Keep Smiling Vermont

Oral Health of Vermonters in Nursing Homes

2013–2014

VERMONT
DEPARTMENT OF HEALTH

Acknowledgements
The Vermont Department of Health sincerely thanks all of the Vermont nursing homes and residents that participated in this project. We particularly thank all of the Licensed Nursing Assistants and nursing staff that assisted the oral health screeners in organizing the screening day and helping facilitate the screening process. Without the cooperation of the nursing homes, this project would not have been possible.

Funding was provided by the Region I Office on Women's Health, U.S. Department of Health and Human Services. The Association of State and Territorial Dental Directors (ASTDD) provided technical assistance with the survey design and analysis. Several partners also helped make this project possible, including the Vermont Department on Aging and Independent Living, Vermont Health Care Association, and Community Health Services of Lamoille Valley.

EXECUTIVE SUMMARY

This project collected information about the oral health of adults living in eight nursing homes across Vermont in 2013-2014. The Vermont Department of Health conducted visual screenings of nursing home residents to assess oral health status, including tooth loss, use of dentures, untreated dental decay, and suspicious soft tissue lesions. Basic demographic information on residents (age, race, sex) was also collected. Nursing homes were selected for participation by weighted random sampling conducted by the Association of State and Territorial Dental Directors (ASTDD); ASTDD also provided technical assistance and conducted data analysis and reporting.

Three hundred forty-two nursing home residents at 8 different nursing homes were examined by dental hygienists. Nearly two-thirds (62%) of nursing home residents surveyed were females. The mean age was 82.3 years old and 97% were white.

KEY FINDINGS

Number of Natural Teeth: The majority of nursing facility residents (61.5%) had at least one tooth and 38.5% did not have any natural teeth (edentulous).

The majority of residents (61.5%) had at least one tooth or more, with a mean total number of teeth of 16.5. The loss of teeth impacts the ability to chew and therefore can limit food choices. Tooth loss also inhibits speech, impairs social interaction, creates low self-esteem and detracts from a person's general appearance. Thirty-nine percent of participants did not have any natural teeth.

Dentures and Denture Use: 47 percent of the participants had an upper and/or lower removable denture.

Residents with no occlusal contacts or poor fitting dentures avoid eating hard foods that require lots of chewing because it becomes painful for their mouth. Dentures that do not sit properly on the gum and bone structure can easily slide around in the mouth, causing discomfort and pain. Almost half of the residents (47%) had any (partial or full) dentures. Among those with no natural teeth, 1 in 4 did not have any dentures. Amongst those with dentures, 14% of participants with an upper denture and 26% of residents with lower dentures did not wear them while eating. Forty-three percent of residents had no functional occlusal contacts, meaning they had no contact between their upper and lower teeth when they bite, due to either loss of teeth or improperly-fitting dentures.

Untreated Decay: Nursing facility residents with teeth surveyed had poor oral health.

Among nursing facility residents with teeth, several oral health problems existed, including 48% had untreated decay present in their mouth, 80% had severe gingival inflammation, 70% of dentate residents had substantial oral debris, and 57% were in need of periodontal (gum) care. Dental decay and periodontal disease among nursing home residents can have an adverse impact on their overall general health and quality of life.

Need for Dental Care: Four in ten residents were in need of dental care.

Among the residents surveyed, a combined 42% required dental care with 8% needing urgent care (within 48 hours) and 34% needing care early (within the next several weeks). The proportion of people needing some sort of dental care was much higher among dentate residents (60%) compared to those with no teeth (13%). Soft tissue lesions were found more among 6% of residents.

Dry Mouth: Dry mouth is a common occurrence for all residents, affecting more than half of those surveyed (56%).

Dry mouth and reduced saliva flow are common disorders caused by chronic diseases and medications. Fifty–six percent of the residents surveyed had dry mouths, which put them at a higher risk for dental decay and periodontal disease.

RECOMMENDATIONS

- Improve dental coverage and access for older adults.
- Use Incurred Medical Expense to support oral health needs.
- Use a community approach to support oral health in nursing homes.
- Implement the recommendations from the Governor's Commission on Successful Aging.

LIMITATIONS

Because this study was conducted solely among nursing home residents, who often have more acute health needs, it should be replicated among a broader population of older adults, including those who use congregate meal sites. This will help determine more nuanced oral health disparities among older adults and inform future oral health policies and procedures.

INTRODUCTION

Tooth decay remains the most prevalent chronic disease in the elderly (National Institute of Dental and Craniofacial Research, 2014b). Information about oral health status and dental care access in Vermont's aging population has been identified as a gap in understanding the burden of oral disease in Vermont. This report discusses the first statewide survey to assess the oral health of Vermont's aging population (age 65 +), an important and growing population.

