

Oral Health Trends Among the AI/AN Population

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TODAY'S TOPICS

- Oral Health Surveillance
- Aging and Oral Health
- Oral Health of AI/AN Elders
- Improving Oral Health

Disclaimer

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ORAL HEALTH IS IMPROVING

Across all age groups, fewer AI/ANs have untreated tooth decay.



14% DECREASE among children 1-5 years since 2010.



26% DECREASE among children 6-9 years since 1999.



5% DECREASE among adults 35-44 years since 1999.



26% DECREASE among adults 55+ years since 1999.

POTENTIAL REASONS FOR IMPROVEMENT



Increased use of topical fluorides and dental sealants.



Better access to dental care.



Improvements in socioeconomic status for some AI/AN populations.

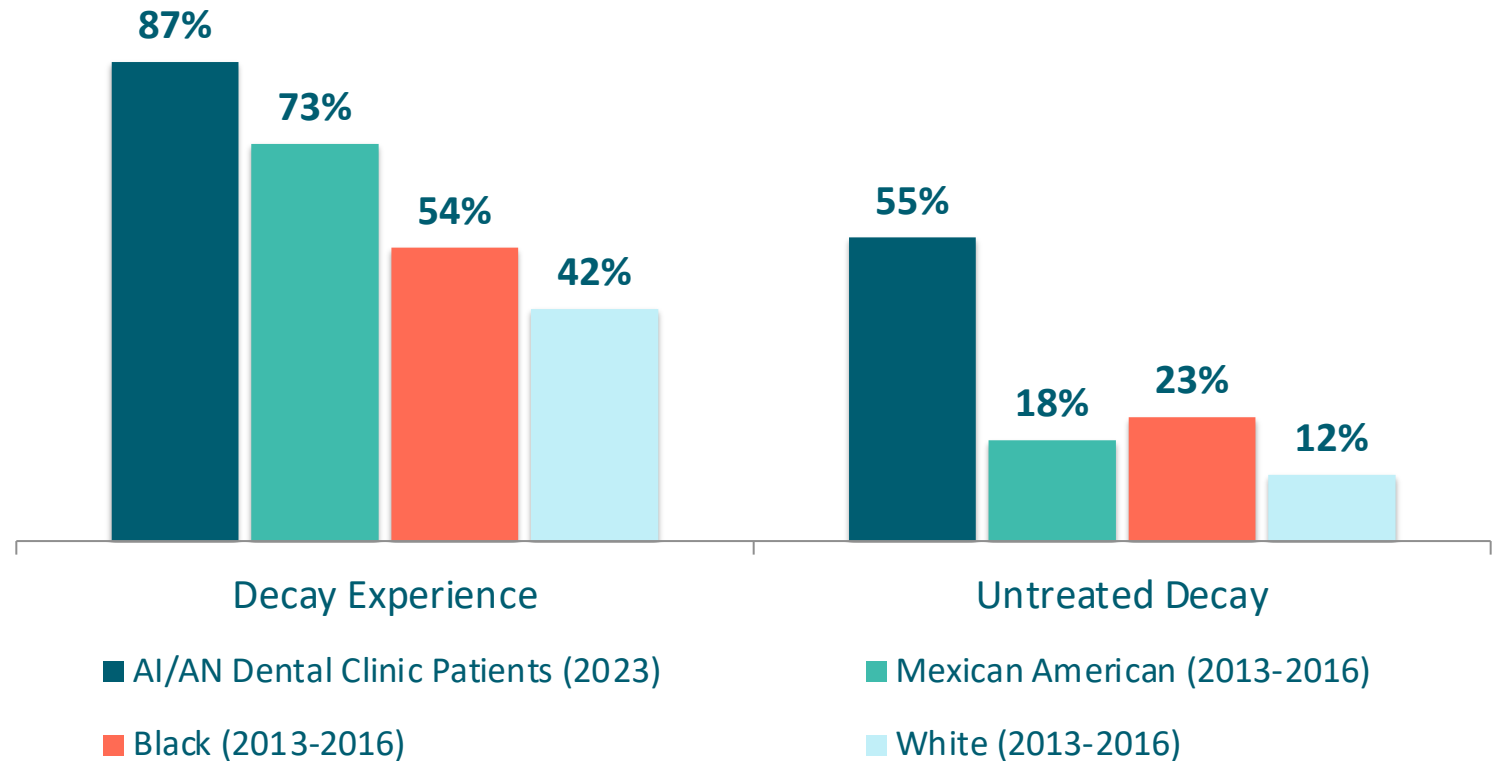


Changes in knowledge and beliefs.

DESPITE IMPROVEMENTS – DISPARITIES PERSIST

Compared to White children, AI/AN children are more than **twice** as likely to have decay experience and **four times** more likely to have untreated tooth decay.

Percentage of Children Aged 6-9 Years with Decay Experience and Untreated Decay by Race/Ethnicity



REASONS FOR DISPARITIES

- The median AI/AN household makes \$25,000 a year less than the median non-Hispanic White household
- About one in six AI/AN families lives below the poverty level
- Nearly 80% of AI/ANs over 25 years have less than a bachelor's degree
- AI/AN households are disproportionately harmed by lack of access to banking services
- AI/AN communities lack access to health insurance, medical care facilities and grocery stores

ONLY SOURCE OF DATA ON AI/AN POPULATION

Some older adults were more than twice as likely to have untreated tooth decay



About 1 in 3 adults aged 65 or older who were:

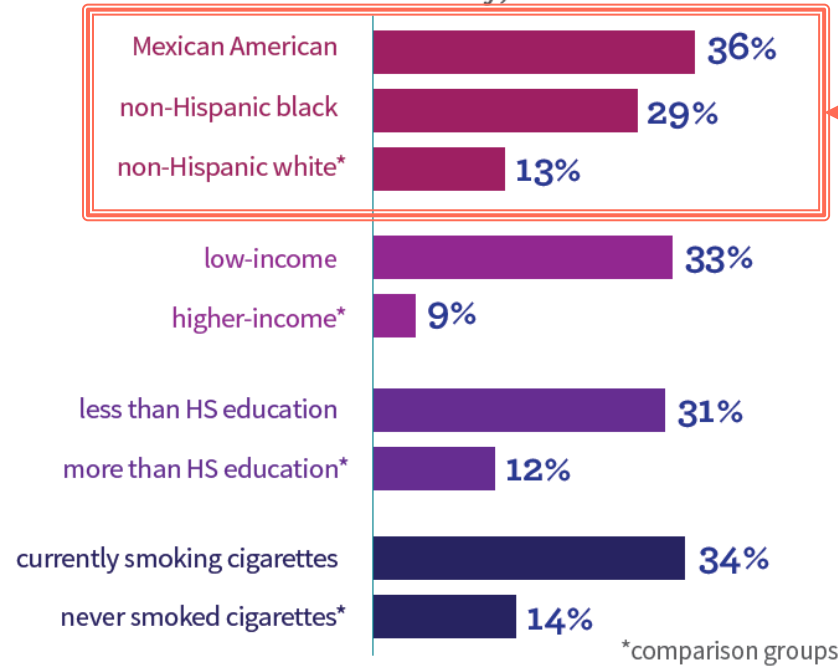


- Mexican American
- non-Hispanic black
- low-income
- had less than a high school education
- currently smoking cigarettes

had untreated tooth decay

This is 2x to 3x the amount of untreated decay as comparison groups.

Percentage of adults aged 65 or older with untreated tooth decay, 2011–2016



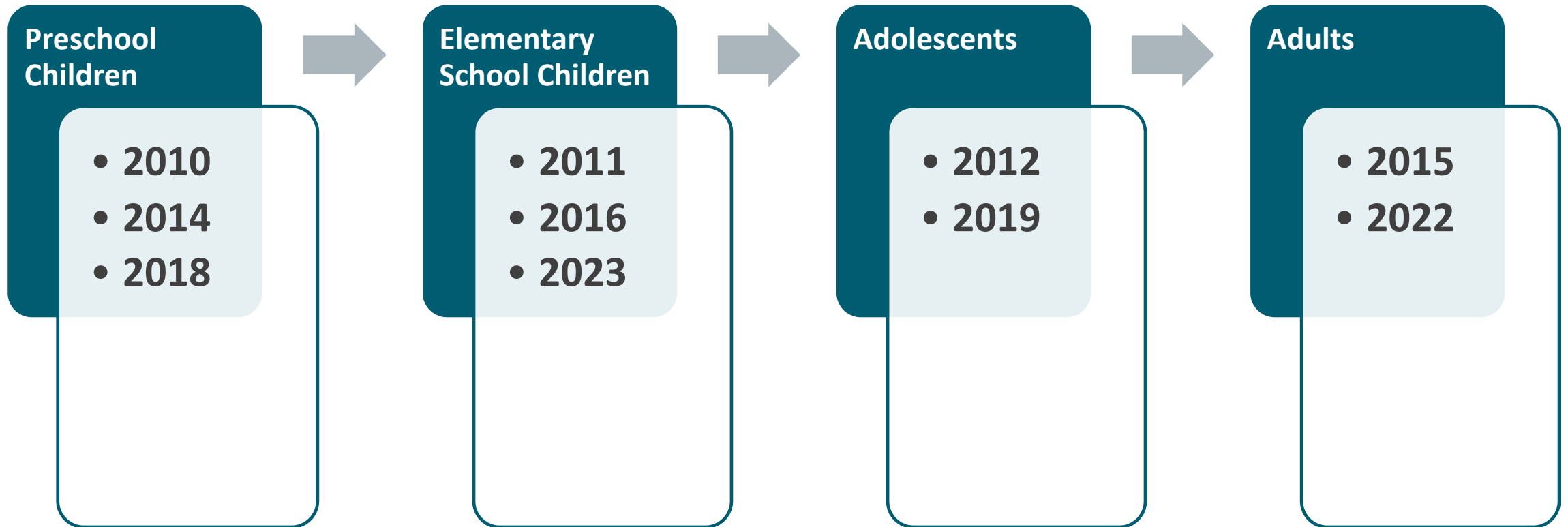
No AI/AN Data



HOW ORAL HEALTH IS MONITORED

- IHS coordinates periodic oral health surveys
 - Use standardized screening protocols similar to state/national surveys
 - Clinics are randomly selected to participate
 - Clinic data can be used for program planning, program evaluation, advocacy, and grant writing

