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# [ARKANSAS OLDER ADULT ORAL HEALTH SCREENING SURVEY]

# ARKANSAS OLDER ADULT ORAL HEALTH SCREENING SURVEY

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Adapted from the Association of State and Territorial Dental Directors: *An Approach to Monitoring Community Oral Health, Older Adults*, October, 2010

## INTRODUCTION

Unmet dental needs among older adult residents in long term care facilities are common nationwide.<sup>1</sup> Because of this concern, an in-mouth screening survey was conducted by the Office of Oral Health to determine the current status of oral health among older adults in nursing home and Area Agency on Aging (AAA) facilities in Arkansas. Older Arkansans make up a growing proportion of our population. According to the 2010 census, persons aged 65 and older represent 14.4 percent of the total population in Arkansas.<sup>2</sup>

Most oral diseases are preventable.<sup>3</sup> Periodontal (gum) disease or tooth decay (cavities) are the main causes of tooth loss, and having missing teeth can affect nutrition and overall health, since people without teeth often prefer soft, easily chewed foods. The Arkansas Behavioral Risk Factor Surveillance System (BRFSS) survey provides the only data on the status of oral health among the general population of older adults in the state. During the 2010 survey year, 23.3 percent of Arkansans aged 65 and older reported no longer having any of their natural teeth (edentulous), while nationwide, 16.9 percent of adults aged 65 and older did not have any natural teeth.<sup>4</sup>

The recommended and optional oral health status indicators included in the open-mouth screening portion of the survey are determined by the Association of State and Territorial Dental Directors (ASTDD).

### Oral Indicators Surveyed

- Dentures and denture use
- Substantial oral debris
- Severe gingival inflammation
- Severe dry mouth
- Number of natural teeth
- Untreated decay
- Root fragments
- Urgency of need for dental care
- Suspicious soft tissue lesions
- Need for periodontal care

1. Kiyak HA, Grayston MN, Crinean CL. Oral health problems and needs of nursing home residents. *Community Dent Oral Epidemiol.* 1993;21(1):49-52.
2. Administration on Aging: U.S. Department of Health and Human Services. A profile of older Americans: 2011. [http://www.aoa.gov/aoaroot/aging\\_statistics/Profile/2011/docs/2011profile.pdf](http://www.aoa.gov/aoaroot/aging_statistics/Profile/2011/docs/2011profile.pdf) Accessed Oct., 2012.
3. Preventing Cavities, Gum Disease, Tooth Loss, and Oral Cancers: At A Glance 2011: <http://www.cdc.gov/chronicdisease/resources/publications/aag/doh.htm> 11/5/2012, 2012.
4. BRFSS - CDC's Behavioral Risk Factor Surveillance System <http://www.cdc.gov/BRFSS/>.

## KEY FINDINGS

- A significant proportion of older adults screened were missing five or more teeth (94.4%), compared to those who had a full set of teeth, 28 or more teeth (with or without third molars “wisdom teeth”) (5.6%).
- Female respondents were more likely to have all their natural teeth missing (41.2%), compared to males (39.6%).
- Overall, 5.0% of the participants had evidence of a suspicious soft tissue lesion that needed care.
- Of those participants screened, 12.2% had evidence of severe dry mouth.
- Overall, 43.6% of older adults with teeth had untreated dental caries.
- Over 20 percent (22.9%) of all participants were in need of early or urgent dental care.
- Among participants with teeth:
  - 15.8% had some evidence of substantial oral debris,
  - 8.6% had some evidence of severe gingival inflammation,
  - 32.0%, had some indication of root fragments (fractured tooth crown at or below the gum line), and
  - 12.3% were in need of periodontal care.
- Participants from nursing homes had significantly worse outcomes than participants from AAAs for substantial oral debris (19.8%, 5.8%, respectively), severe gingival inflammation (10.7%, 3.1%, respectively), untreated dental decay (48.6%, 31.1%, respectively), and presence of root fragments (36.4%, 20.9%, respectively).

*Note: Patient screenings consisted of inspection of the oral cavity using a pen-light and mirror. A lack of access to radiographic imaging limited the scope of the assessment, however.*

## SURVEY METHODOLOGY

### SAMPLING STRATEGY

The sampling frame consisted of 451 nursing homes and Area Agency on Aging (AAA) facilities. In January 2012, a list of Arkansas nursing homes was obtained from the Arkansas Health Care Association and a list of Area Agency on Aging (AAA) centers was obtained from the Division of Aging and Adult Services, Department of Human Services. Funds were available to survey approximately half (226) of the total number of facilities, see Table 1. Ten strata were formed from the list of nursing homes and AAA facilities by each of the five designated Arkansas Department of Health public health regions in Arkansas, see page 7. Therefore, the 10 strata consisted of five nursing homes strata and five AAA strata. A total of 134 nursing homes and 92 AAAs were selected. Facilities were sampled randomly within a stratum with a sample size proportional to the number of facilities in the stratum.

Within a sampled facility, up to 15 residents aged 60 and older were screened. This allowed for more facilities to be visited in order to capture a diverse sample population. Residents in each facility volunteered for the screening. If no resident agreed to participate and other facilities in the stratum were available, the 'next' facility was added to the sample.

**Table 1: Facilities Selected and Expected Screening by Facility Type**

	<i>Number of Facilities in Arkansas</i>	<i>Number of Facilities Selected</i>	<i>Number of Expected Residents Screened</i>
<b>Nursing Homes</b>	181	134	2,010
<b>Area Agency on Aging (AAA)</b>	270	92	1,380
<b>TOTAL</b>	<b>451</b>	<b>226</b>	<b>3,390</b>

### DENTAL HYGIENIST TRAINING & SCREENING

A total of 10 licensed registered dental hygienists were contracted to conduct the oral health screening. Education and training took place March 30th, 2012 by the Office of Oral Health staff. Materials used during the training were obtained from the Association of State and Territorial Dental Directors Basic Screening Survey Tools (<http://www.astdd.org/basic-screening-survey-tool/#adults>). The screening took place from April to June, 2012.

### LIMITATIONS

Because of the limited time period to complete the survey, not all facilities selected were visited, see Table 2. A selection bias may have occurred since residents volunteered for the dental screening. In addition, there are fluctuations in the number of residents in each facility over time which can affect the total number of residents identified per facility.

## RESULTS

Overall, 203 (89.8%) of the 226 facilities were visited and 2,723 (80.3%) of the 3,390 expected nursing home and AAA residents received oral health screenings. For each public health region, the sample of nursing homes and AAAs were weighted during analysis by the inverse of the probability of selection so that the sample is representative of all facilities within the public health regions.

Differences between estimates were considered statistically significant if the 95% confidence intervals did not overlap. Small sample size may produce unstable estimates. In addition, totals may not add up to 100% due to rounding.

**Table 2: Facilities and Residents Screened**

	<i>Number of Facilities Visited</i>	<i>Percent Visited out of the Number of Facilities Selected</i>	<i>Number of Residents Screened</i>	<i>Percent Screened out of the Number of Expected Residents Screened</i>
<b>Nursing Homes</b>	118	88.1%	1,646	81.9%
<b>Area Agency on Aging (AAA)</b>	85	92.4%	1,077	78.0%
<b>Total</b>	<b>203</b>	<b>89.8%</b>	<b>2,723</b>	<b>80.3%</b>