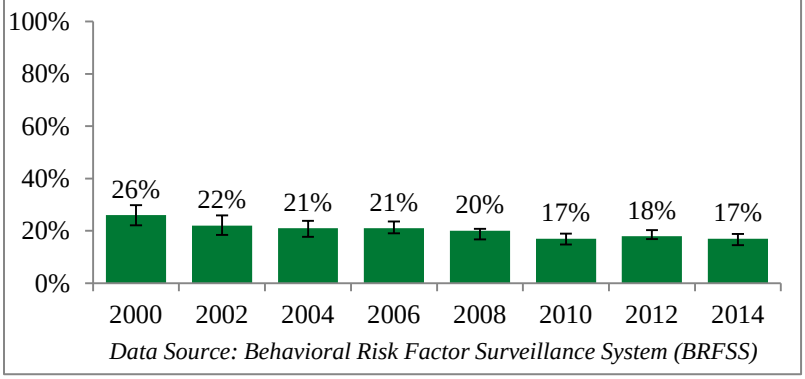
An aging population leads to more oral health needs. Vermont is aging faster than other states. In 2010, the median age of Vermonters was 42 years, compared to the national median of 38 years. In 2014, 17 percent of the population was ages 65 and older (United States Census Bureau, 2016). The fastest growing segment of the Vermont population is the 65-74 year old age group (Vermont Department of Health, 2015).

Oral health is an essential and integral component of overall health. Good oral health reflects freedom from tooth decay and gum disease, conditions associated with chronic oral pain, oral cancer and other conditions that affect the mouth and throat. Good oral health also includes the ability to carry on basic human functions such as chewing, swallowing and speaking.

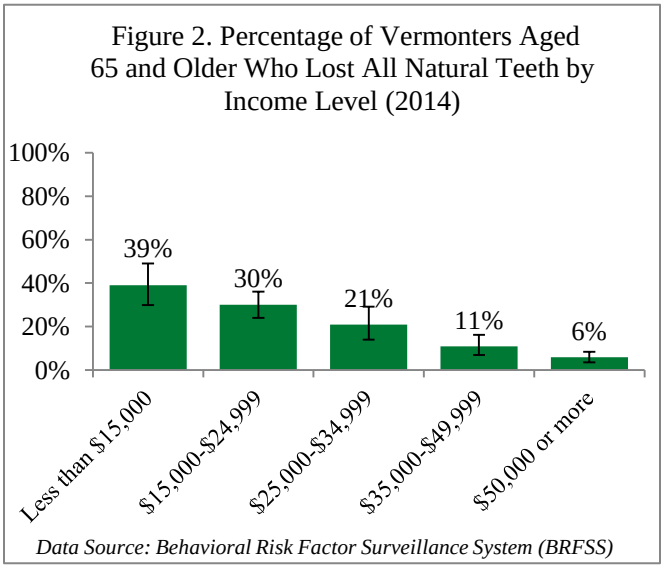
Oral health is related to the health of the rest of the body, and poor oral health can significantly diminish quality of life and overall health status. For example, diabetics are more susceptible to periodontal disease, and periodontal disease has the potential to affect blood glucose control levels and contribute to the progression of diabetes (American Diabetes Association, 2014; Negrato, Tarzia, Jovanoviace, & Chinellato, 2012). In addition, the infectious consequences of poor oral health primarily affect older adults (Terpenning, 2005). Poor oral hygiene is associated with an increased incidence of pneumonias (Gomes-Filho, Passos, & Seixas, 2010; Paju & Scannapieco, 2007). "The risk of aspiration pneumonia is greatest when periodontal disease, dental caries, and poor oral hygiene are compounded by swallowing disease, feeding problems, and poor functional status" (Terpenning, 2005). Poor oral health is also a common cause of poor nutrition and weight loss (Quandt et al., 2009; Saarela et al., 2013).

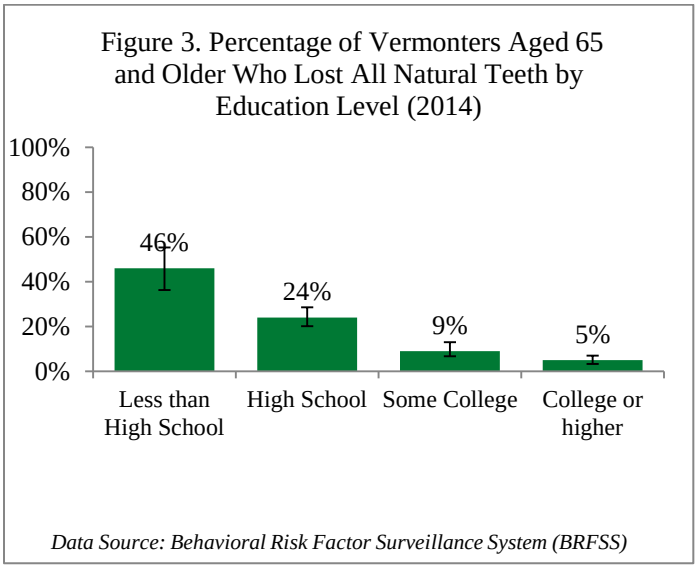
The percent of Vermont adults 65 and older who have lost all their teeth has decreased over the past decade (from 26% in 2000 to 17% in 2014), but there are significant disparities by education and income. Low educational attainment and low income level continue to predict tooth loss (Figures 2 and 3). For those adults aged 65 and older, 46 percent of those with less than a high school education and 39 percent of those with incomes less than $15,000 per year were edentulous compared to 5 percent of college graduates and 6 percent of those with a household income greater than $50,000 per year.