POPULATION GROUPS SURVEYED



FUTURE SURVEILLANCE ACTIVITIES

- Future oral health surveys will be clinic based
- Future surveys will use Dentrix for data collection
 - Will need to “turn on” the EDR oral health status survey function in Dentrix
- First Dentrix based survey – Fall 2024

GENERAL FACTORS TO CONSIDER

- Life expectancy
- Retirement
- Number of teeth
- Other factors
 - Physiologic changes associated with aging
 - Prescription and/or over-the-counter medications
 - Physical, sensory, and cognitive impairments
 - Increased sensitivity to drugs used in dentistry (local anesthetics & analgesics)

LIFE EXPECTANCY

- 1968 – Lyndon Johnson (36th President)
 - *Special Message to the Congress on the Problems of the American Indian: 'The Forgotten American.'*

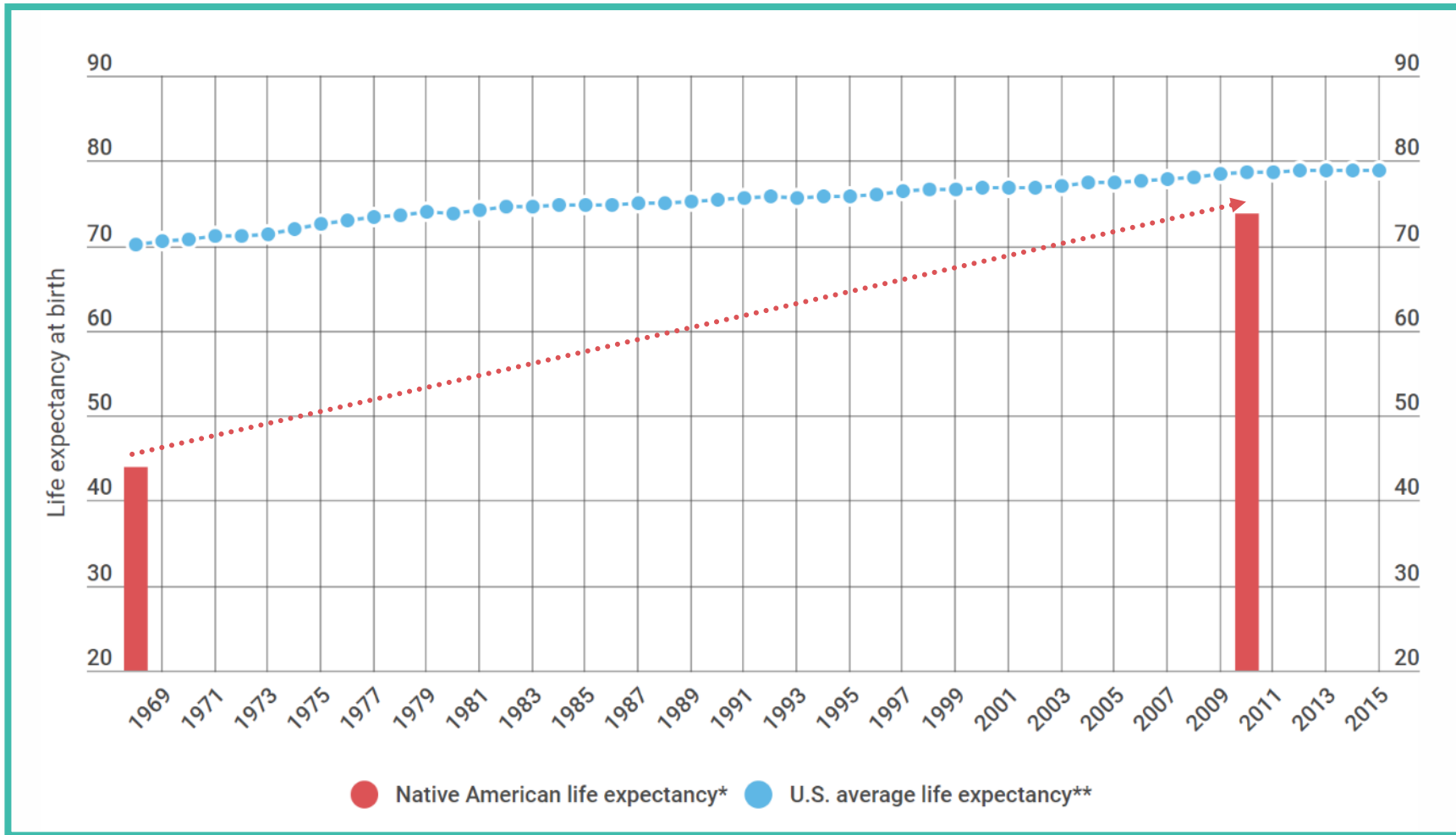
70
Years

Average life-expectancy of U.S. resident (all races)

