

Oral Health Disparities in Mental Health, Oral Cancer, and Emergency Department Visits

Eric Tranby, PhD

7/28/21

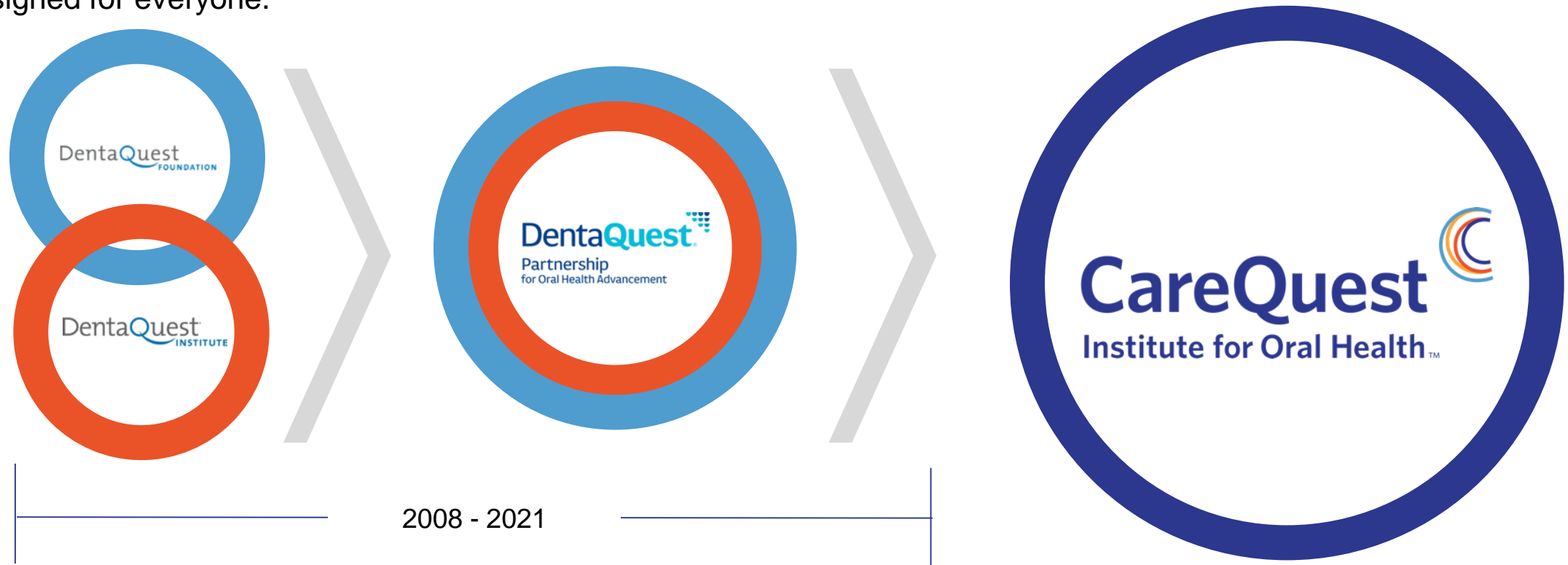
About CareQuest Institute for Oral Health

We are building
a future where
every person
can reach their
full potential
through optimal
health.

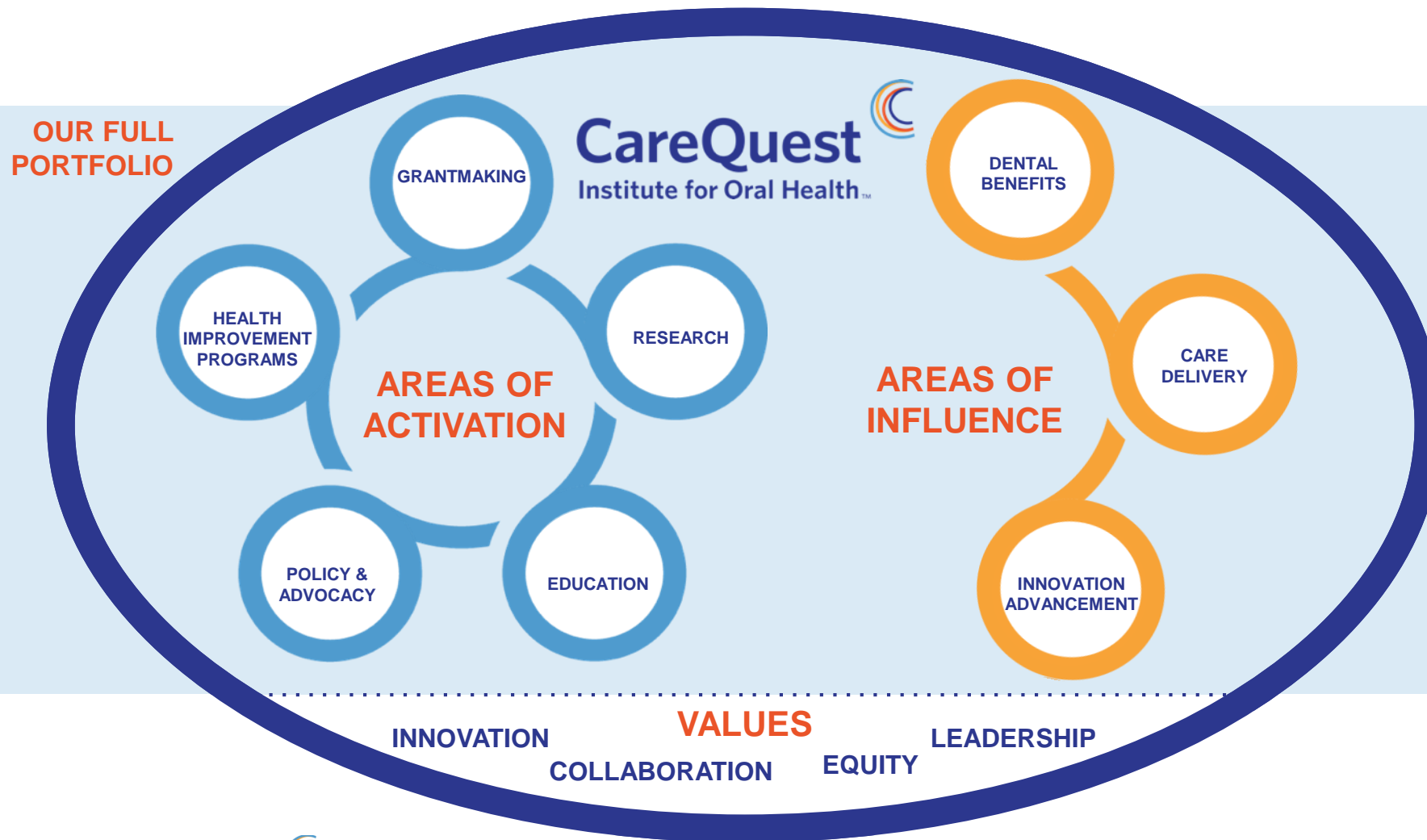


Building on the Successes of Past Organizations: DentaQuest Foundation, Institute, and Partnership

As CareQuest Institute for Oral Health, we pull forward and expand upon the strengths of our past organizations. By doing this, we can accelerate oral health care transformation and move faster, together, toward a health system designed for everyone.



A Catalyst for Systems Change



Through our Areas of Activation and Influence, we bring forth ideas and solutions to create a more equitable, accessible, and integrated health system for everyone.



Our 5 Areas of Activation

GRANTMAKING

We invest strategically to strengthen communities and improve the overall system to create better oral health for all.

HEALTH IMPROVEMENT PROGRAMS

We partner with public and private stakeholders across the care continuum to test and measure prevention-focused, person-centered strategies that create better health through oral health.

POLICY & ADVOCACY

We mobilize diverse coalitions, create pathways and champion policies that lead us to a more integrated, accessible and equitable oral health care system.

RESEARCH

We conduct innovative research and actively seek out and analyze data to reveal opportunities to transform oral health care and improve patient outcomes.

EDUCATION

We are building a world-class education program for medical and dental professionals, students and community partners who are committed to attaining the knowledge and skills required to transform oral health and health care.

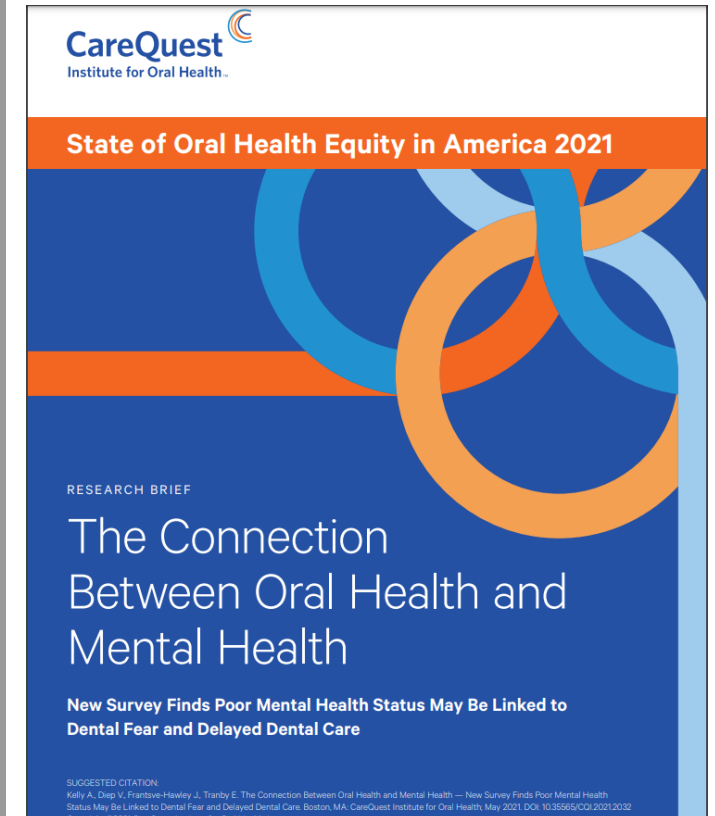
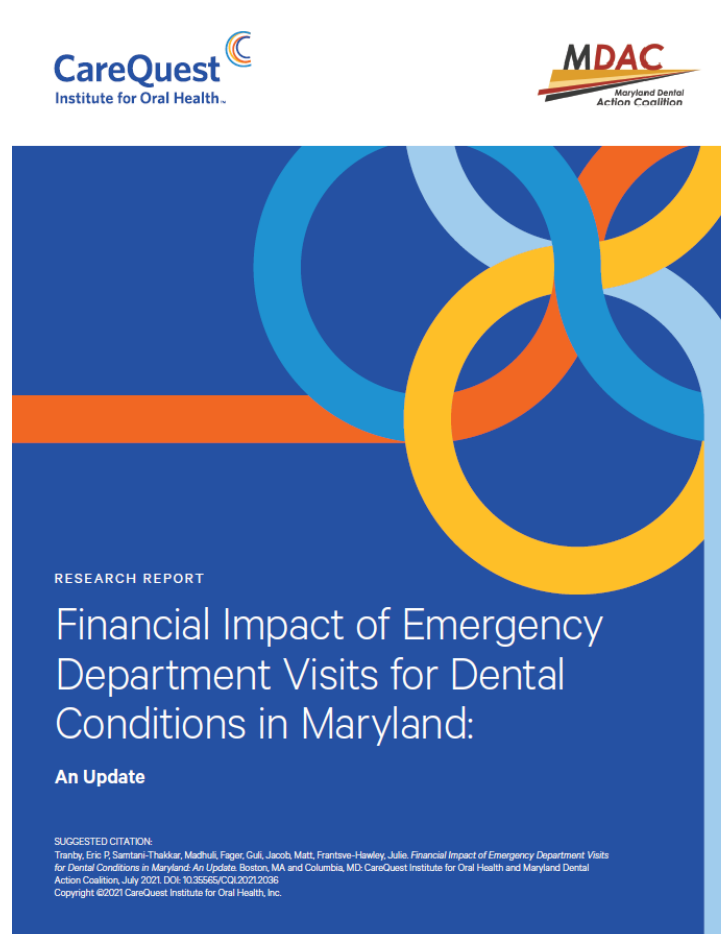


Our work in every activation area is guided by our values:

INNOVATION • COLLABORATION • EQUITY • LEADERSHIP

Finding Information

- All reports and evidence can be found at:
 - <https://www.carequest.org/>
- Updated reports on ED visits for NTDC in MD will be available in the next month.