Figure 1. Percentage of Vermonters Aged 65 and Older Who Lost All Natural Teeth



Data Source: Behavioral Risk Factor Surveillance System (BRFSS)





The data above from the Behavioral Risk Factor Surveillance System do not include nursing home residents. Nursing home residents may be at higher risk for poor oral health for several reasons. National data suggests that institutionalized elderly persons are more likely than noninstitutionalized to have poor oral health and its associated health outcomes (Vargas, Kramarow, & Yellowitz, 2001). Nursing home residents may have more challenges accessing preventive dental care because of difficulty getting to the dentist and lack of dental insurance and financial resources to pay for care. Medicare has no dental coverage and Medicaid has a limited benefit for adults. Further, nursing home residents may have multiple physical and psychological ailments that affect their treatment. For example, dementia patients may have a difficult time acclimating to changes in their environment so transporting them to and from the dental office is mentally challenging for them, along with limited mobility restrictions. In addition, a maldistribution of dentists in Vermont may lead to difficulty accessing a dentist in some parts of the state (JSI Research and Training Institute, 2013). As adults age, they may experience difficulty in independently performing "activities of daily living" (ADLs), such as brushing their teeth, which is another preventive measure for oral disease (Griffin, Jones, Brunson, Griffin, & Bailey, 2012). Some nursing home staff may not be well trained in oral health care for their residents if it is not part of the standard of care. In addition, family members of the residents may not understand the importance of good oral health.

SURVEY METHODS

This project collected information about the oral health of older adults living in eight nursing homes across Vermont in 2013-2014. The Vermont Department of Health conducted visual screenings of nursing home residents to assess oral health status, including tooth loss, use of dentures, untreated dental decay, and suspicious soft tissue lesions. Basic demographic information on residents (age, race, sex) was also collected.

The Basic Screening Survey (BSS) for Older Adults methodology and tool was used, as it is a Best Practice standard of the Association of State and Territorial Dental Directors (ASTDD). The BSS provides a consistent method of collecting data, allowing for data that is comparable across states and communities. ASTDD also provided technical assistance and conducted data analysis and reporting. The Vermont Department of Aging and Independent Living (DAIL) helped promote the survey among the targeted agencies and sites and participated in an advisory capacity throughout the development and implementation phases.

To help assure that states collect comparable information, ASTDD recommends states survey one or both of the following high-risk population groups, residents of long-term care facilities or community congregate meal site participants. The Vermont oral health survey of vulnerable older adults targeted residents of nursing homes. The sampling frame was limited to those skilled nursing facilities with 25 or more beds (37 facilities with 3,188 beds).

A probability proportional to size sample of eight nursing homes was selected (using weighted random sampling conducted by the ASTDD). If a facility refused to participate, a replacement facility within the same sampling interval was selected. Five of the facilities in the original sample plus three replacement facilities were screened by a trained dental hygienist. A convenience sample was selected from within these eight facilities. All participating sites were given a DVD, Mouth Care Without a Battle, as a thank you for participation.

The eight nursing homes accounted for 20% of the 40 nursing homes within the state. Three hundred forty-two residents were selected within these sites. The majority of the participants were female (62%) and white. The mean age was 82.3 years old, with an age range of 32-101. Of the 261 who had an age recorded, 95% were aged 65 or older. Age was missing for 81 participants.

Table 1: Demographic Characteristics of Nursing Home Residents that Participated in the Vermont Oral Health Survey (n=342)

	Weighted Percent/ Mean
Sex	
Male (%)	37.7
Female (%)	61.9
Unknown/Missing (%)	0.4
Age in years*	
Range	32-101
Mean	82.3

* Age was missing for 81 participants.

Two registered dental hygienists conducted screenings between July 2013 and January 2014. The screenings were conducted by two licensed dental hygienists using gloves, mask, eye protection, portable light and disposable mirror. See Appendix 1 for the Oral Health Screening Form that was used by the dental hygienist, using diagnostic criteria outlined in the Association of State and Territorial Dental Director's Basic Screening Survey Guide.
The dental hygienists set up a time to visit each nursing home. Positive consent was obtained from residents. One nursing home sent detailed information to guardians and asked for their permission. Individual clinical oral screening results were shared with the residents, their guardians, and the nursing facility's staff.

The data entry program used was Epi Info 7 (7.1.3), a public domain program developed and supported by the Centers for Disease Control and Prevention (CDC). Analyses were conducted by the ASTDD. Data were weighted to account for the complex sampling strategy. All analyses were completed using the complex survey procedures in SAS version 9.2 and all included a cluster statement.

Limitations

Results from this survey should be interpreted with caution. Participation in this survey from nursing homes was voluntary and therefore nursing homes with higher rates of poor oral health may have opted out. In addition, residents who were screened were based on a convenience sample and willingness to participate and therefore residents that were screened may have been in better health than non-participants. The results may be skewed toward healthier nursing home residents.