44
Years

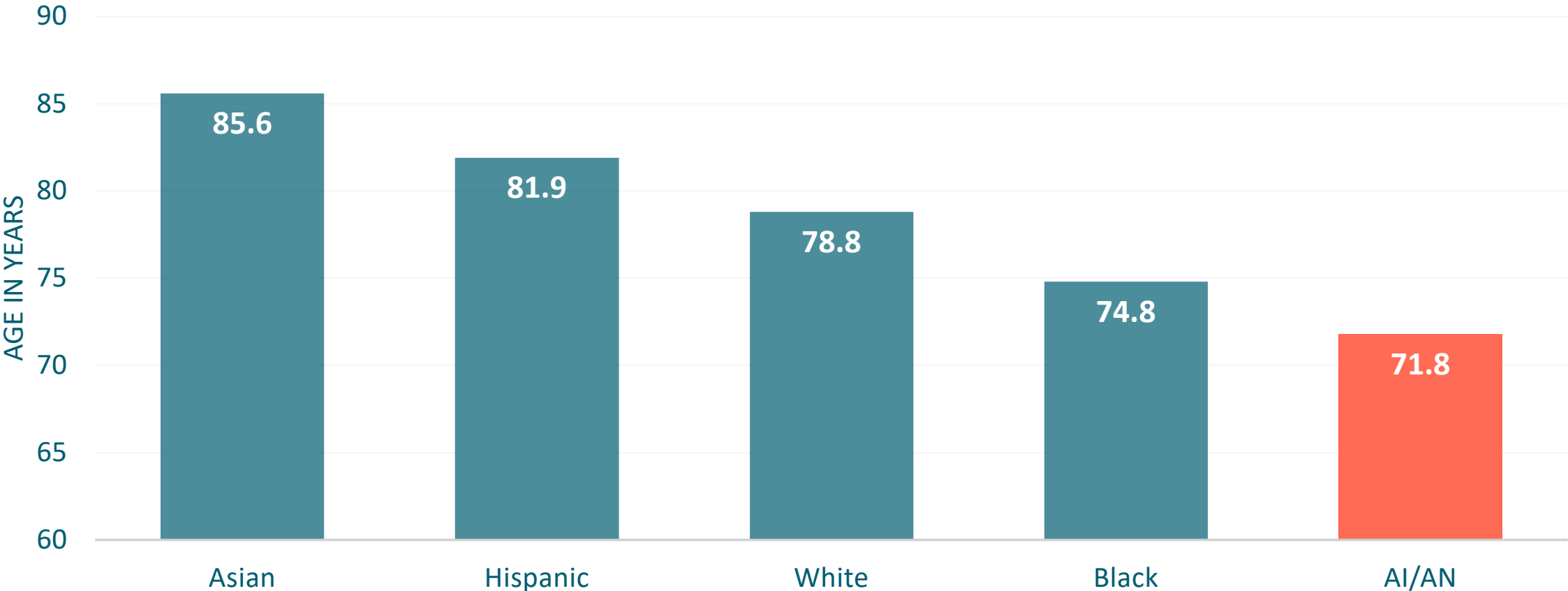
Average life-expectancy of AI/ANs

LIFE EXPECTANCY HAS INCREASED



DISPARITIES PERSIST

Life Expectancy at Birth by Race/Ethnicity, 2019



**COVID-19
DECREASED
LIFE
EXPECTANCY**

71.8

2019

67.2

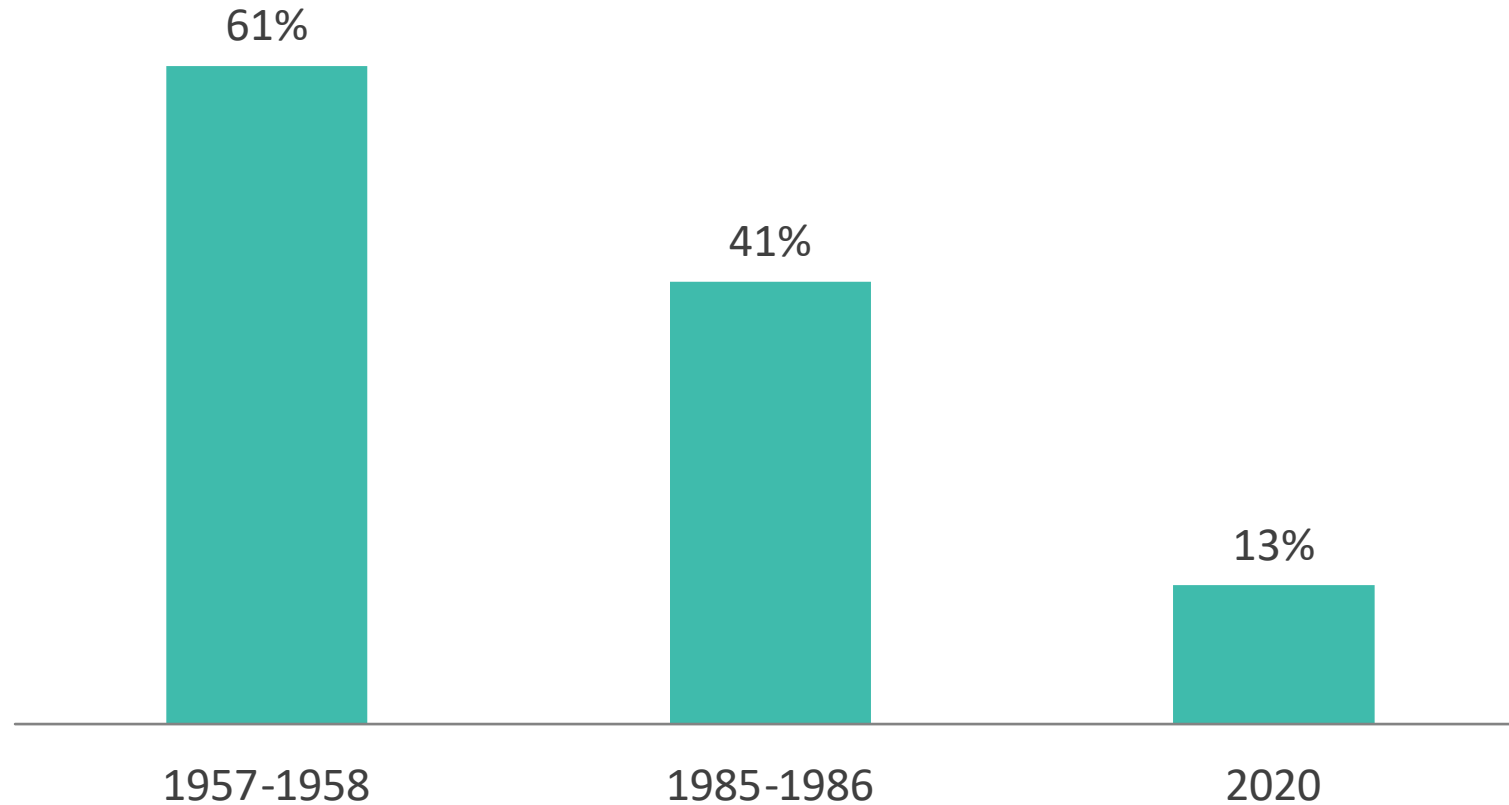
2021

IMPACT OF RETIREMENT

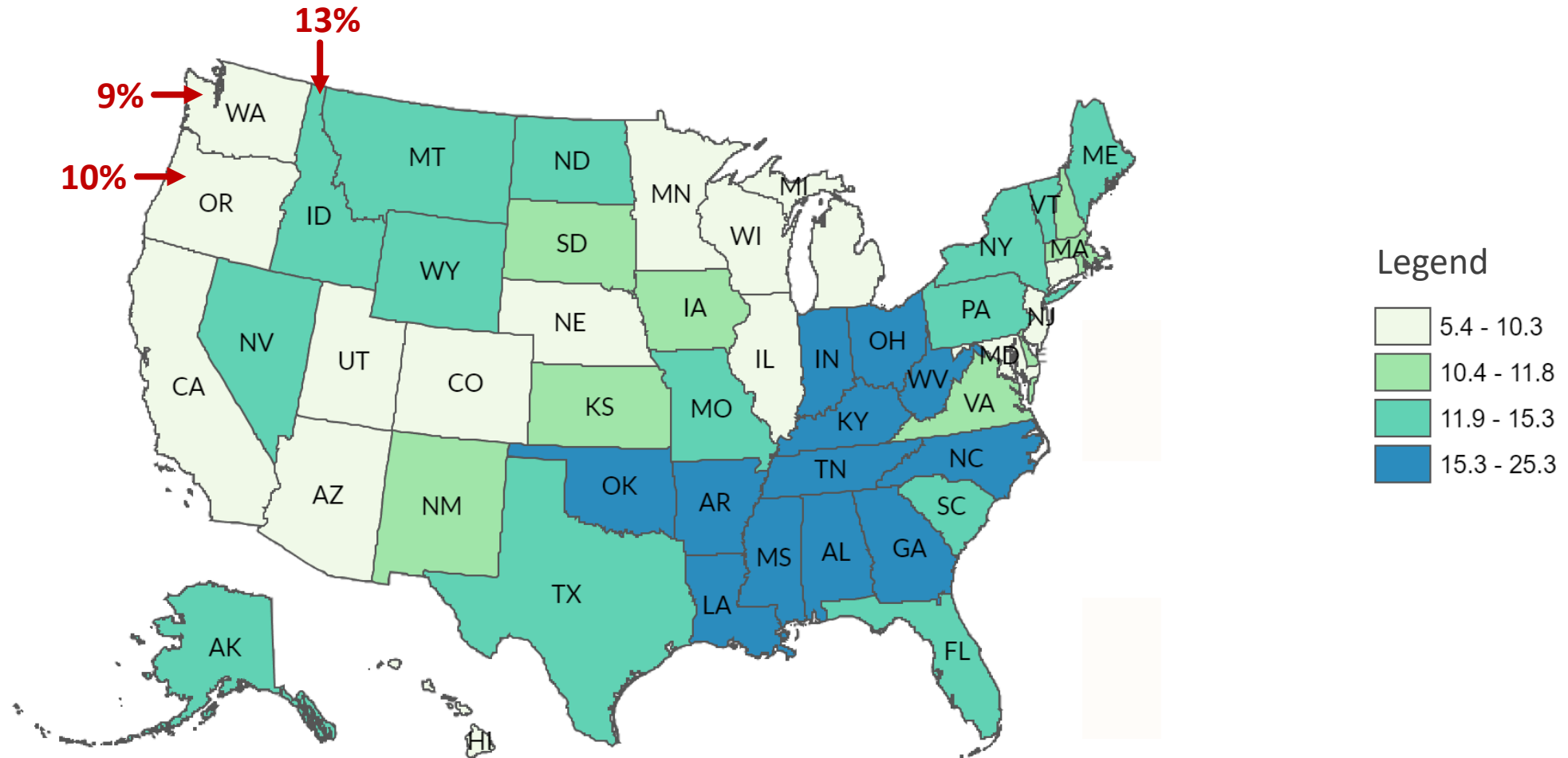
- Medicare – no dental benefits
- Employed adults
 - May have used dental insurance to receive care outside of the IHS and Tribal systems
 - Likely to start seeking care at IHS/Tribal facilities

FEWER PEOPLE ARE EDENTULOUS

Percentage of Older Adults (65+ Years) with No Natural Teeth



PERCENTAGE OF ADULTS 65+ WITH NO NATURAL TEETH



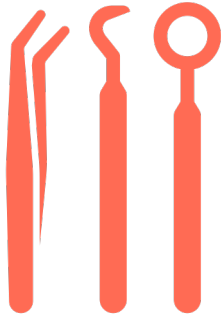
WHAT DOES THIS MEAN FOR YOUR DENTAL CLINIC?



**More AI/AN
Adults**



More Teeth



**Increased
Demand for
Complex
Dental Care**



2022 IHS ORAL HEALTH SURVEY OF AI/AN ADULT DENTAL PATIENTS

Results & Conclusions

Focus on Elders Aged 55+ Years

TWO COMPONENTS



Dental screening

- Collected information on the prevalence and severity of dental caries and periodontal disease
- Comparable to previous IHS adult surveys completed in 1983-84, 1991, 1999, and 2015



Patient questionnaire – optional

- Collected information on self-reported frequency of oral pain, condition of mouth, and time since last dental visit

NUMBER OF PARTICIPANTS

- Dental Screening
 - **6,336** adults aged 35 to 98 years (**31** in Portland Area)
 - **45** Service Units (**1** in Portland Area)
- Patient Questionnaire
 - **6,167** adults aged 35 to 98 (**32** in Portland Area)

KEY FINDING 1

The COVID-19 pandemic put additional stress on an already overburdened dental care delivery system. Compared to 2015, the percentage of AI/AN dental patients reporting a dental visit in the last year was lower and the primary reason for not visiting a dentist was COVID-19.