The State of Oral Health Equity in America 2021



www.carequest.org/state-oral-health-equity-america-2021

Oral Disease Is Common. Access to Care Is Not.



The **State of Oral Health Equity in America 2021**, a survey designed and commissioned by CareQuest Institute for Oral Health, demonstrates that symptoms of oral disease are common. People of color and low-income populations bear more of the burden of these diseases. These diseases often go untreated or lead to costly Emergency Department (ED) visits due to a lack of access to regular dental care. Oral health care is important because it is directly linked to overall health. When oral health deteriorates it can have far-reaching consequences and health impacts that go beyond the mouth, including higher risk for diabetes, cardiovascular disease and stroke, complications in pregnancy and childbirth, and adverse mental health outcomes.

[View Infographic](#)

Inequities Remain Pervasive in Oral Health



A nationally representative survey reveals that oral health disparities are pervasive. People of color and lower-income populations bear most of the burden of these long-standing and well-documented disparities. At the same time, people from all backgrounds, but particularly those with the least access to care, agree that:

- Oral health is important to overall health.
- Payment should be aligned with outcomes, not procedures.
- Medical and dental care should be integrated.

State of Oral Health Equity in America 2021, a survey designed and commissioned by CareQuest Institute for Oral Health, revealed that COVID-19 has exacerbated social, economic, and health care inequities and further limited access to dental care and other necessary health services. Many of the communities that faced barriers to dental care and experienced correspondingly poor oral health prior to the pandemic are now those hardest hit by it. The findings demonstrate public recognition that oral health is important to overall health, and dental care and coverage should look different than the status quo.

[View Infographic](#)

Dental Insurance Is Out of Reach for Many



A nationally representative survey conducted by CareQuest Institute for Oral Health reveals that affordable dental care is out of reach for millions of Americans each year, with profound consequences for their overall health. Americans recognize the importance of dental insurance, with broad agreement that public insurance plans should include dental care for people of all ages.

[View Infographic](#)

State of Oral Health Equity in America Survey

- The survey is a nationally representative survey of American's attitudes, experiences and behaviors on oral health.
- Designed by the CareQuest Institute for Oral Health and collected in January and February 2021 on adults 18 and older by NORC at the University of Chicago on the AmeriSpeak panel.
- AmeriSpeak is a probability-based panel designed to be representative of the US household population.
- Final sample size $n = 5,320$
- Repeated cross-section for ongoing surveys

Survey Focus Areas

**Oral Health
Attitudes and
Experiences**

**Dental Care
Experiences
and Attitudes**

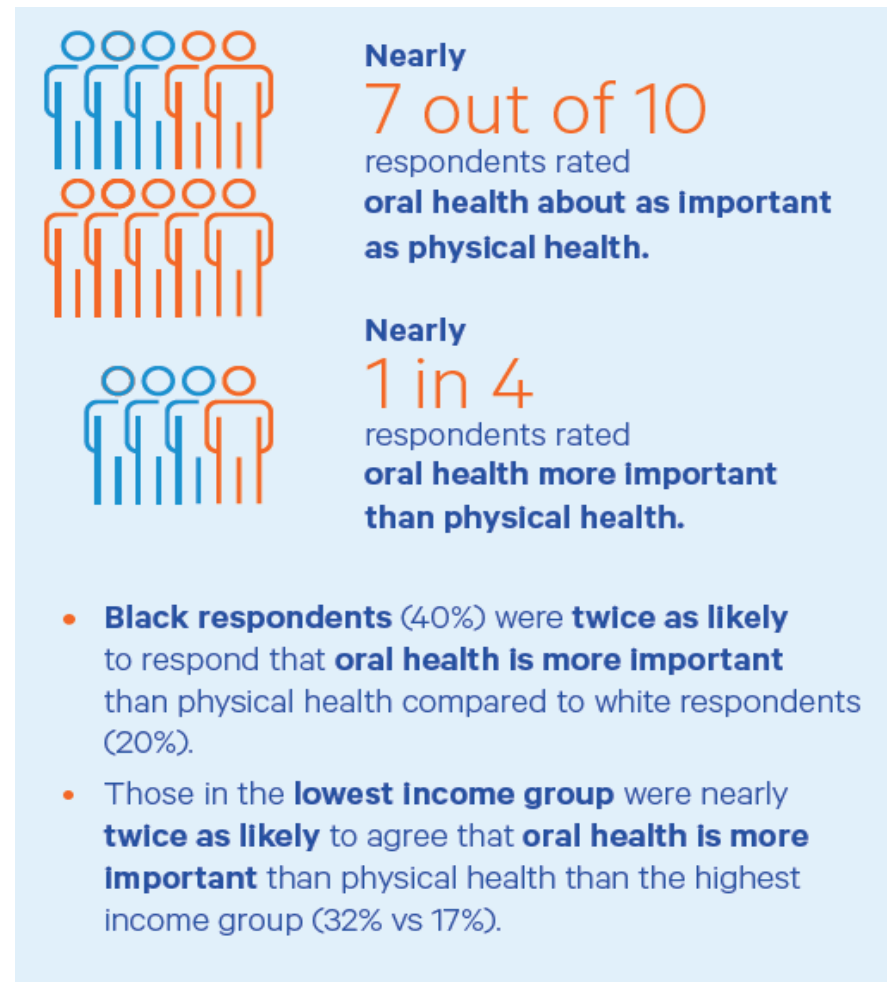
**Interprofessional
Care**

**Insurance
Coverage and
Attitudes**

**Social
Determinants
of Health**

COVID-19

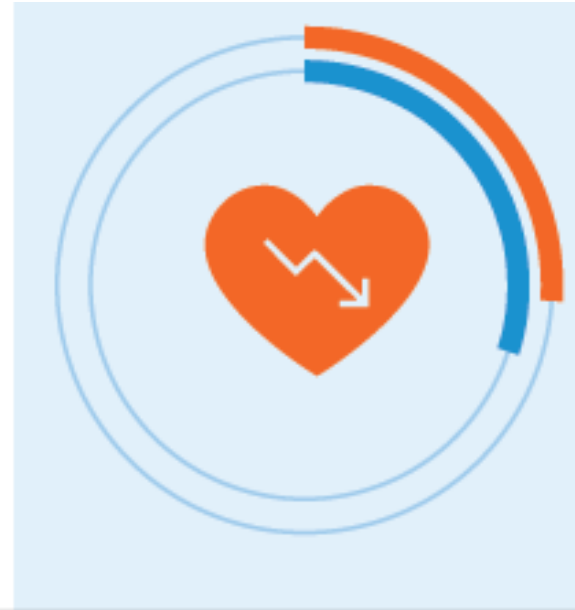
Recognized Importance of Oral Health



Yet Inequities are Pervasive

26%

Adults rate their oral health as poor or fair in the overall survey.



30%

Black adults rate their oral health as poor or fair.

Yet Inequities are Pervasive

13%

of Adults are often embarrassed or self-conscious about their teeth, mouth or dentures.

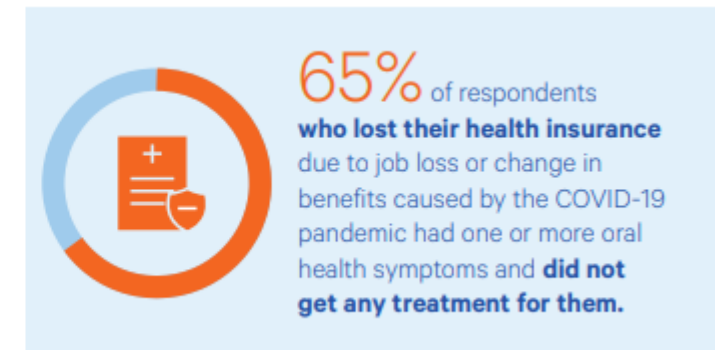
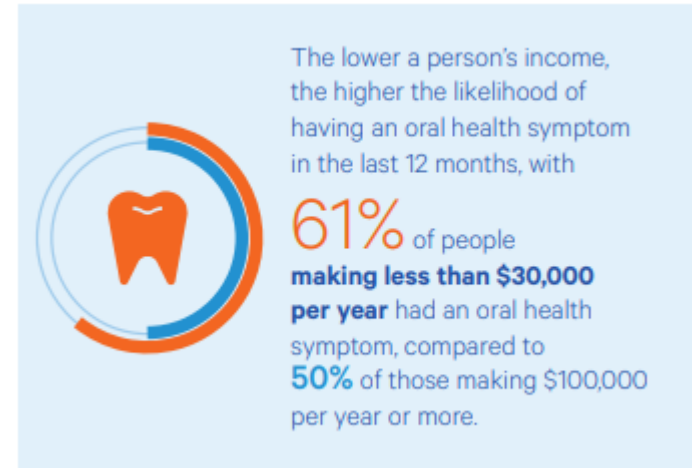
21%

of Black and 18% of Hispanic adults are often embarrassed or self-conscious about their teeth, mouth or dentures.