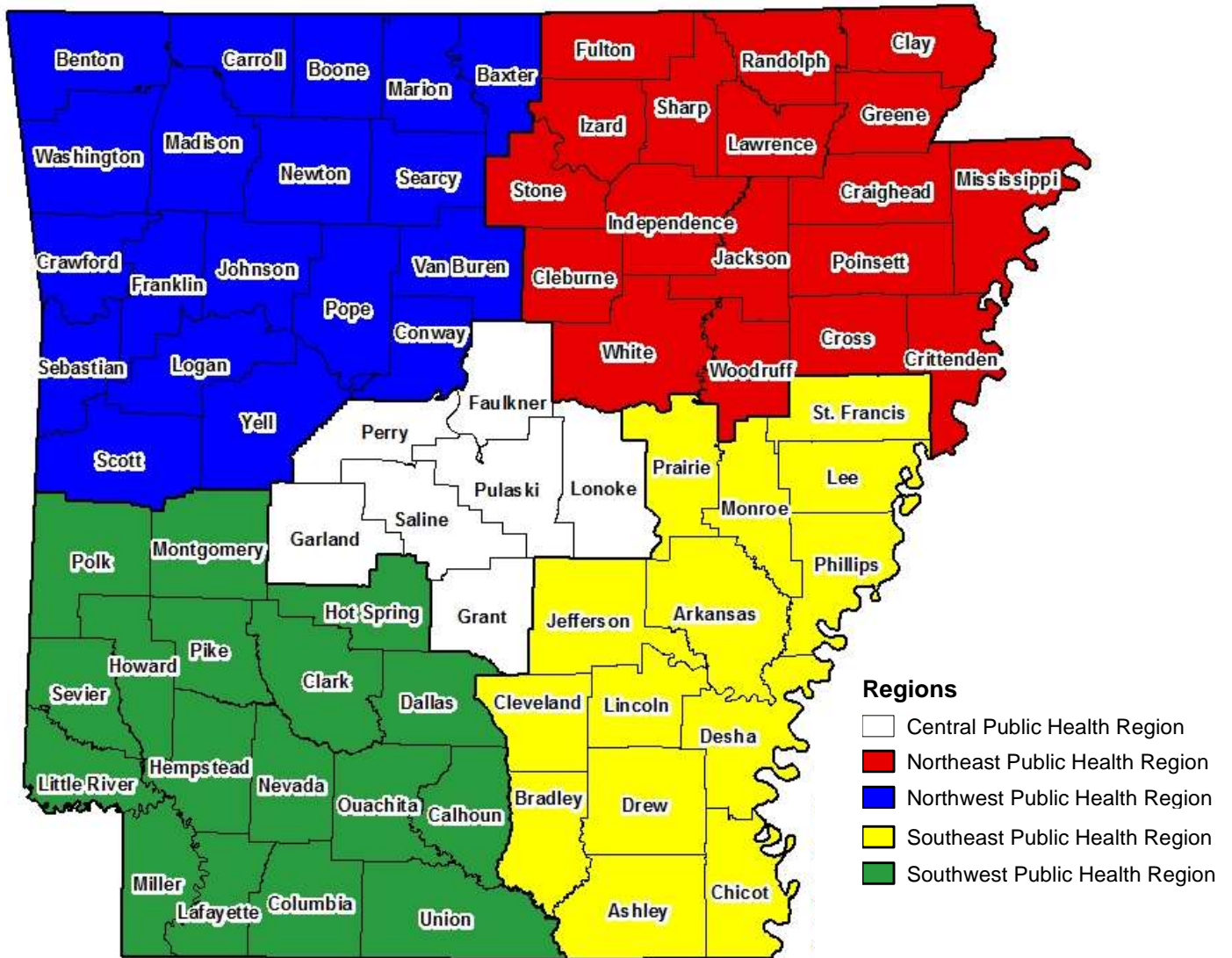
## DEFINITIONS

- **Sampling Frame** – population from which the survey sample is drawn.
- **Stratified Sample** – the process of partitioning data into distinct population groups.
  - **Strata** (stratum, plural) – a sub-group within the population (i.e., public health region).
- **Sample Weights** – Sampling weights are calculated so that each survey participant response can be inflated or expanded to represent other individuals in a stratum (i.e. Results from individual participants are weighted to represent the population of nursing home and AAA residents within the public health region).
- **95% Confidence Intervals** - A range around a measurement that conveys the precision of the measurement. For example, 43.6% [39.6-47.4] of the participants screened had untreated dental decay. If the survey were conducted 100 times, 95 of those surveys would show untreated dental decay to be within the confidence interval [36.6-47.4] and five of those surveys would show the percent of untreated decay to be higher or lower than the confidence interval boundary.



REGIONAL MAP

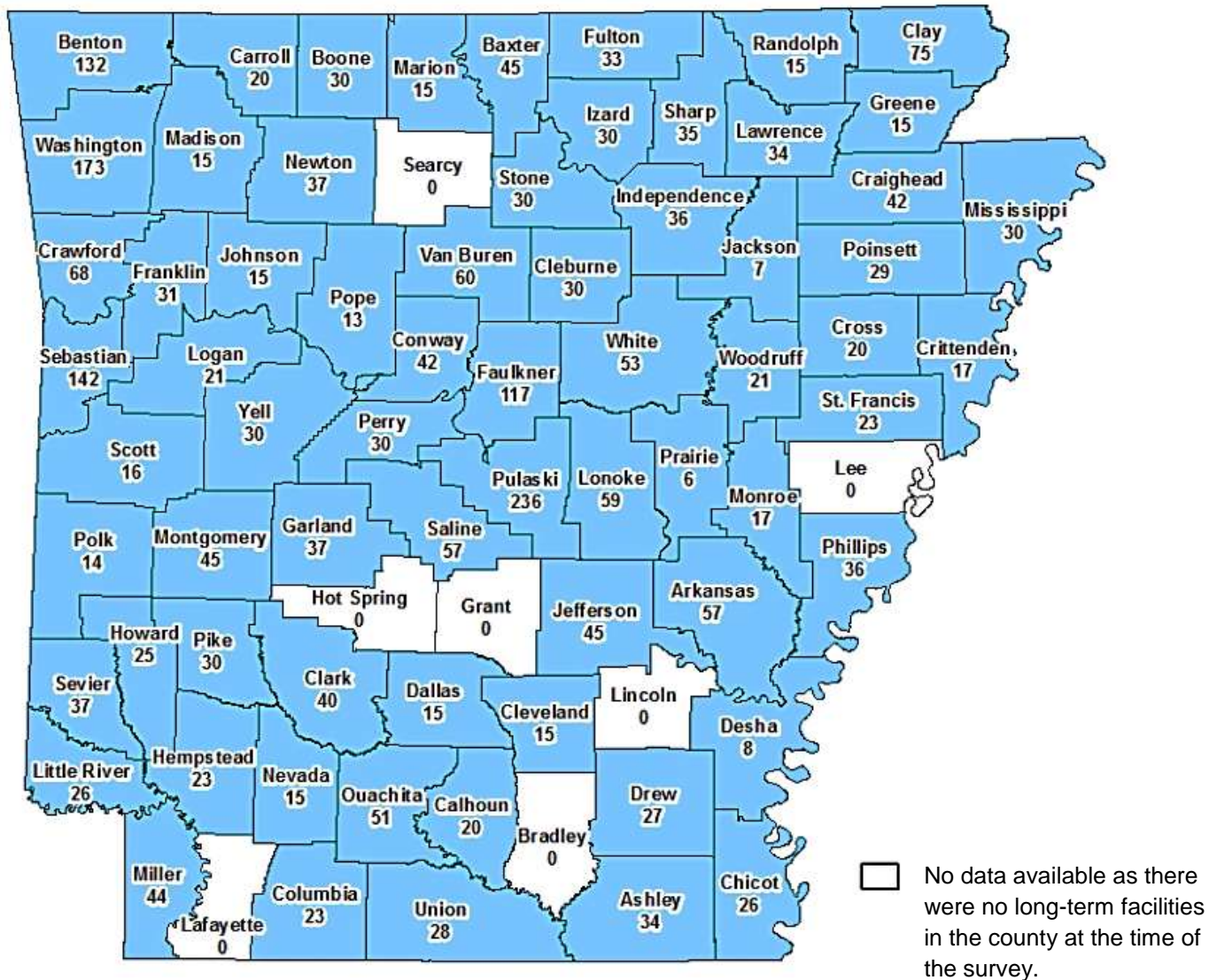
# ADH Public Health Regions





PARTICIPANT MAP

## Number of Participants Screened in Nursing Homes and Area Agency on Aging Centers, Arkansas, 2012



## DEMOGRAPHICS

**Table 3: Demographics**

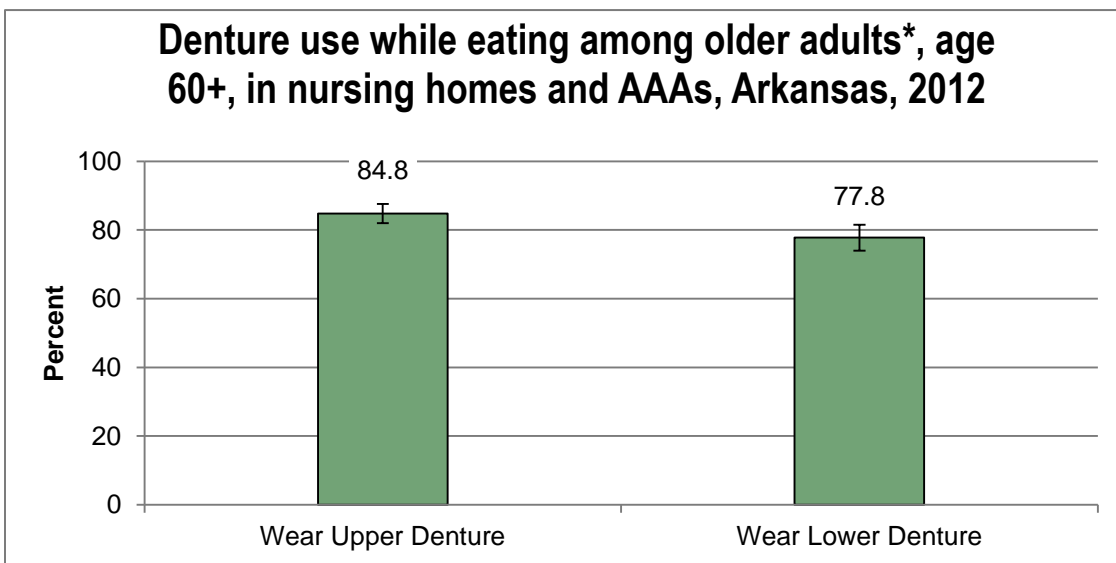
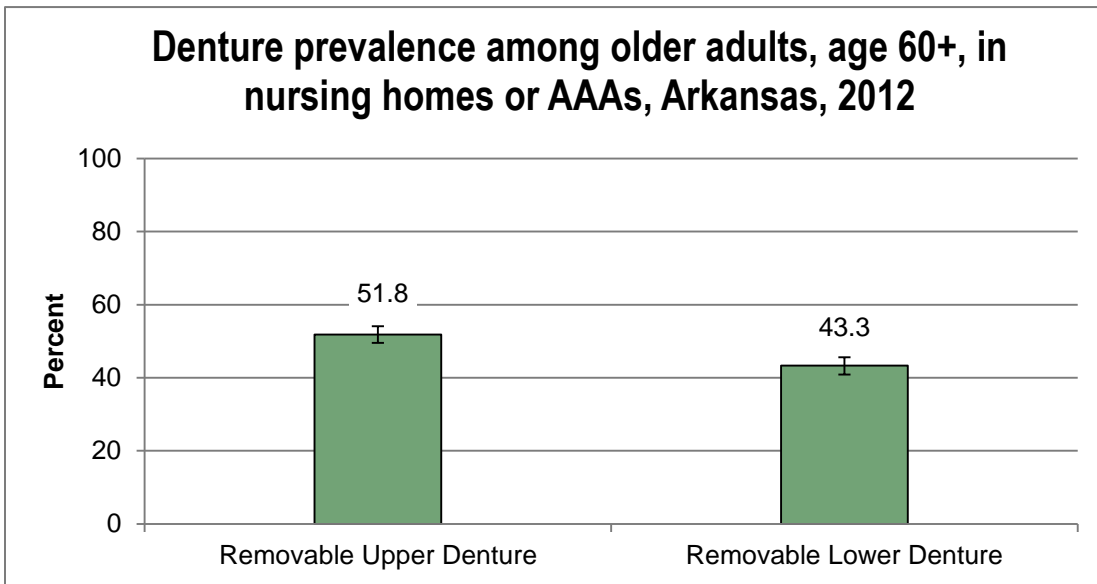
	<i>Number of Participants</i>	<i>Number of Participants in Sampling Frame</i>	<i>Weighted Percentage*</i>
<b>Facility Type</b>			
Nursing Home	1,646	29,587	74.6
Area Agency on Aging (AAA)	1,077	10,079	25.4
Total	2,723	39,666	100.0
<b>Age (years)</b>			
60-69	536	7,500	18.9
70-79	873	12,150	30.6
80-89	963	14,254	35.9
90-99	322	5,337	13.5
100+	23	372	0.9
Unknown	6	53	0.1
<b>Gender</b>			
Male	800	11,538	29.1
Female	1,906	27,922	70.4
Unknown	17	206	0.5
<b>Race</b>			
White	2,303	33,627	84.8
Black	372	5,350	13.5
Other	21	319	0.8
Unknown	27	370	0.9
<b>Region</b>			
Central	536	7,629	19.2
Northeast	552	8,183	20.6
Northwest	905	10,550	26.6
Southeast	294	4,254	10.7
Southwest	436	9,050	22.8