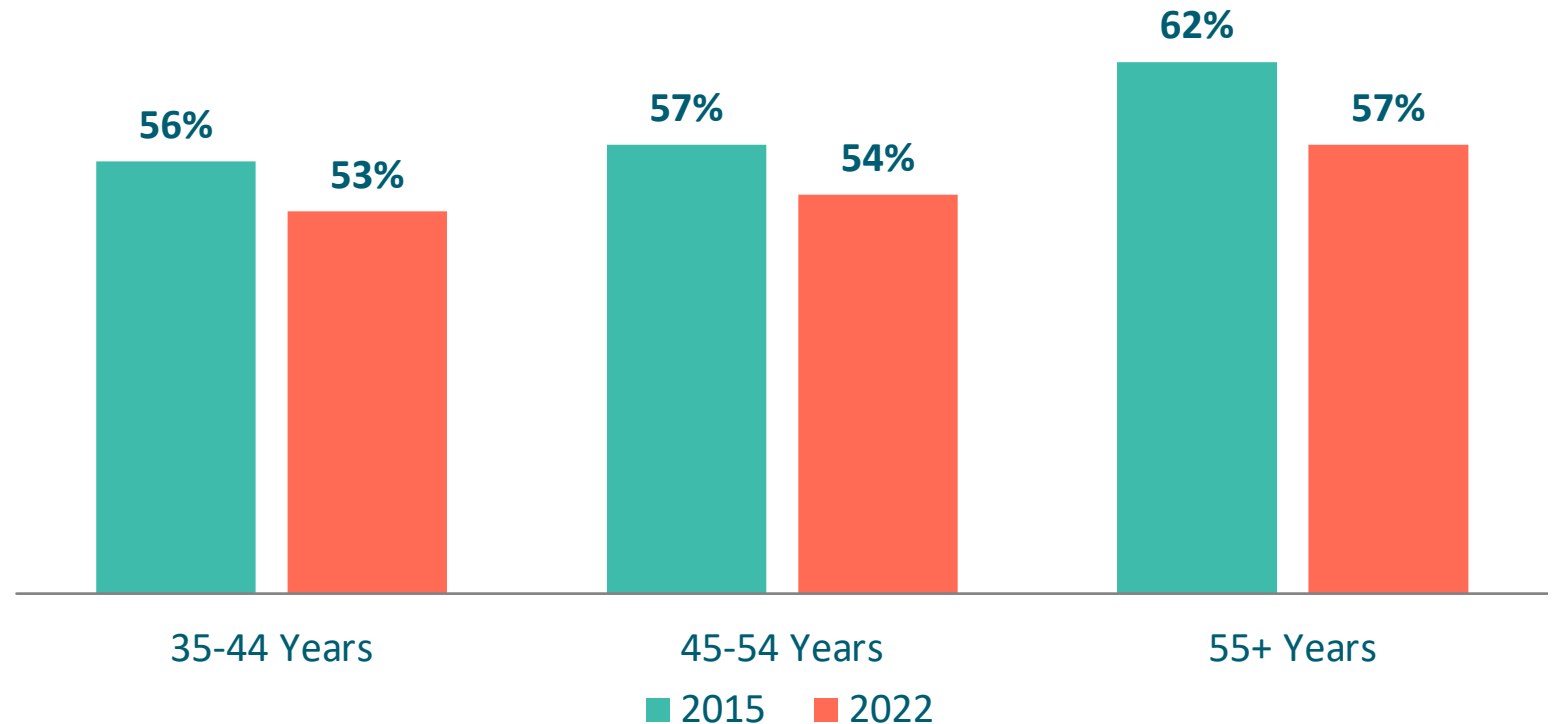
IMPACT OF COVID-19

- Reduced access to dental care, especially among Tribal communities
 - Higher local transmission rates
 - Disruptions in the supply chain
 - Deployment of dental personnel to health clinic COVID-19 response

KEY FINDING 1 – ANNUAL DENTAL VISIT

About half of the adults reported that they had not visited a dentist in the last year and the primary reason for no dental visit was COVID-19.

Percentage of AI/AN Dental Patients Reporting a Dental Visit in the Last Year by Age Group and Survey Year, 2015 vs. 2022



REASONS FOR NO DENTAL VISIT IN LAST YEAR

- Percentage without a dental visit that reported the following reasons



50% did not go to the dentist because of COVID-19

VOTE FOR THE 2ND REASON FOR NOT VISITING A DENTIST

Fear, apprehension, don't like the dentist

Could not get an appointment

No problems, no teeth, or too busy

No transportation

REASONS FOR NO DENTAL VISIT IN LAST YEAR

- Percentage without a dental visit that reported the following reasons



20% did not go because no appointments were available



17% did not go because of fear or apprehension



17% did not go because they had no problems, no teeth, were too busy or hadn't thought of it

KEY FINDING 2

The oral health of AI/AN adult dental patients continues to improve. Fewer have untreated decay, and more adults have a functional dentition.

WHAT IS A FUNCTIONAL DENTITION?

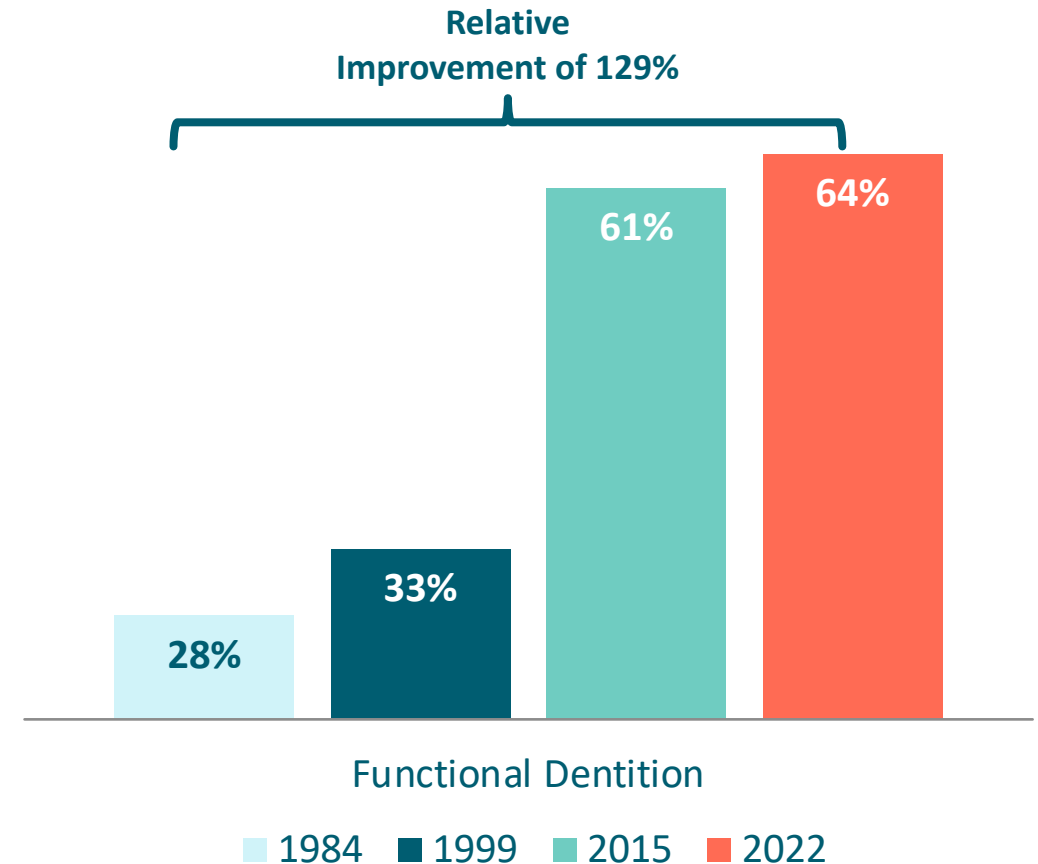
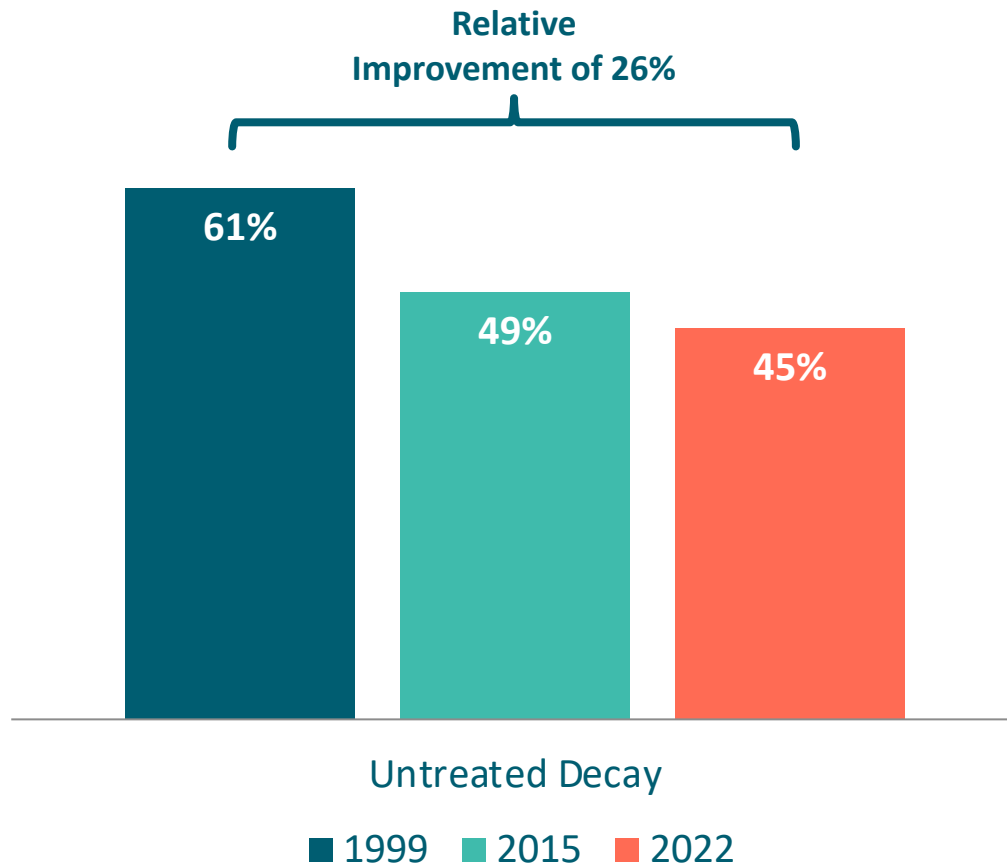
- Having enough *natural* teeth so that basic oral functions, such as chewing, speaking and esthetics, are preserved
- Defined as having *20+ natural teeth*
- Having a non-functional dentition impacts an individual's ability to eat, affecting their nutritional intake and overall health
 - More likely to eat easier-to-chew foods that are high in fats and cholesterol
 - Less likely to eat foods high in fiber

KEY FINDING 2

- Among elders aged 55+ years
 - **26%** improvement in the percentage with untreated decay since 1999
 - **129%** improvement in the percentage with a functional dentition since 1984

KEY FINDING 2 – ELDERS AGED 55+ YEARS

Percentage with Untreated Decay & Functional Dentition by Survey Year



POTENTIAL REASONS FOR IMPROVEMENTS

- Improved access to dental care
- Prior to COVID, decrease in dental vacancies
- Implementation of the dental therapist program
- Training of dental assistants to provide periodontal services
- Increased provision of preventive services to adult dental patients
- Changing attitudes toward oral health

KEY FINDING 3

Although oral health is improving, disparities persist. AI/AN adult dental patients, compared to the general U.S. population, are twice as likely to have untreated decay but the disparities gap is narrowing.

