# 2017 Iowa Basic Screening Survey of Older Adults

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# Introduction

The Bureau of Oral and Health Delivery Systems (OHDS) within the Iowa Department of Public Health (IDPH) administered an oral screening survey of older adults July 2017 – January 2018. This report describes the survey process and the results.

Oral disease is a common problem for older adults and can lead to pain and problems with eating and speaking. Untreated oral disease can also be a contributor to serious chronic diseases such as heart and lung disease, and diabetes. According to the Centers for Disease Control and Prevention (CDC), 96 percent of those 65 years and older have had a cavity, 1 in 5 have untreated tooth decay, and 65 percent have gum disease.[1] This demonstrates a possible need for dental treatment and prevention in the older adult population.

IDPH regularly administers oral screening surveys to determine the oral health status of Iowa children, such as third graders (2016, 2012), Head Start (2015) and WIC (2010) participants; however, this was the first Iowa survey of older adults. The data gathered through this survey will be used to inform, develop and evaluate oral health status, programs and policies regarding older adults in Iowa.

## Protocol

This surveillance project was conducted in collaboration with the CDC and the Association of State and Territorial Dental Directors (ASTDD), and followed the *Basic Screening Survey for Older Adults* guidelines developed by ASTDD.[2] The survey was a two-part cross-sectional survey, containing both a consent questionnaire and a screening portion of adults 60 years and older who attended a congregate meal site during the project period (refer to Appendices A and B for the consent/questionnaire and oral health screening form templates).

To initiate the survey process, the IDPH project director emailed the Assistant Director at the Department on Aging to provide information about the survey and to request contact information for the appropriate person at each of the six Iowa Area Agencies on Aging (AAA).[3] The project director then followed up with each AAA to request a list of all the congregate meal sites within their regions, including location, days of operation, average daily attendance, and local site director contact information. Based on the AAA responses, it was determined that the survey would be completed in two phases: the initial phase included four east/central AAA regions in summer 2017, and phase two started fall 2017 and included west/central Iowa sites from the remaining two AAA regions.

The survey sites were selected using a stratified random sample of all congregate meal sites in Iowa that served meals at least three days per week with an average daily attendance of 20 or greater for urban sites and 15 or greater for rural sites. Sampling was designed to select sites

[1] https://www.cdc.gov/oralhealth/basics/adult-oral-health/adult_older.htm
[2] https://www.astdd.org/basic-screening-survey-tool/
[3] https://www.iowaaging.gov/area-agencies-aging

first by rural/urban counties, designated by the U.S. Office of Management and Budget, and second by Title V region,[4] determined by IDPH contracts, to ensure adequate representation of older Iowans across the state. Participants were selected at the site based on their willingness to be screened and if they met eligibility criteria: 1) presence at the congregate meal site during the time of the survey, and 2) being 60 years of age or older.

Forty-six congregate meals sites within 38 counties were selected to take part in the survey, with 745 participants screened; 736 were eligible and included in the analysis. Based on congregate meal site population numbers provided by the AAAs, the response rate was 54.7 percent.

Screenings were conducted by 23 dental hygienists employed or contracted by 18 of IDPH's Title V Maternal and Child Health contract agencies. Because all of the public health hygienists were familiar with oral screenings and many had previously conducted basic screening surveys, it was determined that a standardization training through a Zoom webinar format would be sufficient. IDPH staff developed the training using ASTDD basic screening survey guidelines. Four trainings were held in June for east/central Iowa screeners and two in October for west/central Iowa screeners. Based on feedback from other states, each training was limited to four to six hygienists to allow for more screener interaction and questions. In addition to participating in the training, all dental hygienists were required to have a public health supervision agreement on file with IDPH.

The trainings were conducted by the IDPH project director and epidemiologist, and were three to four hours each, covering the following topics: Basic Screening Survey overview, screening preparation and follow-up, screening protocols and indicators, and data entry. At the training, IDPH staff also shared resources that were developed for screeners. This included the consent questionnaire and screening forms, and the data entry spreadsheet. After the trainings, IDPH provided each screener with electronic copies of sample forms and templates (screening schedule, results letter, supply list) and also mailed hard copies of an oral health fact sheet and color print-outs of screening indicators. IDPH also provided each screener with oral health supplies to incentivize participation in the survey by the congregate meal attendees.

Each screener was responsible for contacting the congregate meal site director(s) within their assigned service areas and scheduling a screening time. Visual screenings were completed for all of the site participants who signed for consent. Screeners used dental mirrors and penlights or head lamps. Dental explorers were not used.

## Results

This surveillance report includes a narrative section with comparative analysis, in addition to a separate summary of all demographic and survey question frequencies (Appendix C).

[4] http://idph.iowa.gov/ohds/oral-health-center/maternal-child-dental

The final results were weighted to represent Iowa congregate meal site participants, and should not be generalized to all older Iowans, as that was not the sampled population.

Results from the survey screenings and responses to the questionnaire demonstrated disparities across age, gender and geographic designation (based on county of service), as well as dental access of older adults. This was evident in oral health outcomes such as untreated decay, the need for periodontal care, and needing early or urgent treatment (before next scheduled dental visit). The disparities were also noted with participants' oral health perception, including condition of the teeth and mouth, experiencing oral pain and avoiding specific foods, and with dental care access issues such as having a dental visit in the past year, having a dentist and having dental insurance.