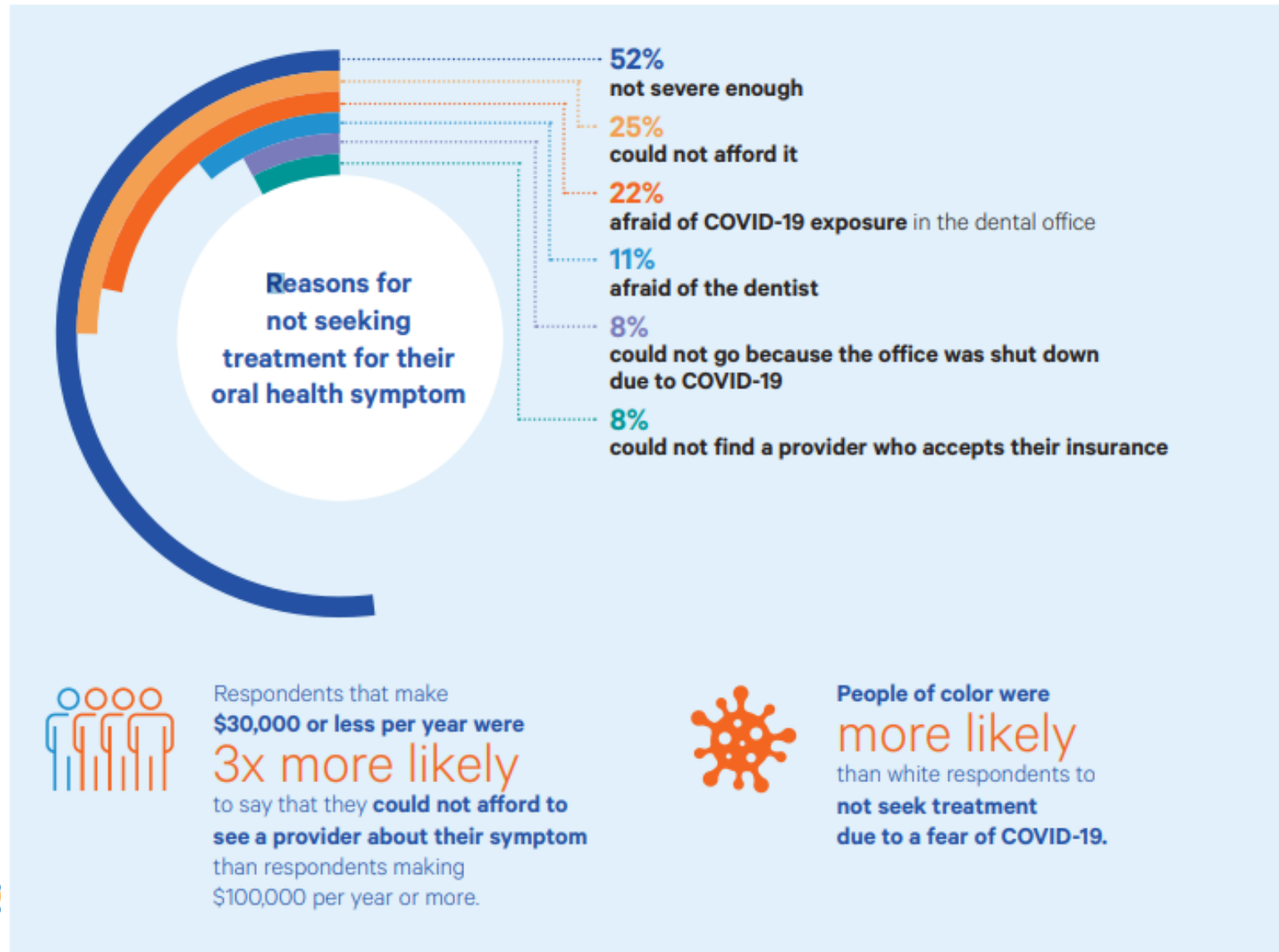
23%

of Americans making less than \$30,000 are often embarrassed or self-conscious about their mouth, compared to only 6% of Americans who make more than \$100,00 per year.

Symptoms of Oral Disease Are Common, But Often Go Untreated

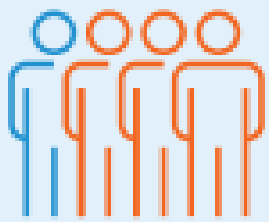


COVID-19 Has Significantly Delayed Access to Care



ED Visits for Oral Health Conditions are Associated with Limited Access to Care

4% of respondents visited the ED in the past year for dental care or pain/discomfort in their mouth.

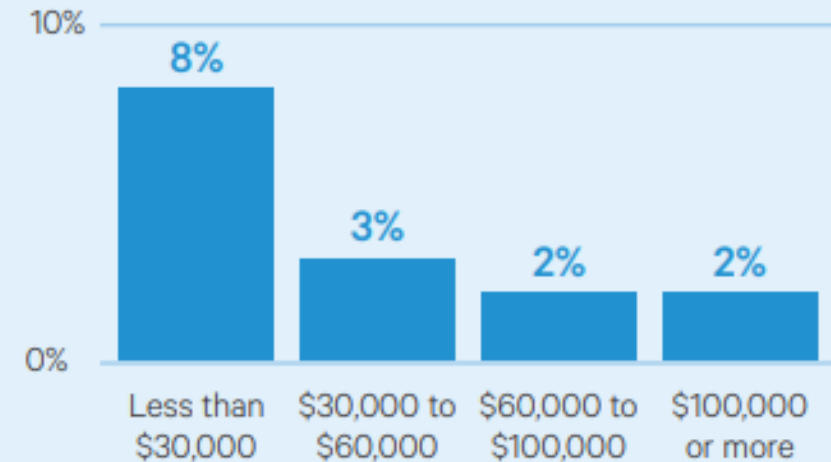


Black respondents were

almost 3x

more likely to have visited an ED for dental care for pain/discomfort in their mouth than the next most frequent group.

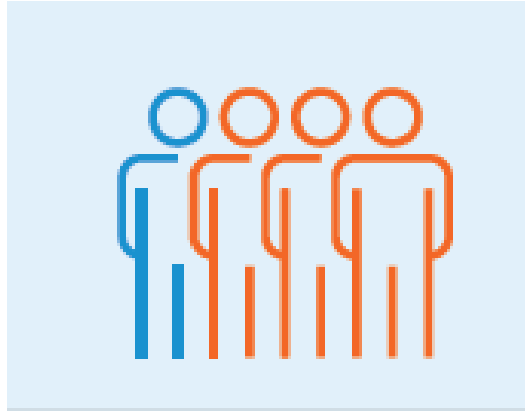
Those in **lower income groups** were **much more likely** to utilize the **ED for dental care** in the last year.



Insurance Coverage



**An estimated 75.6M
adults lack dental
insurance**



**3X more adults lack
dental insurance than
health insurance**

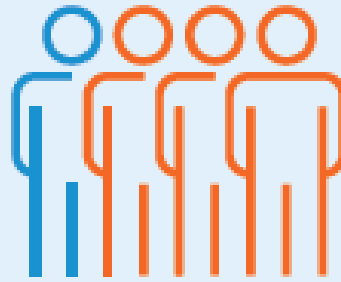


**Only 60% of those
making <\$30k have
insurance vs.
80% adults making
+\$100k are insured**

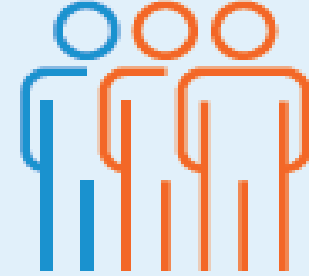
Insurance and COVID-19 Impacts

**6
Million**

**Adults lost dental
insurance due to
COVID-19**

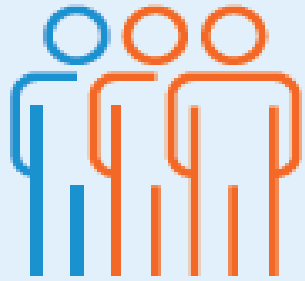


**Asian adults were 3X
more likely to lose
dental insurance**

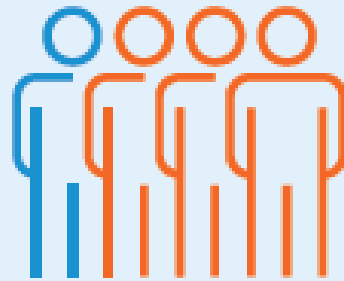


**Black adults were 2X
more likely to lose
dental insurance**

Strong Agreement for “Comprehensive Oral Health Coverage for Adults in Medicaid and Medicare”