\*Totals may not add up to 100% due to rounding.

## DENTURES AND DENTURE USE

The first screening indicator assesses the presence and use of full or partial dentures in the upper and/or lower arch.

Overall, 51.8% [49.5-54.1] had a removable upper denture and 43.3% [40.9-45.6] had a removable lower denture. Of the respondents with a removable upper denture, 84.8% [82.0-87.6] said they wear the denture while eating. Of the respondents who wear a lower denture, 77.8% [74.0-81.5] said they wear the denture while eating.



\*Among participants with an upper or lower denture.

**Table 4: Have a removable upper denture**

	<b>Percent with Removable Upper Denture</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	51.7	49.0	54.4
Area Agency on Aging (AAA)	52.2	47.8	56.6
<b>Age (years)</b>			
60-69	40.0	35.1	44.8
70-79	52.6	48.5	56.6
80-89	54.6	50.9	58.2
90-99	58.7	53.3	64.1
100+	58.8	39.6	78.1
<b>Gender</b>			
Male	46.0	41.9	50.1
Female	54.3	51.4	57.1
<b>Race</b>			
White	52.6	50.2	55.0
Black	47.3	40.2	54.5
Other	39.2	12.1	66.3
<b>Region</b>			
Central	51.4	46.7	56.0
Northeast	51.6	45.9	57.4
Northwest	51.6	47.3	55.8
Southeast	50.1	43.2	57.1
Southwest	53.4	48.7	58.1

**Table 5: Percent who wear dentures while eating among respondents with a removable upper denture**

	<b>Percent that Wear Upper Denture While Eating</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	81.6	78.2	85.1
Area Agency on Aging (AAA)	93.9	91.1	96.7
<b>Age (years)</b>			
60-69	78.9	71.6	86.1
70-79	81.1	76.0	86.2
80-89	86.8	82.2	91.4
90-99	91.8	87.2	96.3
100+	100.0	-	-
<b>Gender</b>			
Male	79.0	73.2	84.9
Female	86.7	84.0	89.6
<b>Race</b>			
White	86.2	83.5	88.8
Black	76.3	66.6	86.1
Other	86.9	66.2	100.0
<b>Region</b>			
Central	82.5	75.7	89.4
Northeast	86.7	81.1	92.2
Northwest	87.5	82.6	92.5
Southeast	78.2	68.3	88.0
Southwest	84.8	78.6	91.1

**Table 6: Have a removable lower denture**

	<b>Percent with Removable Lower Denture</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	43.0	40.2	45.7
Area Agency on Aging (AAA)	44.3	39.7	48.9
<b>Age (years)</b>			
60-69	32.2	27.0	37.4
70-79	43.8	39.8	47.9
80-89	46.9	43.0	50.7
90-99	47.8	42.5	53.2
100+	46.5	26.9	66.1
<b>Gender</b>			
Male	37.9	33.7	42.2
Female	45.5	42.7	48.3
<b>Race</b>			
White	43.6	41.1	46.1
Black	41.1	33.4	48.8
Other	33.8	8.3	59.4
<b>Region</b>			
Central	43.1	38.6	47.7
Northeast	42.5	37.1	47.8
Northwest	43.0	38.7	47.3
Southeast	40.8	33.1	48.4
Southwest	45.7	40.6	50.8

**Table 7: Percent who wear dentures while eating among respondents with a removable lower denture**

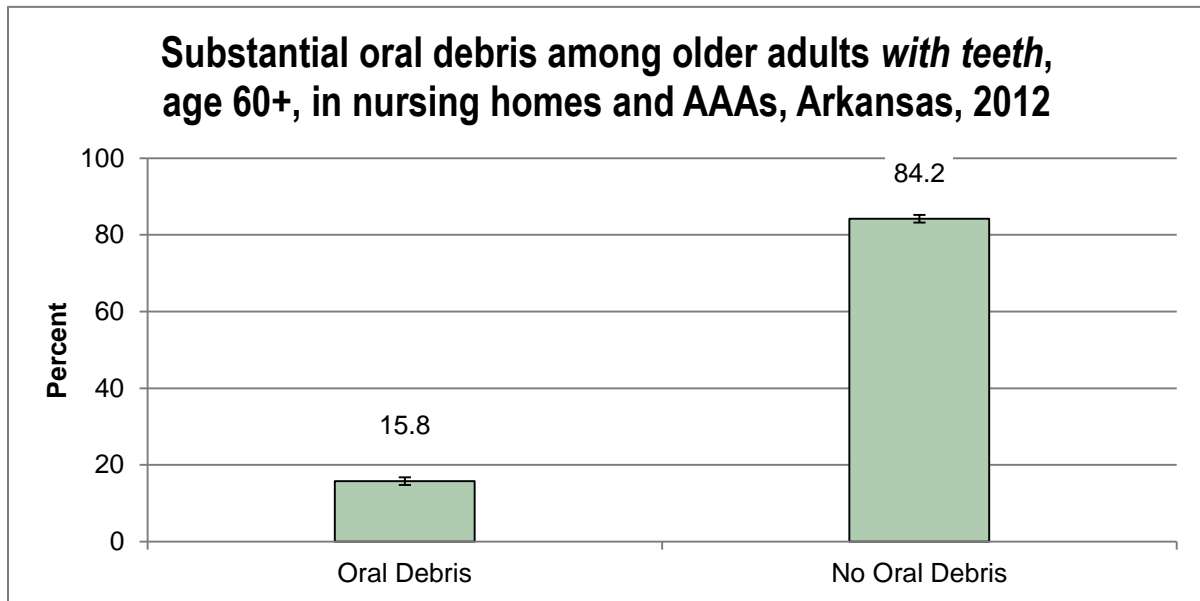
	<b>Percent that Wear Lower Denture While Eating</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	73.7	69.0	78.4
Area Agency on Aging (AAA)	89.2	85.6	92.8
<b>Age (years)</b>			
60-69	75.4	67.0	83.9
70-79	75.4	69.5	81.2
80-89	76.9	70.6	83.2
90-99	85.8	79.6	91.9
100+	96.6	89.8	100.0
<b>Gender</b>			
Male	74.6	67.3	81.9
Female	78.7	74.7	82.7
<b>Race</b>			
White	78.8	75.0	82.7
Black	71.3	58.4	84.1
Other	84.8	61.7	100.0
<b>Region</b>			
Central	80.4	72.6	88.2
Northeast	78.5	70.4	86.7
Northwest	80.4	74.2	86.7
Southeast	65.4	49.7	81.1
Southwest	77.4	68.9	85.8



## SUBSTANTIAL ORAL DEBRIS

If the participant has an abundance of soft or hard matter covering more than two-thirds of any tooth surface they are considered to have substantial oral debris.

Among participants with teeth, 15.8% [12.1-19.5] of the participants screened had substantial oral debris, compared to 84.2% [80.5-87.9] with no oral debris.