Because the nursing home population is high risk, these results will not be representative of oral health of all older adults in Vermont. Small numbers in racial and ethnic subgroups in Vermont prevent analysis by specific race and ethnicity. The low-tech screenings were conducted in nursing homes without the help of radiographs. The observed findings may differ from those obtained in a clinical setting. Finally, inter-rater reliability was not assessed between the two dental hygienists.

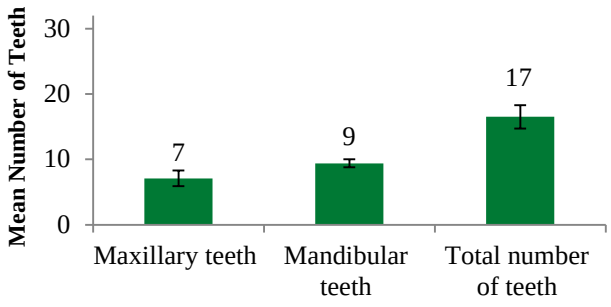
Because this survey was conducted solely among nursing home residents, who often have more acute health needs, it should be replicated among a broader population of older adults, including those who use congregate meal sites. This will help determine more nuanced oral health disparities among older adults and inform future oral health policies and procedures.

KEY FINDINGS

Key Finding #1: The majority of nursing facility residents (61.5%) had at least one tooth and 38.5% did not have any natural teeth (edentulous).

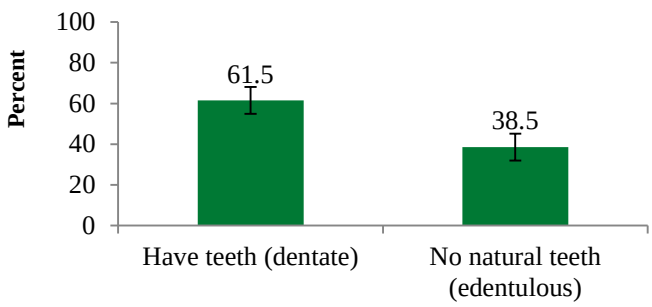
The majority of residents (61.5%) had at least one tooth or more. Among those, the mean total number of teeth was 17, with a slightly higher number of maxillary (upper) teeth being lost (7) compared to mandibular (lower) teeth (5) (Figure 4). The number of teeth present includes root fragments, which serve no function for chewing. Consequently, about 1 in 3 dentate residents have either partial or full dentures.

Figure 4. Mean number of teeth present among dentate participants (n=214)



NOTE: The variables in Figure 4 are only applicable to participants with teeth. For this reason, the information is restricted to dentate participants.

Figure 5. Percent of Residents Who Have Any Natural Teeth (n=342)



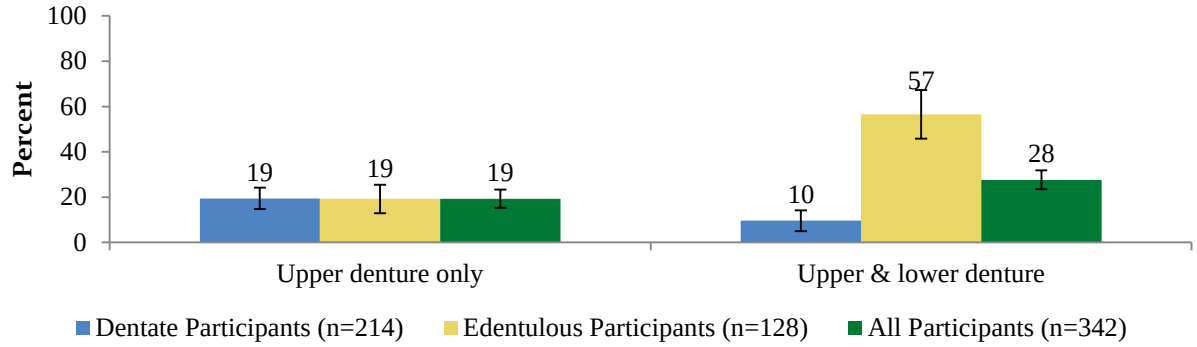
NOTE: Edentulous means that a participant does not have any natural teeth. The edentulism variable was created from number of maxillary and mandibular teeth present. If total number of teeth present was 0 for ***both*** the maxillary and mandibular dentition, the participant was considered to be edentulous. If the number of maxillary ***or*** mandibular teeth was greater than or equal to one, then the participant was considered to be not edentulous (dentate).

The loss of teeth impacts the ability to chew and therefore can limit food choices. Tooth loss also inhibits speech, impairs social interaction, creates low self-esteem and detracts from a person's general appearance. Thirty-nine percent of participants did not have any natural teeth. While the age groups are not directly comparable, the percentage of adults (aged 32-101) in nursing homes who are edentulous (39%) appears higher than all older adults (aged 65 and older) in Vermont (17%) in 2014 (BRFSS).

Key Finding #2: Almost half of nursing facility residents had removable dentures (maxillary and/or mandibular).

Almost half of the residents (47%) had removable dentures (maxillary and/or mandibular). Of those with no natural teeth, 24% did not have any dentures, 19% only had an upper denture only, and 57% had both an upper and lower denture. Of dentate participants, 19% had an upper denture and 10% had both an upper and lower denture. Very few residents had a lower denture only.

