

ARCORA

The Foundation of Delta Dental of Washington



Senior Oral Health Survey

March 2017

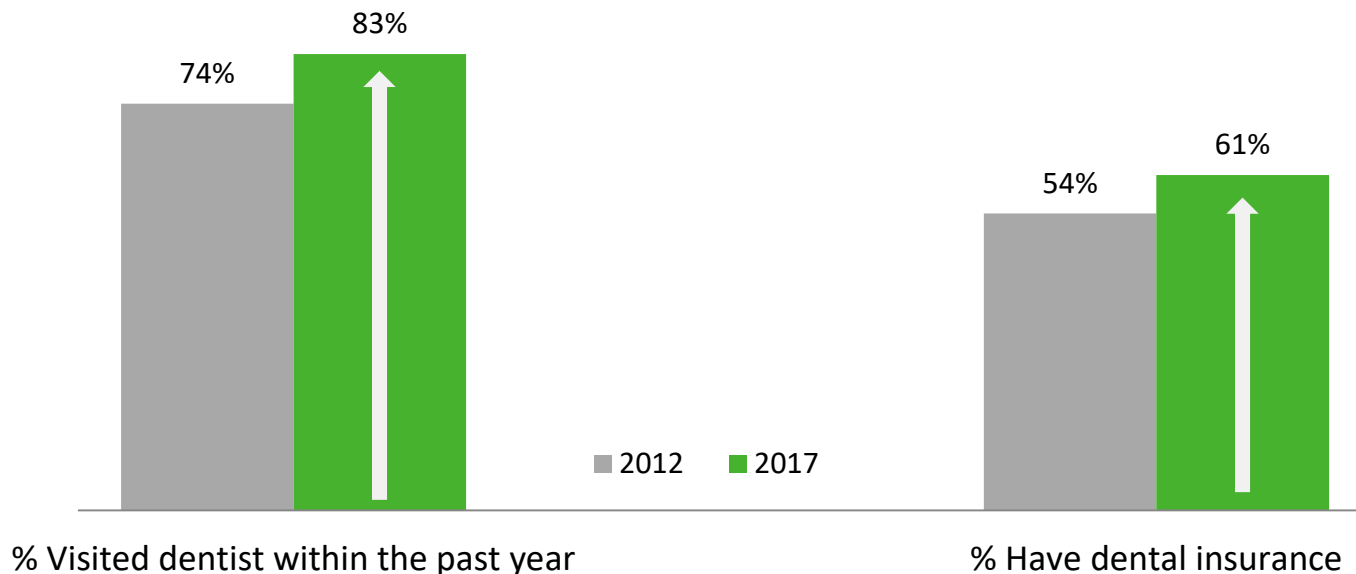
Executive Summary

Introduction

- In 2012, the Washington Dental Service Foundation (WDSF) first conducted this oral health survey among Washington state residents who are 55 years of age or older, obtaining baseline data regarding seniors' oral health status and behaviors. This year (2017) marks the second time conducting this survey.
- The primary objectives of this statewide survey are to track changes for senior residents' oral health status from 2012, compare older residents' attitudes and behaviors toward oral health by demographic characteristics (e.g. age, ethnicity, income, etc.) as well as geographic area, and capture baseline data of minorities (Hispanics and African Americans) regarding their oral health status.
- The survey instrument used for this year's assessment was kept largely the same as the tool developed in 2012 in order to gauge changes over time.
- For the 2017 assessment, 2,688 Washingtonians who are age 55 and older were surveyed by phone using Random Digit Dialing (RDD) on landline phone numbers with a wireless augment (30% of the total completed surveys). Quotas were placed by geographic region, age and gender to follow U.S. Census data for the state of Washington. In addition, certain demographic groups were intentionally over-represented in order to ensure that we had sufficient data for analysis on African Americans and Hispanics (150 interviews each).

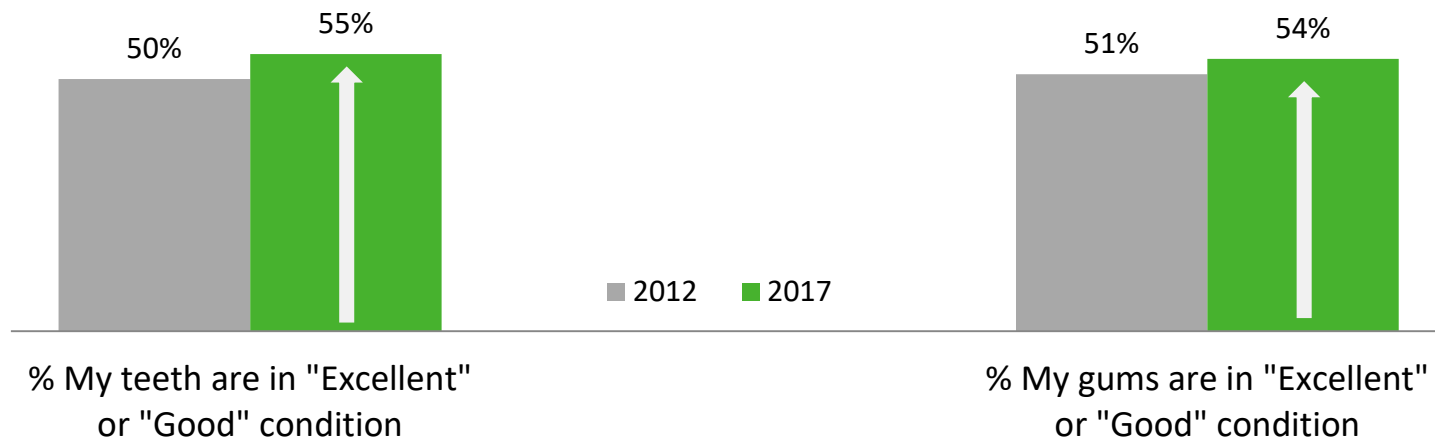
Nearly all Washington seniors (97%) consider their oral health to be important.

- The percentage of seniors who have seen a dentist within the last year increased significantly, from 74% in 2012 to 83% today.
- The percentage of seniors who have dental insurance coverage also increased significantly, from 54% in 2012 to 61% of today.
 - Of the 17% who did not see a dentist in the last year, the cost of that care is presenting *less* of a barrier, being an issue for just 27% of those who did not have a dental visit (5% of all Washington seniors), compared to 46% in 2012 (12% of all seniors).



Washington seniors' oral health has improved.

- Fewer of today's seniors say they have experienced any tooth loss, with 44% reporting having all of their teeth still intact this year, compared to 37% in 2012.
- Fewer say they are in need of dental care within the next month, down from 19% in 2012 to 17% today.
 - The type of dental care needed is less likely to be major/restorative, with 79% needing this kind of care this year versus 84% in 2012.
- Today's seniors are feeling better in general about the condition of their teeth and gums, with 55% describing the condition of their teeth as either "Excellent" or "Good" this year, compared to 50% in 2012, and 54% describing the condition of their gums as "Excellent" or "Good" this year, compared to 51% in 2012.



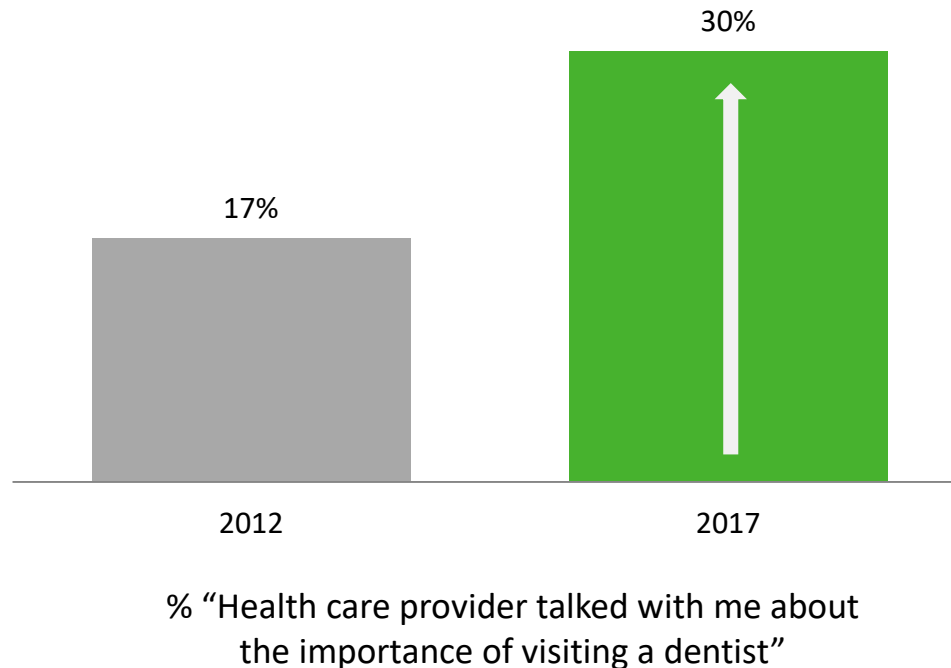
Fewer seniors suffer from oral sensitivities and pain.

- The percentage saying they avoid particular foods “very often” because of problems in their mouth decreased significantly, from 7% in 2012 to 5% today.
- Thirteen percent of seniors (13%) say they have had painful aching somewhere in their mouth during the last year at least “occasionally,” significantly lower than 2012 (16%).



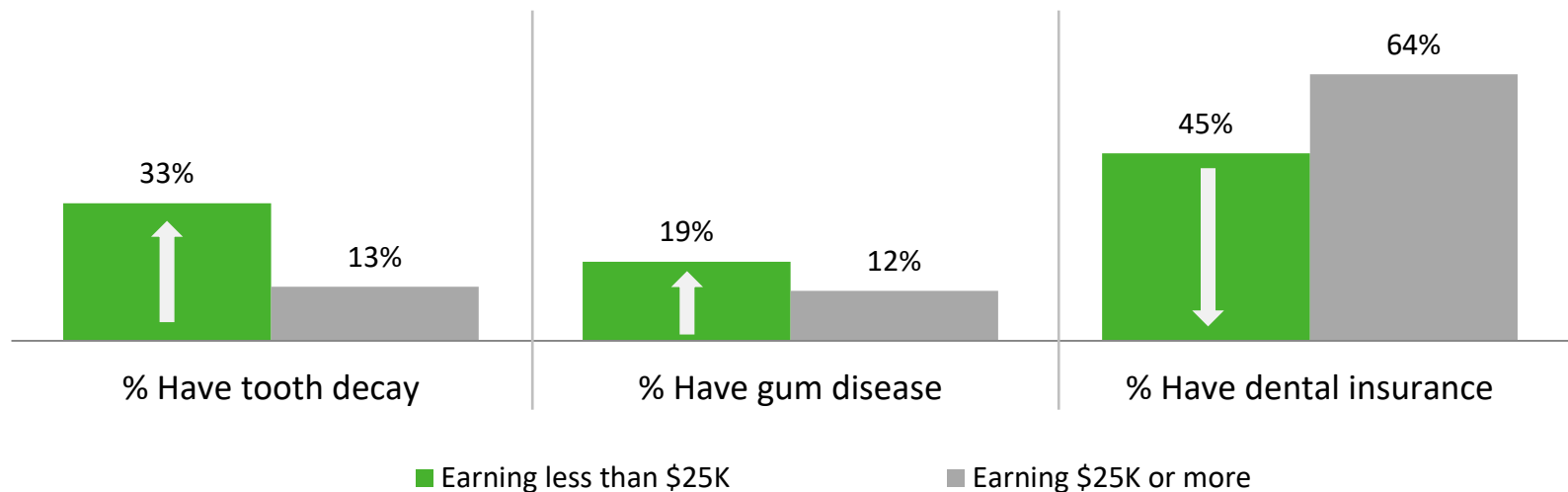
More seniors are having communications with their health care providers about oral health.

- The percentage of Washington seniors who said their doctor, nurse or other health care worker talked with them about the importance of seeing a dentist nearly doubled, from 17% in 2012 to 30% today.



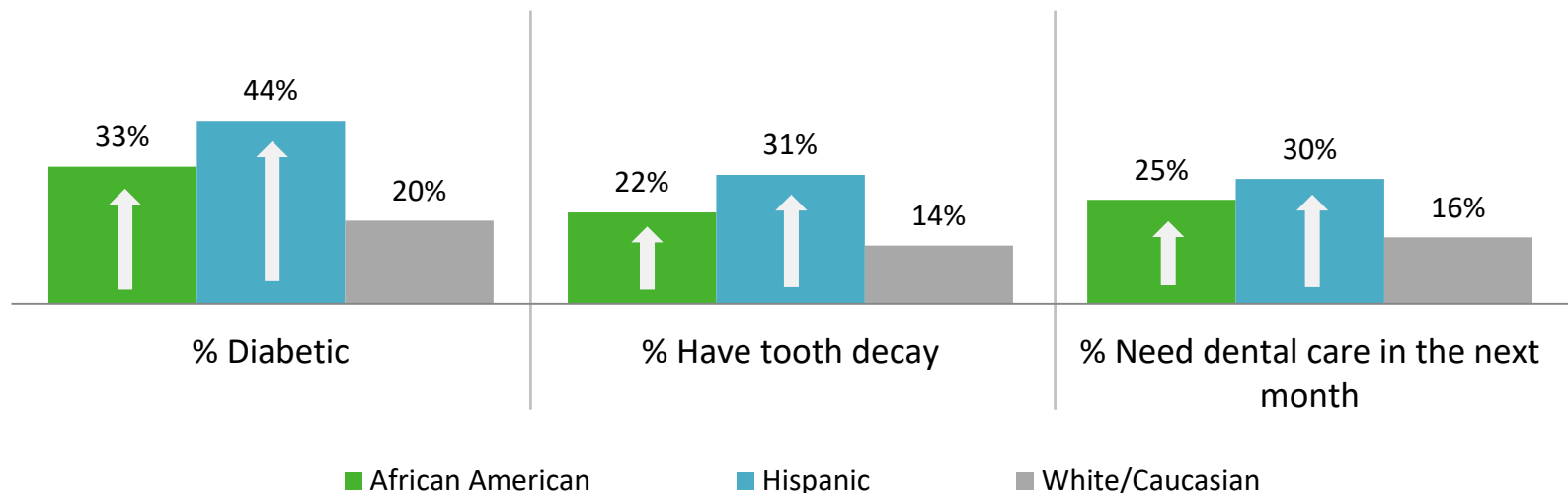
Significant disparities in seniors' oral health exist when comparing those with higher incomes to those who are living on lesser means.

- Most impacted are Washington seniors who have incomes of \$25K per year or less, where their likelihood of being in need of dental care is much greater, exacerbated by the fact that they are more likely to have been diagnosed with diabetes.
- These disadvantaged seniors are significantly less likely to describe their condition of their teeth and gums as healthy, and they are the most likely to suffer from tooth loss, gum disease, tooth decay, dry mouth, and mouth sensitivity.
- Their poor oral health is likely amplified by their lack of financial security, with less than half (45%) having any kind of dental insurance coverage, and many of them citing cost as the main barrier to getting needed dental care.



African American and Hispanic seniors report poorer oral health than their white/Caucasian counterparts.

- Hispanic seniors are the least likely to make yearly dental visits (67%), seeking dental care most often only when something is wrong.
- African American seniors are statistically on par with Hispanics when it comes to making routine dental visits (71%) but African Americans are the most likely to have lost six or more teeth (33% compared to 24% among Hispanics, both of which are significantly higher than the 16% measured among white/Caucasian seniors).
- One in three African American (33%) and four out of ten Hispanic seniors (44%) have been diagnosed with diabetes, which is associated with gum disease.
- These two minority groups are also the most likely to have a dental problem that needs to be addressed within the next month, with many saying they currently have tooth decay.