2 out of 3 Adults

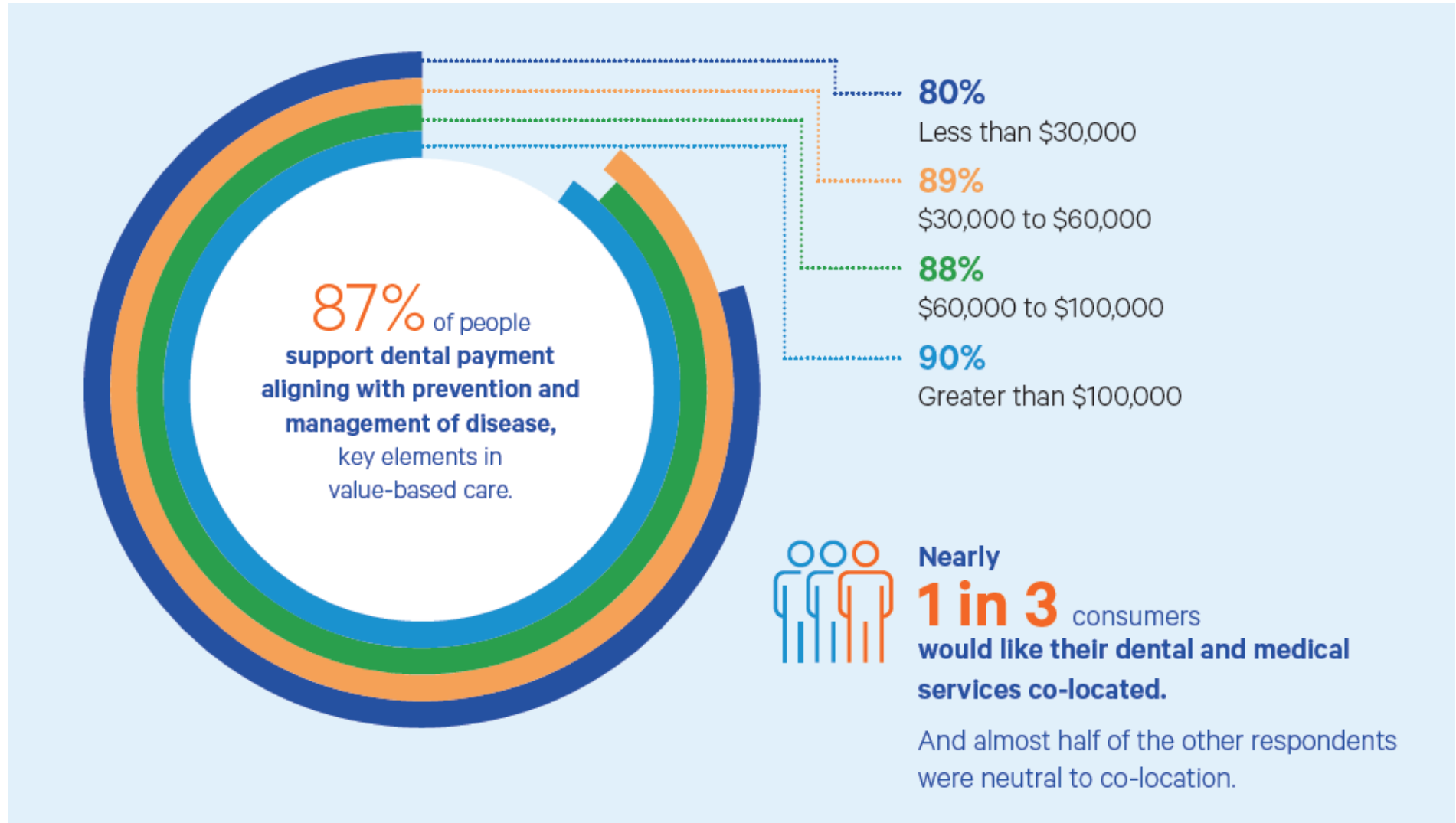


**3 out of 4 Adults of
Color (Blacks 75%,
Hispanics 74%)**

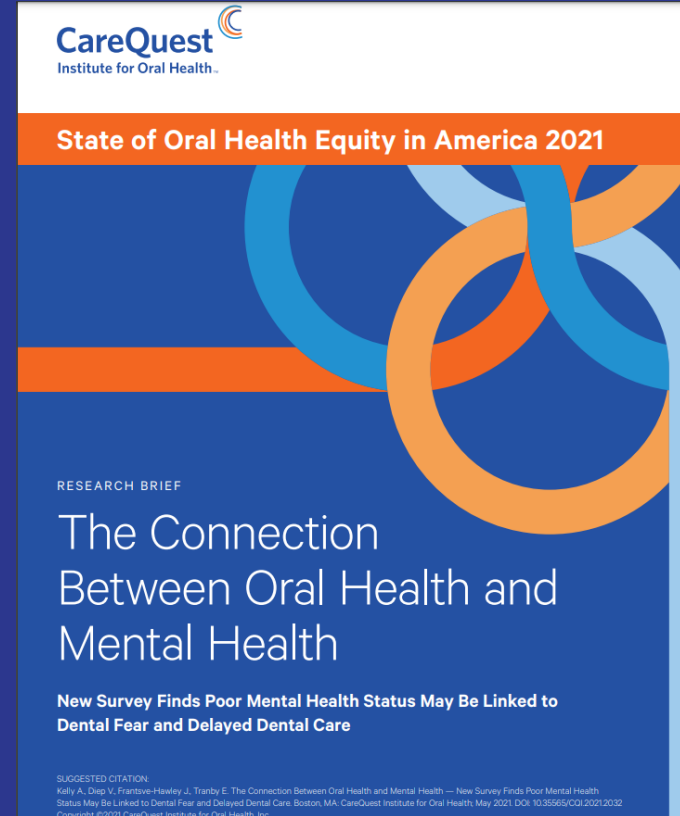
**<\$30k
Income**

**Strongest agreement
for inclusion
in Medicare**

Majority of Consumers Support Value-Based Care



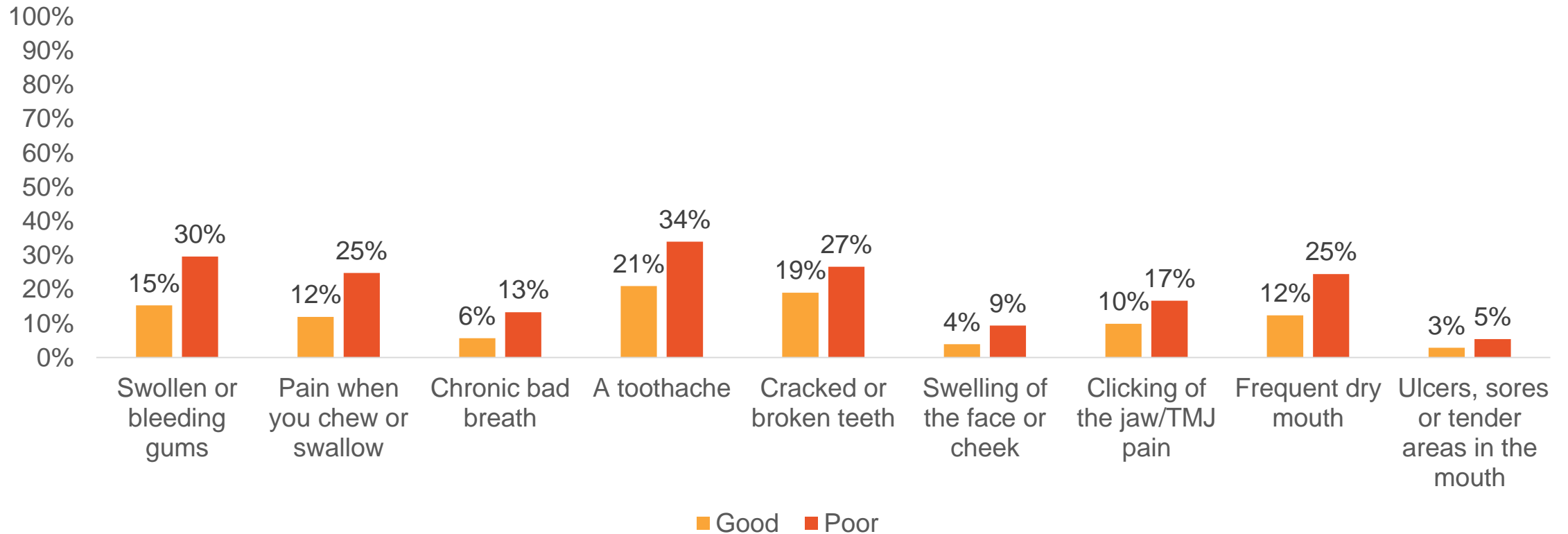
The Connection Between Oral Health and Mental Health



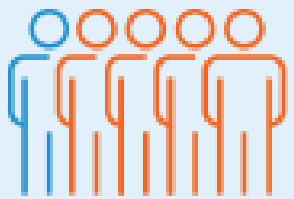
<https://www.carequest.org/learn/online-learning-center/resource-library/connection-between-oral-health-and-mental-health>

Poor Mental Health Status is Associated with Greater Oral Health Needs

In the last twelve months, have you ever had any of the following symptoms by mental health status



Those with poor mental health are more likely to have lower confidence because of poor oral health.



Those who had poor mental health were nearly

4x more likely

to report they were **self-conscious or embarrassed because of their teeth, mouth, or dentures** than those respondents with good mental health (**19%** vs **5%**).



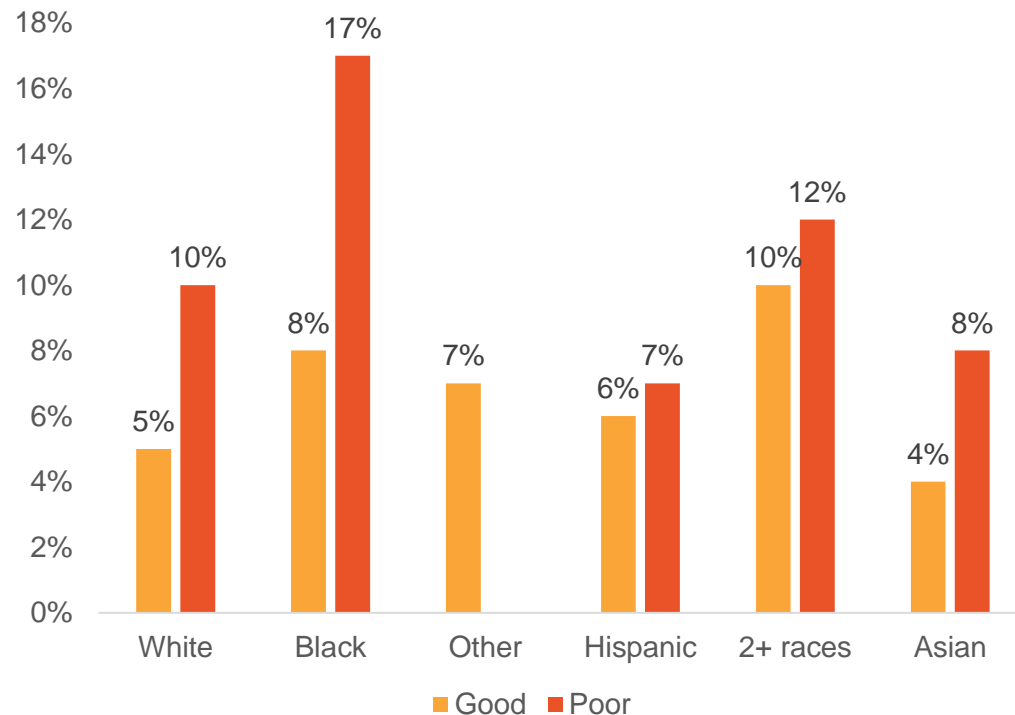
Those with poor mental health were also

less likely

to say that they were **“hardly ever or never”** self-conscious or embarrassed because of poor oral health than those with good mental health (**48%** vs **70%**).

Those with poor mental health are more likely to be prescribed an opioid and visit an ED for dental issues

In the last two years, have you been prescribed an opioid, like Oxycotone or Percocet, for a problem with your teeth or mouth or after oral surgery? by race and mental health status



- Those with poor mental health were 2x more likely to have visited a hospital emergency department (ED) or an emergency room (ER) for dental care or pain/discomfort in your mouth than those with good mental health (7% versus 3%)

Poor Mental Health Can Make it Hard to Visit a Dentist



47% of respondents with poor mental health* said **their last dental visit “went well, but they were nervous”** compared with **27%** of those with good mental health status.

- Those with poor mental health status were also **more likely** to say they were **“so frightened and nervous that it made treatment difficult”** (poor vs good: **4%** vs **1%**).

