root fragments	513	14.2 (12.6-15.8)

Table 2 – Results of "open-mouth" assessment continued

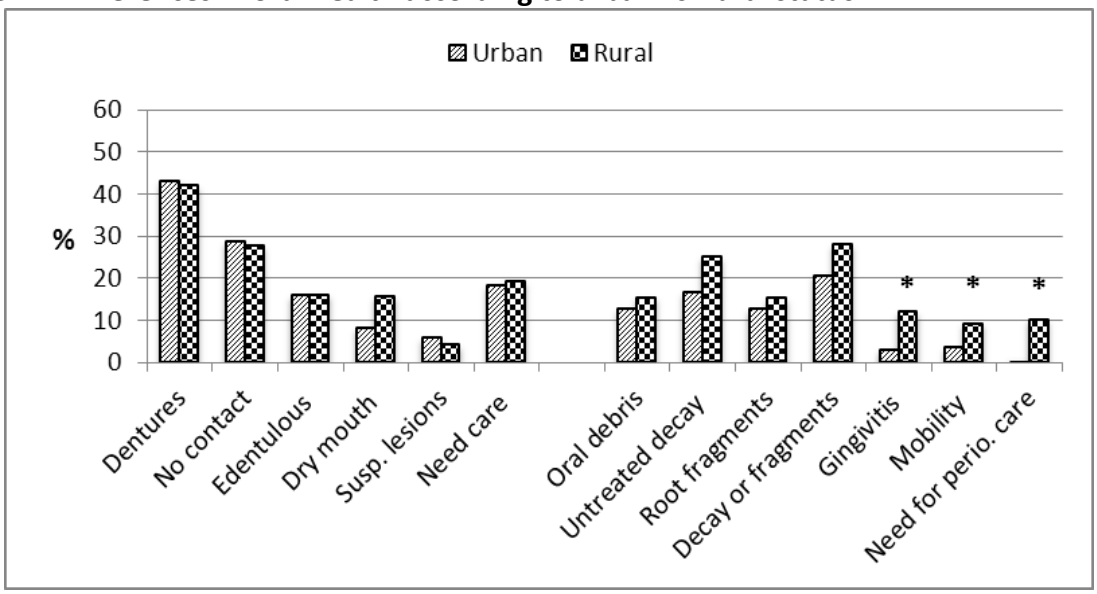
	N	% (95%CI)
Obvious mobility of teeth	513	7.2 (6.1-8.4)
Need for periodontal care	513	6.8 (4.8-8.9)
Number of upper natural teeth - average (range)		11 (1-16)
Number of lower natural teeth - average (range)		11 (1-16)

Table 3 – Differences in oral health according to urban vs. rural status

	Urban	Rural	p-value
Having some type of dental insurance	25.0 (22.7-27.3)	14.9 (12.7-17.1)	0.0002*
Having a particular dentist/dental clinic	69.2 (64.5-74.0)	64.7 (61.9-67.4)	0.4169
Has upper or lower denture	43.1 (38.9-47.2)	41.9 (38.9-44.9)	0.8254
No functional contact	28.7 (23.3-34.2)	27.6 (23.9-31.3)	0.8745
Assessed with dentures in place			
Edentulous adults (no teeth)	15.8 (11.6-20.0)	16.0 (13.6-18.3)	0.9725
Dry mouth	8.1 (3.9-12.4)	15.5 (9.4-21.5)	0.3267
Suspicious lesions	5.7 (3.9-7.6)	4.0 (2.4-5.6)	0.4842
Need for dental care (urgent or early)	18.2 (13.9-22.5)	19.2 (16.9-21.5)	0.8425
Following indicators were assessed only among those with remaining natural teeth			***N= 513***
Substantial oral debris	12.6 (8.1-17.0)	15.4 (11.2-19.7)	0.6605
Gingivitis	2.9 (1.5-4.2)	11.9 (9.2-14.5)	0.0008*
Untreated decay	16.6 (11.5-21.6)	24.9 (20.8-29.1)	0.2245
Root fragments	12.5 (9.9-15.1)	15.1 (13.1-17.1)	0.4541
Untreated decay or root fragments	20.6 (16.3-24.8)	27.9 (23.6-32.2)	0.2367
Obvious mobility of teeth	3.4 (2.4-4.5)	9.2 (7.7-10.7)	0.0011*
Need for periodontal care	0.6 (0.0-1.1)	10.1 (7.2-13.0)	<0.0001*