Background

- In 2012, the Washington Dental Service Foundation (WDSF) first conducted this oral health survey among Washington state residents who are 55 years of age or older, obtaining baseline data regarding seniors' oral health status and behaviors. This year (2017) marks the second time conducting this survey.
- The primary objectives of this statewide survey are to:
 - Track changes for senior residents' oral health status from 2012 in the following areas:
 - ✓ Self-reported oral diseases (i.e., tooth decay, gum disease, dry mouth) and current conditions of teeth and gums
 - ✓ Proportion of older adults who are currently in need of oral health care
 - ✓ Frequency of dental visits and barriers to accessing dental care
 - ✓ Whether or not older residents have recently talked with their health care providers about oral health
 - ✓ Whether or not older residents have a caregiver who provides help with daily activities
 - Compare older residents' attitudes and behaviors toward oral health by demographic characteristics (e.g. age, ethnicity, income, etc.) as well as geographic area.
 - Capture baseline data of minorities (Hispanics and African Americans) regarding their oral health status

- The survey instrument used for this year's assessment was kept largely the same as the tool developed in 2012 in order to gauge changes over time. However, the 2017 survey instrument included several new questions measuring dry mouth and periodontal disease. Some questions were removed as they did not reveal any significant findings in 2012. As a result, the length of interviews in 2017 remained similar to 2012. The 2017 questionnaire consists of 42 questions including one open-ended question (survey questions are included in the appendix).
- In 2017, the sample was selected to target an equal representation of Washington Accountable Communities of Health (ACH) regions¹ instead of the 11 Area Agencies on Aging used in 2012. Since 2012, the state of Washington changed its healthcare delivery to improve health and health equity and to focus on addressing the specific needs of the state's Medicaid regional service area. To align efforts around the state's health planning, the 2017 Senior Survey followed the ACH regions in the sample selection. The 2012 data were re-grouped according to the service area definition used in 2017 for comparison.
- For the 2017 assessment, 2,688 Washingtonians who are age 55 and older were surveyed by phone using Random Digit Dialing (RDD) on landline phone numbers with a wireless augment (30% of the total completed surveys). Quotas were placed by geographic region, age and gender to follow U.S. Census data for the state of Washington. In addition, certain demographic groups were intentionally over-represented in order to ensure that we had sufficient data for analysis on African Americans and Hispanics (150 interviews each).

¹ Accountable Community of Health regions from <http://www.hca.wa.gov/about-hca/healthier-washington/accountable-communities-health-ach#how-do-achs-align-with-regional-service-areas>

- Data collection occurred from December 5th, 2016 to February 17th, 2017. The average length of interview was 10 minutes.
- The maximum margin of sampling error on the total sample size of 2,988 interviews is +/- 1.8 points, and +/- 5 points for each of the ACH regions (n=384).
- Since certain populations—African American and Hispanic—were oversampled, the data needed to be statistically weighted back to appropriately represent Washington’s older adults population. Sample weights were derived based upon respondents’ age, gender and race to bring the survey data back in alignment with the most recent U.S. Census projections for the state of Washington.²
- Once the data were weighted and checked for accuracy and integrity, the results were tabulated and analyzed, representing the material provided in this document.

ACH Regions Map



Sample Quotas	2017
RANDOM	2,688
Cascade Pacific and Southwest	384
North Central	384
Better Health Together	384
Greater Columbia	384
North Sound ACH & Olympic	384
King County	384
Pierce County	384
AUGMENT	300
African American	150
Hispanic	150
TOTAL	2,988

² 2015 Estimates of the total population by age, sex, race and Hispanic origin. Retrieved on February 27th, 2017 from <http://www.ofm.wa.gov/pop/asr/>

Explanation of Terminology

This report uses terminology that is somewhat unique to social science research:

Top-Box Responses: Several survey questions have multiple answer options such as “Agree Strongly,” “Agree Somewhat,” etc. When we refer to the “Top-Box” score, this is in reference to the highest level of agreement or most positive response on the scale, such as the percentage of respondents who said “Agree Strongly.”

Top-Two Box Responses: When we refer to the “Top-Two Box,” we include the second highest response along with the top response. For example, on a question with an agreement scale, participants who answered “Agree Strongly” are combined with those who answered “Agree Somewhat” and the percentage of these respondents out of all respondents is shown.

Statistical Significance Testing: Statistical tests (t-tests of proportions and t-test of means) are used throughout the analysis to indicate which results are most likely to represent real differences in the data (as opposed to differences which fall within the margin of error). When a difference is said to be statistically significant, it is notated by either an arrow, colored font, or shaded cell when located within a table. The significance testing used in this analysis is always at the 95% level of confidence.

Key Takeaways

Key Findings



Nearly all seniors in Washington (97%) recognize the importance of taking care of their oral health.



More seniors are now going to the dentist on at least an annual basis than in 2012 (up from 69% to 76%).



More seniors now have dental insurance than what was reported in 2012 (up from 54% to 61%), and the percentage of seniors citing cost as their main barrier to seeking dental care is significantly lower, down from 46% in 2012 to 27% today.



More than half of seniors feel that their teeth and gums are in very good shape, up significantly from 2012 (at 55% and 53%, respectively). Meanwhile, self-reported occurrence of gum disease and tooth decay was kept at bay, at just 12% and 15%, statistically unchanged from 2012.



Seniors who do not see a dentist on a regular basis are much more likely to have been diagnosed with diabetes.



Half of seniors experience dry mouth from time to time, but fewer report having issues with eating and swallowing due to dry mouth (17% or less). However, dry lips are more common, with 63% experiencing it.



Few seniors get help with their daily activities (3%, down from 6% in 2012), and those who do have a caregiver tend to be older (75+), have poor oral health (more gum disease and tooth decay), and stand on the lower-end of the socio-economic scale.

Key Findings (continued)



Older seniors (75+) are not nearly as enthusiastic about taking care of their oral health as their younger counterparts. They're the least likely to have dental insurance (45%) and the least likely to make yearly dental visits (72%). Not surprising with the older age, those 75 or older are the most likely to have lost at least one tooth (64%), but when it comes to gum health, older seniors are better off than younger ones, with just 8% reporting to have gum disease compared to 14% among those who are between 55 and 64 years of age, who are also more susceptible to mouth sensitivity and pain.



African American and Hispanic seniors generally report poorer oral health than their white/Caucasian counterparts. Hispanic seniors are the least likely to make yearly dental visits (67%), while mostly seeking dental care when something is wrong. African American seniors are on par with making routine visits (71%) but are the most likely to have lost six or more teeth (33%). One in three African American (33%) and four out of ten Hispanic seniors (44%) have been diagnosed with diabetes, which is closely related to gum disease.³ Not only are these two minority groups at special risk for developing gum disease, they're also the most likely to have a dental problem that needs to be addressed within the next month, with many currently having tooth decay.



Both household income and level of education are strong indicators of seniors' oral health. Those earning less than \$50K per year and those with a high school education or less are the least likely to see a dentist annually, perhaps because they're the least likely to have dental insurance. As a result, these less privileged seniors are the most likely to have lost six or more teeth and are not as confident about their teeth and gums as those with more means. Mouth sensitivity and pain are also more prevalent among those with lower incomes and educations. Seniors without a high school diploma and those earning less than \$25K also have a higher incidence of diabetes, at 30% and 35%, respectively. However, there appears to be an outreach effort to help this more vulnerable population, as they are the most likely to have been informed about the importance of preventative oral care by a health care professional during the last year.

³ Diabetes and Oral Health (October 08, 2014). National Institute of Dental and Craniofacial Research. Retrieved on March 17, 2017 from <https://www.nidcr.nih.gov/OralHealth/Topics/Diabetes/>

Key Findings by Region

King County

Visit dentist yearly	Have dental Insurance	Still have all teeth	Have gum disease	Have tooth decay
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79% 64% 51%↑ 14% 16%

- ✓ 34% have had scaling or root planing, significantly higher than other regions.

Pierce County

Visit dentist yearly	Have dental Insurance	Have all teeth	Have gum disease	Have tooth decay
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73% 69%↑ 37%↓ 14% 18%

- ✓ 38% have talked with health care professional about oral health, significantly higher than other regions.

North Central

Visit dentist yearly	Have dental Insurance	Still have all teeth	Have gum disease	Have tooth decay
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74% 53%↓ 42% 11% 15%

- ✓ 22% have had treatment for gum disease, and 15% have been told they lost bone around their teeth, significantly lower than other regions.

North Sound/Olympic

Visit dentist yearly	Have dental Insurance	Still have all teeth	Have gum disease	Have tooth decay
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77% 58% 41% 12% 18%

- ✓ 24% have talked with health care professional about oral health, significantly lower than other regions.

Better Health Together

Visit dentist yearly	Have dental Insurance	Still have all teeth	Have gum disease	Have tooth decay
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77% 58% 47% 13% 13%

- ✓ 85% visited a dentist within the past year, 15 points higher than 2012.

Cascade/Southwest

Visit dentist yearly	Have dental Insurance	Still have all teeth	Have gum disease	Have tooth decay
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75% 66%↑ 41% 13% 13%

- ✓ 66% have dental insurance, significantly higher than other regions.

Greater Columbia

Visit dentist yearly	Have dental Insurance	Still have all teeth	Have gum disease	Have tooth decay
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77% 56% 46% 8%↓ 15%

- ✓ 21% have had treatment for gum disease, significantly lower than other regions.



Arrows indicate statistically significant difference from the overall average.

Next Steps

Recognizing that different efforts and different needs exist across the state's seven Accountable Communities of Health, the following observations are noted at the ACH level, which may be most helpful for developing programmatic changes:



Pierce County has the lowest percentage of seniors who are making annual dental visits (73%), even though its percentage of residents who have dental insurance coverage is higher than any other regions (69%). Encouraging routine dental care among seniors in this area could be an easy sell, especially for those already covered by insurance.



The largest increase in the percentage of seniors having dental insurance is seen in the North Central region (+12 points since 2012), although it is still the lowest among the seven ACH regions. Ensuring that the upward trend continues seems critical in promoting seniors' oral health in this area.



The greatest improvement in the percentage of seniors who have all their teeth still intact is observed in the Greater Columbia area (+ 14 points since 2012 46%), while the highest percentage is measured in King County (51%). Pierce County is the most likely to have seniors who have lost at least one tooth, and can benchmark against those two areas in order to improve overall oral health among its senior population.

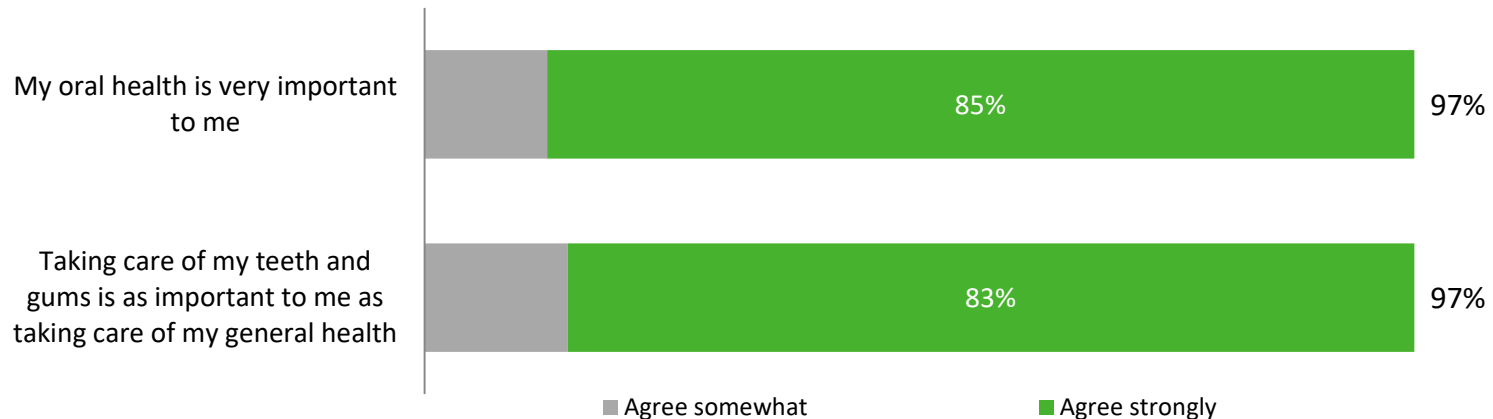


In the Better Health Together area, the percentage of seniors who have talked with their health care provider about the importance of visiting a dentist increased by 17 points since 2012 (to 32%), the largest improvement of the seven ACH regions. The North Sound/Olympic area, where the lowest percentage is measured (24%), may wish to look into how Better Health Together is achieving such success.

Detailed Findings

Importance of Oral Health

- Nearly all seniors surveyed (97%) agreed that their oral health is important to them.
- Nearly all of this agreement came at the top-box level of “Agree strongly”, indicating that their oral health was a key priority for them.



The importance of oral health is found across all demographic groups, with no statistically significant differences based upon respondents' education, geographic region, ethnicity/race, or whether or not they have dental insurance. Age, however, made a difference, with those 75 years of age or older perceiving oral health not as much of a priority than their younger counterparts (95% versus 98% for agreeing that taking care of oral health is as important as taking care of general health).



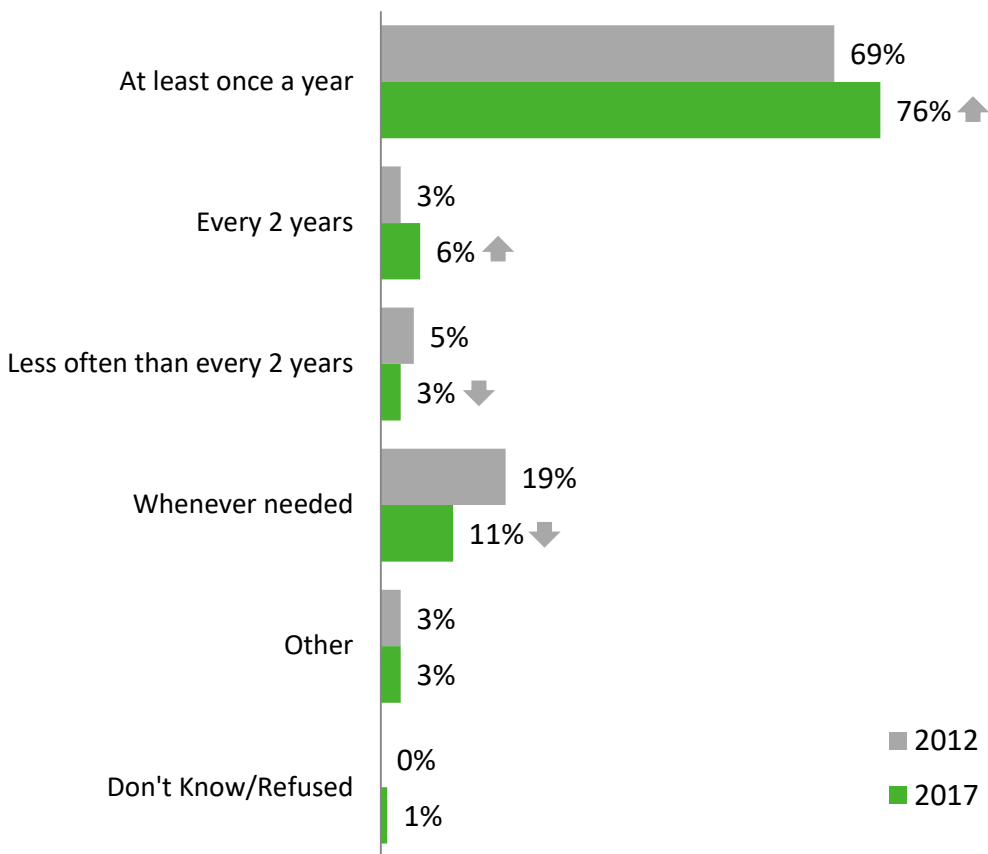
Seeing a dentist at least once a year is significantly related to having stronger agreement on these two attitudinal measures, than those who go to the dentist on an as-needed basis.

Q: How much do you agree or disagree with the two following statements about oral health? (New measures added for 2017)

- ✓ My oral health is very important to me
- ✓ Taking care of my teeth and gums is as important to me as taking care of my general health

Dental Visit Frequency

- Three quarter of seniors interviewed (76%) said they visit a dentist or dental hygienist “at least once a year,” seven points higher than what was measured in 2012 (69%).