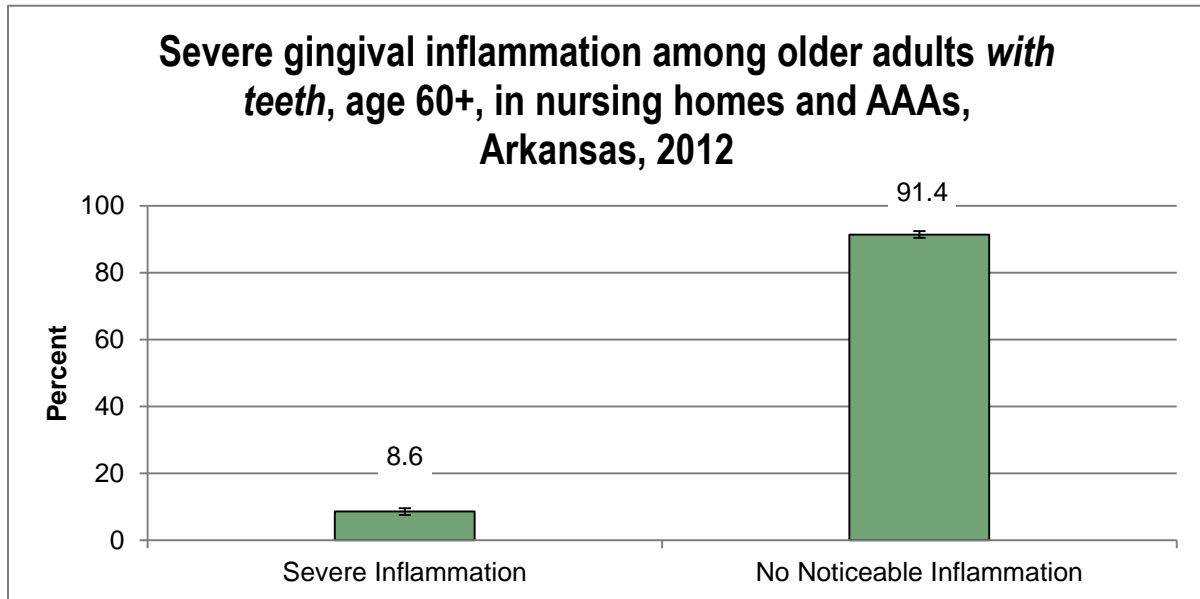
**Table 8: Substantial oral debris among participants with teeth**

	<b>Percent with Oral Debris</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	19.8	14.9	24.8
Area Agency on Aging (AAA)	5.8	2.8	8.8
<b>Age (years)</b>			
60-69	16.8	10.3	23.3
70-79	13.2	7.7	18.8
80-89	16.9	12.5	21.2
90-99	17.4	11.1	23.6
100+	23.9	0.0	48.2
<b>Gender</b>			
Male	20.6	14.4	26.8
Female	13.7	10.1	17.3
<b>Race</b>			
White	13.9	10.4	17.4
Black	27.7	17.3	38.2
Other	18.8	0.0	46.3
<b>Region</b>			
Central	22.2	11.7	32.8
Northeast	17.1	9.4	24.7
Northwest	11.4	4.4	18.4
Southeast	25.4	15.5	35.3
Southwest	8.9	4.2	13.6

## SEVERE GINGIVAL INFLAMMATION

If the participant has marked redness and edema, ulceration or a tendency to spontaneously bleed, they are classified as having severe gingival inflammation.

Among participants with teeth, 8.6% [6.1-11.0] had severe gingival inflammation, while 91.4% [89.0-93.9] had no obvious inflammation.



**Table 9: Severe gingival inflammation among participants with teeth**

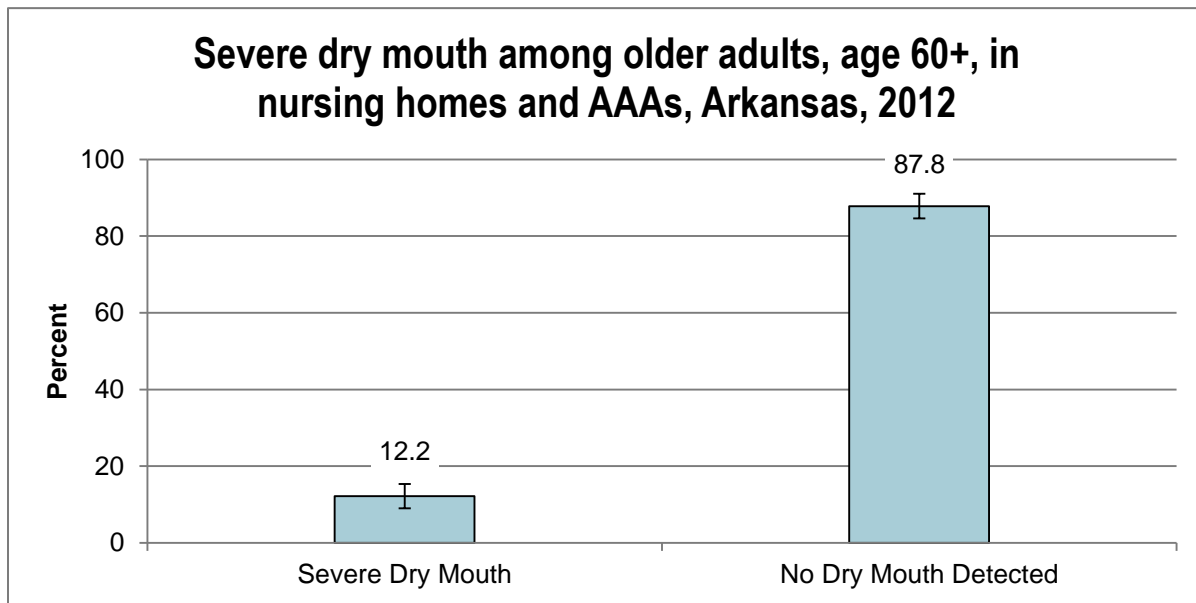
	<b>Percent with Severe Inflammation</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	10.7	7.4	14.0
Area Agency on Aging (AAA)	3.1	0.9	5.4
<b>Age (years)</b>			
60-69	7.9	4.0	11.9
70-79	9.4	5.1	13.6
80-89	7.0	4.5	9.6
90-99	11.6	5.8	17.3
100+	16.9	0.0	38.8
<b>Gender</b>			
Male	10.8	6.5	15.0
Female	7.5	5.2	9.8
<b>Race</b>			
White	8.2	5.8	10.6
Black	10.3	3.7	16.9
Other	13.8	0.0	36.4
<b>Region</b>			
Central	13.2	6.7	19.8
Northeast	7.0	2.5	11.5
Northwest	8.0	3.1	13.0
Southeast	14.6	5.5	23.8
Southwest	3.0	0.4	5.7

## SEVERE DRY MOUTH

Older Americans take both prescription and over-the-counter drugs. Over 400 commonly used medications can be the cause of a dry mouth.<sup>1</sup> In addition, there are certain diseases and conditions that may directly affect the salivary glands leading to scarring and reduced salivary flow.<sup>2</sup> Reduction of the flow of saliva increases the risk for oral disease.

Severe dry mouth is classified as: having dry cracked lips, dry cracked or fissured tongue, or tissue that sticks to the teeth because of the lack of saliva.

Of those participants screened, 12.2% [9.0-15.4] had evidence of severe dry mouth compared to 87.8% [84.6-91.0] with no symptoms of severe dry mouth.



1. Oral health for older Americans - fact sheets and FAQs - publications - oral health [http://www.cdc.gov/oralhealth/publications/factsheets/adult\\_older.htm](http://www.cdc.gov/oralhealth/publications/factsheets/adult_older.htm). Accessed 11/5/2012, 2012.
2. Neville B, Damm D, Allen C, Bouquot J. Oral and Maxillofacial Pathology. Third Ed. Saunders Elsevier, 2009.