Oral Cancer by Insurance Type

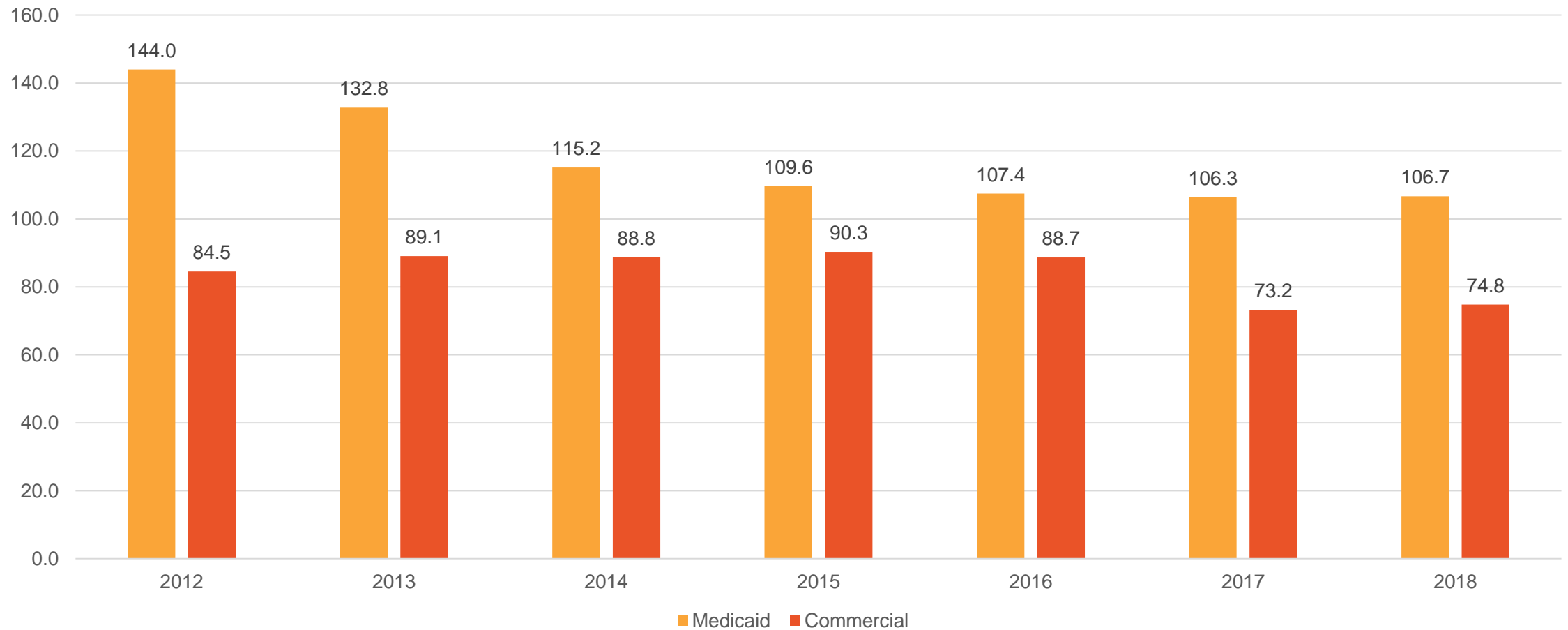
Methodology

- IBM Watson MarketScan Data
 - Medicaid (2012-2019)– 13 deidentified states
 - Ages 65 and up are dual eligible, likely missing information
 - Commercial Dental (2015-2018)
 - No race
 - Both datasets restricted to adults, 21+

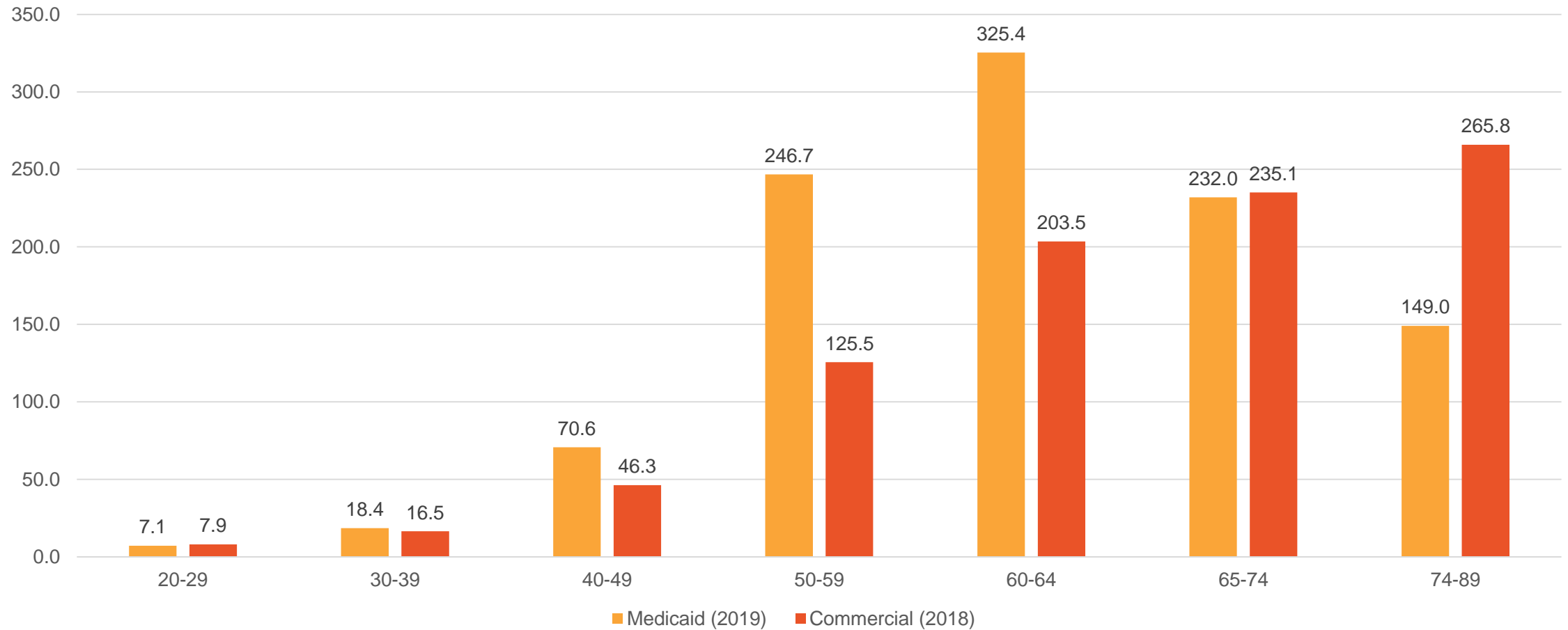
Methodology – Cont'd

- Oral Cancer – ICD-10 C000-C148
 - Prevalence vs. Incidence
 - Prevalence – Any Oral Cancer Diagnosis in Year
- Oral Potentially Malignant Disorders
 - Leukoplakia (ICD-9 528.6 and ICD-10 K13.21) or Erythroplakia (ICD-9 528.79 and ICD-10 K13.29).
 - Survival time from OPMD to OC Diagnosis calculated from first instance of OPMD

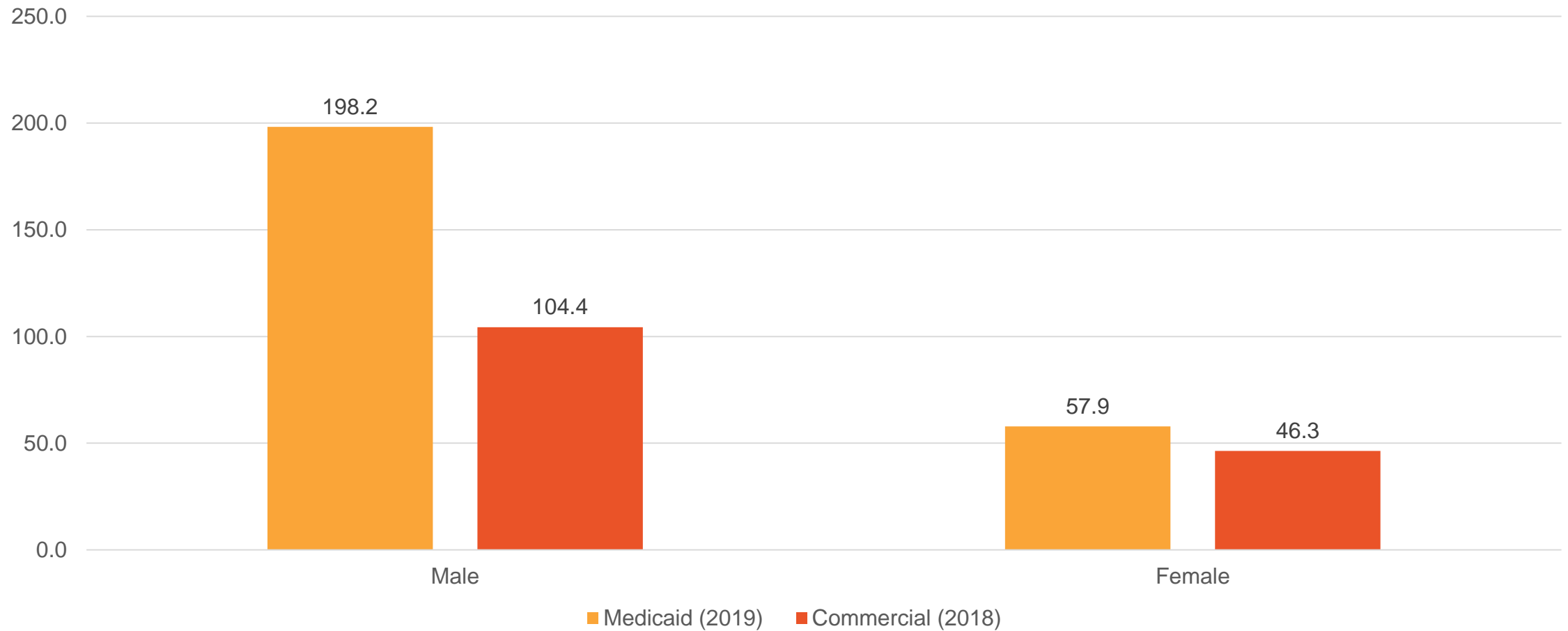
Prevalence of Oral Cancer among Adults



Prevalence by Age



Prevalence by Sex



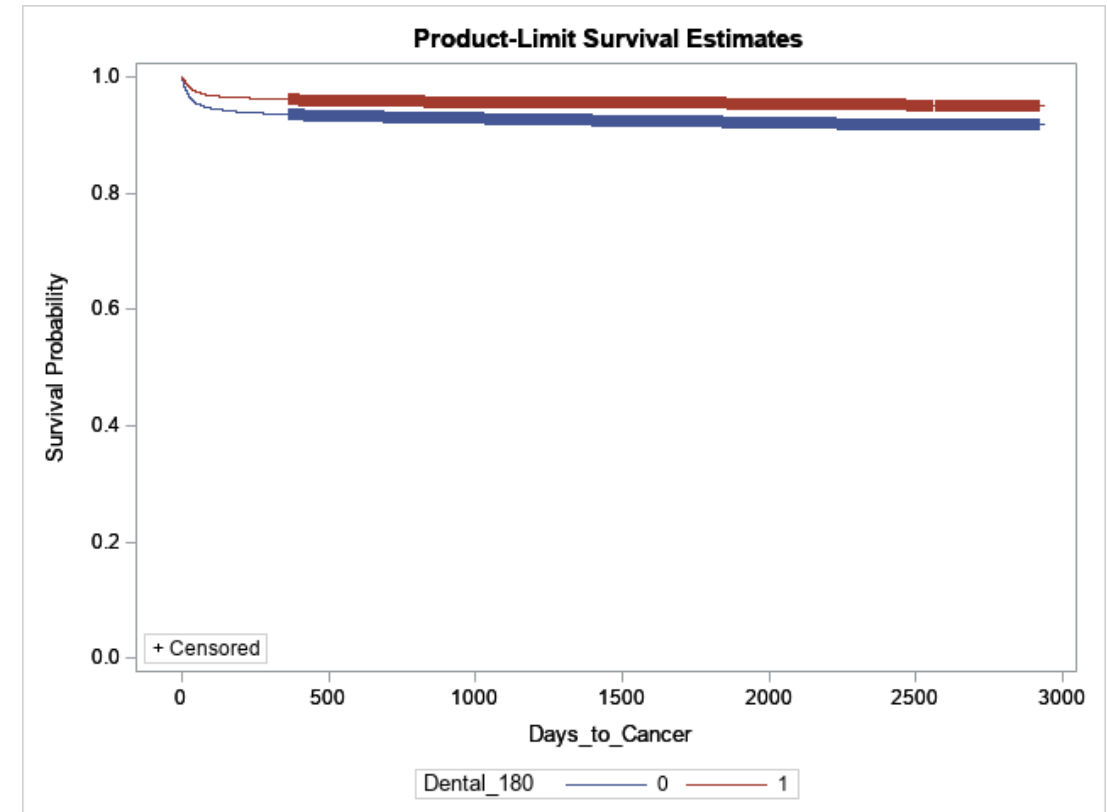
Logistic Regressions Estimate Incidence of Oral Cancer and High Risk (OPMD) Patients in Medicaid