Of the seven Accountable Community of Health (ACH) region groups used for this year’s survey, five saw a significant increase in their percentage of seniors seeing a dentist “at least once a year,” with the largest increase seen among residents living in the Better Health Together region (+13 points from 2012 to 77%).

Similar to the 2012 survey, King County once again has the highest percentage of seniors who go to the dentist at least once a year (79%), and Pierce County has the lowest percentage (73%).



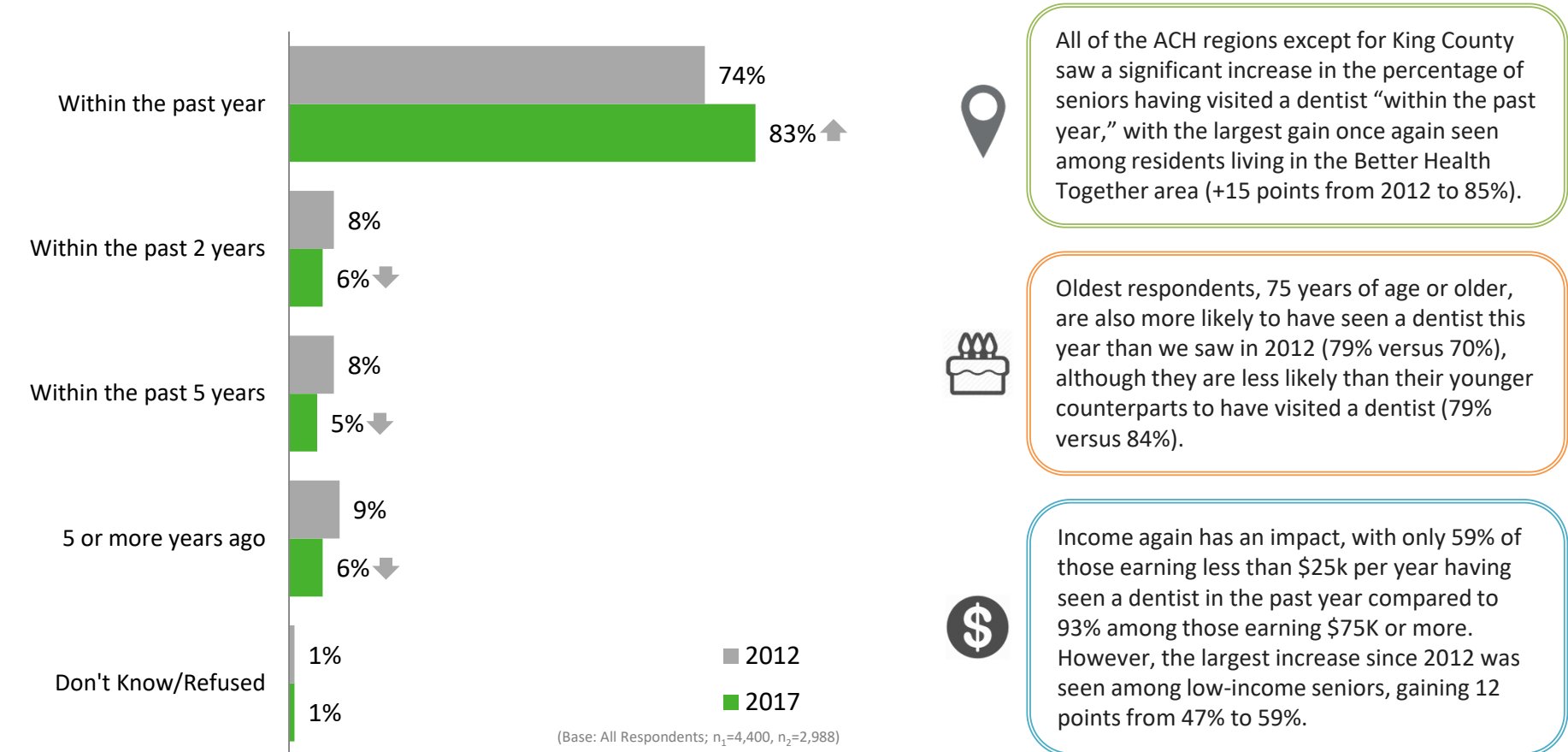
The likelihood of going to the dentist at least once a year increases with income, from 47% among those making less than \$25K to 88% among those earning \$75K or more. Compared to 2012, the largest increase in yearly dental visits is observed among those making less than \$25K, gaining eight points from 39% in 2012 to 47% today.



Hispanic seniors are the least likely to see a dentist for yearly check-up (67%).

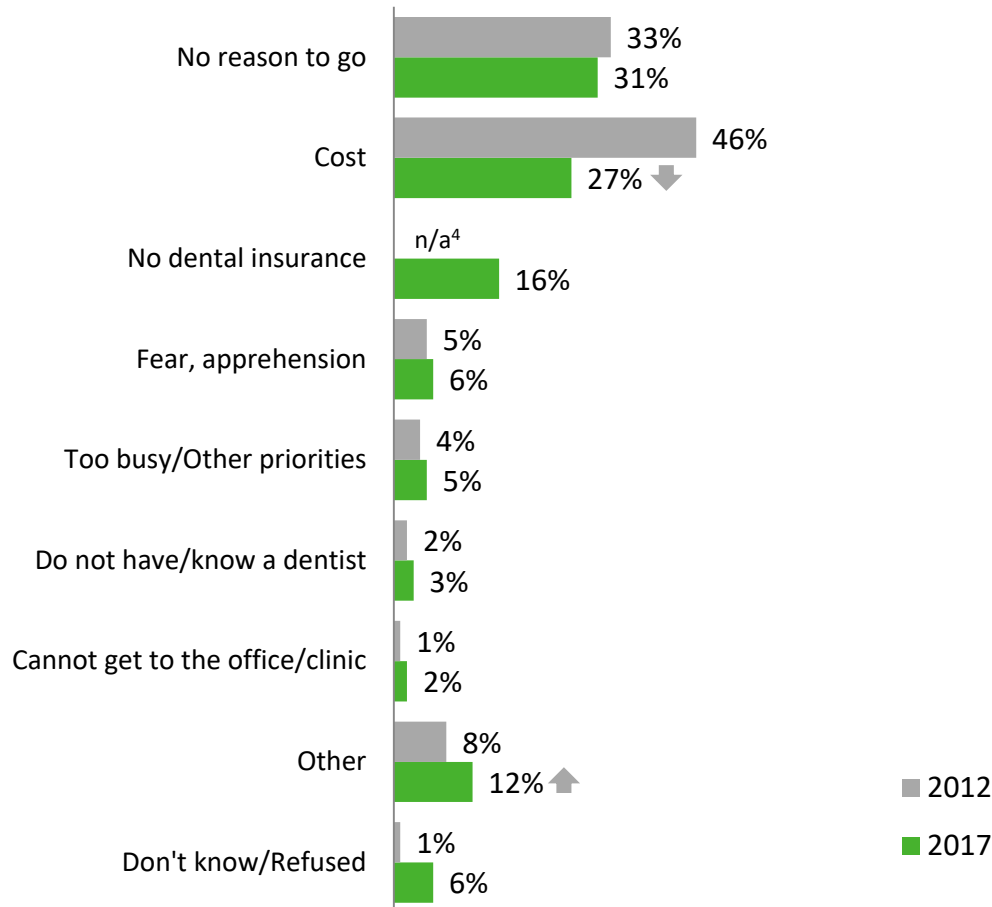
Last Dental Visit

- Washington seniors are also more likely to have visited a dentist “within the past year” in this year’s assessment compared to what was measured in 2012 (83% versus 74%).
- Eighty-two percent of respondents who are 65 years of age or older said they have visited a dentist “within the past year,” 20 points higher than the national average (62%).³



Reason for Not Seeing a Dentist

- Of those who did not see a dentist in the last year, three out of ten simply said they had no reason to go (31%, statistically even with 2012). On the other hand, cost is less of a barrier this year than in 2012, down from 47% saying this was why they did not go in 2012 to almost half that level (27%) this year.



Cost is the primary barrier among seniors who live in the North Sound/Olympic area, those with incomes less than \$25K, and those without dental insurance (40%, 35% and 34%, respectively).

Cost became less of an issue in 2017 among those who live in the North Central region, down 34 points from 49% in 2012 to 15%.

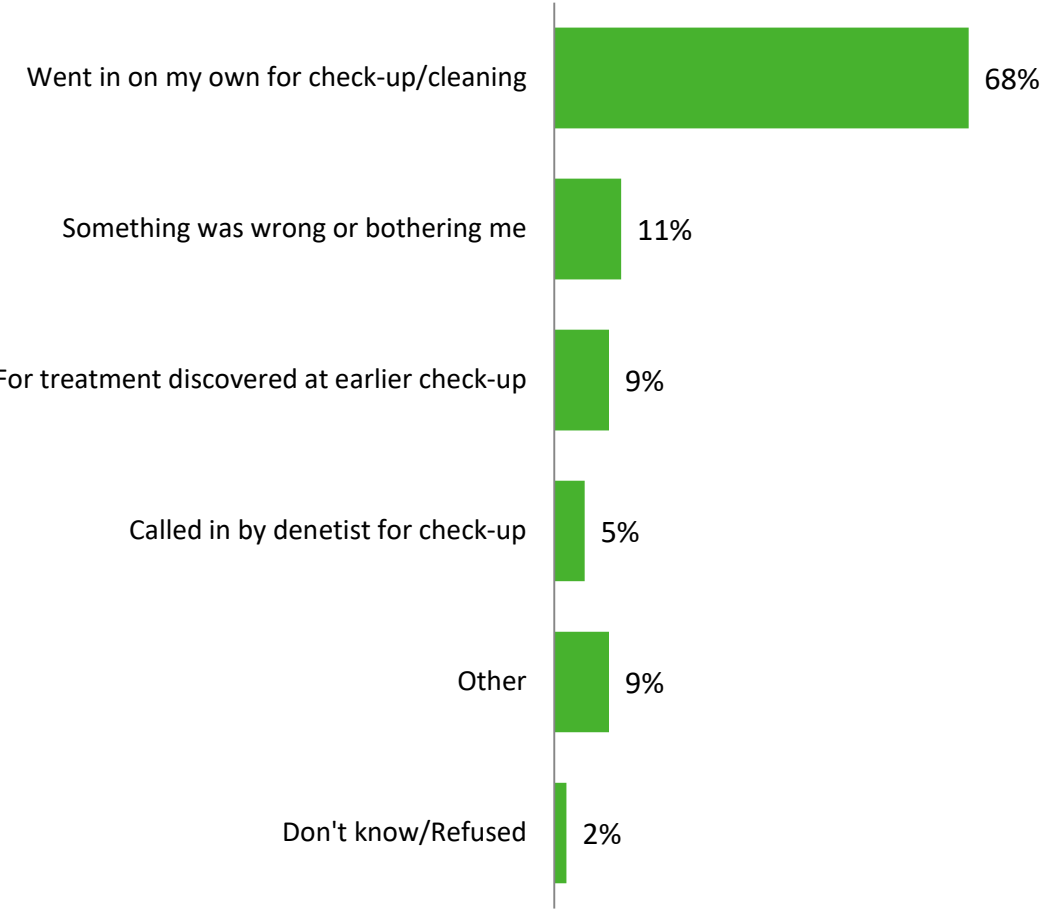
Q: What is the main reason you have not visited a dentist in the last year?

⁴ 2012 data not available. This answer choice was added for the 2017 survey.

(Base: Those who did not visit a dentist last year; n₁=1,119 n₂=538)

Reason for Last Dental Visit

- Two in three seniors (68%) said the main reason for their last dental visit was for a check-up, examination or cleaning. One in ten (11%) said they went in because something was wrong or bothering them, and another one in ten (9%) went in for treatment of a condition that dentist discovered at earlier check-up.



Respondents who are 75 years of age or older were significantly less likely to see a dentist voluntarily (62%), but more likely to be called in by their dentist for check-up (7%).



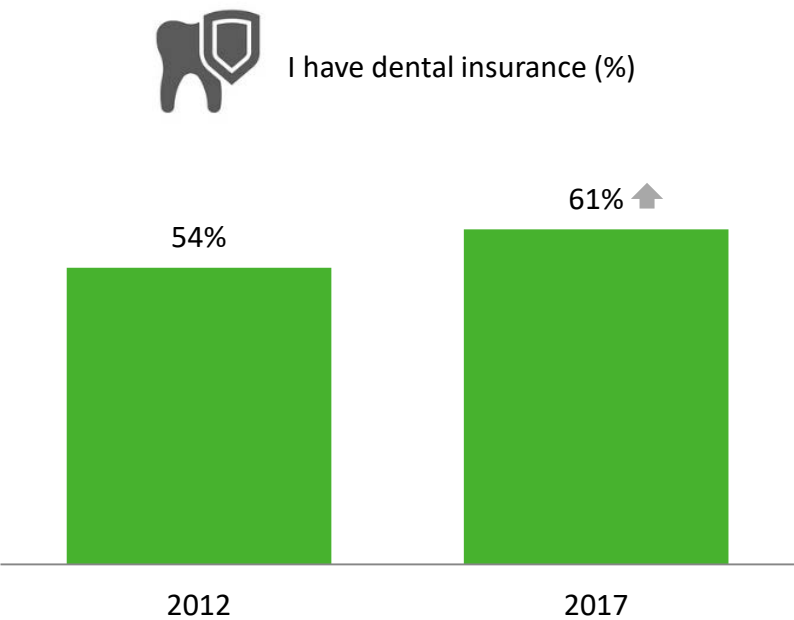
Income and education played a large role in how Washingtonian seniors approach dental care. Those with higher incomes (\$75K or more) and those college educated were more likely to visit the dentist for preventative care, while those with lower incomes (less than \$25K) and those with no college education were more likely to seek dental care when a problem arises.



Hispanic respondents and those without dental insurance were also significantly more likely to say they would go to the dentist when something was wrong or hurting them.

Dental Insurance Coverage

- Six out of ten seniors (61%) have dental insurance, up significantly from 2012 (54%).



All ACH regions saw statistically significant increases since 2012 in the percentage of seniors who have dental coverage, except for North Sound/Olympic and King County. North Central had the largest gain on this measure, adding 13 points from 40% in 2012 to 53% today.



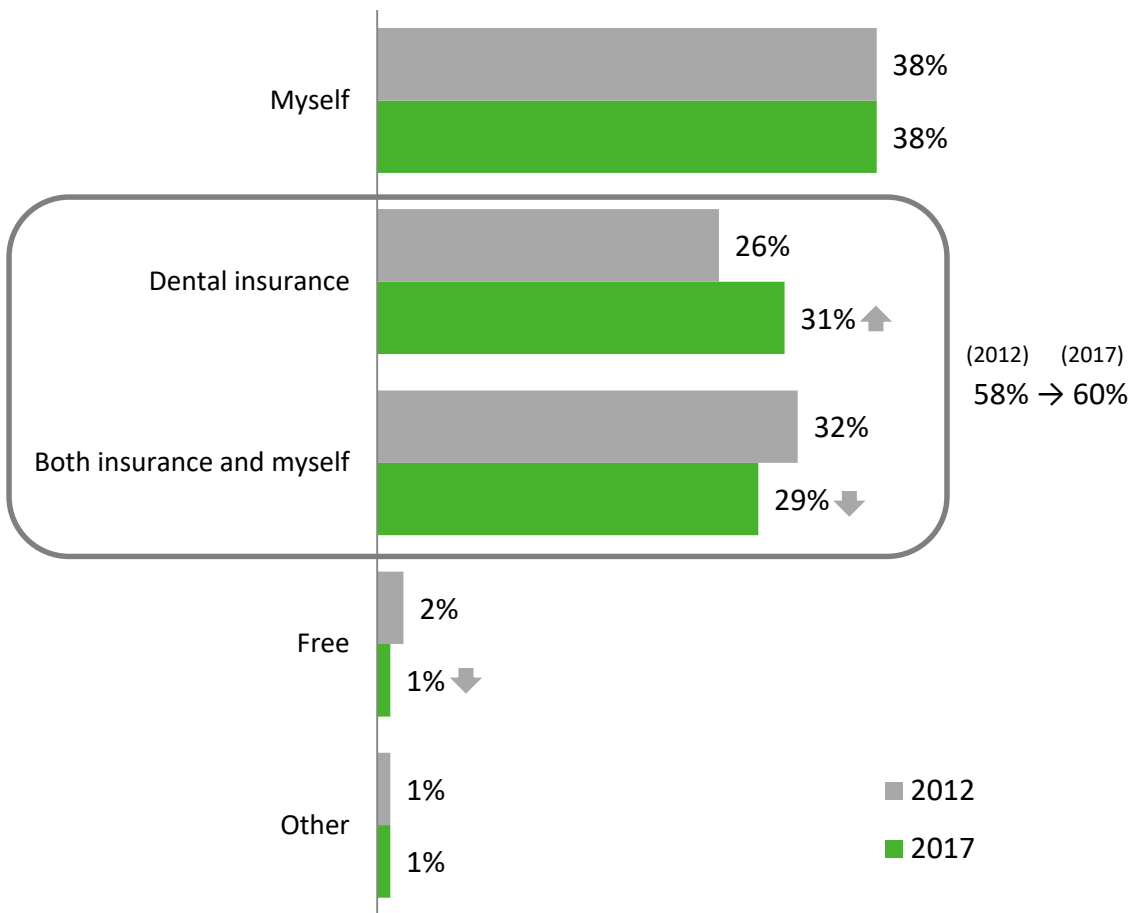
The younger the age, the more likely the seniors have dental insurance, from 69% among those between 55 and 64 years of age to 45% among those 75 or older.