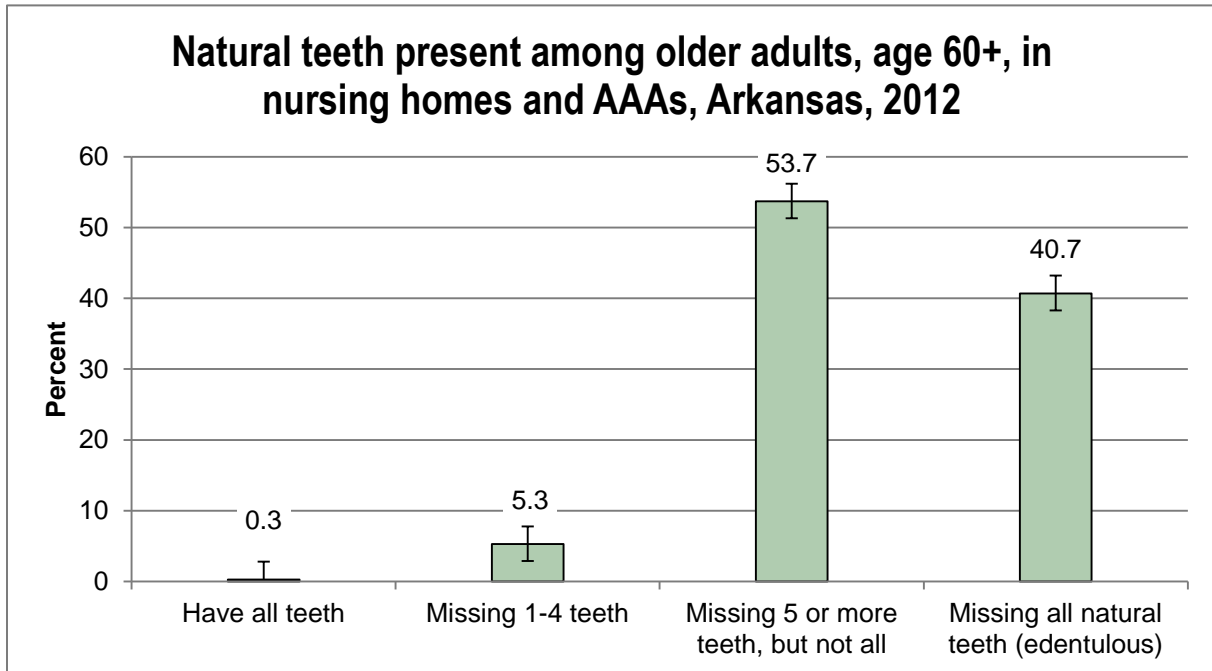
**Table 10: Severe Dry Mouth**

	<b>Percent with Severe Dry Mouth</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	13.9	10.2	17.6
Area Agency on Aging (AAA)	7.2	0.2	14.1
<b>Age (years)</b>			
60-69	12.2	6.8	17.5
70-79	11.2	8.0	14.4
80-89	11.8	8.1	15.5
90-99	15.7	10.2	21.2
100+	11.1	0.0	25.9
<b>Gender</b>			
Male	11.9	8.1	15.7
Female	12.1	8.4	15.8
<b>Race</b>			
White	12.6	9.2	15.9
Black	9.2	4.6	13.9
Other	9.5	0.0	21.5
<b>Region</b>			
Central	24.1	12.5	35.7
Northeast	5.5	1.8	9.2
Northwest	4.0	1.8	6.1
Southeast	17.7	9.0	26.4
Southwest	15.3	7.0	23.5

## NUMBER OF NATURAL TEETH PRESENT

An adult usually has 32 teeth, but many adults have had their third molars, or “wisdom” teeth, removed for a total of 28 teeth. The following indicator measures the number of natural teeth present in the upper and lower arch. Edentulous refers to someone missing all natural teeth, including third molars.

A significant proportion of older adults were missing five or more teeth, (94.4% [93.5-95.3]), compared to those who had 28 or more teeth (5.6% [4.7-6.5]).



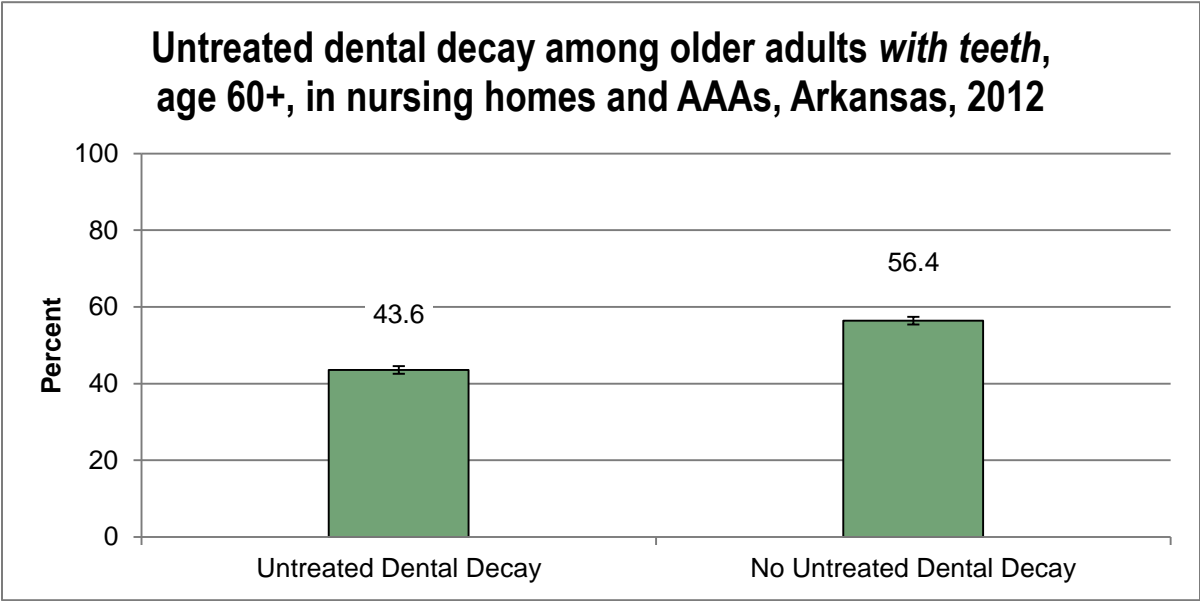


<b>Table 11: Edentulous (Missing all natural teeth)</b>			
	<b>Percent Missing all Natural Teeth</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	42.9	39.7	46.1
Area Agency on Aging (AAA)	34.3	29.7	38.8
<b>Age (years)</b>			
60-69	37.4	32.3	42.5
70-79	41.8	37.5	46.1
80-89	41.1	37.1	45.1
90-99	41.5	36.1	46.9
100+	43.6	21.2	65.9
<b>Gender</b>			
Male	39.6	35.2	43.9
Female	41.2	38.4	44.1
<b>Race</b>			
White	40.4	37.8	43.0
Black	41.8	33.3	50.3
Other	48.2	17.8	78.6
<b>Region</b>			
Central	34.0	29.3	38.8
Northeast	45.2	39.4	50.9
Northwest	40.7	35.6	45.9
Southeast	40.0	29.6	50.4
Southwest	42.5	37.0	48.0

# UNTREATED DENTAL DECAY

Untreated dental decay includes the presence of caries associated with previous fillings or in areas formerly untouched.

Overall, 43.6% [39.6-47.4] of the participants with teeth had untreated dental decay.



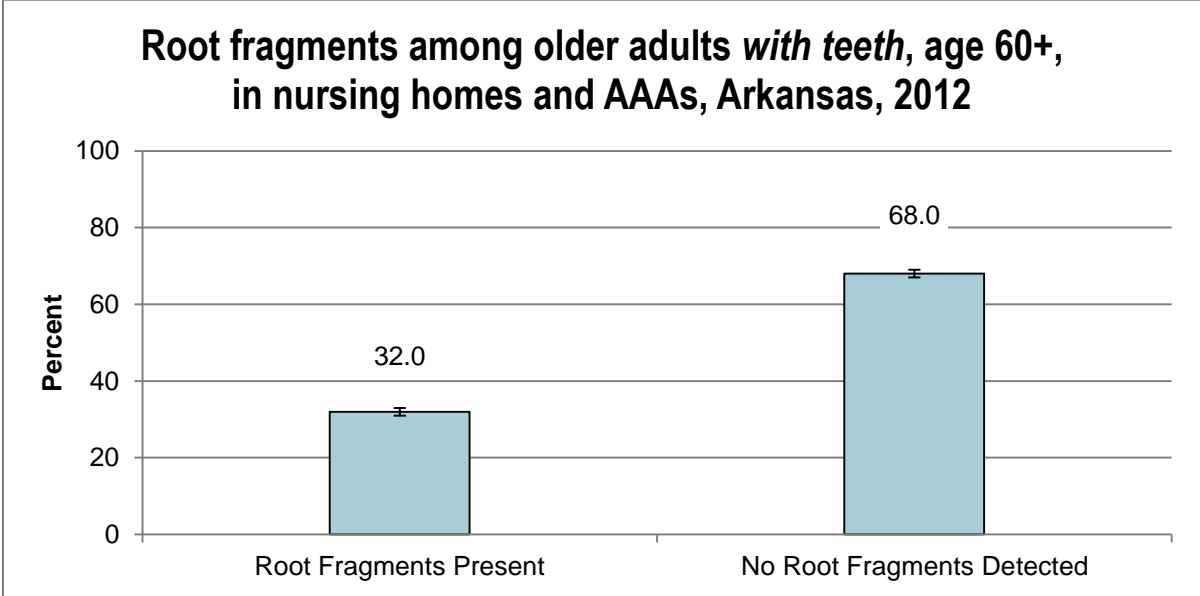
**Table 12: Untreated dental decay among participants with teeth**

	<b>Percent with Untreated Dental Decay</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	48.6	43.5	53.6
Area Agency on Aging (AAA)	31.1	24.9	37.3
<b>Age (years)</b>			
60-69	45.3	37.8	52.8
70-79	45.9	40.0	51.7
80-89	40.7	35.2	46.3
90-99	43.4	35.6	51.2
100+	54.2	27.5	80.9
<b>Gender</b>			
Male	51.6	45.4	57.7
Female	59.8	55.4	64.3
<b>Race</b>			
White	41.7	37.6	45.8
Black	55.5	47.3	63.7
Other	58.4	39.1	77.7
<b>Region</b>			
Central	54.3	44.3	64.4
Northeast	30.3	22.4	38.1
Northwest	43.7	36.5	51.0
Southeast	48.2	32.6	63.8
Southwest	42.8	33.9	51.7

# ROOT FRAGMENTS

Root fragments are defined as teeth where the crown has fractured or decayed at or below the gum line.

Overall, 32.0% [29.0-35.0] of the participants with teeth had some indication of root fragments.