Figure 6. Percent of Participants with a Upper (Maxillary) and/or Lower (Mandibular) Removable Denture (Partial or Full Denture) by Dentate Status

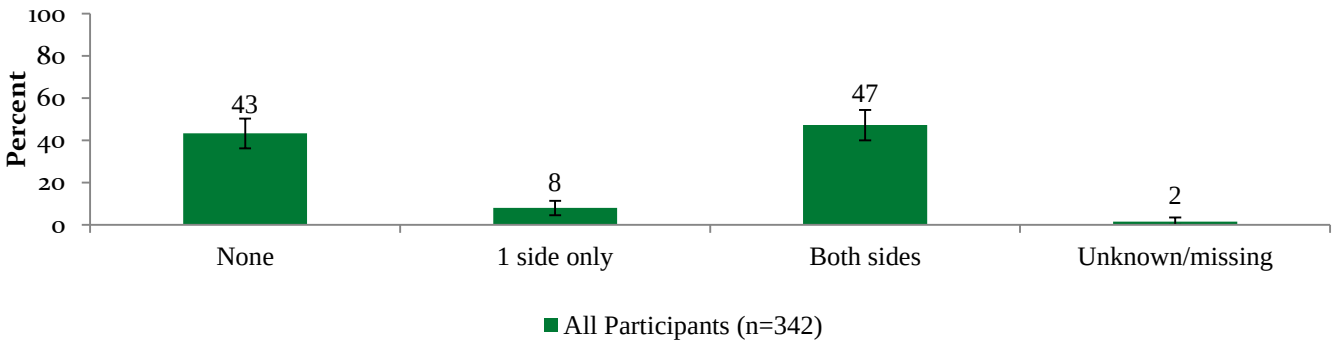


Edentulous means that a participant does not have any natural teeth. Dentate means that a participant has at least 1 natural tooth.

Among those with dentures, 14% of participants with upper dentures and 26% of participants with lower dentures did not wear them when eating. This is often a result of improper denture fit and may be steering those residents to eat only soft food.

Forty-three percent of residents had no functional occlusal contacts, meaning they had no contact between their upper and lower teeth when they bite, due to either loss of teeth or improperly-fitting dentures. Therefore, at least 4 out of 10 residents are not able to chew solid food properly. Over half (52%) of edentulous participants and 38% of dentate participants had no functional occlusal contacts. An additional 8% of all participants have a functional occlusal contact on one side only. Residents with no occlusal contacts or poor fitting dentures avoid eating hard foods that require lots of chewing because it becomes painful for their mouth. Dentures that do not sit properly on the gum and bone structure can easily slide around in the mouth, causing discomfort and pain.

Figure 8. Percent of Participants with Functional Occlusal Contacts by Dentate Status

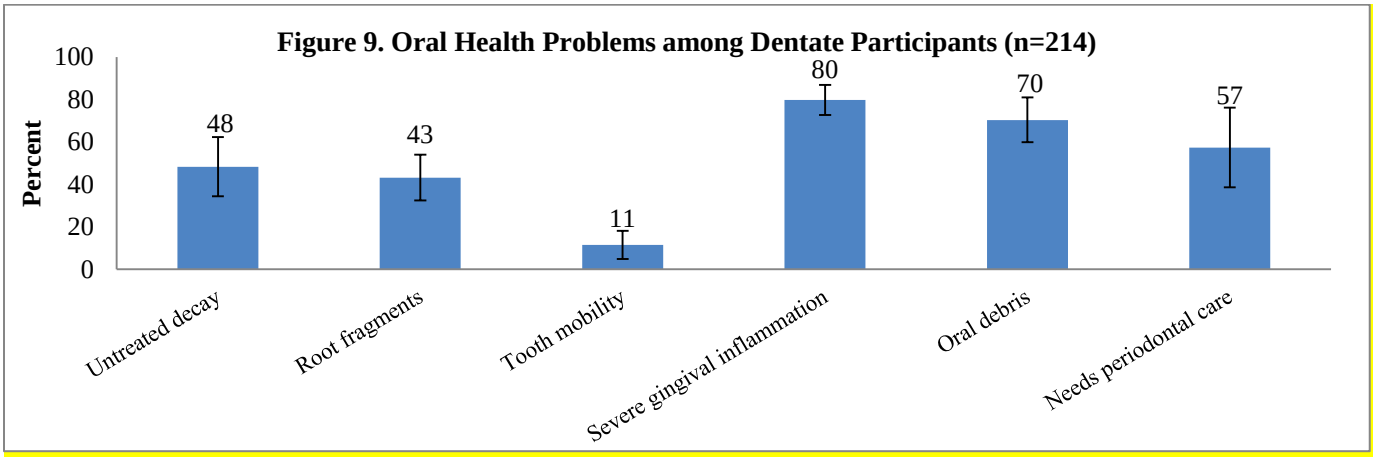


Key Finding #3: Nursing facility residents with teeth surveyed had poor oral health.