### *Age Disparity*

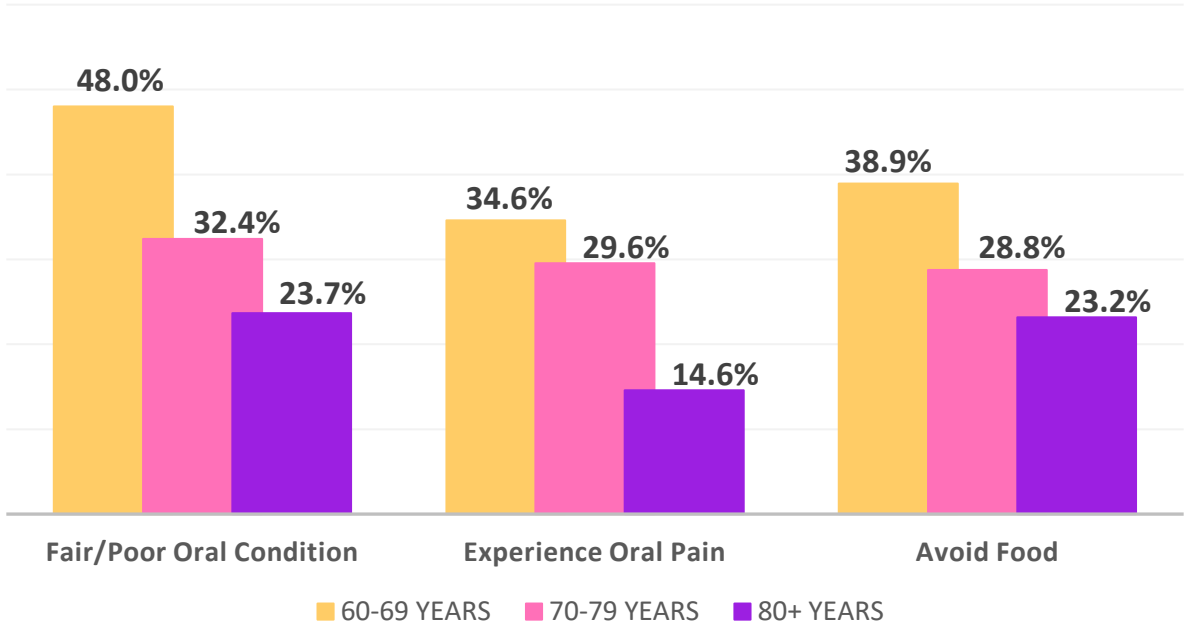
The age disparity was most apparent in untreated decay and needing early or urgent treatment. Iowans 60-69 years had much higher rates of both of these poor oral health outcomes than those older than 69. Twenty-seven percent had untreated decay compared to 16 percent of those 80 years and older. A similar pattern was displayed in participants needing early or urgent treatment, with 1 in 3 (32 percent) of those 60-69 years and only 1 in 5 (18 percent) of those 80 years and older (refer to Table 1).

**TABLE 1 : Younger Participants Experience Poor Oral Health Outcomes**

| | Untreated Decay (If not edentulous) | Periodontal Care (If not edentulous) | Early or Urgent Treatment Needed |
|---|---|---|---|
| *All Older Adults* | 18.5% | 14.6% | 22.1% |
| *60-69 YEARS* | **26.6%** | **18.2%** | **31.9%** |
| *70-79 YEARS* | 17.1% | 13.1% | 20.7% |
| *80+ YEARS* | 15.6% | 14.1% | 18.1% |

Health disparities were also found across age in the participants' perception of their oral health, such as reporting fair/poor oral health condition, experiencing oral pain and avoiding certain foods. Nearly half (48 percent) of those 60-69 years reported having "Fair" or "Poor" oral health compared to only 32 percent of those 70-79 years, and 24 percent of adults 80 years and older. Similar patterns were experienced with oral pain and avoiding certain foods, where around 30 percent of Iowans 60-69 years and 70-79 years reported they "Occasionally," or "Very often" experience oral pain or aching. However, just 15 percent of those 80 years and older reported this experience. Finally, 39 percent of adults 60-69 years reported they "Occasionally," or "Very often" avoid certain foods because of problems with their teeth, mouth or dentures, compared to 29 percent of those 70-79 years and 23 percent of adults 80 years and older (refer to Figure 1).

**FIGURE 1: Younger Participants Report Poor Oral Health Conditions**




Disparities among age continued across dental care access. Just over half of Iowans 60-69 years reported having a dentist if they need dental care (56 percent), much fewer than those 70-79 years and 80 years or older, with 68 percent and 67 percent, respectively. Having regular dental visits is important to maintaining good oral health. Among older Iowans, 1 in 2 reported seeing a dentist in the last 12 months, regardless of age. The largest disparity was found regarding dental insurance. Fifty-one percent of Iowans 60-69 years reported they had dental insurance, compared to 32 percent of those 70-79 years, and just 16 percent of Iowans 80 years and older (refer to Table 2).