The largest increase in the percentage of seniors having dental insurance was seen among those with incomes less than \$25K (+18 points since 2012 to 45%), although they're still the least likely to have dental insurance (compared to 73% among those who earn \$75K or more).

Paying for Dental Visit

- Of those who have seen a dentist within the past two years, four out of ten (38%) paid for their dental care on their own, (exactly the same as 2012), while 60% had it at least partially paid for by their dental insurance, statistically unchanged from 2012.



Seniors living in the Cascade/Southwest, Greater Columbia and Pierce County areas were significantly more likely this year to say their last dental visit was covered by their insurance than 2012.



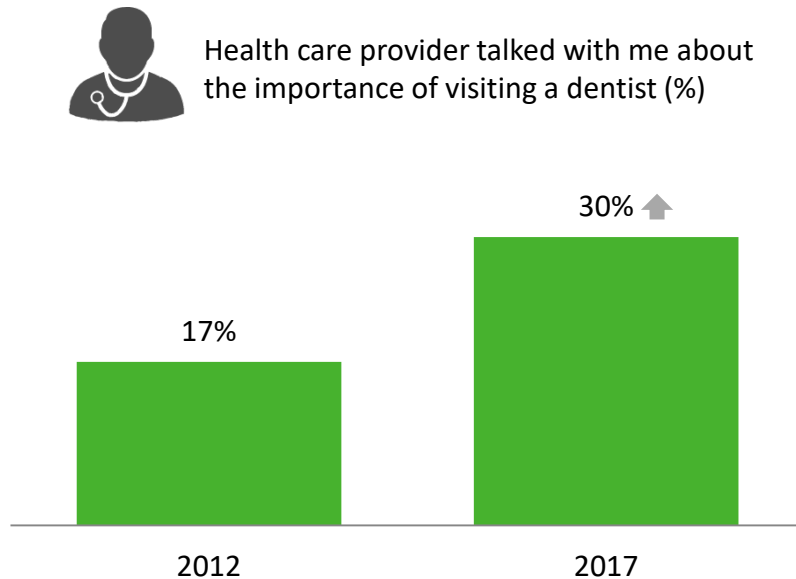
Half of those earning less than \$50K paid for their dental care on their own, reflecting the fact that low income seniors are less likely to have dental insurance.



Those 75 years of age or older were significantly more likely to pay for their dental care themselves than those between 55 and 64 years of age (56% versus 28%), also mirroring the fact that older seniors are less likely to have dental insurance.

Dental Advice from Health Care Professional

- Three out of ten seniors surveyed (30%) said their health care provider talked with them during the last year about the importance of taking care of oral health, nearly double of what was measured in 2012 (17%).



In Pierce County, seniors are most likely to have had a conversation with their health care provider regarding the importance of taking care of their oral health, at 38%, whereas in the North Sound and Olympic region, the percentage was the lowest, at 24%. Nonetheless, all seven regions saw a significant increase on this measure, with the largest jump seen in the Better Health Together region, up 17 points from 15% in 2012 to 32% today.



The largest increase on this measure was seen among those with incomes less than \$25K, up 23 points from 2012 to 42%. These low income seniors were significantly more likely to say their health care provider talked to them about oral health than those with higher incomes (26% among those making \$50K or more compared to 42%).

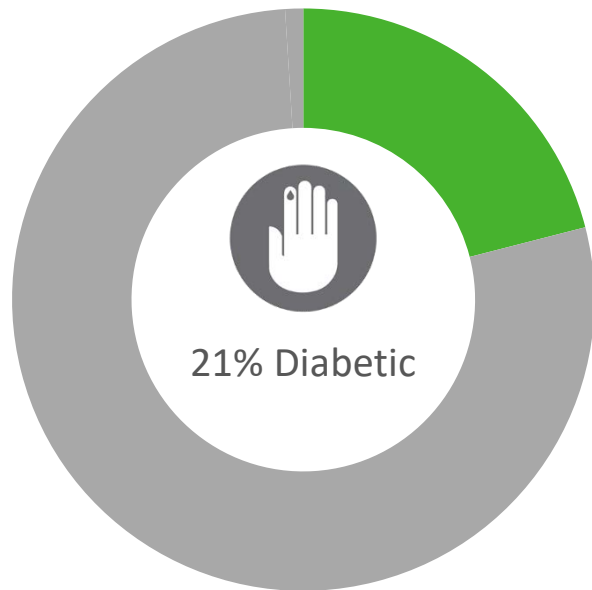


Half of Hispanic respondents (54%) indicated that they have talked with their health care provider about taking care of their teeth and gums, 28 points higher than what was measured in 2012 (26%), and significantly higher than the percentage reported among white/Caucasians (28%).

Q: During the last year, did a doctor, nurse, or other health care worker talk with you about the importance of visiting a dentist or about the health of your teeth and gums?

Diabetes

- One in five seniors surveyed (21%) said they have been diagnosed with diabetes or pre-diabetes.



Respondents who are between 65 and 75 years of age were significantly more likely to be diabetic than those between 55 and 64 years of age (25% versus 19%).



Respondents who go to the dentist on an as-needed basis were significantly more likely to have been diagnosed with diabetes (29%). Those who said they currently have a dental problem that needs to be addressed within the next month were also significantly more likely to be diabetic (30%). Those who have diabetes evaluate their oral health much lower than those who do not have diabetes.

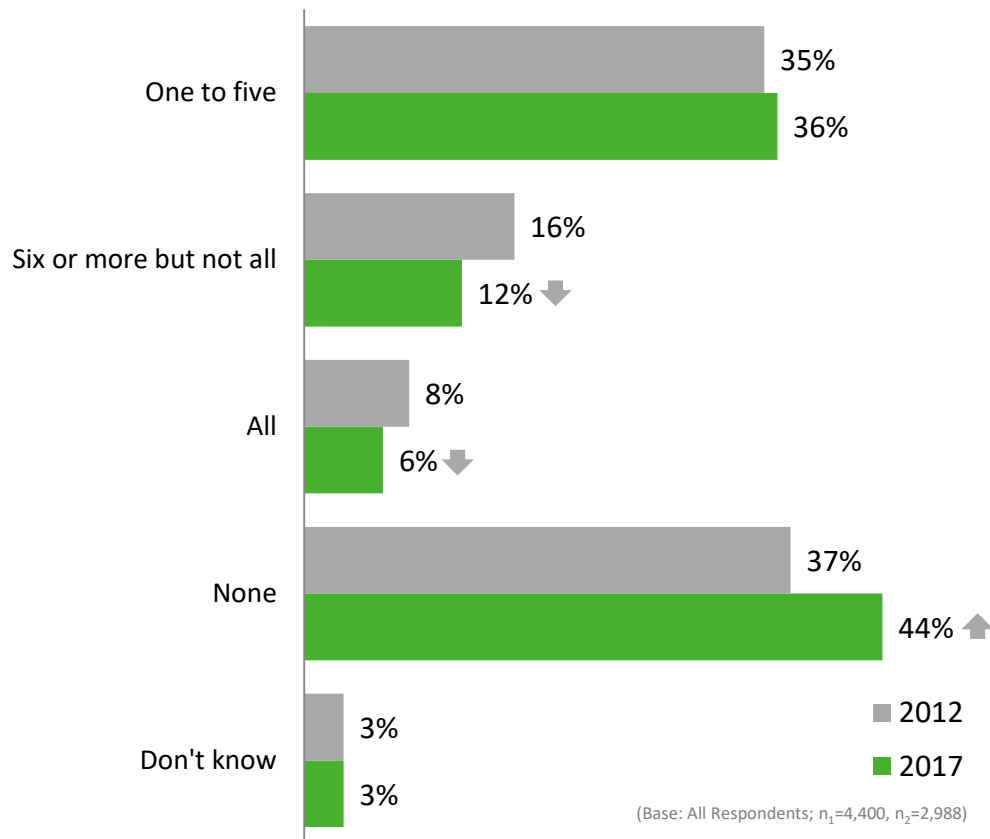


Those with low incomes (less than \$25K), those without a high school diploma, African American and Hispanic seniors were significantly more likely to be diabetic, at 30%, 35%, 33%, and 44%, respectively.

Oral Health Status

Tooth Loss

- Participants were asked how many of their teeth have been removed due to tooth decay or gum disease. Half of respondents (54%) indicated that they have had at least one permanent tooth removed due to infection, down significantly from 59% in 2012. Meanwhile, the percentage of seniors who have lost six or more teeth decreased significantly, from 24% in 2012 to 18% today.
- Nearly 19% of adults aged 65 and over were edentulous in the United States in 2011–2012,⁵ compared to just 7% in Washington today.



Seniors living in King County were the most likely to still have all their teeth (51%), whereas those in Pierce County were the least likely (37%). The Greater Columbia region has had the largest improvement since 2012 on this measure, with 46% still having all their teeth, up from 32%.



Education and income made considerable differences in tooth loss among seniors, with those who have never gone to college and those earning less than \$25K being significantly more likely to have lost six or more teeth (32% and 35%, respectively).



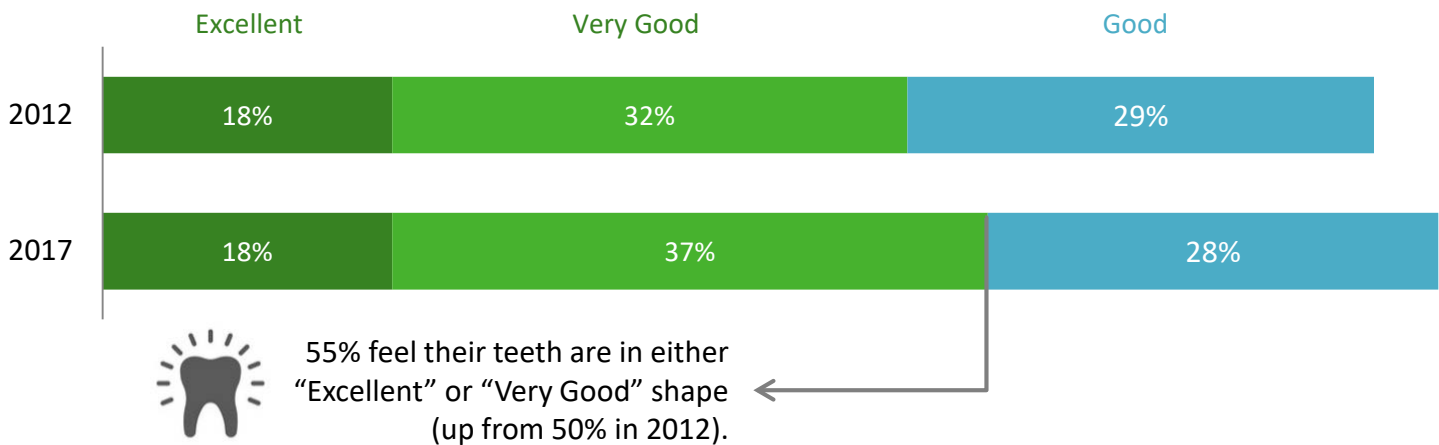
Not surprisingly, age also was a factor, with those 75 years of age or older being significantly more likely to have lost six or more teeth than those between 55 and 64 years of age (28% versus 14%).

Q: 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.

⁵ Dental Caries and Tooth Loss in Adults in the United States, 2011–2012 (May 2015). *NCHS Data Brief No. 197*. Retrieved on April 17, 2017 from <https://www.cdc.gov/nchs/data/databriefs/db197.htm>

Condition of Teeth

- Eight out of ten seniors (83%) feel that their teeth are at least “Good,” four points higher than what was measured in 2012 (a statistically significant improvement).



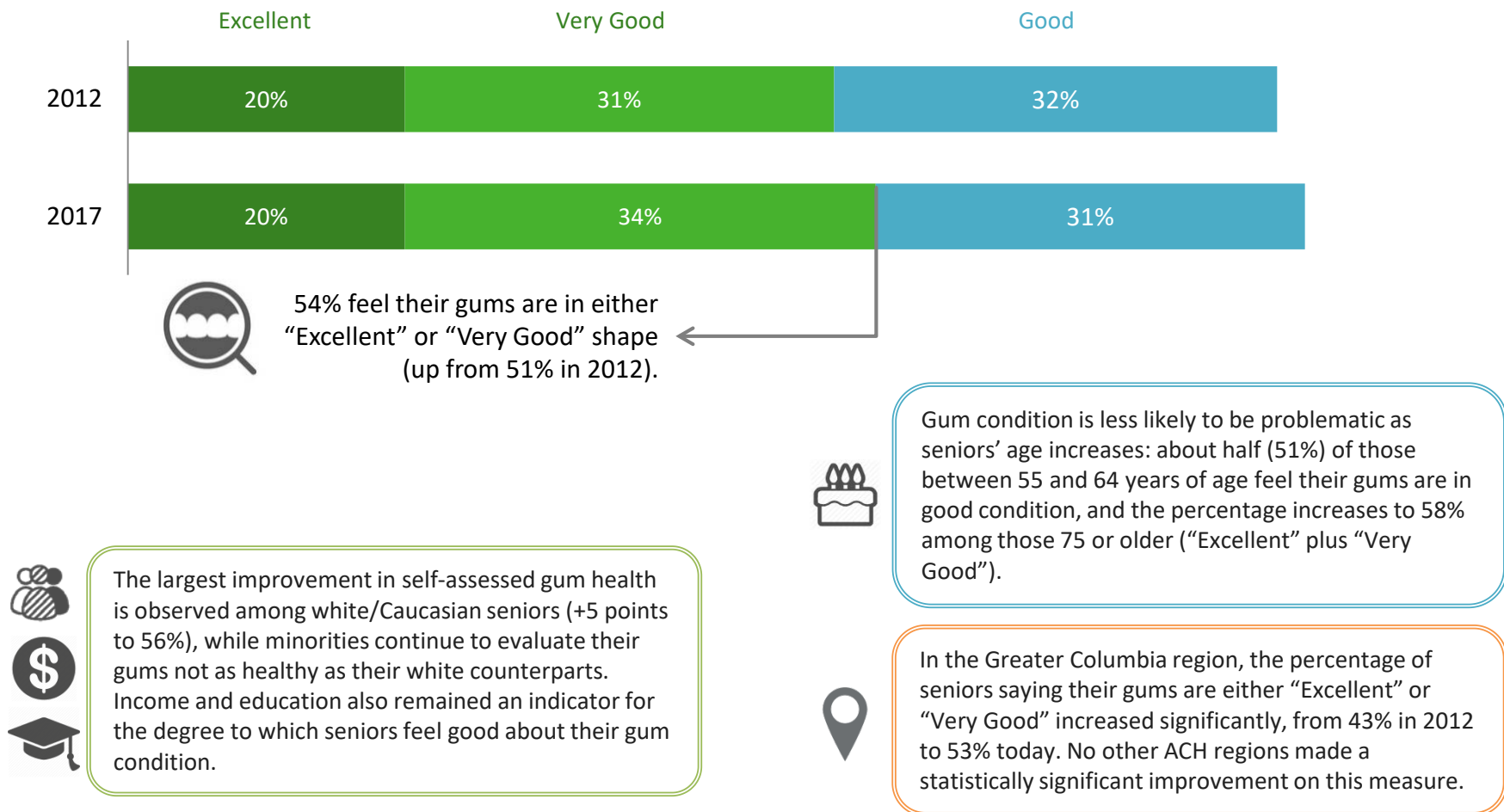
In the North Central, Better Health Together and Greater Columbia areas, the percentage of seniors describing the condition of their teeth as “Excellent” or “Very Good” increased significantly from 2012 (+8 points to 58%, +11 points to 58%, and +9 points to 52%, respectively).