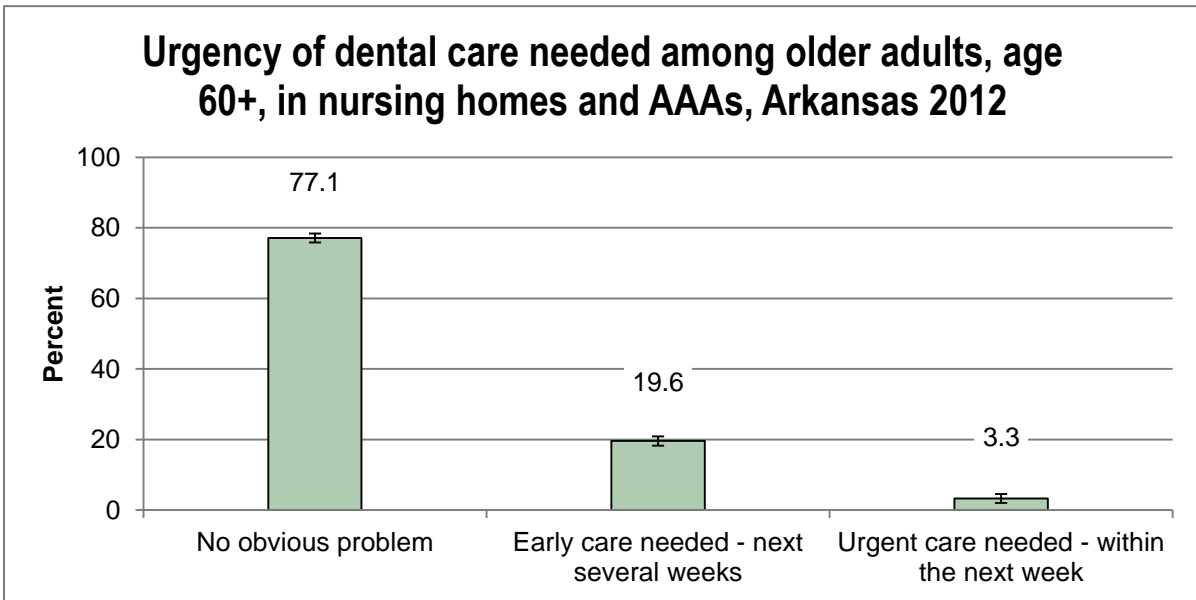
**Table 13: Root fragments among participants with teeth**

	<b>Percent with Root Fragments</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	36.4	32.5	40.4
Area Agency on Aging (AAA)	20.9	16.6	25.2
<b>Age (years)</b>			
60-69	30.6	23.4	37.9
70-79	30.5	25.7	35.4
80-89	32.4	27.5	37.3
90-99	36.3	28.3	44.3
100+	36.6	11.1	62.0
<b>Gender</b>			
Male	42.0	36.6	47.4
Female	27.9	24.5	31.2
<b>Race</b>			
White	30.5	27.4	33.6
Black	42.1	33.5	50.7
Other	43.5	21.5	65.6
<b>Region</b>			
Central	43.8	35.4	52.1
Northeast	24.6	18.9	30.2
Northwest	25.2	20.3	30.0
Southeast	37.3	26.3	48.3
Southwest	32.2	25.5	38.9

## TREATMENT URGENCY

Urgent need of dental care refers to those who need dental care within the next week because of signs or symptoms that include pain, infection, or swelling. If someone needs to see a dentist because of untreated decay, but does have pain or an infection, they are classified as needing early dental care, within the next several weeks.

Nearly 20 percent, or 19.6% [17.2-21.9], were in need of early dental care, and 3.3% [2.0-4.6] were in need of urgent care.



**Table 14: Urgent care needed**

	<b>Percent Need Urgent Care</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	3.4	1.8	5.1
Area Agency on Aging (AAA)	2.9	1.3	4.5
<b>Age (years)</b>			
60-69	2.7	1.0	4.3
70-79	4.3	2.2	6.4
80-89	2.7	1.2	4.2
90-99	3.7	1.3	6.2
100+	*	*	*
<b>Gender</b>			
Male	3.8	1.2	6.4
Female	3.0	1.9	4.1
<b>Race</b>			
White	3.0	1.9	4.1
Black	5.2	0.7	9.8
Other	*	*	*
<b>Region</b>			
Central	6.1	1.2	11.1
Northeast	1.6	0.0	3.5
Northwest	2.4	0.7	4.2
Southeast	5.6	1.0	10.3
Southwest	2.3	0.5	4.0

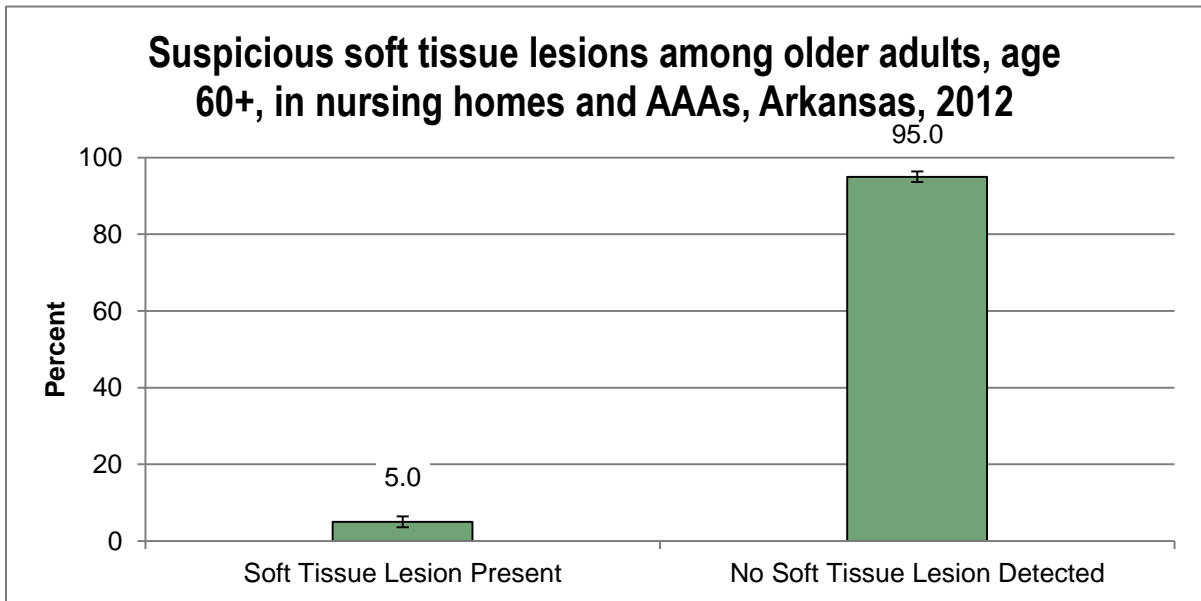
\*No data



## SOFT TISSUE LESIONS

A soft tissue lesion is an obvious red and white lesion plus conditions/infections such as Candidiasis. The presence of a soft tissue lesion should be evaluated by a health professional.

Overall, 5.0% [3.6-6.4] of the participants had some indication of a suspicious soft tissue lesion.



**Table 15: Soft tissue lesion present**

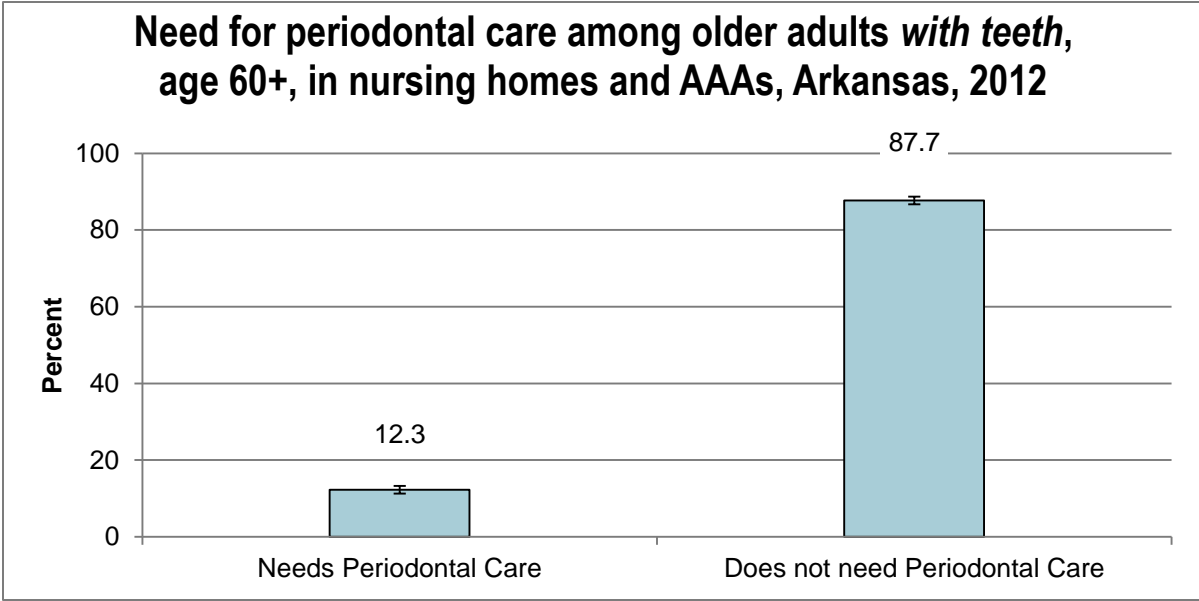
	<b>Percent with Soft Tissue Lesion</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	5.6	3.7	7.5
Area Agency on Aging (AAA)	3.1	1.8	4.5
<b>Age (years)</b>			
60-69	4.1	1.7	6.6
70-79	6.2	4.0	8.5
80-89	4.3	2.5	6.1
90-99	5.7	2.4	8.9
100+	*	*	*
<b>Gender</b>			
Male	5.4	2.9	7.9
Female	4.7	3.4	6.0
<b>Race</b>			
White	4.8	3.4	6.2
Black	5.0	2.0	8.1
Other	14.6	0.0	29.7
<b>Region</b>			
Central	5.8	2.1	9.4
Northeast	0.5	0.0	1.1
Northwest	9.0	5.0	13.0
Southeast	3.3	0.5	6.2
Southwest	4.5	2.5	6.5

\*No data

# NEED FOR PERIODONTAL CARE

A participant needs periodontal care when they need their teeth cleaned before the next regularly scheduled dental appointment, or they need more advanced periodontal treatment.