**TABLE 2: Iowans Over 80 Years Have Lowest Rates of Dental Insurance**

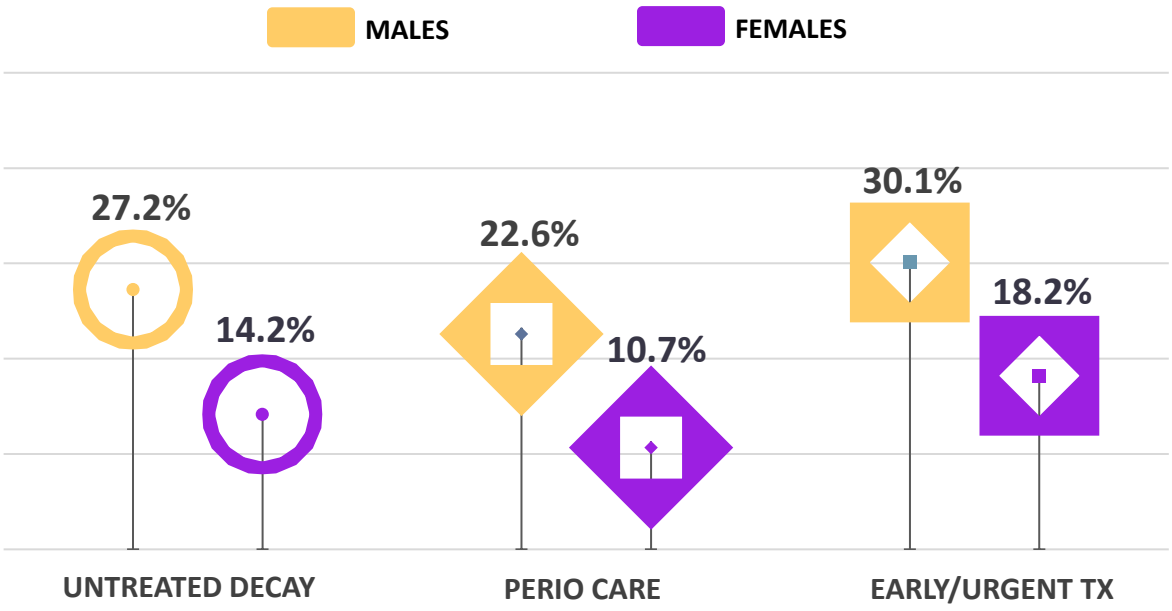
| | Have a Dentist | Dental Visit within Last 12 months | Dental Insurance |
|---|---|---|---|
| *All Older Adults* | 64.5% | 52.3% | 29.0% |
| *60-69 YEARS* | 55.5% | 48.0% | 51.2% |
| *70-79 YEARS* | 67.5% | 52.2% | 31.6% |
| *80+ YEARS* | 66.8% | 54.5% | **15.7%** |

## *Gender Disparity*

Significant health disparities were evident across gender for untreated decay, the need for periodontal care (or a cleaning), and needing early or urgent dental care (before their regularly scheduled appointment). Males had untreated decay at nearly twice the rates of females (27 percent compared to 14 percent). Males were also more likely to need periodontal care. Approximately 1 in 4 (23 percent) males needed periodontal care, compared to only 1 in 10

(11 percent) females. Finally, males were also more likely to need early or urgent dental care, with this being true for 1 in 3 (30 percent) males, compared to only 1 in 6 (18 percent) females (refer to Figure 2).

**FIGURE 2: Males Experience Worse Oral Health Outcomes**




Despite the oral health outcome disparities across gender, the same was not found in reported oral health perception, including poor oral health condition, experiencing oral pain and avoiding certain foods. Thirty-five percent of males reported having "Fair or "Poor" oral health, with similar rates found among females (31 percent). This was also true in experiencing oral pain and avoiding certain foods. Nearly 1 in 4 of male and female participants reported "Occasionally," or "Very often" having oral pain or aching (23 percent of males and 25 percent of females). Finally, 1 in 3 (30 percent of males and 28 percent of females) reported they "Occasionally," or "Very often" avoid certain foods because of problems with their teeth, mouth or dentures (refer to Table 3).