The largest improvement in tooth health was seen among those between 55 and 64 years of age (+7 points to 54%) and those earning between \$25K and \$50K a year (+8 points to 48%). Despite the improvement however, low income seniors are still far less likely to describe the condition of their teeth as “Excellent” or “Very Good” than those with higher incomes.

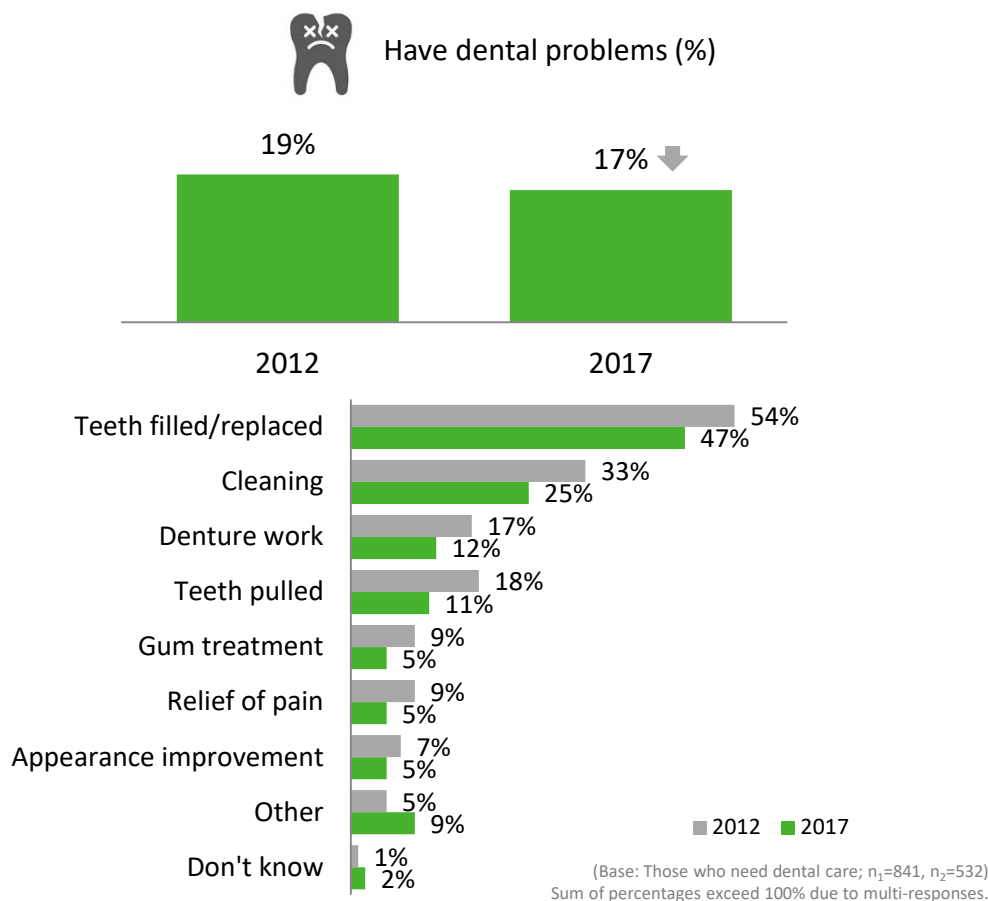
Condition of Gums

- Eight out of ten seniors (85%) also think the condition of their gums are at least “Good,” significantly higher than 2012 (83%).



Dental Care Needed

- Seventeen percent of seniors interviewed (17%) said they have a dental problem that needs to be addressed in the next month, down two points from 2012, which is a statistically significant decline.
- Of those who need dental care in the next month, eight out of ten (79%) mentioned at least one major/restorative procedure (i.e., teeth filled/replaced/pulled, denture work, gum treatment, or relief of pain), down from 84% in 2012, while 21% mentioned preventative/cosmetic work, up from 16% in 2012.



Most of the reduction in needed dental care is from those between 55 and 64 years of age, with 19% saying they currently have a dental problem, down from 23% in 2012. Those 75 or older continue to be the least likely to have any dental issues, at 14%, exactly the same as 2012.



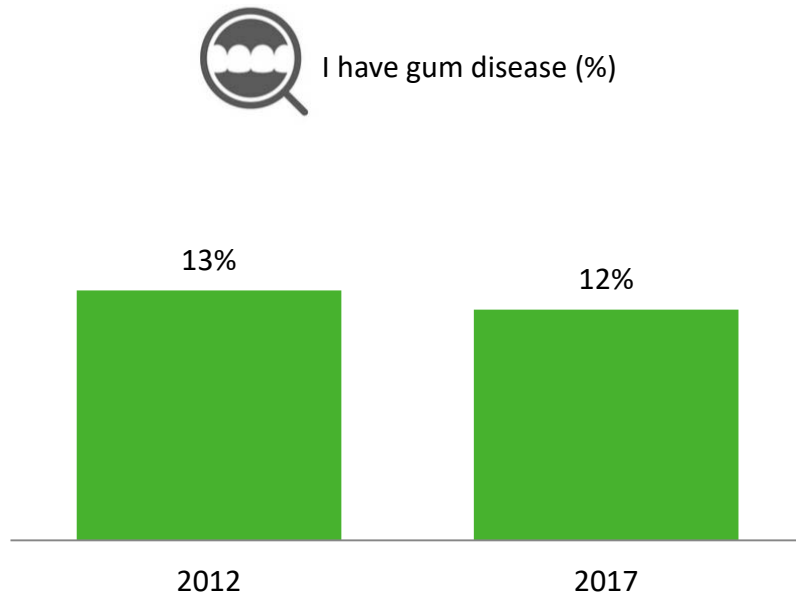
Income, education and ethnicity/race made significant differences, with those earning less than \$25K a year, those without a high school diploma, and African American and Hispanic respondents being the most likely to have dental problems (29%, 31%, 25%, and 30%, respectively).



In the North Sound/Olympic area, seniors were significantly less likely to have dental issues this year than 2012, down four points to 15%. No other statistically significant changes since 2012 were found in other regions.

Gum Disease

- One in ten seniors (12%) think they might have gum disease, statistically unchanged from 2012.



In the Greater Columbia area, the percentage of seniors saying they might have gum disease declined significantly, from 13% in 2012 to 8% today.



Respondents between 55 and 64 years of age were significantly less likely to say they have gum disease this year compared to 2012 (17% versus 14%). Older seniors (75 or older) remain the least likely to have gum disease (8%, statistically unchanged from 2012).



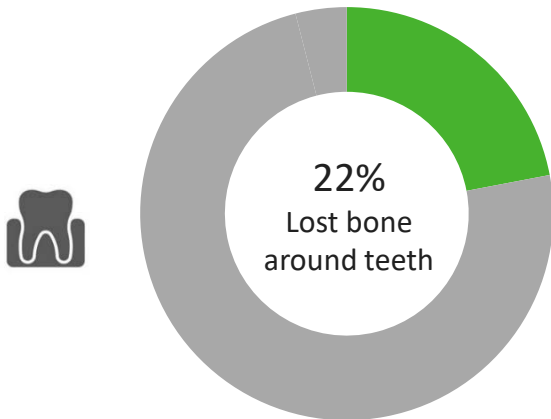
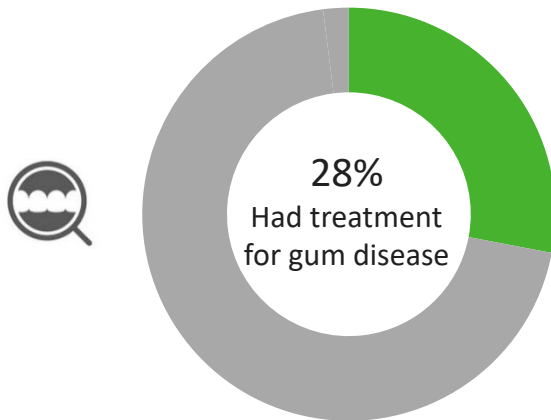
Those with diabetes were significantly more likely to also have gum disease (17%).



Low income seniors (earning less than \$25K a year) were the most likely to say they have gum disease (19%), as were those who do not go to the dentist for routine check-up (22%).

Periodontal Disease

- Over one quarter of seniors (28%) have had treatment for gum disease, such as scaling or root planing, and one in five (22%) have been told by a dental professional that they lost bone around their teeth.



Seniors making less than \$25K were the most likely to have been told that they lost bones around their teeth (26%), and those making slightly more (between \$25K and \$49K) were the most likely to have had treatment for gum disease (32%).



Those in the North Central and Greater Columbia regions were significantly less likely to have been treated for gum disease (22% and 21%, respectively), whereas in King County, the percentage was the highest (34%).



Four out of ten African American seniors surveyed (40%) said they have had treatment for gum disease, significantly higher than other race/ethnicities. Meanwhile, one in three Asian seniors (33%) said they lost bone around their teeth, also significantly higher than other race/ethnicities.



Those with diabetes were significantly more likely to have been treated for gum disease and lost bone around their teeth (35% and 27%, respectively).

Q: Have you ever had treatment for gum disease such as scaling and root planing, sometimes called deep cleaning? (New measure added for 2017)

Q: Have you ever been told by a dental professional that you lost bone around your teeth? (New measure added for 2017)

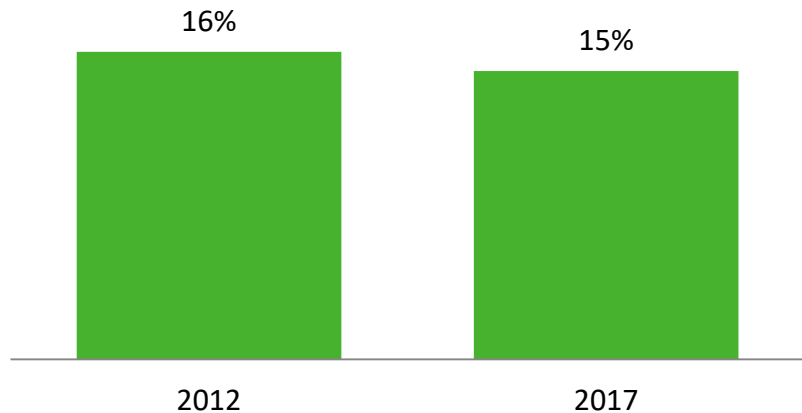
(Base: All Respondents; n=2,988)

Tooth Decay

- Fifteen percent of seniors interviewed (15%) said they might have tooth decay, statistically unchanged from 2012.
- Approximately 19% of adults aged 65 and over in the United States had untreated caries in 2011–2012,⁶ compared to 12% in Washington today.



I have tooth decay (%)



(Base: All Respondents; $n_1=4,400$, $n_2=2,988$)



In the Cascade/Southwest and Better Health Together regions, the percentage of seniors with tooth decay decreased significantly from 2012, each dropping four and five points to 13%.



One in ten seniors earning \$75K or more (10%) have tooth decay, up significantly from 2012 (7%). Nonetheless, those with high incomes are the least likely to have tooth decay, and the lower the income, the more likely seniors have cavities (33% among those who make less than \$25K).



Hispanic seniors are the most likely to have tooth decay (31%), followed by African American seniors (22%). The percentage of Hispanic respondents with tooth decay increased significantly from 2012, adding 13 points to 31%.

Q: Tooth decay or cavity, is another common problem with the mouth. People with tooth decay might have holes in their teeth, a broken filling or pain. Do you think you might have tooth decay?

⁶ Dental Caries and Tooth Loss in Adults in the United States, 2011–2012 (May 2015). *NCHS Data Brief No. 197*. Retrieved on April 17, 2017 from <https://www.cdc.gov/nchs/data/databriefs/db197.htm>

Frequency of Avoiding Foods

- Fifteen percent of seniors interviewed (15%) said they have avoided particular foods at least “occasionally” because of problem in their mouth, statistically stable with 2012. However, the percentage saying they avoid food “very often” decreased significantly, from 7% in 2012 to 5% today.



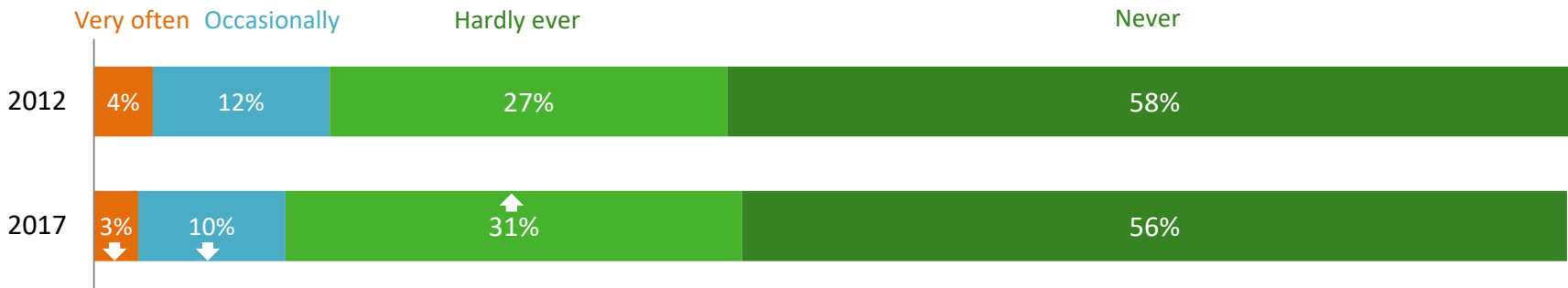
In the Cascade/Southwest and North Sound/Olympic areas, seniors were significantly less likely to avoid food “very often” due to oral health issues this year compared to 2012, down three points to 6% and 3%, respectively. In the Better Health Together region, two thirds of seniors (68%) said they “never” avoid certain foods because of problems in their mouth, the highest of all ACH regions.



Seniors with college degrees and those earning \$75K or more were the most likely to say they “never” avoid food because of problems with their teeth, mouth or dentures (68% and 72%, respectively), and as the level of education and income decreases, the frequency of experiencing discomfort when eating certain foods increased.

Frequency of Pain

- Thirteen percent of seniors surveyed (13%) said they have had painful aching somewhere in their mouth during the last year at least “occasionally,” significantly lower than 2012 (16%).