Almost half (48 percent) of the participants with teeth surveyed had untreated decay present in their mouth. Of those nursing facility residents with teeth, many oral health problems existed, including:

- 43% had teeth that were broken off at the gum line (root fragments).
- 11% had obvious tooth mobility.
- 80% had severe gingival inflammation.
- 70% had substantial oral debris.
- 57% were in need of periodontal (gum) care.

Oral debris refers to the particles of food remaining in the oral cavity after eating, which collect in tooth crevices and between teeth and may contribute to the formation of dental caries. Dental decay and periodontal disease among nursing home residents can have an adverse impact on their overall general health and quality of life. Untreated gingivitis can lead to periodontitis. Periodontal disease is a chronic inflammatory disease that affects the gum tissue and bone supporting the teeth, which can lead to tooth loss. The most common cause of tooth loss among adults is periodontal disease (National Institute of Dental and Craniofacial Research, 2014a).

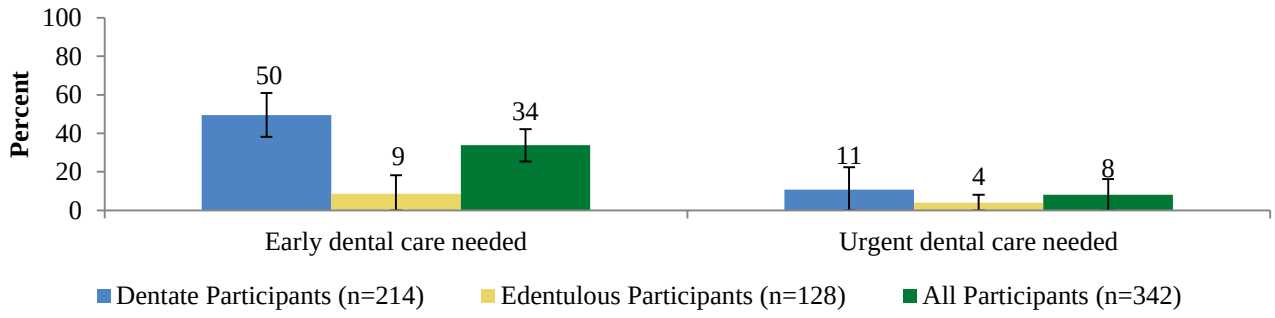


NOTE: The variables in this graph are only applicable to participants with teeth. For this reason, the information is restricted to dentate participants.

Key Finding #4: Four in ten residents were in need of dental care.

Among the residents surveyed, a combined 42% required dental care, with 8% needing urgent care (within 48 hours) and 34% needing care early (within the next several weeks). The proportion of people needing some sort of dental care was much higher among dentate residents (60%) compared to those with no teeth (13%). Of dentate participants, 11% of were considered in need of urgent care. Eighty-seven percent of residents with no teeth did not have obvious signs of dental problems; however, 4% with no teeth still needed urgent care.

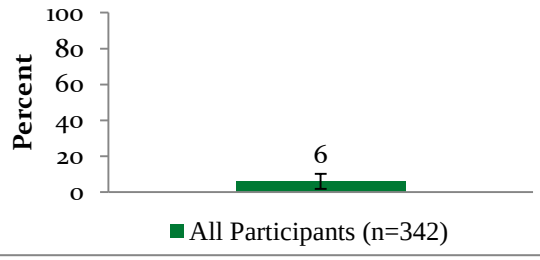
Figure 10. Percent of Participants who Need Early Dental Care or Urgent Dental Care by Dentate Status



Urgent dental care means that a participant needs dental care within 48 hours because of pain or infection.

Soft tissue lesions were found more among 6% of residents. Soft tissue lesion data were missing for 4% of participants. Soft tissue lesions are any abnormal changes in the tissue. Most are harmless and can be identified by a dental professional, but a few may need to be biopsied in order to examine them more closely. A small percentage of lesions may be premalignant or even malignant.

Figure 11. Percent of Participants who have a Soft Tissue Lesion



Key Finding #5: Dry mouth is a common occurrence for all residents, affecting more than half of those surveyed (56%).

Saliva is an important protective factor of tooth decay, but dry mouth and reduced saliva flow are common disorders caused by chronic diseases and medications (Liu, Dion, Jurasic, Gibson, & Jones, 2002). Dry mouth is not a disease, but rather a side effect occurring from medications to treat chronic diseases such as antihistamines, anti-depressants, decongestants, pain killers and diuretics. Fifty–six percent of the residents surveyed had dry mouths, which put them at a higher risk for dental decay and periodontal disease. Salvia bathes the teeth and creates a neutral environment to keep the mouth healthy. When the salvia flow is diminished and dry mouth becomes an issue residents will use candy, gum or mints to help alleviate the problem. If they are not sugarless, residents will be at high risk for developing dental decay.

Vermont Compared to Other States

Connecticut, Massachusetts, North Dakota, and Missouri were chosen as comparison states because they recently completed similar surveys of nursing home residents. Vermont ranks in the middle of these states on several oral health measures. The percent of residents who are edentulous is 39%, four percentage points higher than North Dakota and Massachusetts. Vermont is lagging behind North Dakota by a larger percentage for the percent of residents who are edentulous and missing one or more dentures (44% for Vermont and 13% for North Dakota) and the percent of dentate residents with untreated decay (48% for Vermont and 22% for North Dakota).