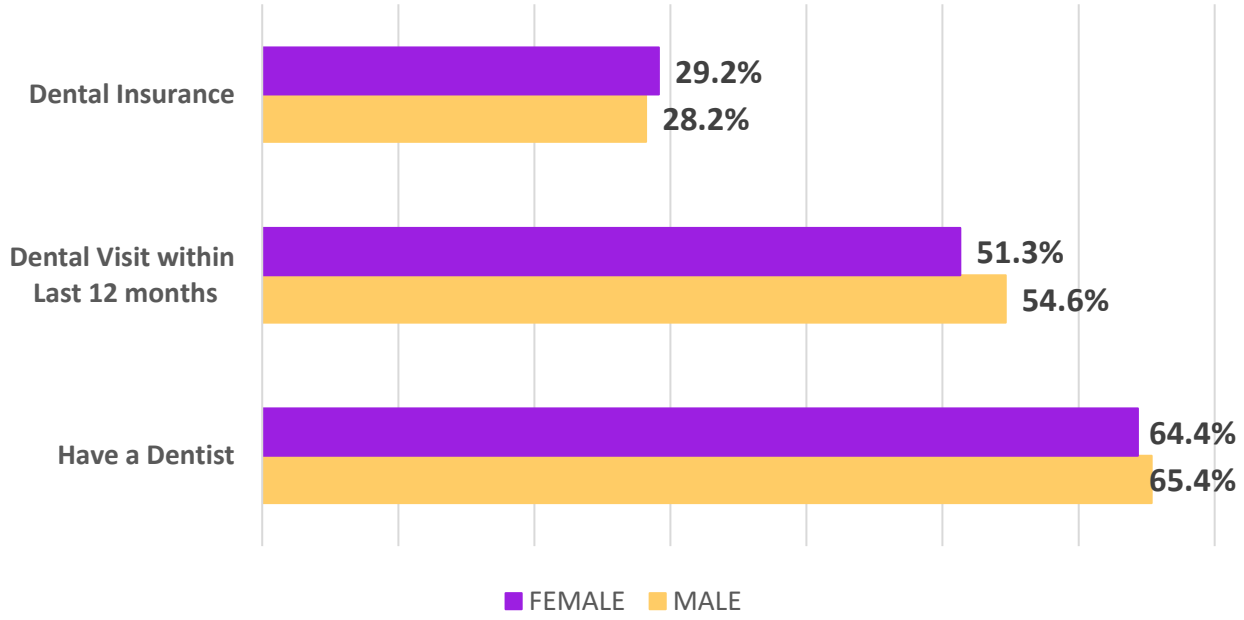
**TABLE 3 : Males and Females Have Similar Oral Health Perception**

| | Fair/Poor Oral Condition | Experience Oral Pain | Avoid Food |
|---|---|---|---|
| *All Older Adults* | 32.2% | 23.9% | 28.7% |
| *MALE* | 34.9% | 22.7% | 30.0% |
| *FEMALE* | 30.9% | 24.6% | 28.0% |

A gender disparity is not evident in dental care access, such as having dental insurance, visiting a dentist in the last 12 months, or having a dentist or dental clinic. Only 1 in 3 older Iowans

have dental insurance, 28 percent of males and 29 percent of females. Over 1 in 2 have visited the dentist in the last year, 55 percent of males and 51 percent of females. This trend continued with having a dentist, where 65 percent of males and 64 percent of females indicated they had a dentist or dental clinic (refer to Figure 3).

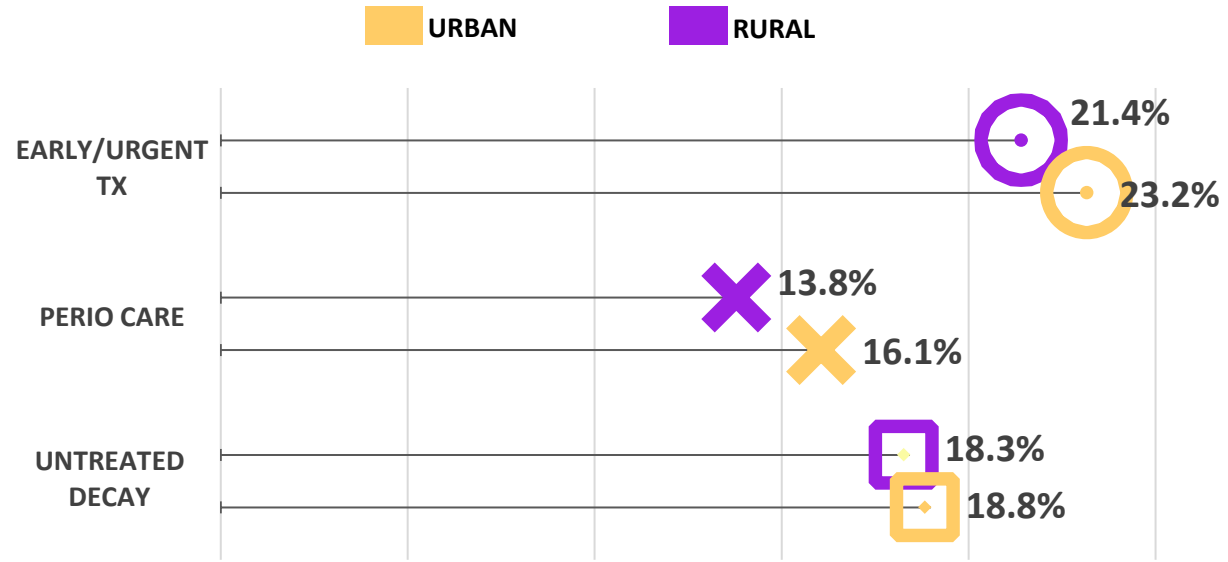
**FIGURE 3: Dental Care Access Does Not Vary by Gender**




### *Rural/Urban Disparity*

Differences based on geographic designation were not evident with oral health outcomes [untreated decay, the need for periodontal care (or a cleaning), and needing early or urgent dental care (before their regularly scheduled appointment)]. The need for periodontal care was indicated for 1 in 7 adults in urban (16 percent) and rural (14 percent) counties. A similar pattern was demonstrated with needing early or urgent treatment with just over 1 in 5 adults in urban (23 percent) and rural (21 percent) counties. The same relationship was found for untreated decay with nearly 1 in 5 adults in urban (18 percent) and rural (19 percent) counties (refer to Figure 4).