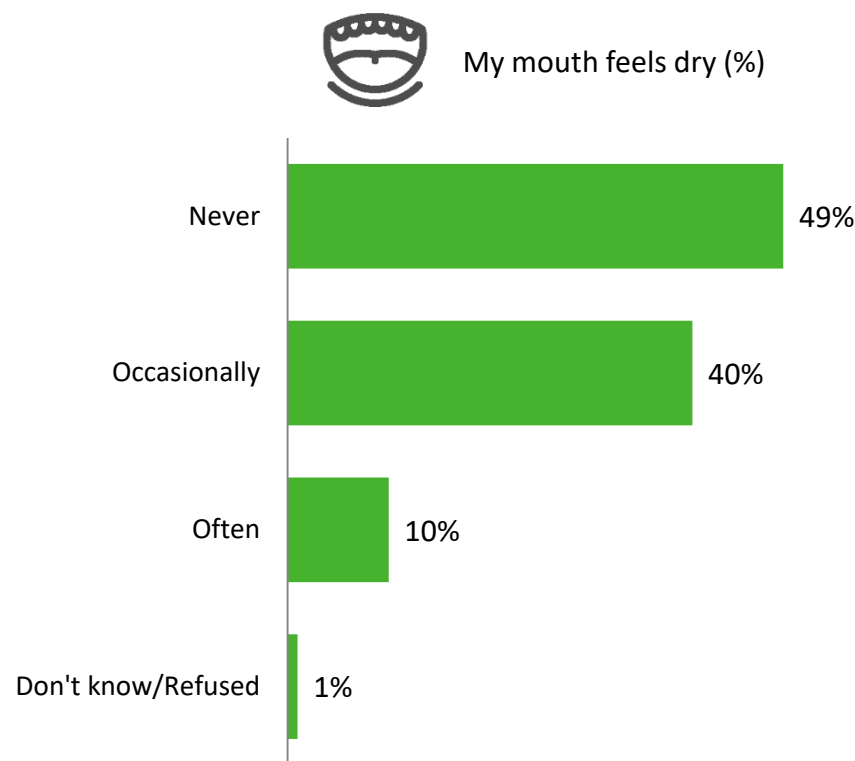
In King County, just 9% of seniors have experienced pain in their mouth during the last year, which is half of what was measured in 2012 (18%), and the lowest of all seven ACH regions.



Those without a high school diploma, those making less than \$25K, and Hispanic respondents were the most vulnerable when it came to experiencing pain related dental issues (23%, 26% and 22%, respectively, saying “very often” or “occasionally”).

Dry Mouth

- Half of seniors (50%) said their mouth feels dry at least “occasionally,” while the other half (49%) said they “never” feel their mouth is dry.



Seniors without a high school diploma and those earning less than \$50K were the most likely to suffer from xerostomia, with 16% and 14%, respectively, experiencing dry mouth “often.”



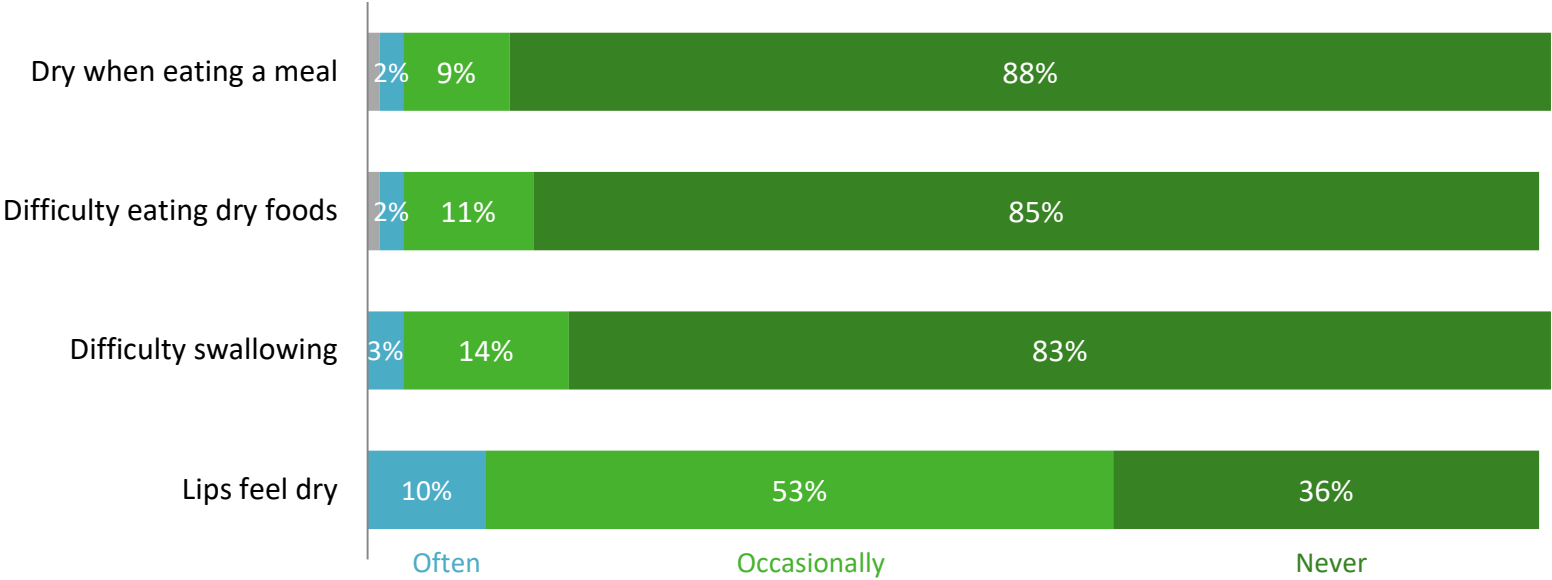
Hispanic respondents were significantly less likely to say their mouth feel dry than Asian respondents (42% versus 61%, “often” plus “occasionally”).



Female respondents were significantly more likely to have dry mouth than male respondents (52% versus 47%, “often” plus “occasionally”).

Dry Mouth (continued)

- One in ten seniors (11%) said their mouth felt dry when eating a meal, 13% have had difficulty eating dry foods, and nearly one in five (17%) have experienced difficulty swallowing certain foods. However, dry lips were by far the most common symptom seniors experience, with 63% saying their lips feel dry at least “occasionally.”



Female respondents were far more susceptible to dry lips than males, with a staggering 20-points difference (72% versus 52%).

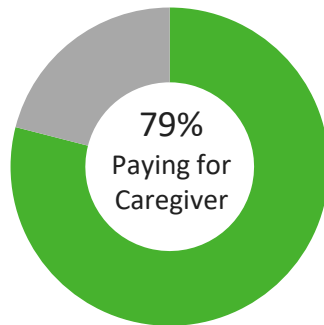
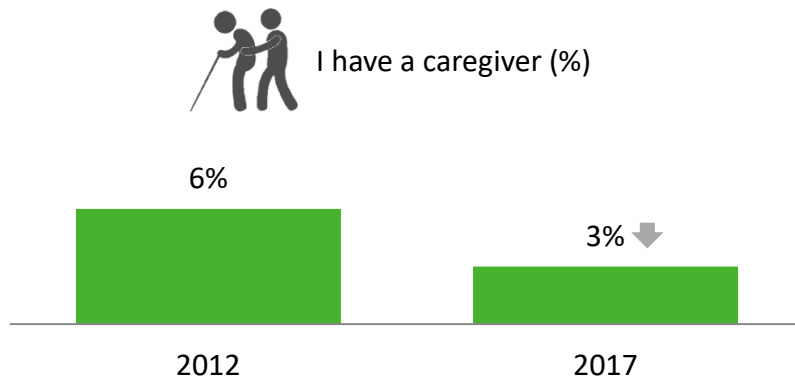


Those who do not go to the dentist for routine check-up were significantly more likely to feel their mouth is dry when eating a meal, have difficulty eating dry foods, and difficulty swallowing certain foods (18%, 24% and 23%, respectively).

Q: Q: Does your mouth feel dry when eating a meal? (New measure added for 2017)
Q: Do you have difficulty eating dry foods? (New measure added for 2017)
Q: Do you have difficulty swallowing certain foods? (New measure added for 2017)
Q: Do your lips feel dry ? (New measure added for 2017)

Caregiver

- Just 3% of seniors interviewed said they have someone come to their home on a regular basis to help them with basic activities, down significantly from 2012 (6%). Of those who have a caregiver, 79% said their caregivers are paid, statistically unchanged from 2012 (78%).



(Base: Those who have a caregiver; n=116)



Not surprisingly, those 75 years of age or older were the most likely to have a caregiver (9%).



Oral health status of seniors who have a caregiver is significantly below that of those who do not have a caregiver (under 40% evaluating their teeth and gums at least "Very good," compared to 55%). This is perhaps due to their health condition that led them to seek a caregiver in the first place. Those who have a caregiver are also significantly more likely to have gum disease and/or tooth decay than those who do not have a caregiver.



The lower the socioeconomic status, the more likely they are to have a caregiver, with those without a high school diploma and those earning less than \$25K being the most likely to have someone helping on a regular basis (8% and 9%, respectively).

Q: Does someone come to your home on a regular basis (for example daily or weekly) to help you with activities such as bathing, eating, house chores, or shopping?

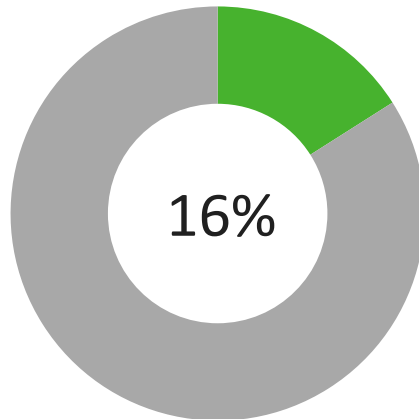
Q: Is this person paid?

Helping Others

- Sixteen percent of seniors (16%) said they provided regular care or assistance to a friend or family member who has a health problem or disability in the past 30 days.



Provided Care to Others



Those earning \$75K or more were significantly less likely to provide assistance to a friend or family member (12% versus 17% or higher for lower income groups)



Asian seniors were the least likely to provide regular care to a friend or family member (9% compared to 16% or higher for other race/ethnicity groups)



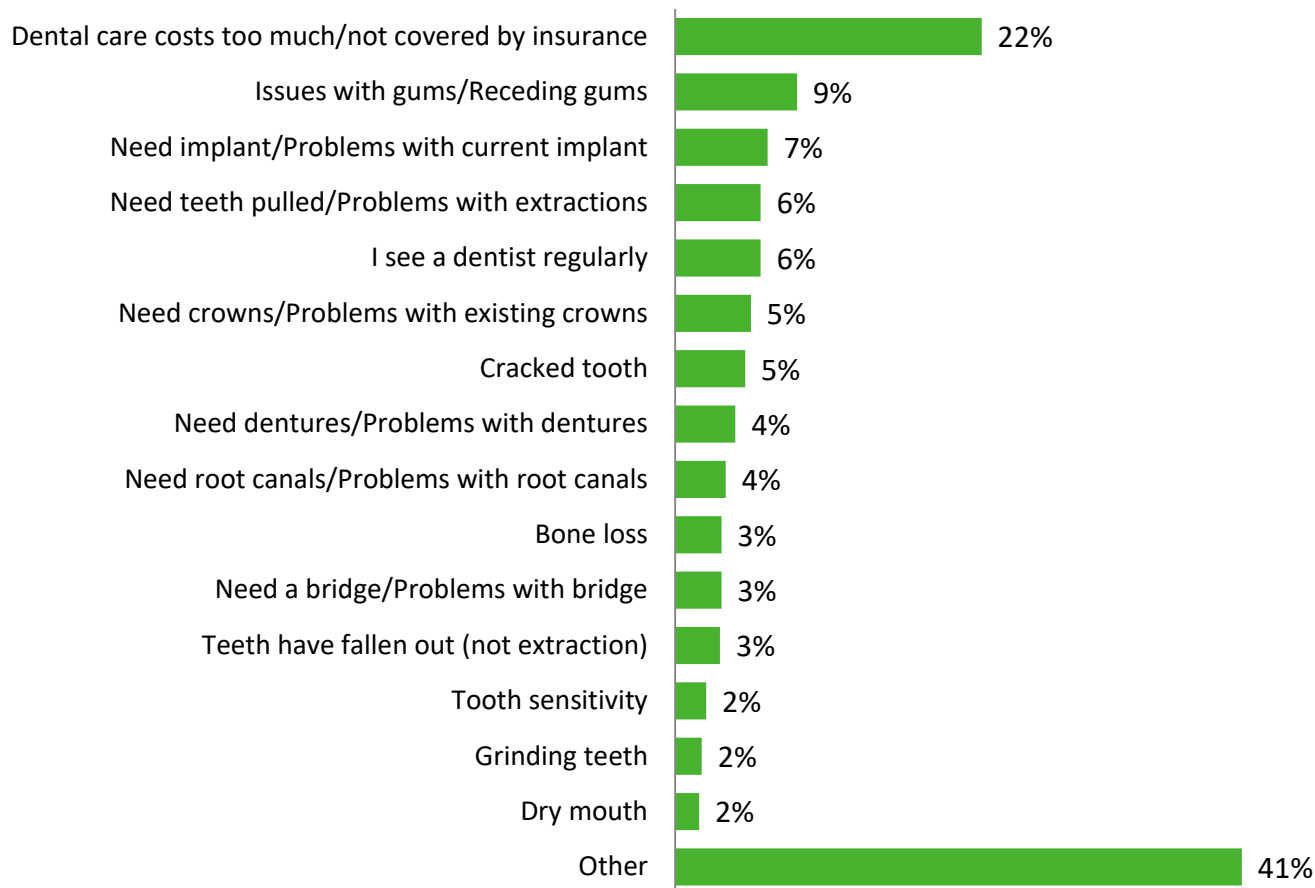
Those living in the Cascade/Southwest and King County areas were the least likely to provide help, at 12% and 13%, respectively.



One in five female respondents (19%) said they provided regular care to others during the past 30 days, significantly higher than male respondents (13%).

Additional Comments

- Participants were asked if they have any additional issues or concerns about their oral health, and nine out of ten (88%) said they have no additional concerns.
- Of those who had a comment (n=372), one in five (22%) mentioned dental care cost being too high and/or insurance not covering an appropriate amount of the dental care expenses.



Appendix

Participant Demographics
Detailed Data Tables
Questionnaire

Participant Demographics

(Weighted Data)

	2012 Sample	2017 Sample	Change
Age			
55 to 64	47%	47%	0
65 to 74	32%	32%	0
75 and older	21%	21%	0
Hispanic			
Yes	4%	4%	0
No	95%	95%	0
Don't know/Refused	1%	1%	0
Ethnicity			
Caucasian or white	84%	83%	-1
African American or black	2%	2%	0
Asian	6%	7%	+1
American Indian/Alaskan	1%	1%	0
Native Hawaiian/Pacific islander	1%	1%	0
Other	4%	4%	0
Don't know/Refused	3%	3%	0

	2012 Sample	2017 Sample	Change
Gender			
Male	47%	47%	0
Female	53%	53%	0
Income			
Under \$25,000	19%	15%	-4
\$25,000 to \$49,999	24%	19%	-5
\$50,000 to \$74,999	18%	19%	+1
\$75,000 or more	24%	32%	+8
Don't know/Refused	15%	15%	0
Education			
Less than high school	5%	4%	-1
High school graduate/GED	23%	17%	-6
Some college/technical school	33%	31%	-2
College graduate or more	39%	47%	+8
Don't know/Refused	1%	1%	0

Percentages may not sum to 100% due to rounding.

Importance of Oral Health

Q: How much do you agree or disagree with the two following statements about oral health? (New measures added for 2017)

- ✓ My oral health is very important to me
- ✓ Taking care of my teeth and gums is as important to me as taking care of my general health

% Strongly + Somewhat Agree	Age			Dentist Visit Frequency				Last Dental Visit				Education			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Within one yr	Within 2 yrs	Within 5 yrs	5+ yrs ago	Less than HS	HS Grad	Some College	College Grad
Sample Size	1482	731	775	2246	170	102	336	2449	186	149	177	82	538	941	1288
Oral health is important to me	98	98	96	99	100	95	93	99	96	96	84	95	97	98	98
As important as general health	98	98	95	98	98	93	92	98	96	94	85	98	96	98	98

% Strongly + Somewhat Agree	Geographic Region							Race/Ethnicity				Have Dental Insurance	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Yes	No
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	1789	1156
Oral health is important to me	95	98	98	98	98	97	98	98	98	96	95	98	98
As important as general health	97	98	98	97	97	97	97	97	95	96	98	98	97

Shaded cells indicate statistically significant differences from the overall average at the 95% level of confidence.