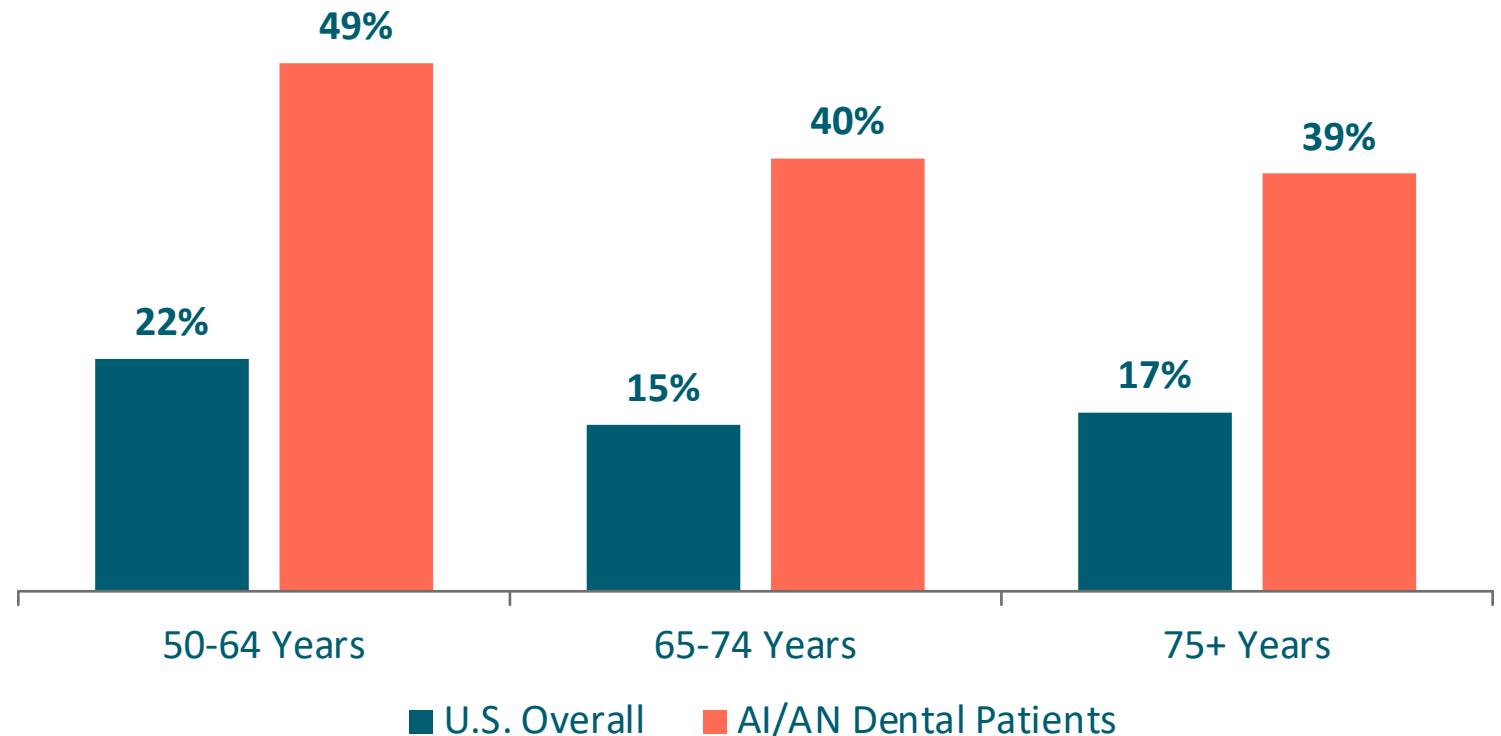
WHAT IS A HEALTH DISPARITY?

- If a health outcome is seen to a greater or lesser extent between populations, there is disparity
- Health disparities adversely affect groups of people who have experienced greater obstacles to health based on their...
 - Racial or ethnic group
 - Socioeconomic status
 - Geographic location
 - Other characteristics historically linked to discrimination or exclusion

KEY FINDING 3 - DISPARITIES

AI/AN adult dental patients are substantially more likely to have untreated decay compared to the overall U.S. population.

Percentage of Adults with Untreated Decay by Age
U.S. Overall* vs. IHS

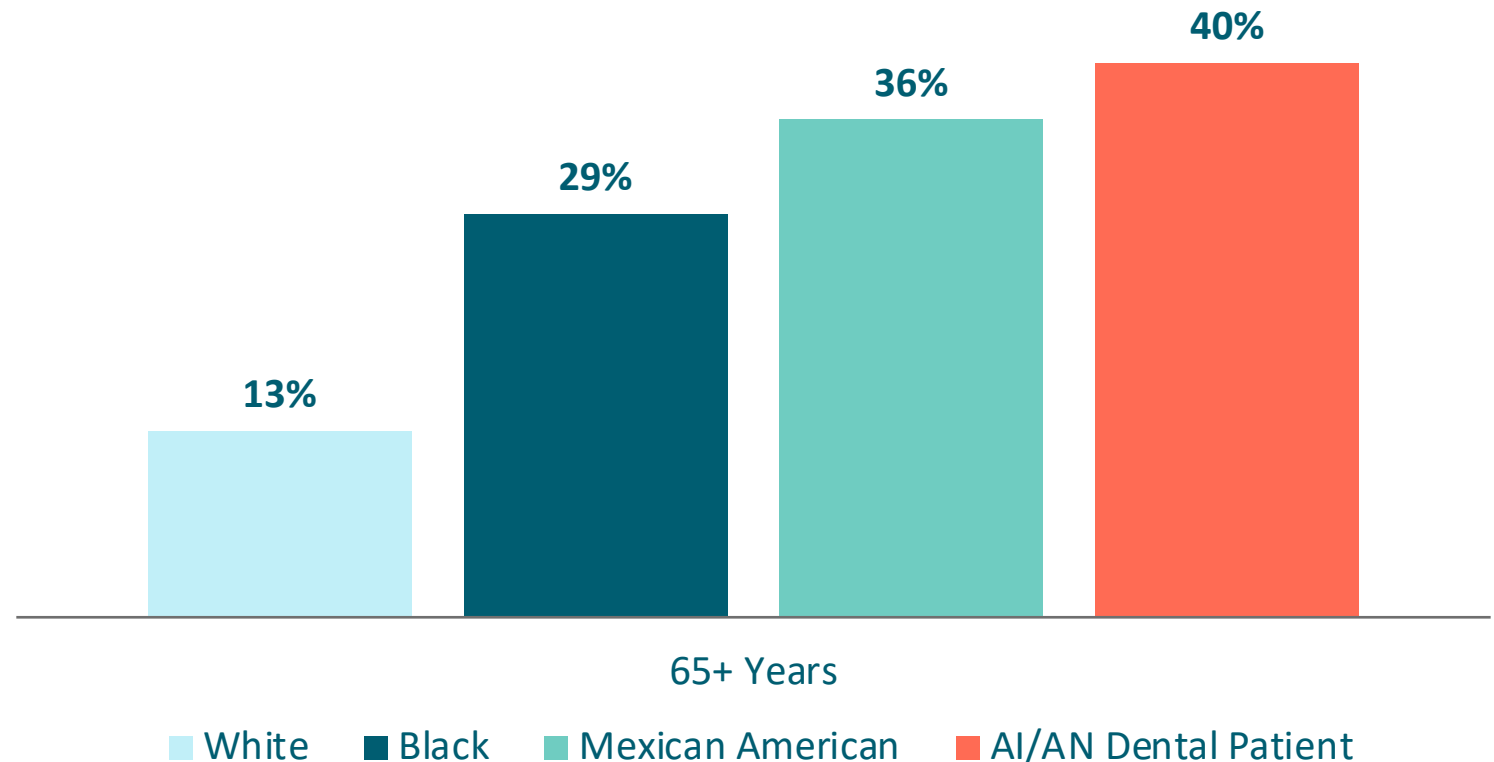


*National Health and Nutrition Examination Survey (NHANES), 2011-2016

KEY FINDING 3 – DISPARITIES

AI/AN elders are about 3 times more likely to have untreated decay than non-Hispanic whites.

Percentage of Adults with Untreated Decay by Race/Ethnicity
Non-Native Populations* vs. AI/AN Dental Patients



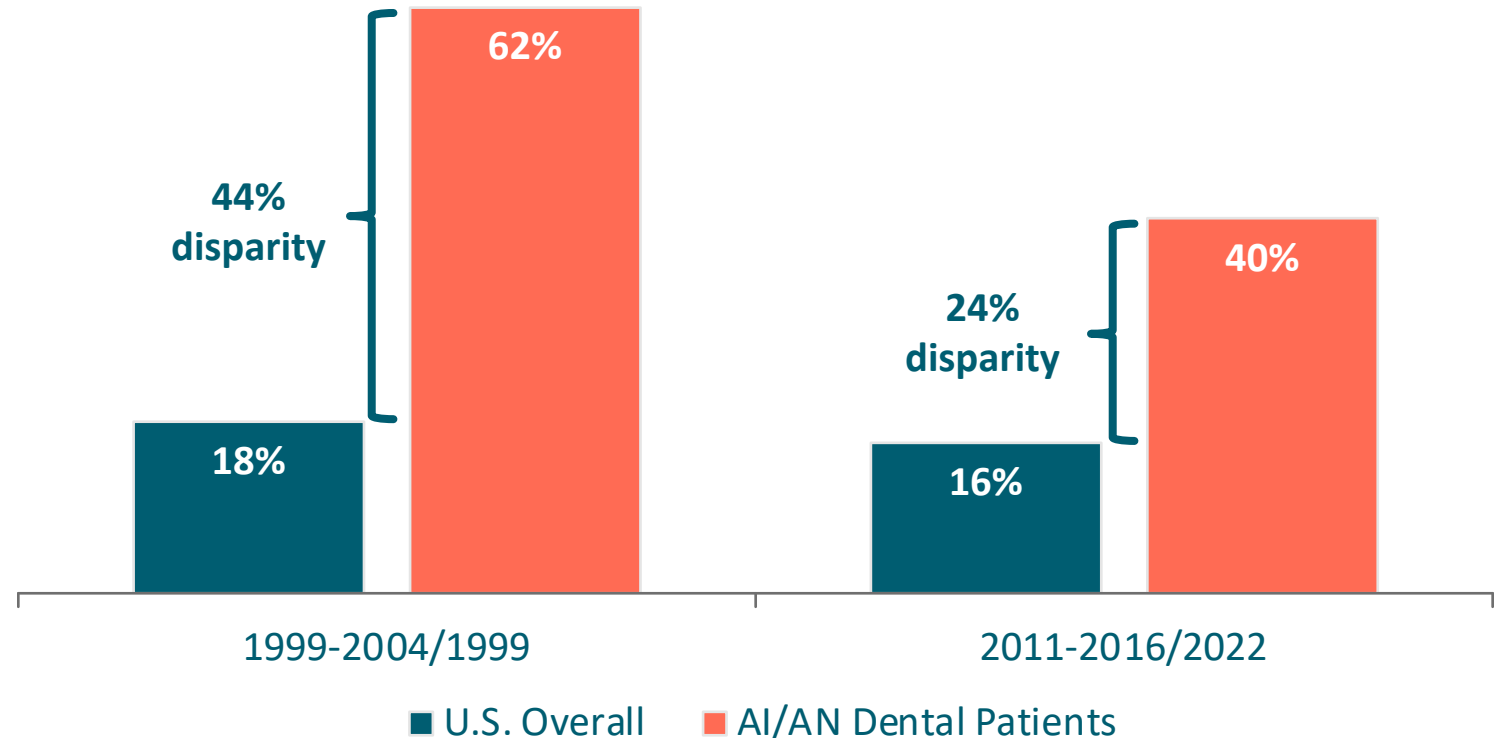
*National Health and Nutrition Examination Survey (NHANES), 2013-16 and 2011-2016