**FIGURE 4: Similar Oral Health Outcomes across Geographic Designations**



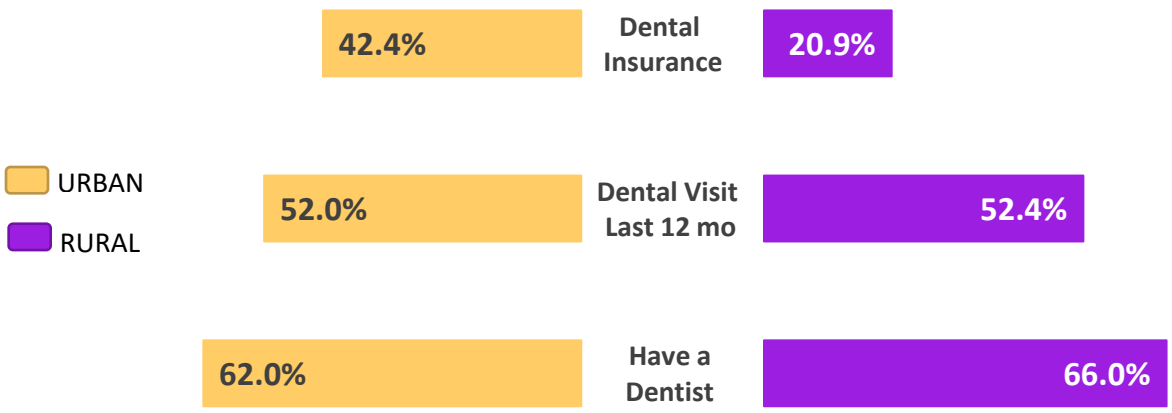

However, there were apparent health disparities across geographic designation in reported oral health perception, including fair/poor oral health condition, experiencing oral pain and avoiding certain foods. Thirty-seven percent of older adults in urban counties reported having "Fair" or "Poor" oral health, compared to 29 percent of adults in rural counties. This was similar in experiencing oral pain, with 29 percent of older adults in urban counties having reported "Occasionally," or "Very often" experiencing oral pain or aching, compared to 22 percent in rural counties. Finally, older Iowans in urban counties (33 percent) were more likely to report they "Occasionally," or "Very often" avoid certain foods because of problems with their teeth, mouth or dentures, compared to rural Iowans (26 percent) (refer to Table 4).

**TABLE 4 : Rural Iowans Perceive their Oral Health More Positively**

| | Fair/Poor Oral Condition | Experience Oral Pain | Avoid Food |
|---|---|---|---|
| *All Older Adults* | 32.1% | 24.1% | 28.9% |
| *URBAN* | **36.8%** | **28.6%** | **32.8%** |
| *RURAL* | 29.3% | 21.5% | 26.0% |

Most dental care access issues were not found to be different among geographic designation, with the exception of dental insurance. Forty-two percent of urban older Iowans reported having dental insurance, compared to just 21 percent of those attending congregate meal sites in rural counties. Having a dentist if you need care and seeing a dentist in the past 12 months were not found to be different among geographic designation, with 62 percent of urban and 66 percent of rural having a dentist, and 52 percent visiting a dentist in the last 12 months, regardless of geographic designation (refer to Figure 5).