Dental Visit Frequency

Q: How often do you usually go to the dentist or dental hygienist?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Once a year	67	75	63	74	64	77	66	77	72	77	78	79	72	73
% Every 2 years	3	5	4	7	2	6	2	5	4	5	3	6	1	5
% Less often than every 2 years	6	5	5	3	4	3	6	2	4	4	2	2	3	4
% Whenever needed	19	9	24	11	23	9	19	11	16	12	16	11	19	11

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Once a year	70	78	72	76	64	72	39	47	65	71	79	83	88	88
% Every 2 years	3	5	3	6	3	6	3	8	4	8	3	6	2	3
% Less often than every 2 years	5	3	4	3	4	3	9	8	5	5	2	2	2	1
% Whenever needed	19	10	16	11	22	12	37	27	22	13	14	7	6	5

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Once a year	70	77	71	70	73	85	64	67
% Every 2 years	3	6	5	5	5	4	0	8
% Less often than every 2 years	4	3	2	3	4	1	12	3
% Whenever needed	18	10	13	16	16	11	18	18

Shaded cells indicate statistically significant differences from 2012 at the 95% level of confidence.

Last Dental Visit

Q: How long has it been since you last visited a dentist or dental clinic for any reason? Include all types of dentists, such as, orthodontists, oral surgeons, and all other dental specialists, as well as dental hygienists.

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Within the past year	72	81	72	83	70	85	70	83	76	83	82	82	77	84
% Within the past 2 years	7	6	6	6	7	5	11	5	7	7	5	8	8	4
% Within the past 5 years	8	5	9	5	10	5	9	4	7	5	8	3	7	5
% 5 or more years ago	12	7	10	5	12	5	10	7	8	4	5	7	7	6

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Within the past year	73	84	78	83	70	79	47	59	71	78	82	87	91	93
% Within the past 2 years	8	6	6	7	8	5	12	12	9	9	7	6	4	3
% Within the past 5 years	9	5	7	4	8	5	15	11	10	5	5	3	2	2
% 5 or more years ago	9	5	8	5	12	8	24	18	9	7	5	4	2	2

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Within the past year	75	84	74	75	75	79	62	73
% Within the past 2 years	7	6	10	10	11	8	7	11
% Within the past 5 years	8	4	5	8	7	3	17	7
% 5 or more years ago	9	5	11	5	7	8	13	8

Shaded cells indicate statistically significant differences from 2012 at the 95% level of confidence.

Reason for Not Seeing a Dentist

Q: What is the main reason you have not visited a dentist in the last year?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	276	76	90	71	129	63	124	87	315	72	62	90	83	79
% No reason to go	31	36	33	38	33	25	33	35	30	26	39	29	31	30
% Cost	49	20	49	15	46	31	48	34	47	40	36	23	45	28
% No dental insurance	n/a	13	n/a	22	n/a	8	n/a	22	n/a	12	n/a	16	n/a	16
% Fear/Apprehension	4	6	3	2	4	2	5	4	4	6	10	11	6	7
% Too busy/Other priorities	3	8	3	8	2	3	9	1	4	2	7	9	7	4

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	440	247	335	127	315	164	450	187	302	131	121	71	76	60
% No reason to go	19	23	34	31	55	46	29	27	31	30	31	20	37	43
% Cost	58	33	46	26	24	17	55	35	50	30	40	26	29	14
% No dental insurance	n/a	23	n/a	13	n/a	6	n/a	17	n/a	15	n/a	16	n/a	15
% Fear/Apprehension	7	6	3	8	2	2	2	6	4	10	11	6	11	1
% Too busy/Other priorities	4	7	6	4	4	3	2	2	6	5	5	13	10	9

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	966	375	13	45	14	20	28	59
% No reason to go	34	32	33	26	19	29	20	44
% Cost	45	28	39	30	43	24	73	21
% No dental insurance	n/a	16	n/a	26	n/a	5	n/a	19
% Fear/Apprehension	5	4	0	8	12	15	3	6
% Too busy/Other priorities	5	6	5	2	14	7	0	4

Shaded cells indicate statistically significant differences from 2012 at the 95% level of confidence.

Reason for Last Dental Visit

Q: What was the main reason you last visited the dentist? (New measure added for 2017)

	Age			Dentist Visit Frequency				Education				Income			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Less than HS	HS Grad	Some College	College Grad	<\$25K	\$25-49K	\$50-74K	\$75+
Sample Size	1482	731	775	2246	170	102	336	82	538	941	1288	482	582	533	895
% Went in on my own for check-up	68	72	62	78	58	36	27	45	58	67	74	46	67	71	77
% Something was wrong	11	12	10	7	16	29	32	21	16	12	8	21	13	9	8
% For treatment	10	8	9	8	10	13	16	10	9	10	9	12	9	9	9
% Called in by dentist for check-up	5	4	7	5	5	2	4	3	6	4	5	5	5	5	6

	Geographic Region							Race/Ethnicity				Have Dental Insurance	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Yes	No
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	1789	1156
% Went in on my own for check-up	70	61	67	64	72	72	69	69	61	74	54	72	63
% Something was wrong	11	10	10	11	13	11	10	11	15	9	19	9	14
% For treatment	11	9	9	9	10	10	6	9	8	9	10	9	10
% Called in by dentist for check-up	3	9	6	6	4	2	6	5	3	3	8	6	4

Paying for Dental Visit

Q: Who paid for your last dental visit?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	776	351	265	368	335	353	351	379	1181	359	341	453	322	372
% Myself	35	31	50	47	42	40	39	41	41	41	32	37	31	30
% Dental insurance	30	36	23	23	25	30	19	30	26	30	28	32	25	35
% Both insurance and myself	32	31	22	28	31	27	36	27	29	29	37	31	40	32

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1430	1328	1267	653	881	654	527	348	875	505	688	492	889	856
% Myself	28	28	41	41	59	56	58	50	44	52	33	34	25	29
% Dental insurance	31	37	25	29	15	20	18	24	21	23	30	35	33	36
% Both insurance and myself	37	33	31	28	22	22	17	16	31	25	35	31	39	35

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3263	2104	46	146	51	88	55	175
% Myself	40	39	19	29	22	29	34	38
% Dental insurance	24	30	37	34	44	40	34	29
% Both insurance and myself	32	29	37	35	32	32	29	28

Dental Insurance Coverage

Q: 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?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Yes	55	66	40	53	50	58	48	56	53	58	63	64	61	69

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Yes	62	69	52	59	37	45	27	45	49	46	63	65	74	73

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Yes	52	59	67	71	74	76	48	60

Dental Advice from Health Care Professional

Q: During the last year, did a doctor, nurse, or other health care worker talk with you about the importance of visiting a dentist or about the health of your teeth and gums? Do not include dental professionals such as your dentist or dental hygienist.

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Yes	17	26	16	32	15	32	20	35	17	24	20	27	23	38

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Yes	20	33	18	27	13	30	19	42	18	29	19	25	16	27

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Yes	17	28	29	46	27	34	26	54

Diabetes

Q: Have you been diagnosed with diabetes or pre-diabetes? (New measure added for 2017)

	Age			Dentist Visit Frequency				Education				Income			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Less than HS	HS Grad	Some College	College Grad	<\$25K	\$25-49K	\$50-74K	\$75+
Sample Size	1482	731	775	2246	170	102	336	82	538	941	1288	482	582	533	895
% Yes	19	25	22	20	28	20	29	30	22	24	19	35	23	19	17

	Geographic Region							Race/Ethnicity				Currently Have Dental Issue	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/ Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Yes	No
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	532	2399
% Yes	22	18	19	26	20	20	24	20	33	25	44	30	20

Shaded cells indicate statistically significant differences from the overall average at the 95% level of confidence.

Tooth Loss

Q: 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.

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% One to five	34	37	32	35	38	32	38	31	35	40	35	33	40	41
% Six or more but not all	19	11	18	13	10	10	17	12	16	12	13	10	18	13
% All	10	9	9	6	11	7	9	6	7	4	4	3	6	6
% None	35	41	40	42	38	47	32	46	39	41	44	51	34	37

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% One to five	34	34	37	38	35	36	33	35	39	42	41	36	31	33
% Six or more but not all	14	10	17	10	21	18	26	19	19	14	13	11	8	7
% All	5	4	9	5	15	10	18	16	9	5	3	3	2	2
% None	45	51	35	43	22	29	19	27	30	35	40	45	56	56

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% One to five	35	36	43	38	34	37	43	36
% Six or more but not all	16	10	26	23	12	15	18	16
% All	8	6	11	9	9	1	5	8
% None	38	45	20	26	42	43	30	37

Condition of Teeth

Q: How would you describe the condition of your teeth?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Excellent + Very Good	50	55	50	58	47	58	43	52	50	53	58	57	50	52
% Excellent	17	12	17	18	16	21	12	19	17	17	22	17	23	19

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Excellent + Very Good	47	54	52	56	53	55	30	34	40	48	55	55	65	67
% Excellent	17	16	18	19	17	20	10	11	12	14	17	16	26	21

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Excellent + Very Good	50	58	49	37	54	41	37	36
% Excellent	18	18	15	11	17	15	14	13

Condition of Gums

Q: How would you describe the condition of your gums?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Excellent + Very Good	53	54	52	58	49	55	43	53	51	54	49	50	56	53
% Excellent	23	19	22	20	20	23	16	22	19	19	20	18	21	22

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Excellent + Very Good	48	51	53	55	54	58	36	39	44	48	57	55	64	61
% Excellent	19	18	19	20	23	25	15	16	16	18	21	18	25	23

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Excellent + Very Good	51	56	52	38	47	38	45	42
% Excellent	20	21	20	15	13	13	22	18

Dental Care Needed

Q: Do you have any dental problems that need to be addressed in the next month?

Q: What dental care do you need in the next month?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
% Yes (have a dental problem)	20	16	17	16	17	17	20	17	19	15	20	18	20	19
Sample Size	198	67	55	69	70	67	88	85	271	65	70	93	80	86
% Teeth filled/replaced	56	51	54	36	59	49	46	45	59	59	51	44	48	45
% Cleaning	33	35	40	19	41	20	41	20	31	28	23	28	36	28
% Denture work	16	22	40	16	13	6	13	15	14	4	17	10	14	9

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
% Yes (have a dental problem)	23	19	18	16	14	14	30	31	23	18	15	17	12	13
Sample Size	396	297	284	123	156	112	260	154	243	109	108	91	121	115
% Teeth filled/replaced	56	51	55	43	45	42	42	39	64	52	62	48	61	51
% Cleaning	35	23	35	28	26	28	36	20	33	29	36	32	30	27
% Denture work	16	11	15	11	24	14	28	21	14	8	8	8	2	7

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
% Yes (have a dental problem)	19	16	36	25	14	16	23	30
Sample Size	740	374	19	44	8	16	16	63
% Teeth filled/replaced	54	50	56	45	34	22	64	40
% Cleaning	33	25	38	21	22	40	49	17
% Denture work	16	11	10	11	43	17	18	13

Gum Disease

Q: Gum disease is a common problem with the mouth. People with gum disease might have swollen gums, receding gums, sore or infected gums or loose teeth. Do you think you might have gum disease?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Yes	14	13	9	11	17	13	13	8	13	12	12	14	14	14

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Yes	17	14	12	13	7	8	20	19	14	13	12	12	10	11

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Yes	13	12	12	12	13	12	14	13

Periodontal Disease

Q: Have you ever had treatment for gum disease such as scaling and root planing, sometimes called deep cleaning? (New measure added for 2017)

Q: Have you ever been told by a dental professional that you lost bone around your teeth? (New measure added for 2017)

	Age			Dentist Visit Frequency				Education				Income			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Less than HS	HS Grad	Some College	College Grad	<\$25K	\$25-49K	\$50-74K	\$75+
Sample Size	1482	731	775	2246	170	102	336	82	538	941	1288	482	582	533	895
% Have had treatment	28	28	27	29	21	30	23	28	25	31	27	30	32	24	29
% Lost bone around teeth	22	22	21	23	17	18	21	20	19	24	22	26	23	22	22

	Geographic Region							Race/Ethnicity				Currently Have Dental Issue	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Yes	No
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	532	2399
% Have had treatment	33	22	28	21	28	34	28	27	40	34	32	29	27
% Lost bone around teeth	25	15	21	22	22	21	25	21	28	33	24	23	20

Tooth Decay

Q: Tooth decay or cavity, is another common problem with the mouth. People with tooth decay might have holes in their teeth, a broken filling or pain. Do you think you might have tooth decay?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Yes	17	13	16	15	18	13	18	15	14	18	12	16	15	18

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Yes	19	19	13	13	12	9	34	33	18	20	11	13	7	10

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Yes	15	14	34	23	9	16	18	31

Frequency of Avoiding Foods

Q: How often during the last year have you avoided particular foods because of problems with your teeth, mouth or dentures?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Very often	9	6	7	6	7	5	7	4	6	3	5	4	5	6
% Occasionally	9	10	9	12	7	8	11	8	9	10	9	9	12	13
% Hardly ever	19	21	16	25	25	19	21	25	21	22	23	23	20	23
% Never	63	63	68	57	61	68	61	63	64	65	63	64	63	58

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Very often	9	6	5	4	4	3	16	13	7	5	4	2	2	2
% Occasionally	11	12	8	9	8	8	15	17	12	11	9	10	5	7
% Hardly ever	19	23	22	20	23	24	21	26	21	26	20	23	20	19
% Never	61	59	65	67	65	66	48	44	60	58	67	65	73	72

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Very often	7	4	13	9	2	1	12	7
% Occasionally	9	9	11	10	13	21	13	13
% Hardly ever	21	22	24	27	19	23	22	27
% Never	63	65	53	55	66	55	54	52

Frequency of Pain

Q: How often during the last year have you had painful aching anywhere in your mouth?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Very often	4	3	4	3	2	4	4	4	3	2	4	1	4	4
% Occasionally	13	10	15	11	11	8	14	11	10	13	14	8	9	11
% Hardly ever	27	29	28	34	27	27	28	30	27	31	25	33	27	30
% Never	56	58	53	52	60	60	55	56	60	54	57	58	59	55

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Very often	6	4	2	2	1	1	10	8	4	3	2	2	1	2
% Occasionally	14	12	10	10	7	7	18	18	13	9	11	10	7	7
% Hardly ever	28	34	28	28	24	28	24	30	31	34	30	35	26	30
% Never	52	50	60	60	67	64	48	44	52	54	57	54	65	62

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Very often	4	3	7	3	5	0	4	7
% Occasionally	11	10	20	14	8	11	24	15
% Hardly ever	27	31	35	35	31	34	25	28
% Never	58	57	37	47	56	55	46	50

Dry Mouth

Q: How often does your mouth feel dry? (New measure added for 2017)

	Age			Dentist Visit Frequency				Education				Income			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Less than HS	HS Grad	Some College	College Grad	<\$25K	\$25-49K	\$50-74K	\$75+
Sample Size	1482	731	775	2246	170	102	336	82	538	941	1288	482	582	533	895
% Never	51	47	48	50	53	45	45	60	49	45	50	44	43	49	52
% Occasionally	39	43	39	40	38	39	40	22	39	41	42	40	43	41	41
% Often	10	9	12	9	9	16	13	16	12	11	7	15	13	9	7

	Geographic Region							Race/Ethnicity				Gender	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Male	Female
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	1373	1615
% Never	48	48	53	53	46	45	50	49	50	39	56	52	46
% Occasionally	40	40	36	32	46	48	37	40	37	52	29	40	40
% Often	11	11	10	13	8	6	11	10	12	7	13	7	12

Dry Mouth (continued)

(New measure added for 2017)

Q: Does your mouth feel dry when eating a meal?

Q: Do you have difficulty eating dry foods?

Q: Do you have difficulty swallowing certain foods?

Q: Do your lips feel dry ?