Medicaid 2019		
	Oral Cancer	OPMD
Outpatient Patients	3,430,096	3,430,096
% Patients Affected	0.074%	0.031%
Age Group (Ref=21-30)		
31-40	1.82 (1.35 - 2.47)	1.46 (1.13 - 1.89)
41-50	5.18 (3.94 - 6.8)	2.77 (2.17 - 3.54)
51-60	13.28 (10.29 - 17.13)	3.97 (3.15 - 5.)
61-64	17.01 (13.05 - 22.16)	4.33 (3.31 - 5.67)
65-74	17.67 (13.62 - 22.94)	3.24 (2.46 - 4.25)
75-90	16.84 (12.83 - 22.12)	2.86 (2.1 - 3.9)
Sex (Ref=Male)		
Female	0.45 (0.42 - 0.49)	.9 (.79 - 1.02)
Race (ref = White)		
Black	0.66 (.6 - .72)	.52 (.45 - .61)
Hispanic	0.72 (.53 - .99)	.48 (.28 - .81)
Other	0.91 (.71 - 1.17)	.95 (.65 - 1.37)
Comorbidities		
Nicotine	2.88 (2.65 - 3.13)	2.59 (2.28 - 2.94)
Alcohol	2.31 (2.07 - 2.58)	1.38 (1.11 - 1.72)
AIDS	1.86 (1.39 - 2.5)	2.79 (1.82 - 4.27)
Dental Prior Year (Ref = No Dental)		
Dental	.75 (.67 - .84)	2.11 (1.86 - 2.4)
Goodness of Fit		
	19.2 DF=8 0.014	7.5 DF=8 0.48
% of Cases Correctly Classified (prob level = 0.32)		
	99.9%	100.0%

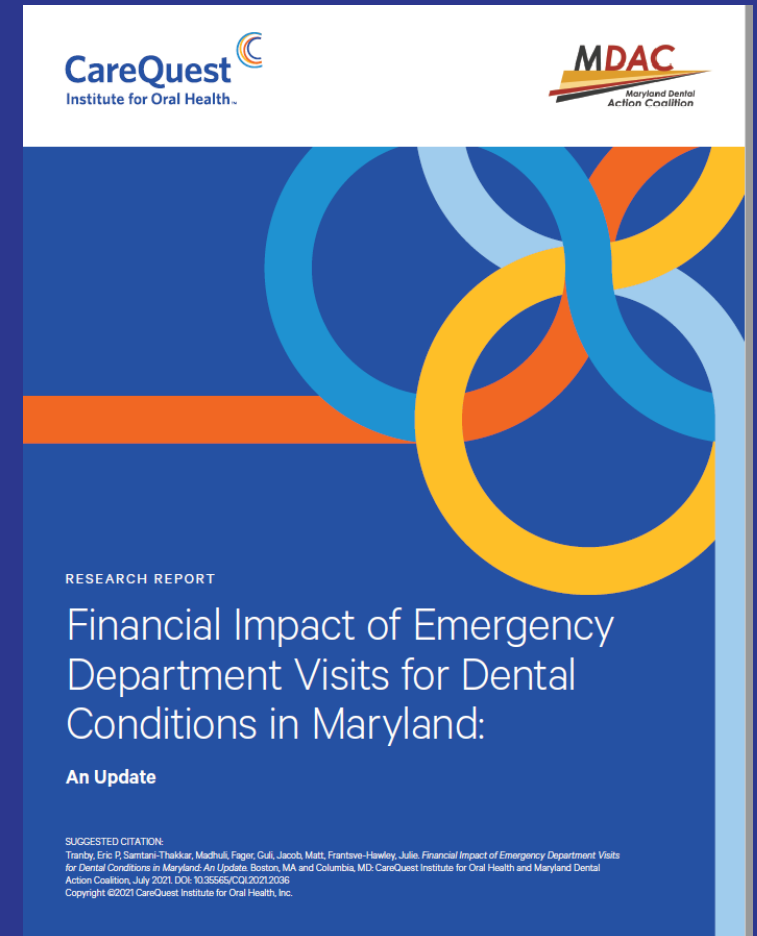
- Oral Cancer
 - Increasing age, male, and whites are all significantly more likely to be diagnosed with oral cancer
 - Patients with smoking, drinking, or immune disorders are more likely to be diagnosed
 - Patients who saw a dentist in the prior year were significantly less likely to be diagnosed.
- OPMD
 - Increasing age, male, and whites are all significantly more likely to be diagnosed with OPMD
 - Patients with smoking, drinking, or immune disorders are more likely to be diagnosed
 - Patients who saw a dentist in the prior year had double the odds of being diagnosed with OPMD.

Survival Analysis of OPMD to OC Transformation in Medicaid

Dental Visit	Survival Rate
None	92.1% to 92.8%
Within 365 days of diagnosis	95.2%
Within 180 days of diagnosis	95.5%
Within 90 days of diagnosis	95.8%
Within 30 days of diagnosis	96.5%



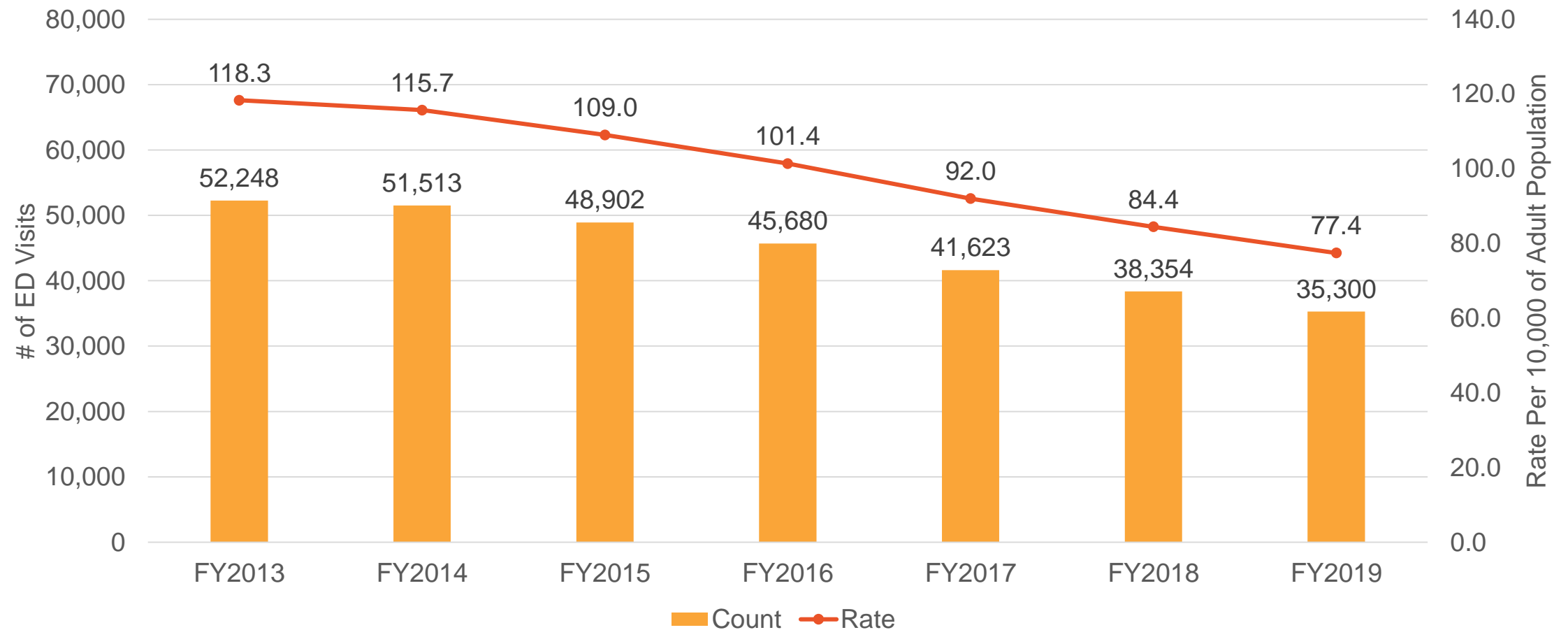
Financial Impact of Emergency Department Visits for Dental Conditions in Maryland: An Update



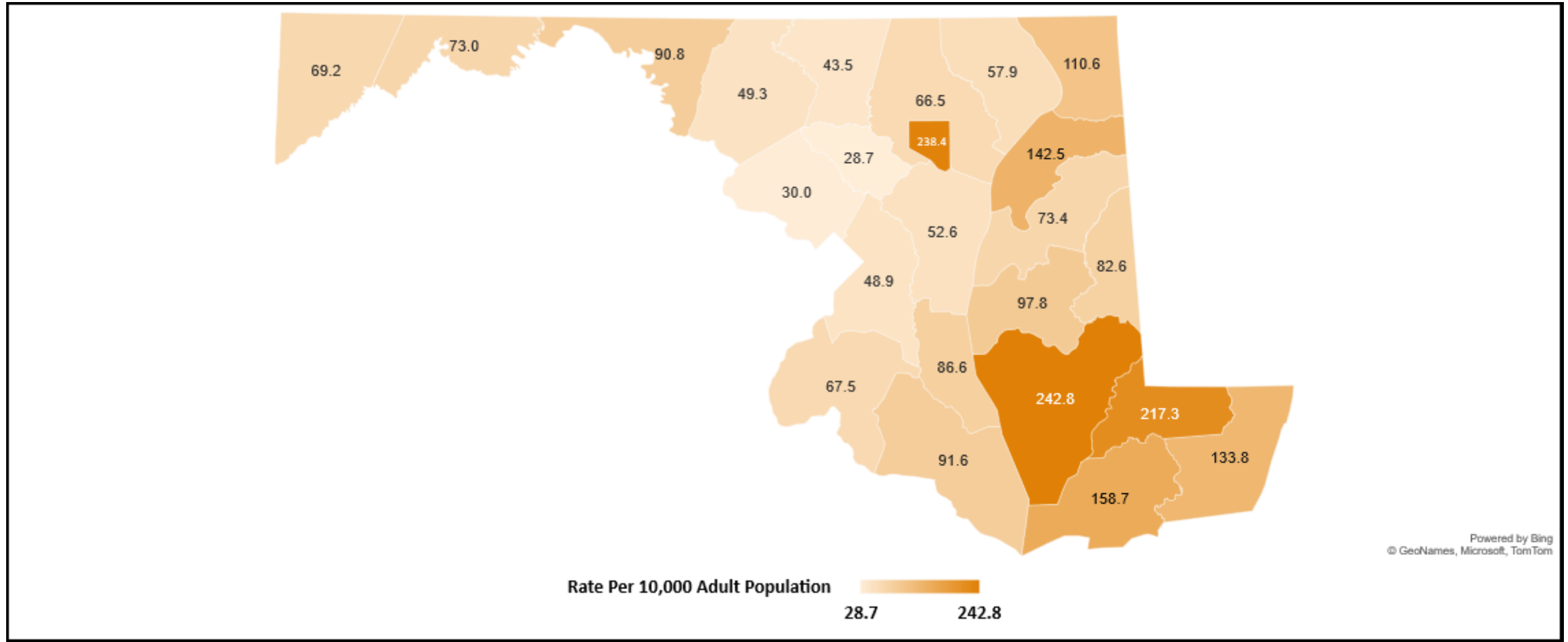
Methodology

- Data
 - HSCRC Outpatient and Inpatient Data from FY2013-FY2019
- Definitions:
 - ED visits defined using DQA measure specifications
 - Non-Traumatic Dental Conditions (NTDC):
 - ED visits for NTDC defined by ASTDD guidelines
 - Inpatient Admissions for NTDC defined by DQA Measure Specifications