**FIGURE 5: Rural Iowans Lack Dental Insurance**

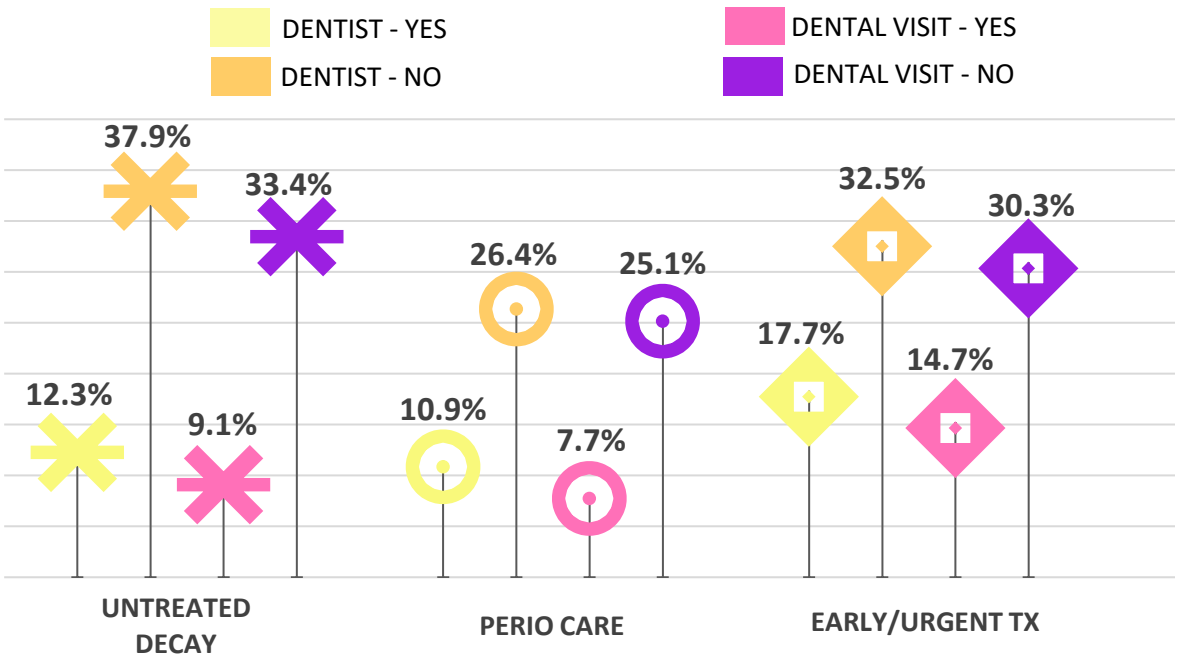



### *Dental Access Disparity*

There were apparent oral health outcome differences in presence of untreated decay, the need for periodontal care (or a cleaning), and needing early or urgent dental care (before their regularly scheduled appointment) based on whether a participant indicated they had a dentist. Older adults without a dentist (38 percent) were three times more likely to have had untreated decay, compared to those with a dentist (12 percent). Adults without a dentist were also two times more likely to need periodontal care (26 percent) than those with a dentist (11 percent). Finally, those without a dentist were also more likely to need early or urgent dental care. This was true for 1 in 3 (33 percent) without a dentist, compared to only 1 in 6 (18 percent) with a dentist (refer to Figure 4).

Similar oral health outcome differences for presence of untreated decay, the need for periodontal care (or a cleaning), and needing early or urgent dental care (before their regularly scheduled appointment) were found based on whether a participant had a dental visit in the past year. Having an annual dental visit (as recommended) appeared to be crucial in oral health outcomes. Older adults without an annual dental visit (33 percent) were three times as likely to have untreated decay when compared to those with an annual dental visit (9 percent). Those adults without an annual dental visit were also three times more likely to need periodontal care than those with a dental visit (25 and 7 percent, respectively). Finally, those without an annual dental visit (30 percent) were two times more likely to need early or urgent dental care than those with a visit (15 percent) in the last year (refer to Figure 6).

**FIGURE 6: Worse Oral Health Outcomes with Less Dental Access**




## Discussion

IDPH has a long history of collecting and using data to implement programs focused on the oral health of children and adolescents. This includes basic screening surveys for third graders and Head Start and WIC participants – and access to care programs such as I-Smile™[5] and I-Smile™ @ School[6]. As the first statewide survey of older adults, this surveillance project was an important first step in assessing oral health status and will help IDPH determine future program priorities regarding oral health and access to care for this population.

The results of the survey revealed several unexpected findings that will require future tracking and analysis. These included:

- Younger participants had worse oral health outcomes. Deeper analysis is needed to determine relevant factors in play, including the possibility of differences due to number of teeth. The difference in oral health perception is also unexpected and may indicate the younger age group has greater awareness and expectations regarding their oral health.
- Although male participants had worse oral health outcomes, oral health perceptions and dental care access were similar across gender. The males' perception of their oral health was equivalent to females, as well as their rate of pain and need to avoid foods due to pain. Males also reported seeing a dentist in the last 12 months and having a dentist or clinic if

[5] http://ismile.idph.iowa.gov/
[6] http://idph.iowa.gov/ohds/oral-health-center/ismile-at-school

they need dental care at the same rate as females, leaving lingering questions for future research and analysis on the factors influencing the results.

- There was a difference in oral health outcomes based on having a dentist and a dental visit in the last year; however there was not a wide gap in oral health outcomes between urban and rural participants. Based on the limited number of dentists in rural Iowa counties, it was anticipated that older Iowans in rural settings may have less access to care, and therefore potentially higher rates of untreated decay, need for periodontal care and treatment needs. This was not the case, with survey data indicating very small differences between rural and urban. In addition, it was unexpected that rural Iowans would perceive their oral health to be better than their urban counterparts. Differences in race, culture and diet may be factors for future research and surveillance related to these urban/rural differences.

Moving forward, IDPH will assess these and other trends in older adults' oral health status by conducting periodic surveys and also tracking data through the I-Smile™ Silver Program.[7] IDPH initiated I-Smile™ Silver in 2014, in collaboration with the Lifelong Smiles Coalition,[8] a broad stakeholder group focused on the oral health of older adults. I-Smile™ Silver is currently being piloted in 10 Iowa counties and is focused on increasing access to care and improving the oral health status of all underserved adults, including older Iowans. Data from this program will provide additional information to assess the oral health needs of this population – both those who live independently and those who are considered more frail elderly.