KEY FINDING 3 – DISPARITY NARROWING FOR UNTREATED DECAY

This figure shows the percentage of adults aged 65+ years with untreated decay at two points in time.

While substantial disparities still exist, the disparity is narrowing.

Percentage of Adults Aged 65+ with Untreated Decay by Year
U.S. Overall* vs. AI/AN Dental Patients



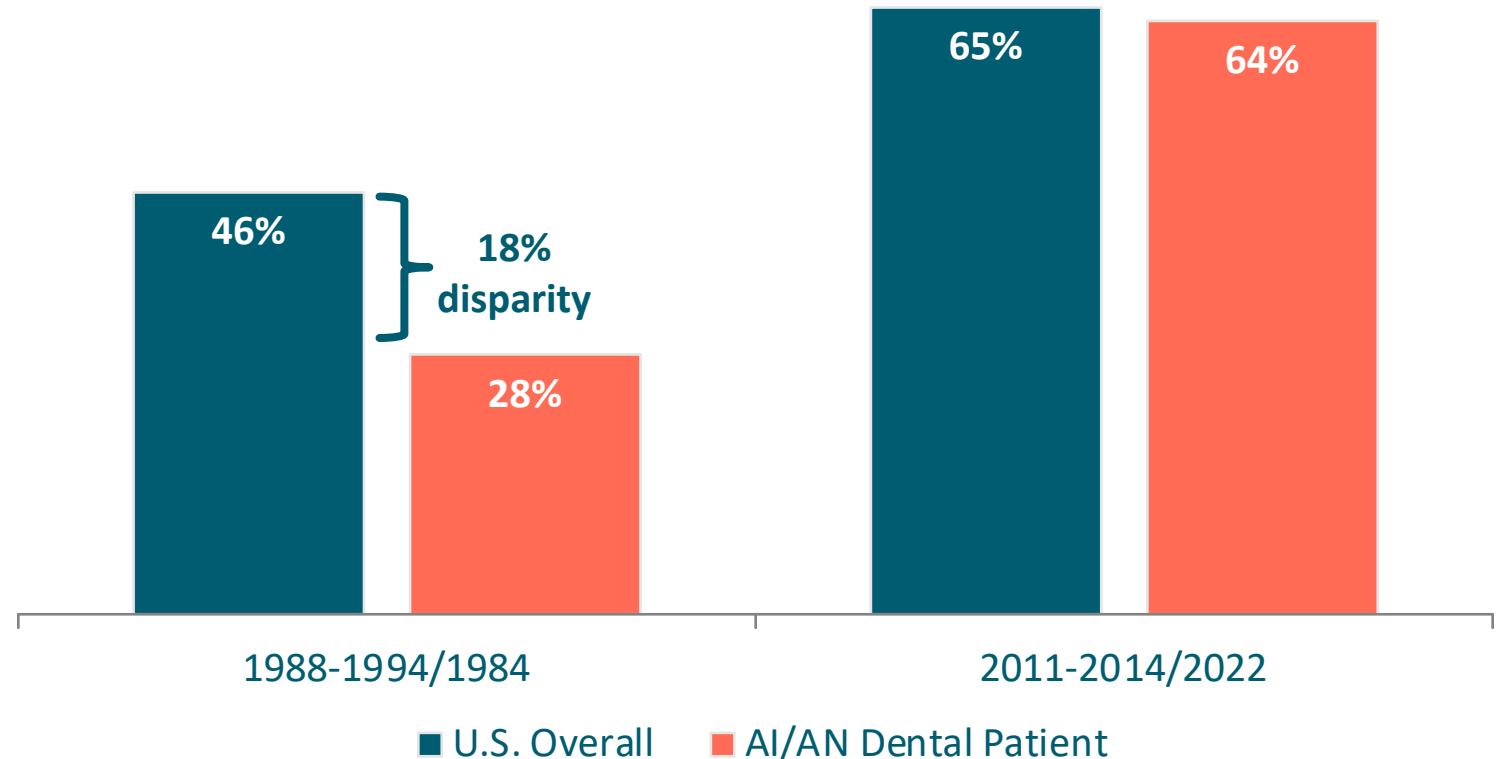
*National Health and Nutrition Examination Survey (NHANES), 1999-2004 and 2011-2016

KEY FINDING 3 – DISPARITY ELIMINATED FOR FUNCTIONAL DENTITION

This figure shows the percentage of adults aged 65+ years with a functional dentition at two points in time

This disparity has been eliminated!

Percentage of Adults Aged 65+ with a Functional Dentition by Year
U.S. Overall* vs. AI/AN Dental Patients



*National Health and Nutrition Examination Survey (NHANES), 1988-1994 and 2011-2014

TO ELIMINATE ALL DISPARITIES

- IHS and Tribal programs must ...
 - Expand evidence-based oral disease prevention programs
 - Increase use of the dental care delivery system
 - Work with Tribal communities to improve oral health literacy
 - Be aware of social determinants that negatively impact the health of the AI/AN population including poverty, geographic isolation, and historical trauma



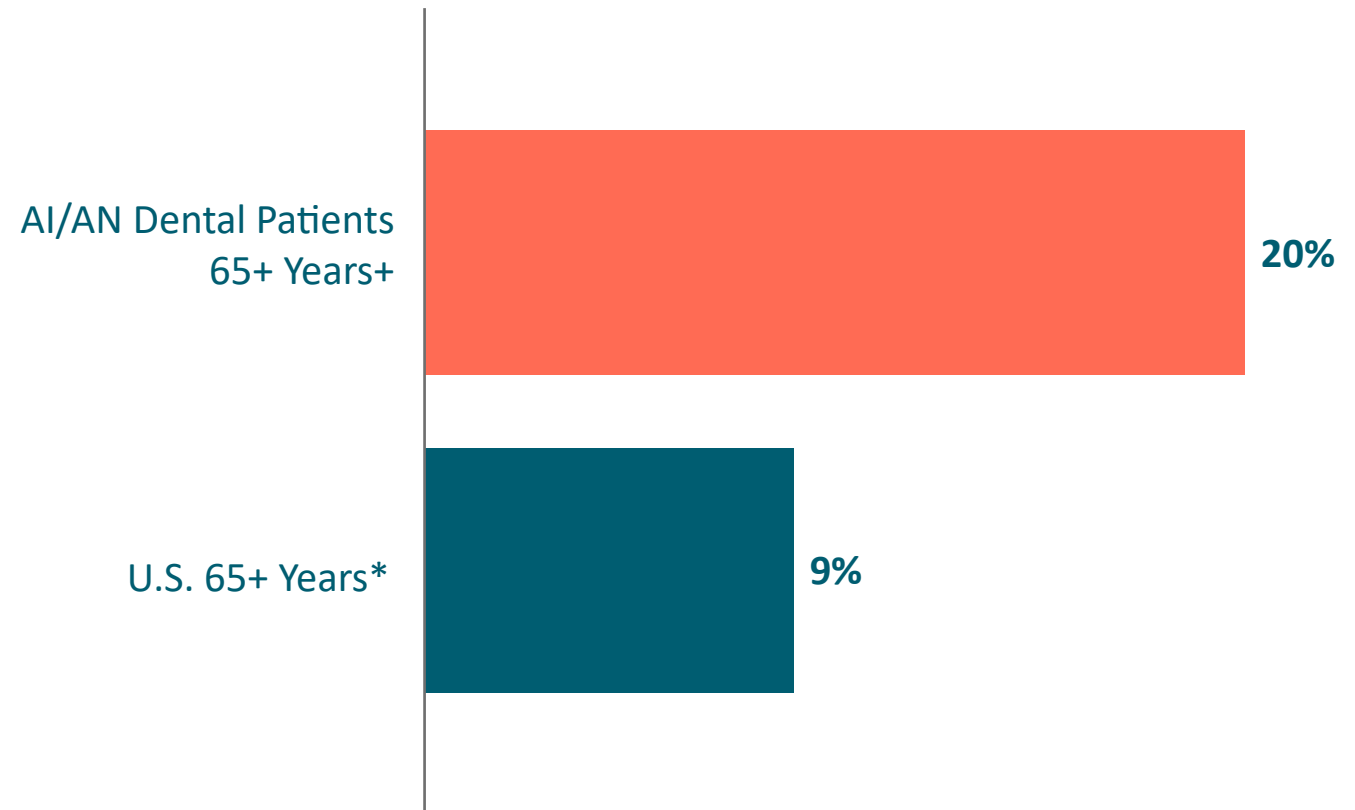
KEY FINDING 4

AI/AN adult dental patients are more likely to have severe periodontal disease than the general U.S. population.