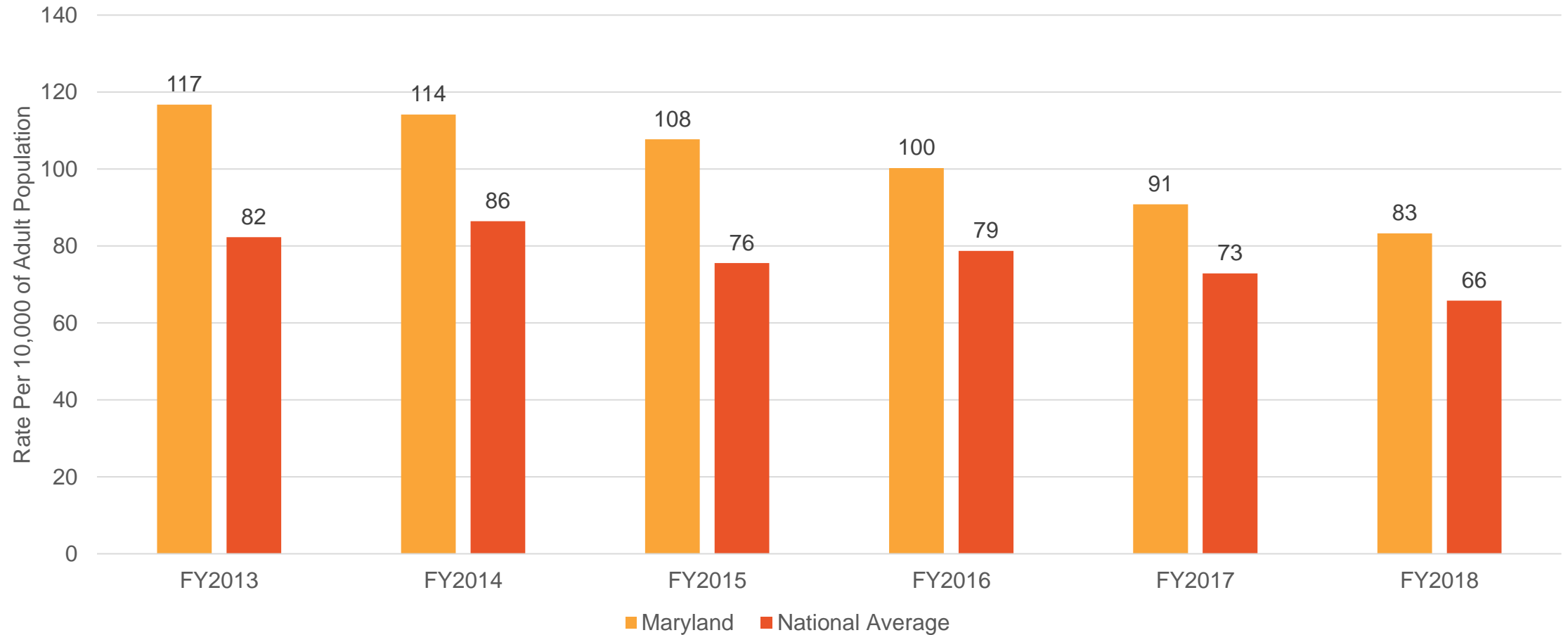
Trends in ED Visits for NTDC in Maryland



County Rates of ED Visits for NTDC in FY2019



Comparing Maryland to National Average Rates

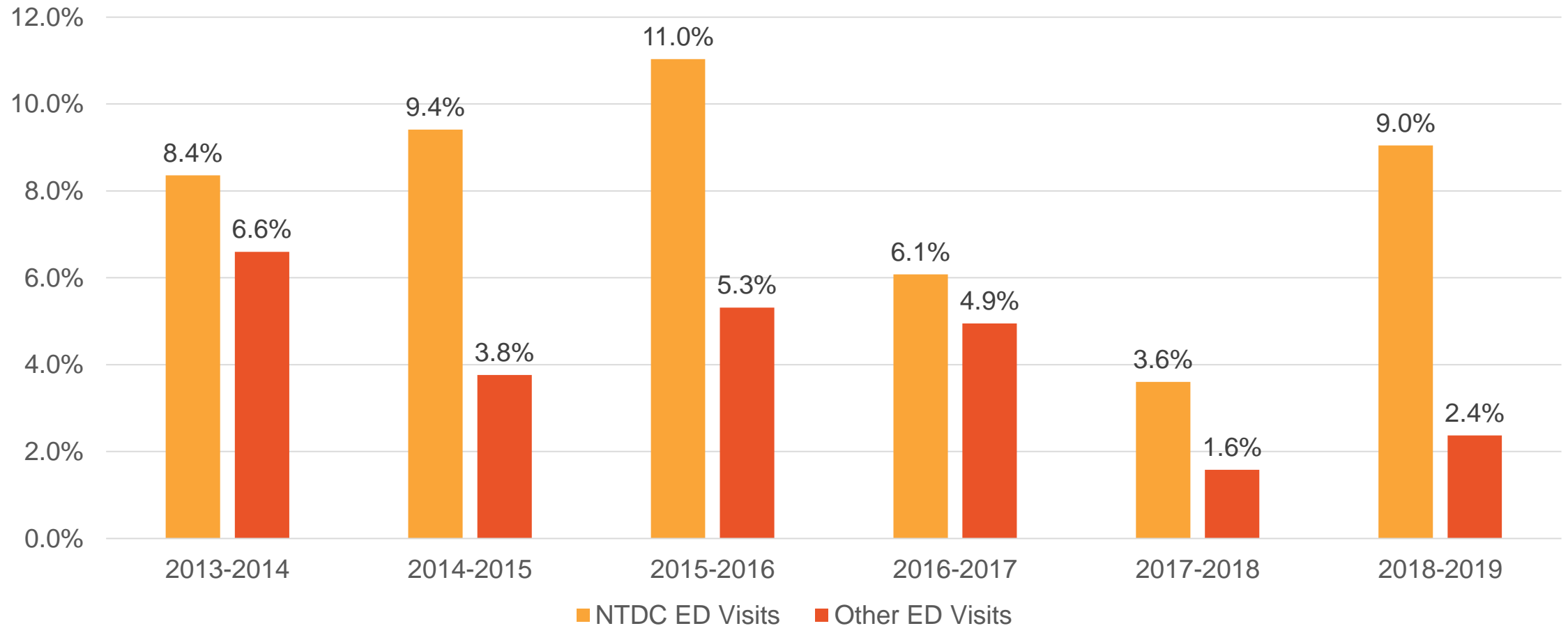


Charges for ED Visits for NTDC

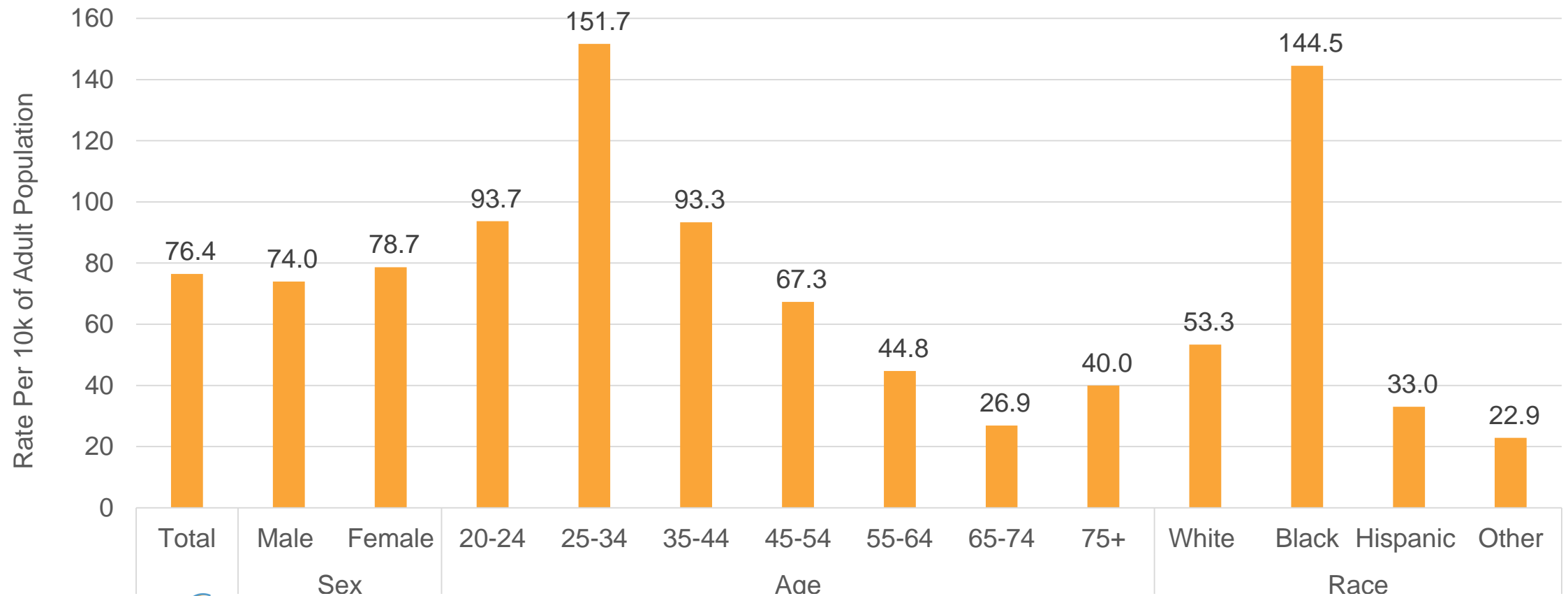
	Inflation-Adjusted Total Charges						
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
ED Visits	\$19,637,070	\$20,975,993	\$21,804,310	\$22,625,638	\$21,860,843	\$20,836,440	\$20,916,488
Inpatient Admissions	\$5,749,325	\$5,566,510	\$6,031,652	\$5,336,545	\$4,287,356	\$4,513,330	\$4,792,091
Total	\$25,386,395	\$26,542,503	\$27,835,962	\$27,962,183	\$26,148,198	\$25,349,769	\$25,708,579