[7] http://idph.iowa.gov/ohds/oral-health-center/ismile-silver
[8] http://www.lifelongsmilescoalition.com/

FOR RDH USE ONLY

Site ID: __ __ __

Screener ID: __ __

Participant ID: __ __

# Appendix A – Consent/Questionnaire Form

**Oral Health Screening Consent and Questionnaire**

**Name:** _____

☐ **YES, I give permission for a dental hygienist to do an oral health screening of my mouth, and I understand that it does not replace an exam by a dentist.**

**Signature** **Date**

**1. How would you describe the condition of your mouth and teeth (including dentures)?**

☐ Excellent 1 ☐ Very Good 2 ☐ Good 3 ☐ Fair 4 ☐ Poor 5

**2. How often during the past year have you had pain or aching anywhere in your mouth?**

☐ Very Often 1 ☐ Occasionally 2 ☐ Hardly Ever 3 ☐ Never 4

**3. How often during the past year have you avoided certain foods because of problems with your teeth, mouth, or dentures?**

☐ Very Often 1 ☐ Occasionally 2 ☐ Hardly Ever 3 ☐ Never 4

**4. Do you have any 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)?**

☐ Yes 1 ☐ No 0 ☐ Don't Know 9

**5. How long has it been since you last visited a dentist or a dental clinic for any reason?**

☐ Within the past 1 year 1 ☐ Within the past 2 years 2

☐ Within the past 5 years 3 ☐ 5 or more years ago 4 ☐ Never 5

**6. Is there a particular dentist or dental clinic that you go to if you need dental care?**

☐ Yes 1 ☐ No 0 ☐ Don't Know 9

**7. During the past year (12 months), was there any time that you needed dental care but didn't get it because you could not afford it?**

☐ Yes 1 ☐ No 0 ☐ Don't Know 9

**8. Is there anything else you want to share about accessing dental care, paying for dental care, or concerns about your dental care?**

Thank you! You are finished with the questionnaire. Please give to meal site coordinator or Dental Hygienist.

**********

## Appendix B – Screening Form

# Oral Health Screening Form

### Demographic Information

| Screening Date | **Site ID Code** | **Screener ID** | **Participant ID** |
|---|---|---|---|
| ☐☐/☐☐/☐☐ | ☐☐☐ | ☐☐ | ☐☐ |

| Participant Age | Participant Gender | Participant Race/Ethnicity (**ask**) |
|---|---|---|
| ☐☐☐ | ☐ 1 = Male<br>2 = Female | ☐ 1 = White<br>2 = Black<br>3 = Hispanic<br>4 = Asian<br>5 = Other<br>9=Unknown |

### Oral Screening Information

| | | |
|---|---|---|
| Do you have a removable upper denture?<br>☐ 0 = No<br>1 = Yes | ***If Yes*** → | Do you usually wear your upper denture when you eat?<br>☐ 0 = No<br>1 = Yes |
| Do you have a removable lower denture?<br>☐ 0 = No<br>1 = Yes | ***If Yes*** → | Do you usually wear your lower denture when you eat?<br>☐ 0 = No<br>1 = Yes |

***Ask participant to remove dentures. Carefully remove any oral debris if necessary.***

| | |
|---|---|
| # of Upper Natural Teeth<br>☐☐ Range: 0-16 Include root fragments | # of Lower Natural Teeth<br>☐☐ Range: 0-16 Include root fragments |
| Untreated Decay<br>☐ 0 = No<br>1 = Yes<br>9 = Edentulous | Root Fragments<br>☐ 0 = No<br>1 = Yes<br>9 = Edentulous |
| Need for Periodontal Care<br>☐ 0 = No<br>1 = Yes<br>9 = Edentulous | Suspicious Soft Tissue Lesions<br>☐ 0 = No<br>1 = Yes |
| Treatment Urgency<br>☐ 0=No obvious problem – next scheduled visit<br>1=Early care – within next several weeks<br>2=Urgent Care – within next week – pain or infection | Notes/Comments: |

# Appendix C – Comprehensive Survey Results

## Demographics

| Characteristic | Sample N | Weighted Size | Weighted % | 95% CI |
|---|---|---|---|---|
| Age | | | | |
| 60-64 Years | 81 | 1750 | 9.55 | 7.48-11.61 |
| 65-69 Years | 102 | 2376 | 12.96 | 10.55-15.38 |
| 70-74 Years | 130 | 3065 | 16.73 | 14.04-19.42 |
| 75-80 Years | 124 | 3108 | 16.96 | 14.22-19.71 |
| 80-84 Years | 129 | 3236 | 17.66 | 14.87-20.45 |
| 85+ Years | 170 | 4791 | 26.14 | 22.80-29.48 |
| Gender | | | | |
| Male | 241 | 5967 | 32.65 | 29.19-36.10 |
| Female | 493 | 12310 | 67.35 | 63.90-70.81 |
| Race | | | | |
| White | 655 | 17203 | 95.15 | 94.01-96.28 |
| Non-White | 71 | 877 | 4.85 | 3.72-5.99 |
| Residence | | | | |
| Urban | 297 | 6900 | 37.65 | 55.13-62.39 |
| Rural | 439 | 11425 | 62.35 | 37.61-44.87 |