KEY FINDING 4

Compared to the general U.S. population, AI/AN elders are twice as likely to have severe periodontal disease.

Percentage of Older Adults with Severe Periodontal Disease
U.S. Overall* vs. AI/AN Dental Patients



*National Health and Nutrition Examination Survey (NHANES), 2009-2014

PERIODONTAL DISEASE

- Smoking and diabetes are risk factors for periodontal disease



AI/ANs are the racial/ethnic group with the highest prevalence of smoking
27% of AI/AN adults smoke compared to **13%** of U.S. adults overall



AI/ANs are the racial/ethnic group with the highest prevalence of diabetes
15% of AI/AN adults have diabetes compared to **9%** of U.S. adults overall

KEY FINDING 5

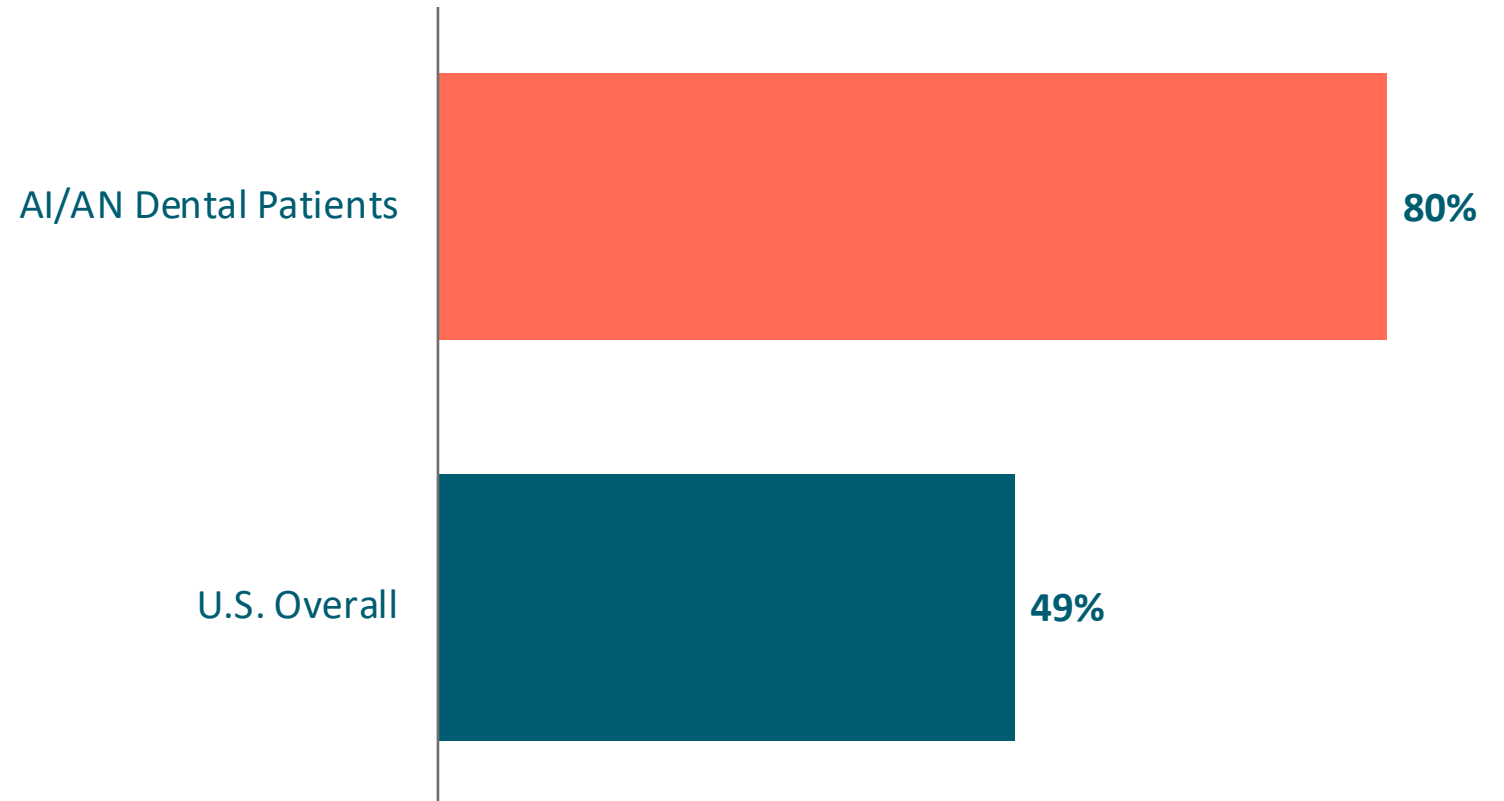
Compared to the general U.S. population, AI/AN adult dental patients are more likely to have missing teeth.

KEY FINDING 5

Having missing teeth can lower self-esteem and reduce employment opportunities.

Persons with extensive tooth loss are more likely to eat easier-to-chew foods that are high in fats and cholesterol.

Percentage of Adults Aged 45-64 Years with Missing Teeth
U.S. Overall* vs. AI/AN Dental Patients



*Behavioral Risk Factor Surveillance System (BRFSS), 2020



KEY FINDING 6

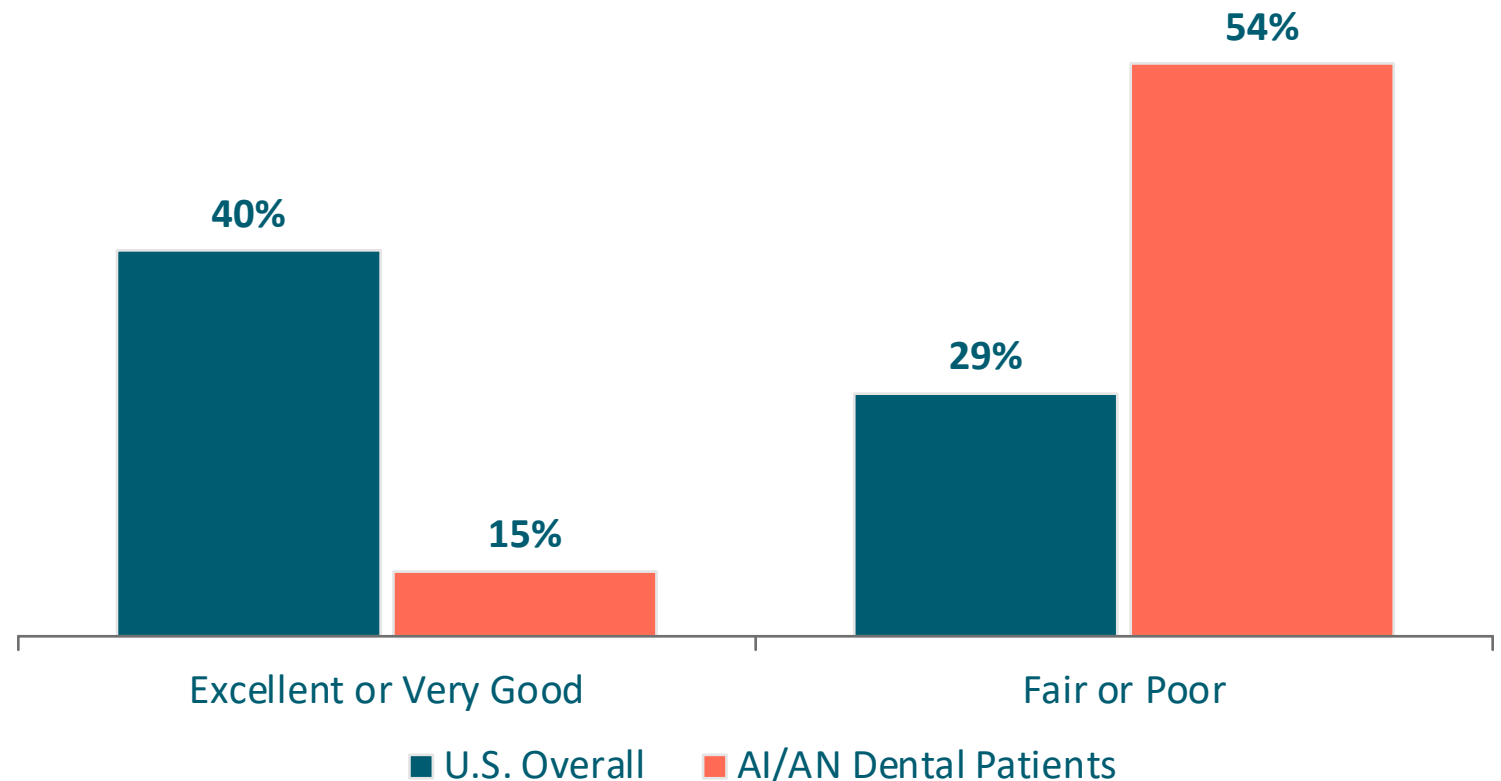
Compared to the general U.S. population, AI/AN adult dental patients are more likely to report poor oral health and oral pain.

KEY FINDING 6 – CONDITION OF TEETH & GUMS

Over half (54%) of the AI/AN dental patients report having fair or poor oral health compared to 29% of the general U.S. population.

Only 15% of AI/AN dental patients report having excellent or very good oral health.