Overall, 12.3% [9.8-14.9] of the participants with teeth were in need of periodontal care.



**Table 16: Periodontal care needed among participants with teeth**

	<b>Percent Need Periodontal Care</b>	<b>95% Confidence Intervals for Percent</b>	
<b>Facility Type</b>			
Nursing Home	14.1	11.6	16.5
Area Agency on Aging (AAA)	8.1	5.6	10.6
<b>Age (years)</b>			
60-69	18.0	13.1	22.9
70-79	13.0	9.2	16.6
80-89	8.8	6.2	11.4
90-99	12.2	7.2	17.3
100+	13.9	0.0	32.3
<b>Gender</b>			
Male	19.5	15.2	23.7
Female	9.3	7.3	11.2
<b>Race</b>			
White	9.8	7.9	11.6
Black	26.2	19.3	33.2
Other	30.7	1.2	60.2
<b>Region</b>			
Central	23.5	18.3	28.7
Northeast	12.5	8.5	16.6
Northwest	8.2	5.3	11.2
Southeast	21.3	13.6	29.0
Southwest	2.1	0.1	4.0

**Table 17: \*Periodontal care needed among all participants (with or without teeth)**

	<b>Percent Need Periodontal Care</b>	<b>95% Confidence Intervals for Percent</b>	
<b>State</b>			
Needs periodontal care	7.6	5.7	9.4
Does not need periodontal care	53.8	51.0	56.5
No natural teeth present	38.7	35.9	41.4
<b>Region</b>			
<b>Central</b>			
Needs periodontal care	40.6	25.7	55.5
Does not need periodontal care	18.5	12.1	25.1
No natural teeth present	16.0	9.5	22.5
<b>Northeast</b>			
Needs periodontal care	19.5	8.9	30.1
Does not need periodontal care	19.2	13.2	25.2
No natural teeth present	22.9	15.4	30.4
<b>Northwest</b>			
Needs periodontal care	17.5	8.4	26.5
Does not need periodontal care	27.4	20.4	34.5
No natural teeth present	27.5	20.0	36.0
<b>Southeast</b>			
Needs periodontal care	18.6	7.3	29.9
Does not need periodontal care	9.7	4.9	14.4
No natural teeth present	10.2	4.6	15.8
<b>Southwest</b>			
Needs periodontal care	3.8	0.0	9.6
Does not need periodontal care	25.1	17.2	33.0
No natural teeth present	23.4	15.2	31.6

\* Additional analysis performed due to the variability of periodontal care needed among participants with teeth by region, see table 16.

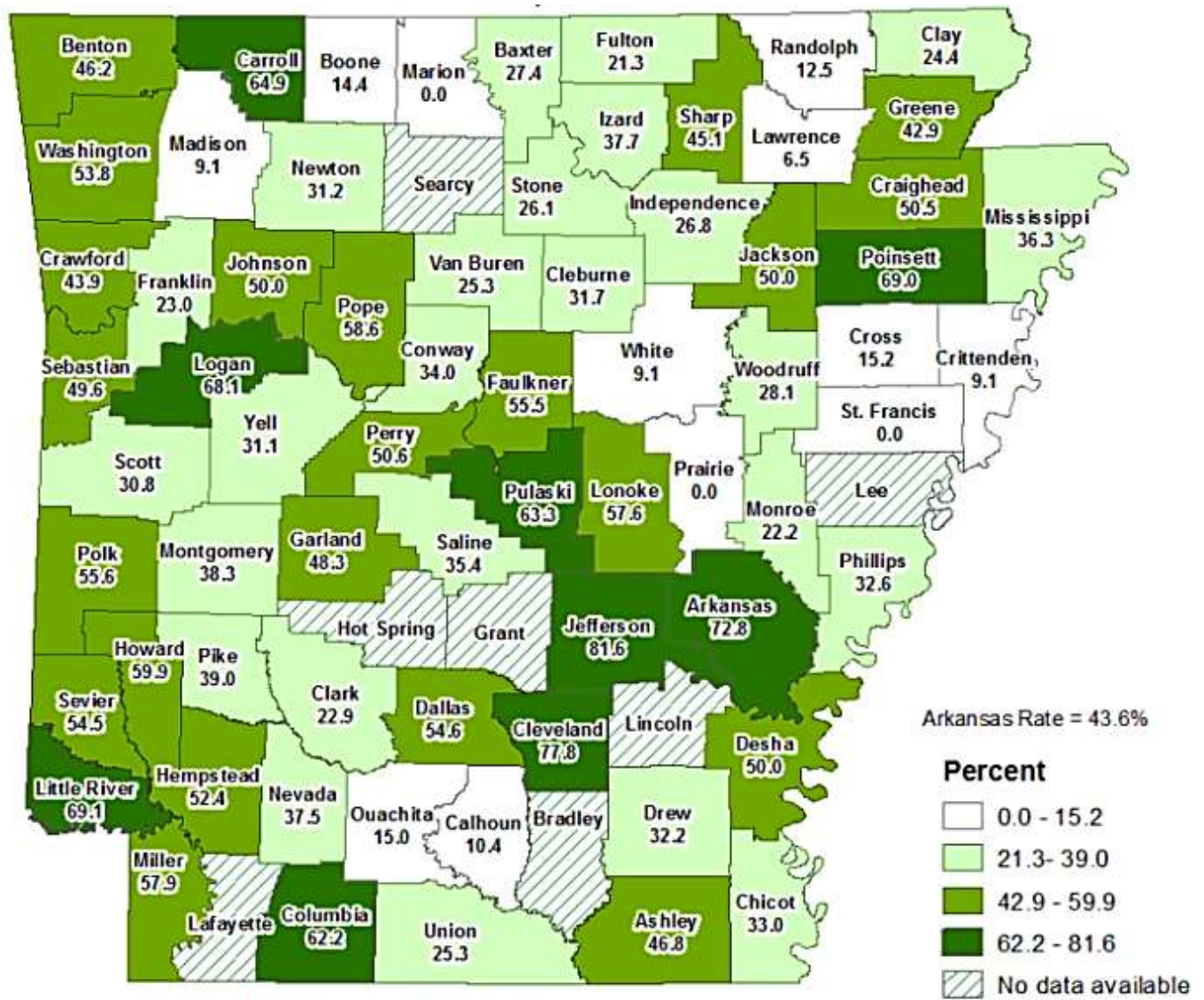
## COUNTY DATA

County-level estimates were calculated using logistic regression, taking into consideration public health region data and the nursing home and AAA facility populations. Estimates were generated among indicators with a state-level health risk of 30% or more. For example, county estimates were generated for untreated dental decay since 43.6% of older adults in the survey had noticeable decay.

The maps show variability because one county rate may represent only a few facilities, and up to 15 residents were screened per facility. As a result, some county rates represent participants affiliated within an AAA only, or a nursing home only. Since results from this survey show participants from nursing homes had worse oral health outcomes than those from AAAs, population characteristics of the facilities may determine oral health outcomes rather than county designation.

## DENTAL DECAY MAP

### Estimated Percent of Older Adults (60+) with Untreated Dental Decay\* in Nursing Homes and Area Agency on Aging Facilities, Arkansas, 2012