% Often + Occasionally	Age			Dentist Visit Frequency				Education				Income			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Less than HS	HS Grad	Some College	College Grad	<\$25K	\$25-49K	\$50-74K	\$75+
Sample Size	1482	731	775	2246	170	102	336	82	538	941	1288	482	582	533	895
Dry when eating	13	11	11	10	15	15	18	14	12	14	10	21	15	10	8
Difficulty eating dry foods	15	12	14	12	15	19	24	21	17	15	11	26	17	12	10
Difficulty swallowing	16	17	16	15	18	16	23	18	18	20	14	24	20	17	11
Lips feel dry	65	64	54	64	55	61	57	43	58	66	64	61	65	68	64

% Often + Occasionally	Geographic Region							Race/Ethnicity				Gender	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/ Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Male	Female
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	1373	1615
Dry when eating	13	11	13	14	9	11	13	11	17	16	16	10	13
Difficulty eating dry foods	16	15	11	15	13	13	15	13	16	15	18	13	15
Difficulty swallowing	19	15	16	16	15	14	20	16	14	11	19	15	18
Lips feel dry	67	54	64	56	70	66	60	63	54	64	43	52	72

Caregiver

Q: Does someone come to your home on a regular basis (for example daily or weekly) to help you with activities such as bathing, eating, house chores, or shopping?

Q: Is this person paid?

Region:	Cascade/SW		North Central		Better Health Together		Greater Columbia		Olympic		King County		Pierce County	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	981	404	335	412	434	397	430	442	1411	403	385	500	380	430
% Have a caregiver	5	4	5	2	4	4	5	6	6	2	6	3	6	3
% Caregiver is paid	74	80	69	90	94	91	91	63	78	99	87	94	63	56

	Age: 55 - 64		65 - 74		75+		Income: <\$25K		\$25-49K		\$50-74K		\$75K+	
	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	1753	1482	1509	731	1110	775	890	482	1088	582	762	533	929	895
% Have a caregiver	4	2	4	2	12	9	14	9	4	4	2	2	2	1
% Caregiver is paid	69	83	80	87	82	75	70	80	86	79	82	78	93	88

Race/Ethnicity:	White		Black		Asian		Hispanic	
	2012	2017	2012	2017	2012	2017	2012	2017
Sample Size	3968	2351	54	172	58	100	78	211
% Have a caregiver	6	3	12	7	2	5	4	5
% Caregiver is paid	81	82	36	70	100	67	77	68

Helping Others

Q: People may provide regular care or assistance to a friend or family member who has a health problem or disability. During the past 30 days, did you provide regular care or assistance to a friend or family member who has a health problem or disability? (New measure added for 2017)

	Age			Dentist Visit Frequency				Education				Income			
	55 - 64	65 - 74	75+	Once a year	Every 2 yrs	Less often	When needed	Less than HS	HS Grad	Some College	College Grad	<\$25K	\$25-49K	\$50-74K	\$75+
Sample Size	1482	731	775	2246	170	102	336	82	538	941	1288	482	582	533	895
% Yes	18	15	14	16	17	13	17	19	17	16	16	17	21	18	12

	Geographic Region							Race/Ethnicity				Gender	
	Cascade/SW	North Central	Better Health	Greater Columbia	NS/Olympic	King County	Pierce County	White	Black	Asian	Hispanic	Male	Female
Sample Size	404	412	397	442	403	500	430	2448	174	105	211	1373	1615
% Yes	12	18	19	19	15	13	19	16	18	9	19	13	19

Questionnaire

Washington Dental Service Foundation

Senior Oral Health Survey 2016-17

INTRODUCTION: Hello, this is _____ from HealthCare Research, calling on behalf of The Washington Dental Service Foundation, a non-profit organization. We're conducting a five-minute survey about the dental health of Washington residents. Your household has been randomly selected and we'd like to include your opinions if you are 55 or over. IF NOT: Is there anybody in your household who is 55 or over? REINTRODUCE IF NECESSARY.

IF NEEDED: This is a research project only. We are not selling anything. All of your answers will be anonymous. Results will be used to help understand the dental health needs of Washington residents, so your input is valuable.

1. (SAMPLE SOURCE. CHECK QUOTAS)

	Quota
Landline.....1	1,882
Cell Phone.....2	806
Hispanic Augment.....3	150
African American Augment.....4	150
Total:	2,988

(IF CELL PHONE SAMPLE OR CALL APPEARS TO BE ON A CELL PHONE, ASK):

2. Am I talking with you on your mobile phone?

Yes.....1→Continue
No.....2→Skip to Q5

3. And are you driving at this time?

Yes.....1→Continue
No.....2→Skip to Q5

4. We appreciate your willingness to participate in this survey, but we are concerned about everyone's safety and would prefer if we could complete this survey with you when you are no longer operating a motor vehicle. Please return to this survey at that time. (INTERVIEWER: IF RESPONDENT INDICATES THEY ARE USING A HANDS-FREE DEVICE AND WISHES TO CONTINUE, YOU MAY PROCEED WITH THE INTERVIEW)

5. First, to verify, do you currently live in the state of Washington?

Yes.....1→Continue
No.....2→Thank & End

6. And in which county do you live? (CHECK REGION QUOTAS)

Adams.....001	Lincoln.....043
Asotin.....003	Mason.....045
Benton.....005	Okanogan.....047
Chelan.....007	Pacific.....049
Clallam.....009	Pend Oreille.....051
Clark.....011	Pierce.....053
Columbia.....013	San Juan.....055
Cowlitz.....015	Skagit.....057
Douglas.....017	Skamania.....059
Ferry.....019	Snohomish.....061
Franklin.....021	Spokane.....063
Garfield.....023	Stevens.....065
Grant.....025	Thurston.....067
Grays Harbor.....027	Wahkiakum.....069
Island.....029	Walla Walla.....071
Jefferson.....031	Whatcom.....073
King.....033	Whitman.....075
Kitsap.....035	Yakima.....077
Kittitas.....037	Other (SPECIFY:).....997
Klickitat.....039	Don't know/Not sure.....777
Lewis.....041	Refused.....999

Region Quotas	Total of Random (augments can be anywhere)
1. Cascade Pacific Action Alliance and Southwest Washington Regional Health Alliance Regions: • Grays Harbor, Mason, Thurston, Pacific, Wahkiakum, Cowlitz, and Lewis • Clark, Skamania, and Klickitat	384
2. North Central • Grant, Douglas, Chelan, and Okanogan Counties	384
3. Better Health Together • Ferry, Stevens, Pend Oreille, Lincoln, Spokane, and Adams Counties	384
4. Greater Columbia: • Kittitas, Yakima, Benton, Franklin, Adams, Walla Walla, Columbia, Garfield, Asotin, and Whitman Counties	384
5. North Sound ACH & Olympic Community of Health: • Whatcom, Skagit, Snohomish, San Juan, and Island Counties • Clallam, Jefferson, and Kitsap Counties	384
6. King County ACH Region: King County	384
7. Pierce County Health Innovation Region: Pierce County	384

7. What is your home zip code? (DON'T KNOW = 99999)

_____ (ZIP CODE)

8. Which of the following categories contains your age?

< 551→Thank and end
 55-642 (Quota ~ 50%)
 65-743 (Quota ~ 25%)
 75+4 (Quota ~ 25%)
 Don't know (but verified 55+)77
 Refused (but verified 55+)99

9. What is your gender?

Male1 (Quota ~ 50%)
 Female2 (Quota ~ 50%)
 Don't know77→Thank & End
 Refused99 →Thank & End

ORAL HEALTH ATTITUDES AND BEHAVIORS

10. How much do you agree or disagree with the two following statements about oral health? [RANDOMIZE LIST. READ ITEM]

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	Don't Know	Refused
My oral health is very important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking care of my teeth and gums is as important to me as taking care of my general health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. How often do you usually go to the dentist or dental hygienist?

At least once a year1
 Every 2 years2
 Less often than every 2 years3
 Whenever needed - no regular schedule4
 Other, specify5
 Don't know77
 Refused99

12. How long has it been since you last visited a dentist or dental clinic for any reason? Include all types of dentists, such as, orthodontists, oral surgeons, and all other dental specialists, as well as dental hygienists.

Within the past year (1 to 12 months ago)1→Skip to Q14
 Within the past 2 years (1 to 2 years ago)2→Continue
 Within the past 5 years (2 to 5 years ago)3→Continue
 5 or more years ago4→Continue
 Don't know/Not sure77→Continue
 Never88→Continue
 Refused99→Skip to Q14

13. What is the main reason you have not visited a dentist in the last year? (DO NOT READ LIST. ALLOW MULTIPLE RESPONSES)

Fear, apprehension, nervousness, pain, dislike going1
 Cost2
 No dental insurance9
 Do not have/know a dentist3
 Cannot get to the office/clinic
 (too far away, no transportation, no appointments available)4
 No reason to go (no problems, no teeth)5
 Too busy10
 Have not thought of it7
 Other8
 Don't know77
 Refused99

14. What was the main reason you last visited the dentist? (DO NOT READ LIST. ALLOW MULTIPLE RESPONSES)

Went in on own for check-up, examination or cleaning1
 Was called in by the dentist for check-up, examination or cleaning2
 Something was wrong, bothering or hurting me3
 Went for treatment of a condition that dentist discovered at
 earlier check-up or examination4
 Other5
 Don't Know77
 Refused99

15. Have you been diagnosed with diabetes or pre-diabetes?

Yes1
 No2
 Don't know/Not sure77
 Refused99

16. During the last year, did a doctor, nurse, or other health care worker talk with you about the importance of visiting a dentist or about the health of your teeth and gums? Do not include dental professionals such as your dentist or dental hygienist.

Yes1
 No2
 Don't Know/Not Sure77
 Refused99

17. 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?

Yes1
 No2
 Don't Know/Not Sure77
 Refused99

(IF Q12=1 or 2, ASK):

18. Who paid for your last dental visit? Was it... (READ CHOICES 1-4. ALLOW MULTIPLE RESPONSES):

Yourself1
 Dental insurance2
 Both insurance and yourself3
 Dental care was free (Free clinic, donated free care)4
 Something else SPECIFY:5
 Can't remember6
 Don't know77
 Refused99

ORAL HEALTH STATUS

19. 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. [Include teeth lost due to "infection."]
 NOTE: If wisdom teeth are removed because of tooth decay or gum disease, they should be included in the count for lost teeth.

1 to 51→Continue
 6 or more but not all2→Continue
 All3→Skip to Q20b)
 None8→Continue
 Don't know/Not sure77→Continue
 Refused99→Continue

20. Now I have some questions about the condition of your teeth and gums.

	Excellent	Very Good	Good	Fair	Poor	Don't Know	Refused
a) How would you describe the condition of your teeth? Would you say . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) How would you describe the condition of your gums? Would you say . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Do you have any dental problems that need to be addressed in the next month?

Yes1→Continue
 No2→Skip to Q23
 Don't know77→Skip to Q23
 Refused99→Skip to Q23

22. What dental care do you need in the next month? (READ CHOICES 1-8: ACCEPT UP TO 8 RESPONSES)

Teeth filled or replaced (for example, fillings, crowns, and/or bridges) ...1
 Teeth pulled2
 Gum treatment3
 Denture work4
 Relief of pain5
 Work to improve appearance (for example, braces or bonding)6
 Cleaning7
 Other, specify8
 Don't know77
 Refused99

(IF Q19 = 3, "ALL TEETH REMOVED," SKIP TO Q27)

23. Gum disease is a common problem with the mouth. People with gum disease might have swollen gums, receding gums, sore or infected gums or loose teeth. Do you think you might have gum disease?

Yes1
 No2
 Don't know77
 Refused99

24. Have you ever had treatment for gum disease such as scaling and root planing (pronounced plane-ing), sometimes called deep cleaning?

Yes1
 No2
 Don't know77
 Refused99

25. Have you ever been told by a dental professional that you lost bone around your teeth?

Yes1
 No2
 Don't know77
 Refused99

26. Tooth decay or cavity, is another common problem with the mouth. People with tooth decay might have holes in their teeth, a broken filling or pain. Do you think you might have tooth decay?

Yes1
 No2
 Don't know77
 Refused99

27. How often during the last year have you avoided particular foods because of problems with your teeth, mouth or dentures? Would you say...

Very often1
 Occasionally2
 Hardly ever, or3
 Never4
 Don't know77
 Refused99

28. How often during the last year have you had painful aching anywhere in your mouth? Would you say . . .

Very often 1
Occasionally 2
Hardly ever, or 3
Never 4
Don't know 77
Refused 99

DRY MOUTH / XEROSTOMIA

29. Does your mouth feel dry?

Never 1
Occasionally 2
Often 3
Don't know 77
Refused 99

29. Does your mouth feel dry when eating a meal . . .

Never 1
Occasionally 2
Often 3
Don't know 77
Refused 99

30. Do you have difficulty eating dry foods . . .

Never 1
Occasionally 2
Often 3
Don't know 77
Refused 99

31. Do you have difficulty swallowing certain foods . . .

Never 1
Occasionally 2
Often 3
Don't know 77
Refused 99

32. Do your lips feel dry . . .

Never 1
Occasionally 2
Often 3
Don't know 77
Refused 99

CAREGIVER STATUS

33. Does someone come to your home on a regular basis (for example daily or weekly) to help you with activities such as bathing, eating, house chores, or shopping?

Yes 1 → Continue
No 2 → Skip to Q35
Don't know 77 → Skip to Q35
Refused 99 → Skip to Q35

34. Is this person paid?

Yes 1
No 2
Don't know 77
Refused 99

35. People may provide regular care or assistance to a friend or family member who has a health problem or disability. During the past 30 days, did you provide regular care or assistance to a friend or family member who has a health problem or disability?

Yes 1
No 2
Don't know/Not Sure 77
Refused 99

DEMOGRAPHICS

36. Are you Hispanic or Latino?

Yes 1
No 2
Don't know 77
Refused 99

37. What is your race?

White 1
Black or African American 2
Asian 3
Native Hawaiian or Other Pacific Islander 4
American Indian or Alaska Native 5
Don't know 77
Refused 99

38. What is the highest grade or year of school you completed?

Never attended school or only attended kindergarten	1
Grades 1 through 8 (Elementary)	2
Grades 9 through 11 (Some high school)	3
Grade 12 or GED (High school graduate)	4
College 1 year to 3 years (Some college or technical school)	5
College 4 years or more (College graduate)	6
Don't know	77
Refused	99

39. **PROBE:** Income is important in analyzing the health information we collect. For example, this information helps us to learn whether persons in one income group use certain types of medical services or have certain conditions more or less often than those in another group.

Now I am going to ask about the total income for your household, including income from all sources such as wages, salaries, Social Security or retirement benefits, help from relatives and so forth. Can you tell me that amount before taxes?

Less than \$25,000	1 → Skip to Q41
\$25,000 to less than \$50,000	2 → Skip to Q41
\$50,000 to less than \$75,000	3 → Skip to Q41
\$75,000 or more	4 → Skip to Q41
Don't know	77 → Continue
Refused	99 → Continue

IF REFUSED OR DON'T KNOW: You may not be able to give us an exact figure for your household income, but can you tell me if this income in 2016 was . . .

\$20,000 or more, or	1
less than \$20,000?	2

40. Is your annual household income from all sources— Read only if necessary:

Less than \$25,000	4 (If "no," ask 05; if "yes," ask 03)
(\$20,000 to less than \$25,000)	
Less than \$20,000	3 If "no," code 04; if "yes," ask 02
(\$15,000 to less than \$20,000)	
Less than \$15,000	2 If "no," code 03; if "yes," ask 01
(\$10,000 to less than \$15,000)	
Less than \$10,000	1 If "no," code 02
Less than \$35,000	5 If "no," ask 06
(\$25,000 to less than \$35,000)	
Less than \$50,000	6 If "no," ask 07
(\$35,000 to less than \$50,000)	
Less than \$75,000	7 If "no," code 08
(\$50,000 to less than \$75,000)	
\$75,000 or more	8

41. Do you have any issues or concerns about your oral health that you think we should know about?

ARCORA

The Foundation of Delta Dental of Washington



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