## Older Adult BSS Consent Responses

| Question: | Sample N | Weighted Size | Weighted % | 95% CI |
|---|---|---|---|---|
| *How would you describe the condition of your mouth and teeth (including dentures)?* | | | | |
| Excellent | 69 | 1777 | 9.71 | 7.52-11.91 |
| Very good | 179 | 4651 | 25.42 | 22.19-28.65 |
| Good | 240 | 5998 | 32.78 | 29.32-36.23 |
| Fair | 156 | 3754 | 20.52 | 17.57-23.46 |
| Poor | 91 | 2119 | 11.58 | 9.27-13.89 |
| *How often during the past year have you had pain or aching anywhere in your mouth?* | | | | |
| Very often | 37 | 834 | 4.55 | 3.06-6.04 |
| Occasionally | 151 | 3589 | 19.58 | 16.70-22.47 |
| Hardly ever | 232 | 5898 | 32.18 | 28.74-35.63 |
| Never | 316 | 8004 | 43.68 | 40.03-47.33 |

| | | | | |
|---|---|---|---|---|
| *How often during the past year have you avoided certain foods because of problems with your teeth, mouth or dentures?* | | | | |
| Very often | 60 | 1413 | 7.72 | 5.79-9.65 |
| Occasionally | 154 | 3818 | 20.86 | 17.88-23.85 |
| Hardly ever | 171 | 4299 | 23.49 | 20.37-26.61 |
| Never | 350 | 8770 | 47.92 | 44.25-51.60 |
| *Do you have any 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)?* | | | | |
| Yes | 229 | 5313 | 29.04 | 25.74-32.33 |
| No | 450 | 11530 | 63.01 | 59.48-66.54 |
| Don't know | 56 | 1456 | 7.96 | 5.94-9.97 |
| *How long has it been since you last visited the dentist or a dental clinic for any reason?* | | | | |
| Within the past 1 year | 381 | 9550 | 52.26 | 48.59-55.94 |
| Within the past 2 years | 102 | 2560 | 14.01 | 11.45-16.57 |
| Within the past 5 years | 74 | 1846 | 10.10 | 7.89-12.31 |
| 5 or more years | 153 | 3843 | 21.03 | 18.03-24.03 |
| Never | 24 | 475 | 2.60 | 1.51-3.69 |
| *Is there a particular dentist or dental clinic that you go to if you need dental care?* | | | | |
| Yes | 468 | 5215 | 28.62 | 25.30-31.94 |
| No | 214 | 11757 | 64.52 | 61.01-68.04 |
| Don't know | 50 | 1249 | 6.85 | 4.99-8.72 |
| *During the past year (12 months), was there any time that you needed dental care but didn't get it because you could not afford it?* | | | | |
| Yes | 162 | 13038 | 71.36 | 68.05-74.67 |
| No | 519 | 3907 | 21.38 | 18.39-24.37 |
| Don't know | 53 | 1326 | 7.26 | 5.35-9.17 |

## Older Adult BSS Screening Results

| Indicator: | Sample N | Weighted Size | Weighted % | 95% CI |
|---|---|---|---|---|
| *(1) Do you have a removable upper denture?* | | | | |
| Yes | 298 | 7537 | 41.24 | 37.61-44.87 |
| No | 436 | 10738 | 58.76 | 55.13-62.39 |
| *(1a) Do you usually wear your upper denture when you eat?* | | | | |
| Yes | 264 | 6746 | 90.28 | 86.92-93.63 |
| No | 31 | 727 | 9.72 | 6.37-13.08 |
| *(2) Do you wear a removable lower denture?* | | | | |
| Yes | 226 | 5737 | 31.39 | 27.97-34.82 |
| No | 508 | 12538 | 68.61 | 65.18-72.03 |
| *(2a) Do you usually wear your lower denture when you eat?* | | | | |
| Yes | 191 | 4918 | 86.72 | 82.29-91.15 |
| No | 32 | 753 | 13.28 | 8.85-17.71 |
| *(3) # of Natural Teeth* | | | | |
| Edentulous | 171 | 4238 | 23.16 | 20.06-26.25 |
| Not edentulous | 564 | 14063 | 76.84 | 73.75-79.94 |
| *(4) Untreated Decay (If NOT edentulous)* | | | | |
| Yes | 107 | 2598 | 18.4765 | 15.24-21.71 |
| No | 457 | 11465 | 81.5235 | 78.29-84.76 |
| *(5) Root Fragments (If NOT edentulous)* | | | | |
| Yes | 91 | 2237 | 15.91 | 12.85-18.97 |
| No | 473 | 11826 | 84.09 | 81.03-87.15 |
| *(6) Need for periodontal care (If NOT edentulous)* | | | | |
| Yes | 89 | 2057 | 14.6238 | 11.71-17.54 |
| No | 475 | 12006 | 85.3762 | 82.46-88.29 |

| | | | | |
|---|---|---|---|---|
| *(7) Suspicious Soft Tissue Lesions* | | | | |
| Yes | 29 | 719 | 3.93 | 2.50-5.36 |
| No | 706 | 17582 | 96.07 | 94.64-97.50 |
| *(8) Treatment Urgency* | | | | |
| No obvious problems | 565 | 14262 | 77.93 | 74.91-80.95 |
| Early care | 131 | 3204 | 17.51 | 14.73-20.29 |
| Urgent care | 39 | 834 | 4.56 | 3.09-6.03 |