	Inflation-Adjusted Average Charges Per Visit						
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
ED Visits	\$381	\$412	\$451	\$501	\$532	\$551	\$601
Inpatient Admissions	\$8,672	\$8,421	\$10,240	\$10,107	\$8,626	\$8,696	\$10,196
Total	\$486	\$515	\$569	\$612	\$628	\$661	\$728

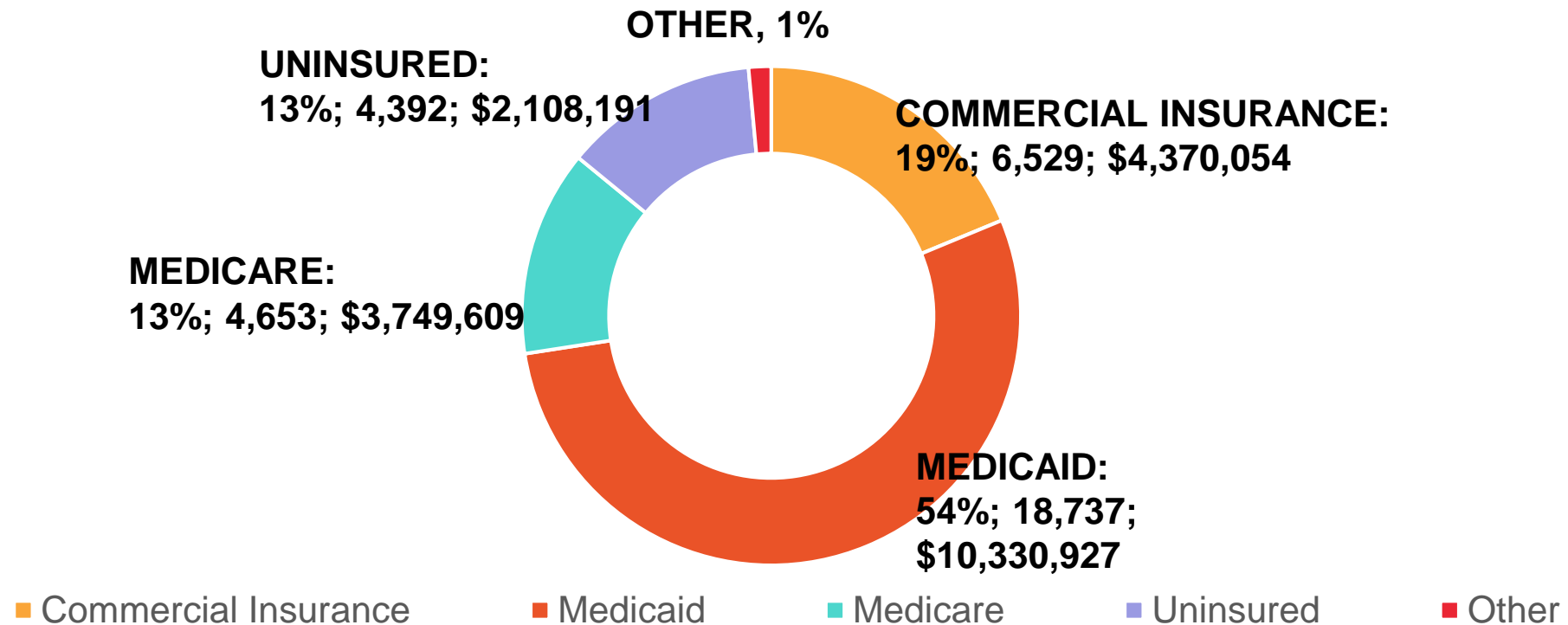
Annual Percent Increase in Average Charges Per Visit Among Adults in Maryland by ED Visit Type



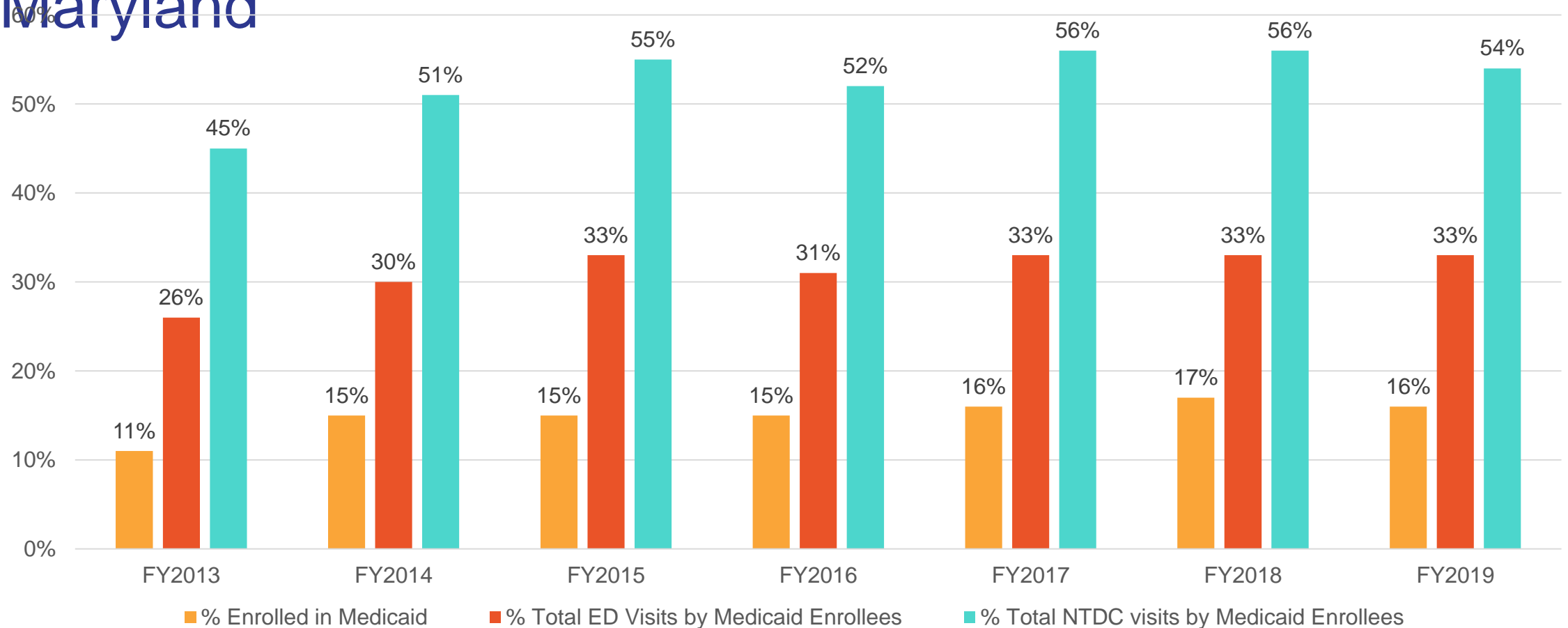
Rate of ED Visits for Non-Traumatic Dental Conditions Among Adults, by Age, Sex, and Race in FY 2019



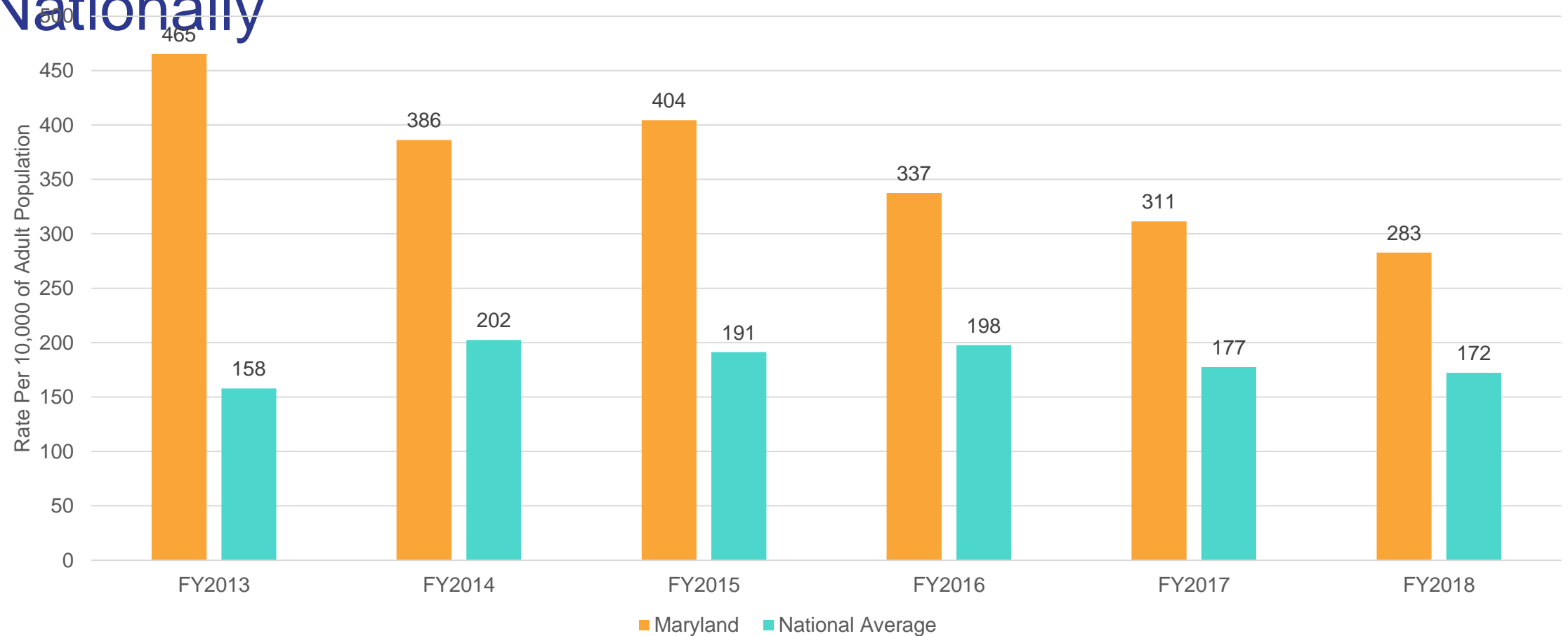
Distribution of Payers of ED Visits for Non-Traumatic Dental Conditions among Adults in Maryland, FY2019



Disproportion Burden of ED Visits for Non-Traumatic Dental Conditions by Medicaid Enrolled Adults in Maryland



Rates for ED Visits for Non-Traumatic Dental Conditions Among Medicaid Enrolled Adults in Maryland and Nationally



Implications

- Expanding dental benefits to Medicaid participants is a clear opportunity to reduce ED visits for NTDC.
- Younger patients are significantly more likely to go to the ED than older patients.
- Maryland's rates are significantly higher than the national average.
- Not yet sufficient evidence that the drop in ED visits among Dual-Eligible Adults is due to the expansion of dental benefits, but will continue to monitor.

Contact Information

Eric Tranby, PhD

Manager, Data and Impact

Analytics and Evaluation

CareQuest Institute for Oral Health

etranby@carequest.org