Percentage of Adults Reporting Excellent/Very Good and Fair/Poor Oral Health, U.S. Overall* vs. AI/AN Dental Patients



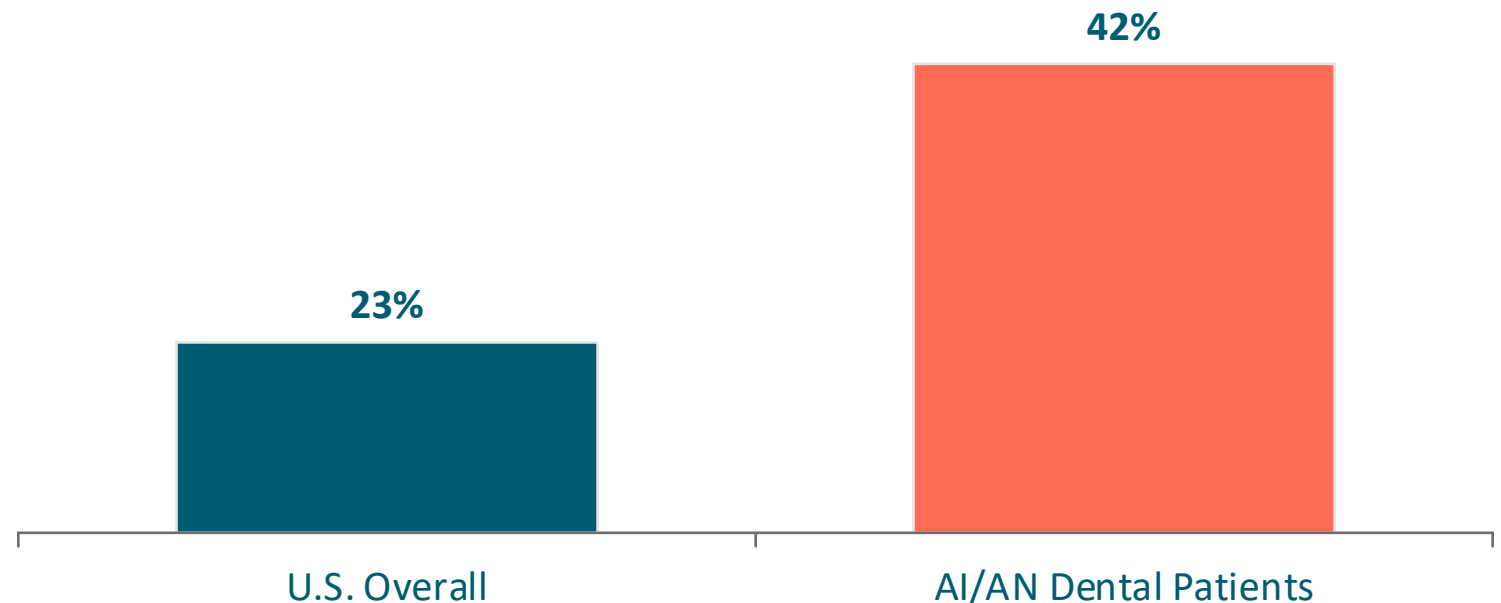
*National Health and Nutrition Examination Survey (NHANES), 2017-March 2020

KEY FINDING 6 – ORAL PAIN

AI/AN dental patients are almost twice as likely to report oral pain compared to the general U.S. population.

The higher prevalence of mouth pain is likely due to the higher prevalence of untreated decay among AI/AN adults.

Percentage of Adults Reporting Mouth Pain in Last Year
U.S. Overall* vs. AI/AN Dental Patients



*National Health and Nutrition Examination Survey (NHANES), 2017-March 2020



OVERALL CONCLUSIONS



OVERALL CONCLUSIONS

- Ongoing challenges...
 - AI/AN adults still suffer disproportionately from untreated tooth decay, periodontal disease and tooth loss
 - Many AI/AN adults do not use the dental care system – often because of limited availability of dental providers and appointments
 - Too many AI/AN adults report oral pain and food avoidance because of problems with their mouth, teeth or dentures
 - As more AI/AN adults retain teeth into older age, the need for more complex restorative dental care such as root canals, crowns and periodontal therapy will increase

COMMUNITY EDUCATION

- Drink fluoridated water and brush with fluoride toothpaste
- Brush teeth thoroughly twice a day and clean between teeth daily
- Visit the dentist at least once a year
- Do not use any tobacco products – if you smoke, quit
- Eat a well-balanced diet & limit sugar intake
- Limit alcohol consumption
- Maintain control of diabetes
- If your medication causes dry mouth, ask your doctor for a different medication – if dry mouth cannot be avoided, drink plenty of water, chew sugarless gum, and avoid tobacco products and alcohol

IMPROVE ACCESS TO DENTAL CARE FOR ADULTS & ELDERS

- Difficult to achieve – especially post-COVID
 - Educate community on importance of regular dental visits for all ages
 - When possible, employ mid-level providers and expanded function assistants
 - Use dental staff to the full extent of their certification
 - Creative scheduling
 - Consider expanding use of SDF to adult population

SILVER DIAMINE FLUORIDE FOR ADULTS/ELDERS

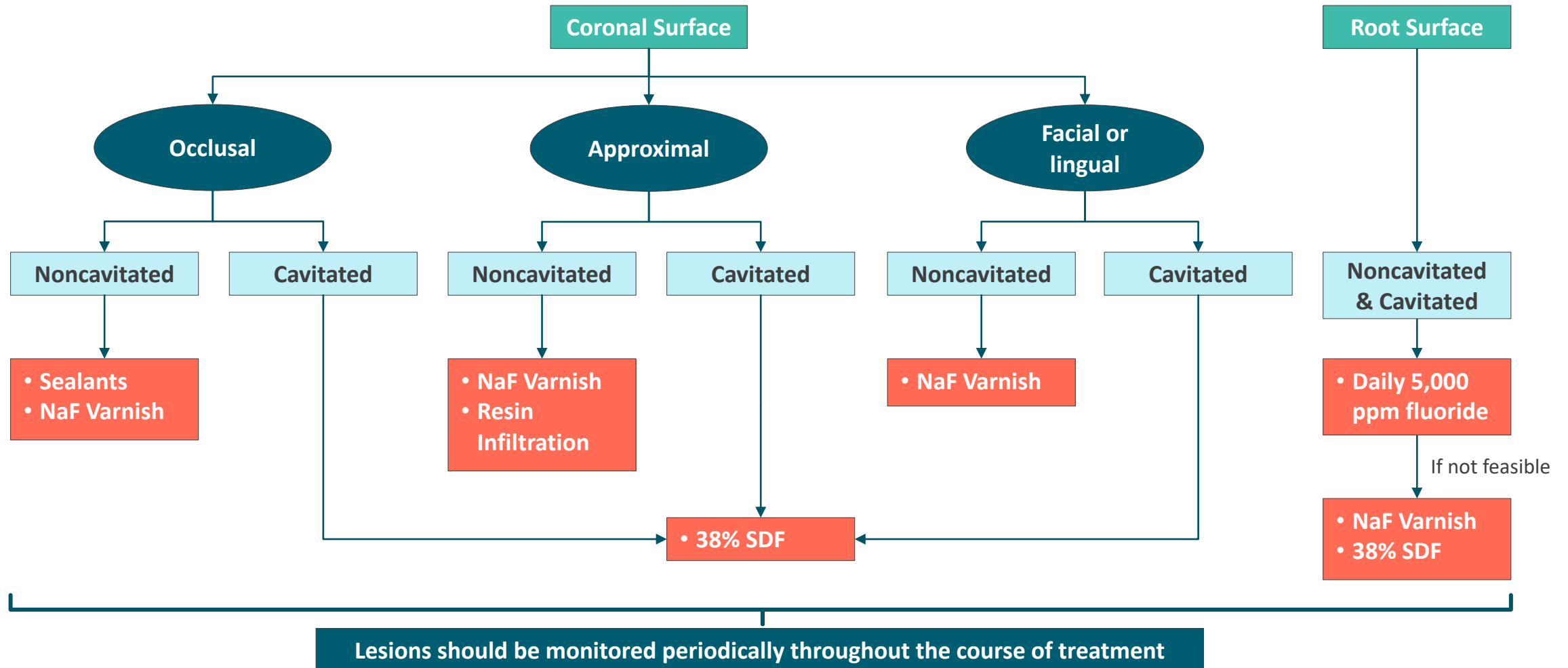
Cover Story

Evidence-based clinical practice guideline on nonrestorative treatments for carious lesions

A report from the American Dental Association

Rebecca L. Slayton, DDS, PhD; Olivia Urquhart, MPH; Marcelo W.B. Araujo, DDS, MS, PhD; Margherita Fontana, DDS, PhD; Sandra Guzmán-Armstrong, DDS, MS; Marcelle M. Nascimento, DDS, MS, PhD; Brian B. Nový, DDS; Norman Tinanoff, DDS, MS; Robert J. Weyant, DMD, DrPH; Mark S. Wolff, DDS, PhD; Douglas A. Young, DDS, EdD, MS, MBA; Domenick T. Zero, DDS, MS; Malavika P. Tampi, MPH; Lauren Pilcher, MSPH; Laura Banfield, MLIS, MHSc; Alonso Carrasco-Labra, DDS, MSc

CLINICAL PATHWAY FOR NONRESTORATIVE TREATMENT



IMPROVE ACCESS TO DENTAL CARE FOR ADULTS & ELDERS

- Onsite dental care
 - Take care to adults that have difficulty getting to clinic
 - Mobile services for workplaces, senior centers, nursing facilities

TOBACCO CESSATION

- *Smoking is the primary risk factor for periodontal disease which in-turn leads to tooth loss*
- Ask all patients about tobacco use
- Tobacco cessation counseling



ADDITIONAL RESOURCES



FOR MORE INFORMATION

- IHS Surveillance Reports
 - <https://www.ihs.gov/doh/index.cfm?fuseaction=home.databriefs>
- Clinic specific data
 - Contact Area Dental Consultant
- Silver diamine fluoride & adults
 - McReynolds D, Duane B. Systematic review finds that silver diamine fluoride is effective for both root caries prevention and arrest in older adults. Evid Based Dent 2018;19:46-47
 - Mitchell C, Gross AJ, Milgrom P, Mancl L, Prince DB. Silver diamine fluoride treatment of active root caries lesions in older adults: A case series. J Dent 2021;105:103561