*P-value <0.05 indicates statistical significance

Figure 1 – Differences in oral health according to urban vs. rural status



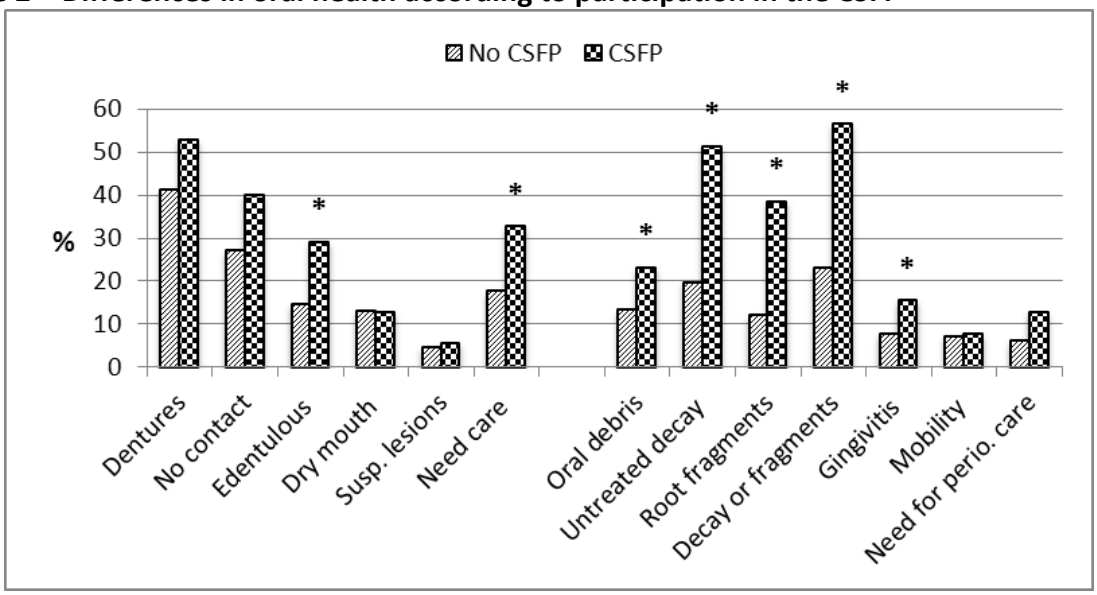
*P-value <0.05 indicates statistical significance

Table 4 – Differences in oral health according to participation in the CSFP

	Participates in CSFP	Does not participate in CSFP	p-value
Having some type of dental insurance	11.3 (5.9-16.8)	18.4 (16.5-20.3)	0.3077
Having a particular dentist/dental clinic	47.3 (40.2-54.4)	68.0 (65.5-70.6)	0.0043*
Has upper or lower denture	52.7 (46.0-59.4)	41.3 (38.8-43.8)	0.0873
No functional contact	40.0 (33.1-46.9)	27.1 (23.7-30.5)	0.0733
Assessed with dentures in place			
Edentulous adults (no teeth)	29.1 (23.3-34.9)	14.6 (12.5-16.6)	0.0008*
Dry mouth	12.7 (7.4-18.1)	13.1 (8.7-17.4)	0.9336
Suspicious lesions	5.6 (2.9-8.2)	4.7 (3.3-6.1)	0.7859
Need for dental care (urgent or early)	32.7 (26.9-38.5)	17.6 (15.5-19.6)	0.0007*
Following indicators were assessed only among those with remaining natural teeth			***N= 513***
Substantial oral debris	23.1 (16.3-29.9)	13.2 (10.2-16.2)	0.0325*
Gingivitis	15.4 (10.3-20.5)	7.7 (5.9-9.5)	0.0470*
Untreated decay	51.3 (43.8-58.7)	19.7 (16.5-23.0)	<0.0001*
Root fragments	38.5 (32.7-44.2)	12.0 (10.7-13.4)	<0.0001*
Untreated decay or root fragments	56.4 (48.9-63.9)	23.0 (19.9-26.1)	<0.0001*
Obvious mobility of teeth	7.7 (3.7-11.7)	7.2 (6.0-8.5)	0.9091
Need for periodontal care	12.8 (7.5-18.1)	6.1 (4.2-8.0)	0.0840

*P-value <0.05 indicates statistical significance

Figure 2 – Differences in oral health according to participation in the CSFP



*P-value <0.05 indicates statistical significance

Conclusions

The OHP assessed a random sample of New Hampshire active older adults attending 25 senior centers and congregate meal sites. Evidence gathered shows that only 18.4% of older adults have some type of dental insurance that helps pay for any routine dental care. Approximately 42.3% have upper or lower dentures. A majority of them use their dentures while eating. Overall, 15.9% of older adults have lost all of their natural teeth and are edentulous, which reduces their quality of life and well-being and affects self-image, particularly if dentures do not fit well or are lacking altogether. Approximately 28.0% of older adults have no functional contact which affects proper chewing; about 5.2% of edentulous individuals have no dentures at all, which interferes with eating and daily functioning. Altogether, 18.9% of older adults are in need of early or urgent dental care that may be difficult to access due to numerous barriers, particularly financial and transportation issues. Similarly, 25.4% of older adults have untreated decay or root fragments, and 6.8% are in need of periodontal care. Both conditions are indicative of ongoing inflammation that affects the general health of older adults.[8]

Oral health disparities were seen related to the urban versus rural location of the site. Those living and attending sites in rural areas are significantly less likely to have any type of dental insurance. Among those with remaining natural teeth, individuals attending rural sites are more likely to have gingivitis, obviously mobile teeth as a consequence of periodontal disease, and a greater need for periodontal care. Overall, though the differences are not always statistically significant, those living in rural areas have less favorable oral health compared with those living in urban areas.

Disparities by income, approximated by the participation in the CSFP, are seen as differences in access to care as well as differences in oral health status. Those with lower incomes are significantly less likely to have a particular dentist or dental clinic to provide them care, are more likely to be edentulous, and are more likely to be in need of dental care. Though differences are not always statistically significant, those with lower incomes tend to have a higher prevalence of disease and greater dental need.

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