Table 2. Oral Health Status of Nursing Home Residents in Vermont Compared to Other States (Age Ranges Vary)

Characteristic	VT 2013	CT 2012	MA 2009	ND 2012	MO 2009
% edentulous	39%	37%	35%	35%	43%
% of edentulous adults missing 1+ denture	44%	30%	45%	13%	26%
% of dentate adults with untreated decay	48%	53%	59%	22%	44%

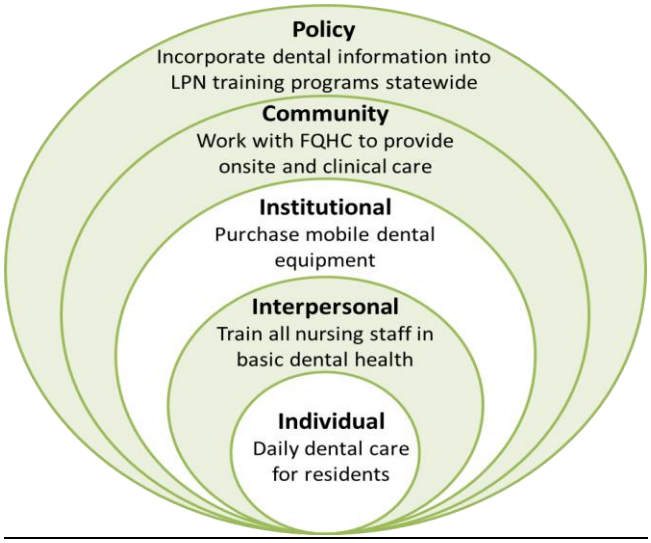
RECOMMENDATIONS

The findings from this study confirm the presence of oral health issues among nursing home residents in Vermont. The results suggest the need for education of nursing home residents and staff about the importance of daily oral health care and regular dental care, as well as programs to help residents obtain dentures, such as using Incurred Medical Expense. Vermont could benefit from adopting a systemic approach to improving dental care in nursing homes, including increased collaboration between medical and dental providers, community health centers, and other stakeholders, as well as training nursing home staff on the importance of oral health.

- **Improve dental coverage and access for older adults.** Many older adults cannot afford the dental care they need because Medicare does not cover dental. For those eligible for Vermont Medicaid there is an annual $510 cap for adults and it does not cover dentures. Finding a dentist willing to accept Medicaid can also be challenging.
- **Use Incurred Medical Expense to support oral health needs.** For nursing home residents on limited or fixed incomes, incurred medical expense (IME) can be used to obtain dental care, including acute dental care, oral surgery, and dentures. While this program is used among medical providers, few dental providers in the state know about and use it. Further research should assess how to use IME in the state.
- **Use a community approach to support oral health in nursing homes.** Improving oral health among nursing home residents requires more than daily mouth care; it also includes a team approach that includes service coordinators, dentists willing to accept patients with Medicaid, and a creative approach to helping residents receive care**.** Dental hygienists and dentists providing on-site care for residents who cannot travel easily is one solution to the problem of access to dental care.

The preliminary findings from this survey suggest that a community-wide integrated approach to oral health care at nursing homes may be an effective way to improve resident's access to dental care, but it requires a coordinated approach. One nursing home used the findings from this study to develop a system to improve residents' oral health using the social ecological approach (Figure 13).

Figure 13. Integrated Approach to Oral Health in Nursing Homes



Shading indicates public health dental hygienist involvement

The nursing home initiated the following changes at each level of the social-ecological model:

Individual: Residents receive oral health care on a routine daily basis. This is attributed to the training among the staff in the importance of oral health care, how to effectively brush resident's teeth and the positive impact it will have on their overall heath. Once oral health was perceived by the staff as an important value to a better quality of life, the care was consistent.

Interpersonal: Education about how to care for the nursing home residents was successful when it began with the importance of oral health for the nursing home staff. Increasing the personal value of oral health helped the nurses become more invested in the oral health of residents. In addition, many did not know about the importance of providing mouth care for residents or how to take care of residents with limited mobility and dementia.

Institutional: Access to dental care in a dental office is difficult for patients with mobility issues, dementia and those who find changes in routine challenging. The nursing home decided that purchasing a mobile dental unit, dental instruments, and hygiene supplies would be in their favor for establishing onsite oral health care for residents.

Community: The facility established a community partnership with the Health Department's regional public health dental hygienist and their local Federally Qualified Health Care Dental Clinic (FQHC) to provide dental care to long- term care residents at the nursing home. The FQHC dental clinic in return provided a dental hygienist to work onsite seeing Medicaid and uninsured residents on a monthly schedule.

Policy: Nursing home residents are at a greater risk for oral health problems because of their physical and mental health status. Licensed Practical Nurses (LPNs) are a vital part of the nursing home health care system. They are the ones who assist the residents in different daily activities and oral health care is one of those activities. The licensed practical nurse programs in Statewide Community Colleges and Technical Centers are addressing and updating oral health education into the academic courses and clinical practicums. They recognize that a healthy mouth is essential for a better quality of life and maintaining good oral health leads to better overall health for the nursing home residents.