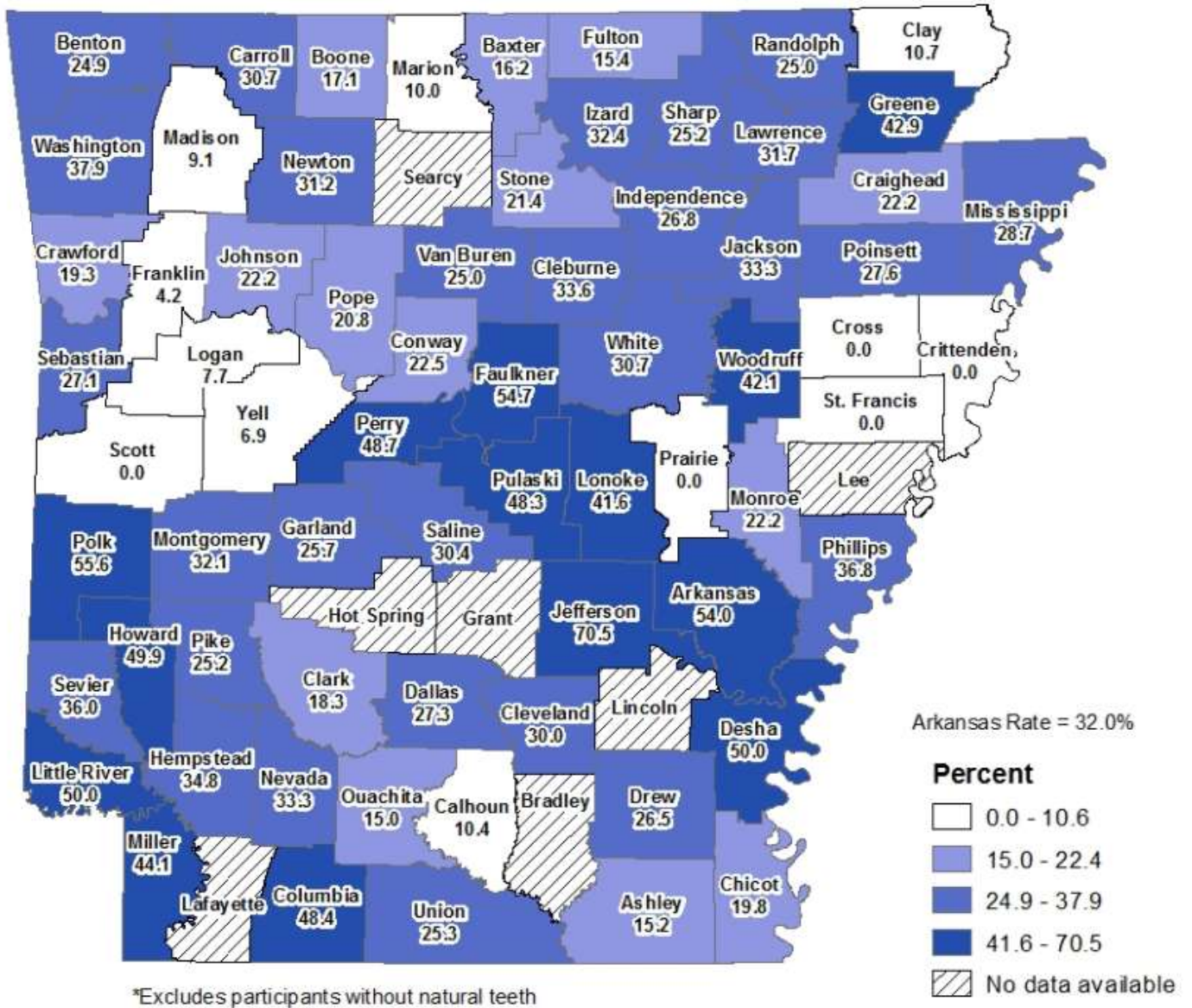


\*Excludes participants without natural teeth



## ROOT FRAGMENTS MAP

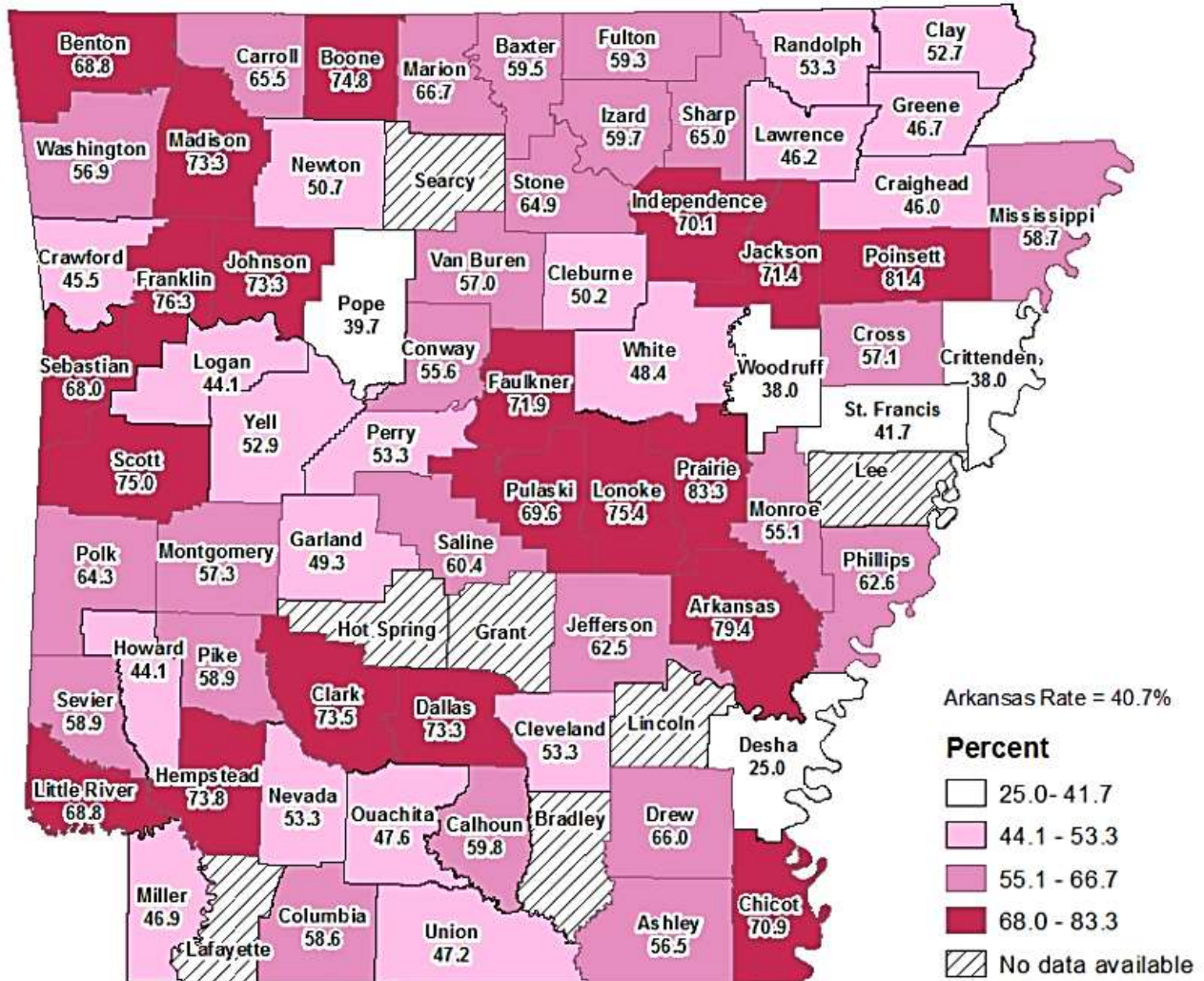
### Estimated Percent of Older Adults (60+) with Root Fragments\* in Nursing Homes and Area Agency on Aging Facilities, Arkansas, 2012





## NO NATURAL TEETH PRESENT (EDENTULOUS) MAP

### Estimated Percent of Older Adults (60+) with No Natural Teeth in Nursing Homes and Area Agency on Aging Facilities, Arkansas, 2012



## ARKANSAS POPULATION, 2010

<b>Total Population</b>	2,915,918	
<b>Gender</b>		
Males	49.1%	
Females	50.9%	
<b>Median Age</b>	37.4 years	
<b>Age Distribution</b>	<b>Number</b>	<b>Percent</b>
Males		
60-69	143,285	10.0%
70-79	81,138	5.7%
80-89	34,124	2.4%
90-99	4,708	0.3%
100+	93	0.01%
Females		
60-69	157,113	10.6%
70-79	97,838	6.6%
80-89	55,844	3.8%
90-99	12,382	0.8%
100+	487	0.03%
<b>Race / Ethnicity</b>		
White	77.0%	
Black/African American	15.4%	
American Indian or Alaskan Native	0.8%	
Asian	1.2%	
Hispanic or Latino	6.4%	

Source: U.S. Census Bureau

# SURVEY INSTRUMENT

## SITE INFORMATION

Site ID Code <input type="text"/> <input type="text"/> <input type="text"/>	Screen Date <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>	Screener ID Code <input type="text"/> <input type="text"/>
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## DEMOGRAPHIC INFORMATION

Age <input type="text"/> <input type="text"/> <input type="text"/>	Gender <input type="checkbox"/> 1 = Male <input type="checkbox"/> 2 = Female	Race/Ethnicity <input type="checkbox"/> 1 = White <input type="checkbox"/> 2 = Black <input type="checkbox"/> 3 = Hispanic <input type="checkbox"/> 4 = Asian <input type="checkbox"/> 5 = AI/AN <input type="checkbox"/> 6 = Pacific Islander <input type="checkbox"/> 7 = Multi-racial <input type="checkbox"/> 9 = Unknown
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## ORAL SCREENING INFORMATION

Do you have a removable upper denture? <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes	<i>If Yes</i> →	Do you usually wear your upper denture when you eat? <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes
Do you have a removable lower denture? <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes	<i>If Yes</i> →	Do you usually wear your lower denture when you eat? <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes
Functional Posterior Occlusal Contacts <input type="checkbox"/> 0 = None <input type="checkbox"/> 1 = 1 side only <input type="checkbox"/> 2 = Both sides Assess with removable dentures in place.	<i>Ask participant to remove partial/full dentures.</i>	
Substantial Oral Debris <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 9 = Edentulous	Severe Gingival Inflammation <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 9 = Edentulous	

**Remove excess oral debris if necessary.**

# of Upper Natural Teeth <input type="text"/> <input type="text"/> Range: 0-16 Include root fragments	# of Lower Natural Teeth <input type="text"/> <input type="text"/> Range: 0-16 Include root fragments
Untreated Decay <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 9 = Edentulous	Root Fragments <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 9 = Edentulous
Obvious Tooth Mobility <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 9 = Edentulous	Need for Periodontal Care <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes <input type="checkbox"/> 9 = Edentulous
Severe Dry Mouth <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes	Suspicious Soft Tissue Lesion <input type="checkbox"/> 0 = No <input type="checkbox"/> 1 = Yes
Treatment Urgency <input type="checkbox"/> 0 = No obvious problem – next scheduled visit <input type="checkbox"/> 1 = Early care – within next several weeks <input type="checkbox"/> 2 = Urgent Care – within next week – pain or infection	Comments:

NOTE: If you are collecting information on age, gender and race using a questionnaire, you can delete those fields from this form.