In addition to the above recommendations, Vermont recommends adopting these recommendations from the Governor's Commission on Successful Aging's *Health Reform Subcommittee Interim Report* (2015):

Goal: Improve the oral health of older Vermonters by improving access to preventive and restorative dental care

1. Key findings related to oral health status:

1.1 Sound oral health for older Vermonters is important for general health and because of the vulnerabilities that older age can bring.

1.2 Older individuals in assisted living and nursing homes are at risk for dental disease because of their lack of access to preventive and restorative dental care.

Recommendations:

- Include older Vermonters in any state efforts to create affordable dental insurance as part of health reform.
- Dental hygienists should be eligible to bill Medicaid and dental insurance independent of dentists to encourage them to provide preventive care in nursing homes and assisted living facilities.

2. Key findings related to financial barriers to dental care:

2.1 Older adults who do not have either Medicaid or dental insurance must pay for dental care out-of-pocket. Although this is true for Vermont's entire population, older people are more likely to have fixed incomes.

2.2 The reimbursement differential between private insurance, private pay and Medicaid is thought to create access barriers for Medicaid recipients. This is particularly true in geographic areas with a tight supply of dental providers.

2.3 The annual fixed-benefit cap of $510 for Medicaid beneficiaries is inadequate to meet the needs of many low-income older Vermonters.

Recommendations:

- The State should increase the annual dental benefit for Medicaid recipients.
- The state should increase its Medicaid reimbursement rate for dentists to 75% of commercial rates to improve access to dental care. This was suggested in the JSI Vermont Dental Landscape Study to the Green Mountain Care Board.

3. Key findings related to dental care workforce:

3.1 Well documented concerns about the dental health workforce supply and distribution are valid and need to be addressed to ensure access to preventive and restorative dental care.

3.2 All data indicate a looming exacerbation of dental access issues caused by an aging supply and distribution of dentists in Vermont, competition for dentists by other states and a decline in dental schools nationally.

Recommendations:

- Increase state strategies such as loan repayment and scholarships in return for service commitments to recruit and retain dental providers.
- Vermont should implement an alternative dental provider model to expand the dental provider workforce. Models such as the Advanced Practice Dental Providers, Expanded Function Dental Assistants and Public Health Dental Hygienists are options

for consideration and have been employed successfully in other states. These models are discussed at length in the GMCB *Vermont Dental Landscape Study* (JSI Research and Training Institute, 2013).

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Appendix 1: Oral Health Screening Form

SITE INFORMATION

Site ID Code	Screen Date	Screener ID Code
☐☐	☐☐/☐☐/☐☐	☐☐

DEMOGRAPHIC INFORMATION

Age	Gender	Race/Ethnicity
☐☐☐ 777 = Missing	☐ 1 = Male 2 = Female 7 = Missing/Unknown	☐ 1 = White 2 = Black 3 = Hispanic 4 = Asian 5 = AI/AN 6 = Pacific Islander 7 = Multi-racial 9 = Unknown/Missing

ORAL SCREENING INFORMATION

Do you have a removable upper denture? ☐ 0 = No 1 = Yes 7 = Missing	*If Yes* →	Do you usually wear your upper denture when you eat? ☐ 0 = No 1 = Yes 7 = Missing *NOTE: If "upper denture" is coded 0 or 7 you cannot enter data for this variable.*
Do you have a removable lower denture? ☐ 0 = No 1 = Yes 7 = Missing	*If Yes* →	Do you usually wear your lower denture when you eat? ☐ 0 = No 1 = Yes 7 = Missing *NOTE: If "lower denture" is coded 0 or 7 you cannot enter data for this variable.*
Functional Posterior Occlusal Contacts ☐ 0 = None 1 = 1 side only 2 = Both sides 7 = Missing		***Ask participant to remove partial/full dentures.***
Substantial Oral Debris ☐ 0 = No 1 = Yes 9 = Edentulous 7 = Missing		Severe Gingival Inflammation ☐ 0 = No 1 = Yes 9 = Edentulous 7 = Missing

Remove excess oral debris if necessary.

# of Upper Natural Teeth	# of Lower Natural Teeth
☐☐ Range: 0-16 -1 = Missing	☐☐ Range: 0-16 -1 = Missing
Untreated Decay ☐ 0 = No 1 = Yes 9 = Edentulous 7 = Missing	Root Fragments ☐ 0 = No 1 = Yes 9 = Edentulous 7 = Missing
Obvious Tooth Mobility ☐ 0 = No 1 = Yes 9 = Edentulous 7 = Missing	Need for Periodontal Care ☐ 0 = No 1 = Yes 9 = Edentulous 7 = Missing
Severe Dry Mouth ☐ 0 = No 1 = Yes 7 = Missing	Suspicious Soft Tissue Lesion ☐ 0 = No 1 = Yes 7 = Missing
Treatment Urgency ☐ 0 = No obvious problem 1 = Early care 2 = Urgent Care 7 = Missing	Comments: