



Dentistry as Primary Care

Title: Oral Health: An Evidence and Data-Driven Approach to Achieve Better Health, Equity, and Fiscal Responsibility



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CMS Vision Statement

CMS serves the public as a trusted partner and steward, dedicated to advancing health equity, expanding coverage, and improving health outcomes



Advance **Health Equity** by addressing the health disparities that underline our health system.



Build on the **Affordable Care Act** and expand access to quality affordable health coverage and care.



Engage our **partners and the communities** we serve throughout the policymaking and implementation process.



Drive **innovation** to tackle our health system challenges and promote **value-based, person centered care**



Protect our programs' **sustainability** for future generations by serving as a responsible steward of public funds.



Foster a **positive and inclusive workplace and workforce**, and promote excellence in all aspects of CMS operations.

“You’re Not Healthy Without Good Oral Health.”
– Surgeon General C. Everett Koop



Oral Health, Equity, Fiscal Responsibility and Inflammation (Clinical Outcomes)



Equity

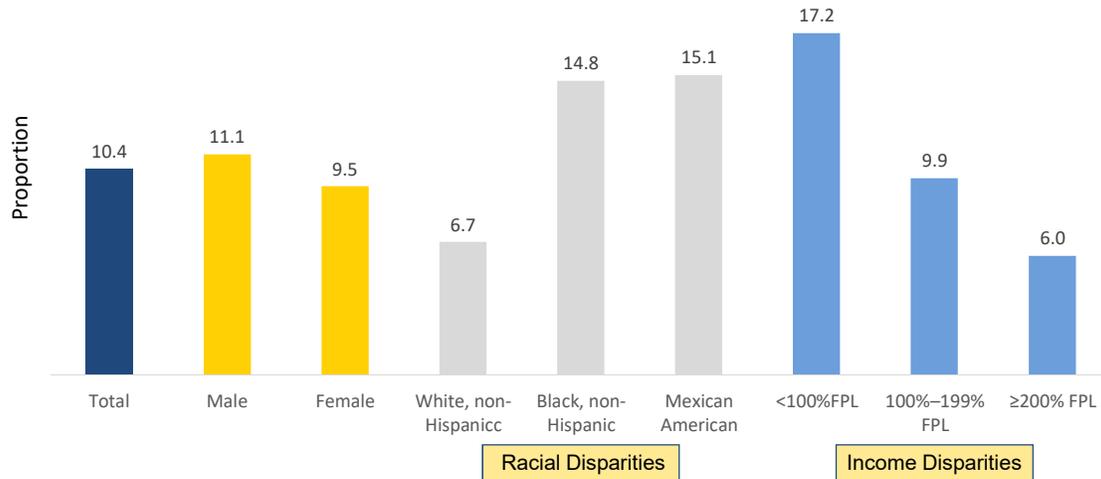


Fiscal
Responsibility



Inflammation
(Clinical Outcomes)

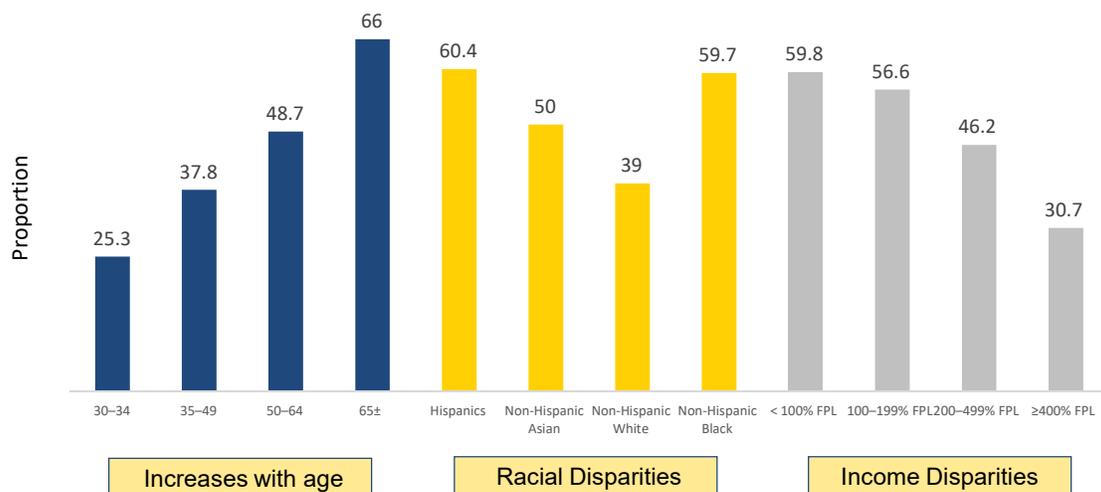
Prevalence of Untreated Tooth Decay In Primary Teeth Among Children Aged 2–5 Years



Source: CDC/NCHS, National Health and Nutrition Examination Survey, 2011–2016

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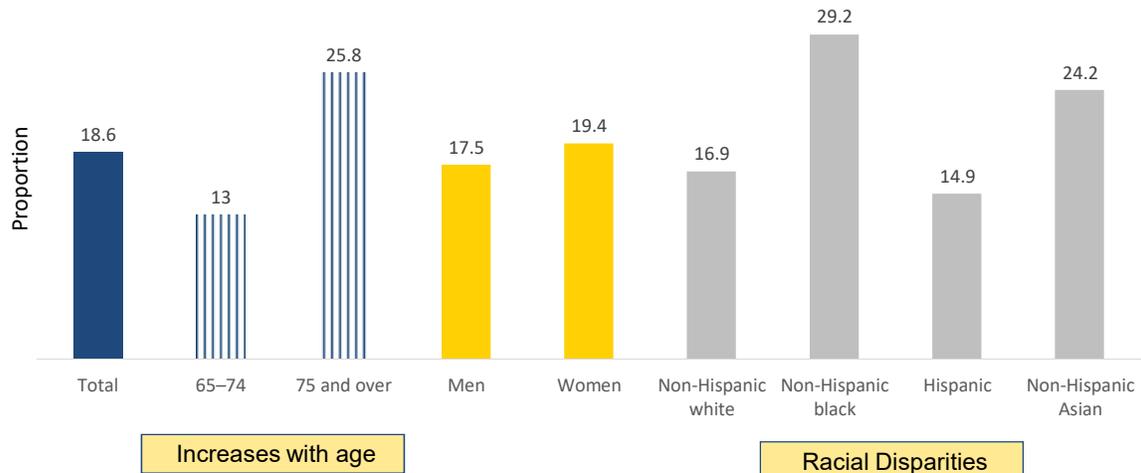
Prevalence of Periodontitis in Adults



Source: Eke *et al.* Prevalence of Periodontitis in Adults in the United States: NHANES 2009 to 2012. *J Periodontol.* 2015

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Prevalence of Complete Tooth Loss (Edentulism) among Adults Aged 65 and Over



Source: CDC/NCHS, National Health and Nutrition Examination Survey, 2011-2012.

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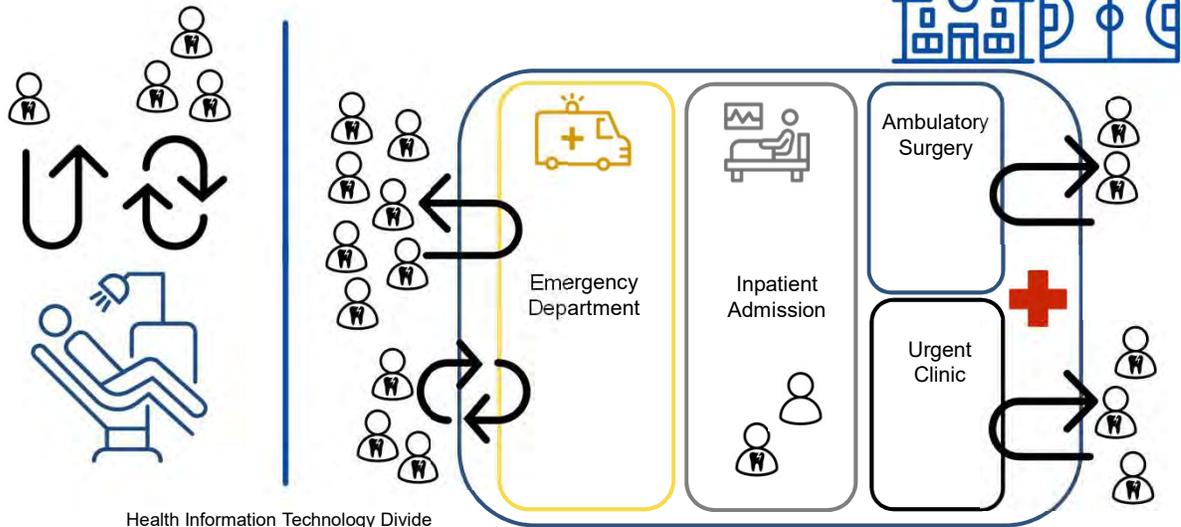
Where People Manage Oral Health



8758 h ← 8760 hours in a year → 2 h

People spend more hours managing their oral health at home than in a clinical setting.

Where Patients Present with Oral Health Needs



Health Information Technology Divide
 Diagnostic Coding
 Integration and Coordination of Care

Charity and Oral Health



Virginia Remote Area Medical



Oklahoma Mission of Mercy

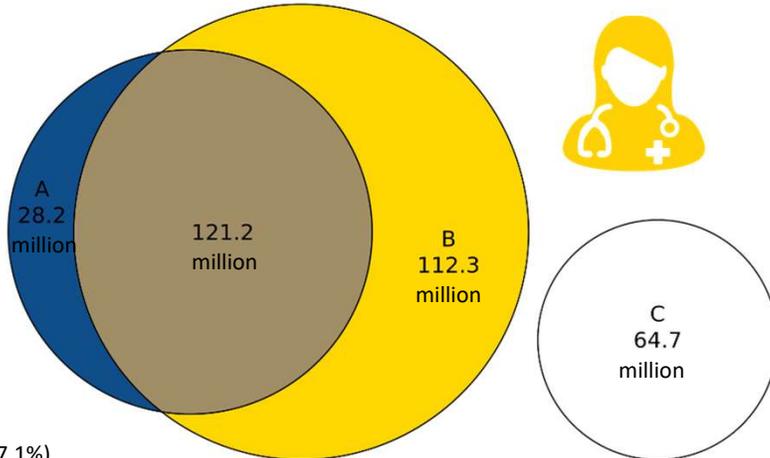


New Mexico Mission of Mercy



Maryland Mission of Mercy

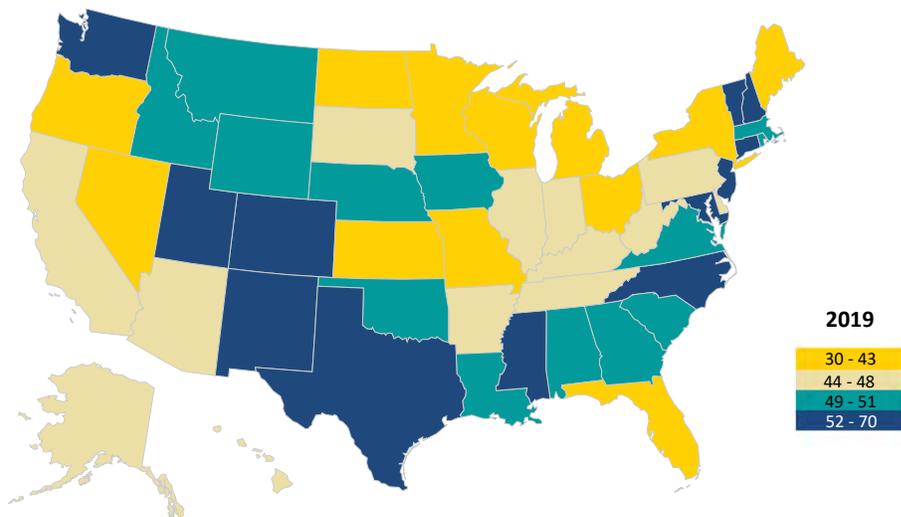
Population with Any Dental and Medical Visits



- A: Dental only (8.6%)
- B: Medical only (34.4%)
- AB: Dental and Medical (37.1%)
- C: Neither dental nor medical (19.8%)

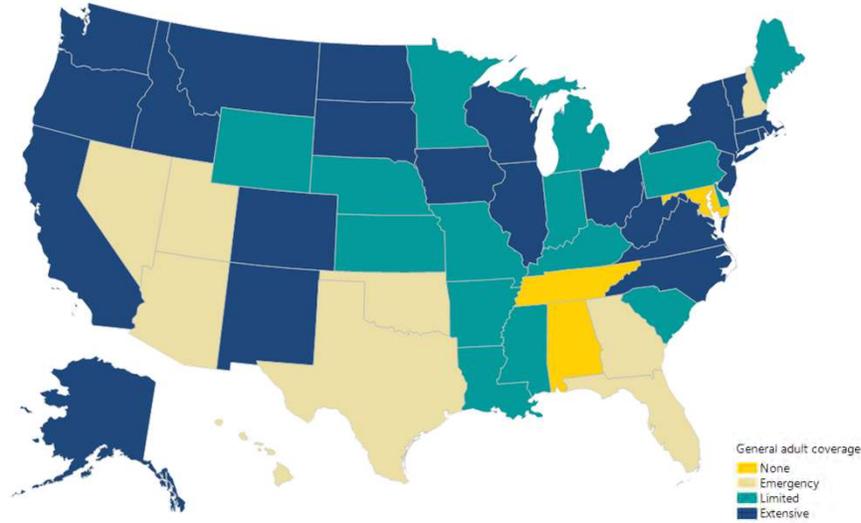
Source: Agency for Healthcare Research and Quality, Center for Financing, Access and Cost Trends, Medical Expenditure Panel Survey, Household Component, 2018.

Percentage of Medicaid Eligibles Ages 1 to 20 Who Received Preventive Dental Services



Source: medicaid.gov Children's Health Care Quality Measures

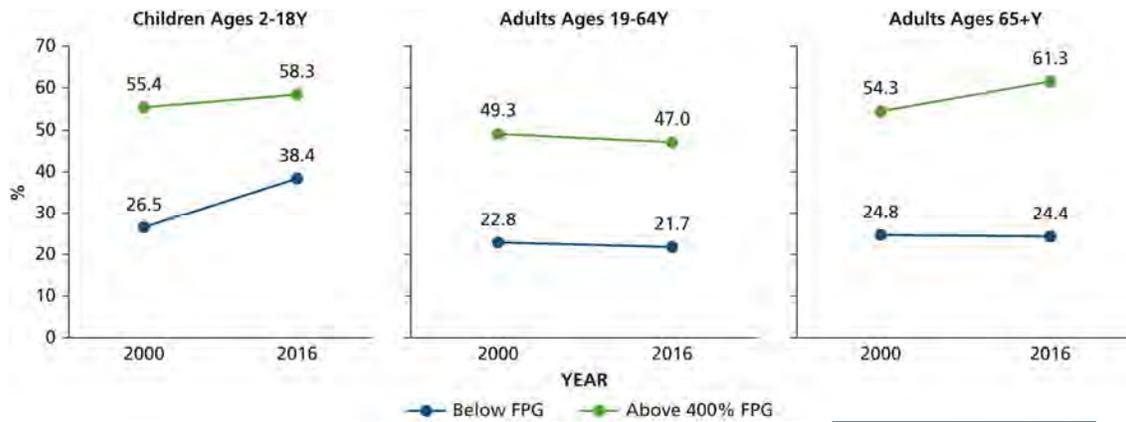
State Medicaid Coverage of Adult Dental Services



Source: The National Academy for State Health Policy, 2021

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Dental Visit in the Past Year By Poverty

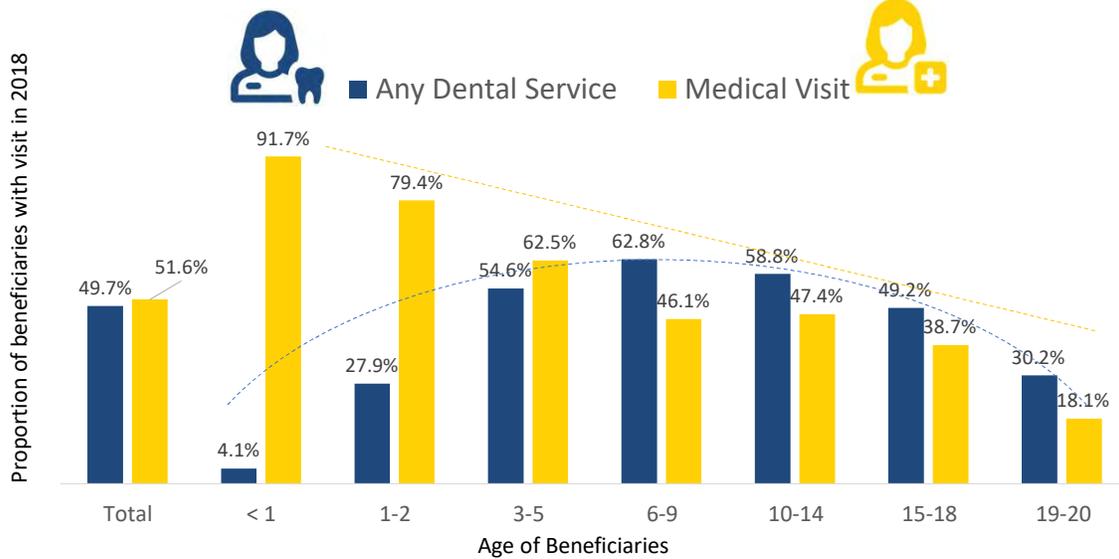


Income Disparities

Source: Yarbrough and Vujicic Oral health trends for older Americans JADA 2019

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Annual Dental or Medical Visits



Source: 2018 Annual Early and Periodic Screening, Diagnostic and Treatment (EPSDT), National

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The Effect of Poor Dental Health on Children

Severe Early Childhood Caries



Joanna Douglass, BDS, DDS

Source: smilesforlifeoralhealth.org



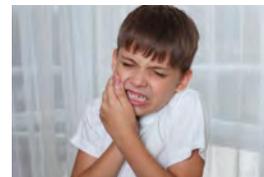
Poor academic performance



School attendance, i.e. student absenteeism



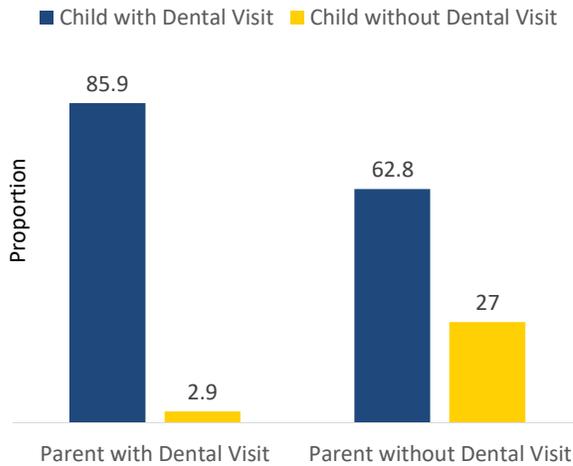
Emergency Department Use



Pain and Infection

Source: Ruff *et al.* Journal of the American Dental Association 2019

Parents Dental Care Experience is Key to Coverage and Access



Source: Isong et al. Pediatrics 2010

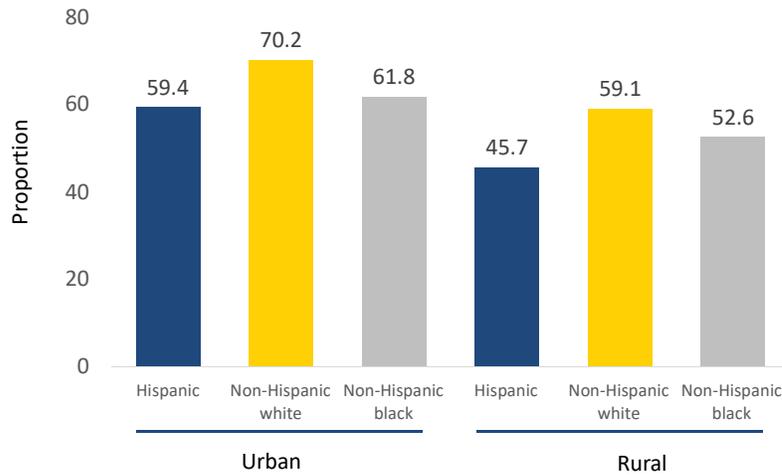
The Association Between Medicaid Adult Dental Coverage And Children's Oral Health

Although all state Medicaid programs cover children's dental care, Medicaid-enrolled children are more likely to experience dental issues than children in higher income families. Using data from the 1999-2000 National Health and Nutrition Examination Survey and the 2001, 2007, and 2010-12 waves of the National Survey of Children's Health, we examined the association between Medicaid adult dental coverage and children's oral health. Adult dental coverage was associated with a statistically significant 3 percentage point reduction in the prevalence of untreated caries among children after Medicaid-enrolled adults had access to coverage for at least one year. These findings were also associated with a reduction in parent-reported fair or poor child oral health with a trend that became more significant for the child and the child's mother with increasing age. These findings suggest that Medicaid adult dental coverage may be associated with better oral health outcomes for children. Further research is needed to explore the mechanisms of these associations and to evaluate the impact of Medicaid adult dental coverage on children's oral health.



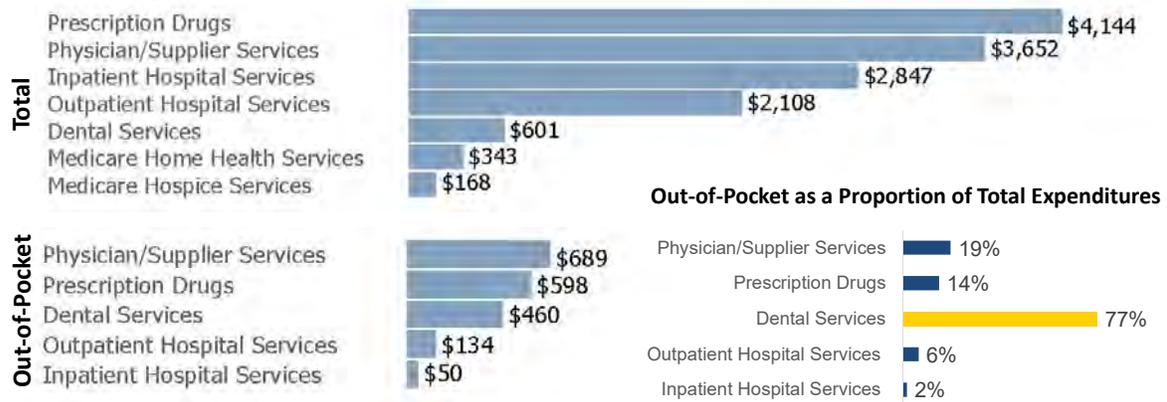
Source: Lipton et al. Health Affairs 2021

Urban-Rural Differences in Dental Care Use Among Adults Aged 18-64



Source: National Center for Health Statistics, National Health Interview Survey, 2019.

Health Care Service Expenditures per Capita for Selected Service Types Among Medicare Beneficiaries Living Only in the Community, in Dollars, 2018



Dental services have the highest out-of-pocket proportion.

Source: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, Survey File, 2018 and Cost Supplement File, 2018

Poor Oral Health, Infection and Inflammation

Total inflammation surfaces are approximately the same.



Fitzgerald Arch Dis Child 2005

Chronic periodontal disease



The New England Journal of Medicine, 2002

Nonhealing Ulcer over the Ulnar Aspect of the Left Forearm

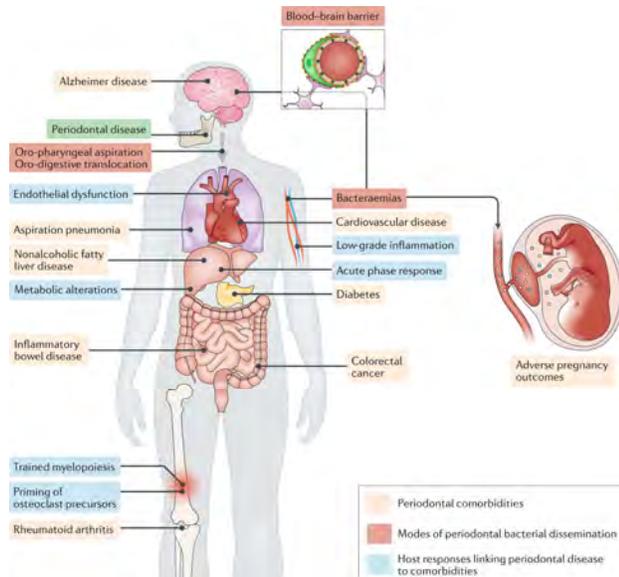
Periodontal Disease and Associated Inflammatory Comorbidities

Periodontitis Inflammatory Comorbidities

- Cardiovascular disease
- Type 2 diabetes mellitus
- Rheumatoid arthritis
- Inflammatory bowel disease
- Alzheimer disease
- Nonalcoholic fatty liver disease
- Cancers

Dissemination

- Bacteremia, hematogenous
- Oro-pharyngeal dissemination
- Oro-digestive dissemination



Source: Hajishengallis and Chavakis Nat Rev Immunol 2021

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Dental Caries: Metastatic Sequelae

- Hematogenous spread of oral pathogens.
- Oral streptococci had been linked to mediastinal abscesses, meningitis, vertebral osteomyelitis, hepatobiliary disease, and bacterial endocarditis.
- Approximately 27% of cultured cases of bacterial endocarditis are caused by oral mutans streptococci.
 - The highest-risk groups of patients are those with prosthetic heart valves and acquired valvular dysfunction.
- Late prosthetic joint infections: 2/3 of LPJI have *Staphylococcus aureus* and *Staphylococcus epidermidis* that have been identified in dental abscesses.

Source: Shay Infectious complications of dental and periodontal diseases in the elderly population. Clin Infect Dis. 2002

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Periodontal Disease: Metastatic Sequelae

- Periodontal disease is worse in people with diabetes.
- Periodontitis is **the sixth addition to the five complications of diabetes** (i.e., peripheral neuropathy, retinal degeneration, renal insufficiency, atherosclerosis, and microangiopathy)
- Periodontitis, as an infectious disease, impairs glycemic control in people with diabetes.
- **The leading cause of death among nursing home patients and the second most-common cause for hospitalization in this population is nursing home-acquired pneumonia anaerobic gram-negative bacilli;** These bacilli via micro aspirations cause aspiration pneumonia.
- Periodontal pathogens are among the organisms implicated in both bacterial endocarditis and late prosthetic joint infection.
- Periodontal disease and tooth loss double the risk for coronary heart disease.

Source: Shay Infectious complications of dental and periodontal diseases in the elderly population. Clin Infect Dis. 2002

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The Science of Oral-systemic Interrelationship



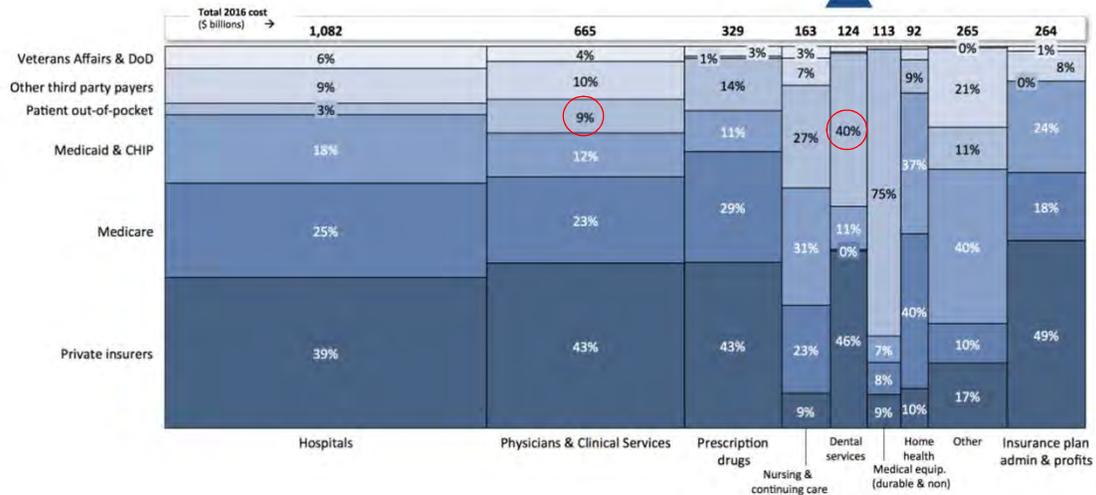
Increased Risk to Oral Health Caused by the Medical Condition or its Treatment.

Increased Risk to Systemic Health Related to Poor Oral Health.

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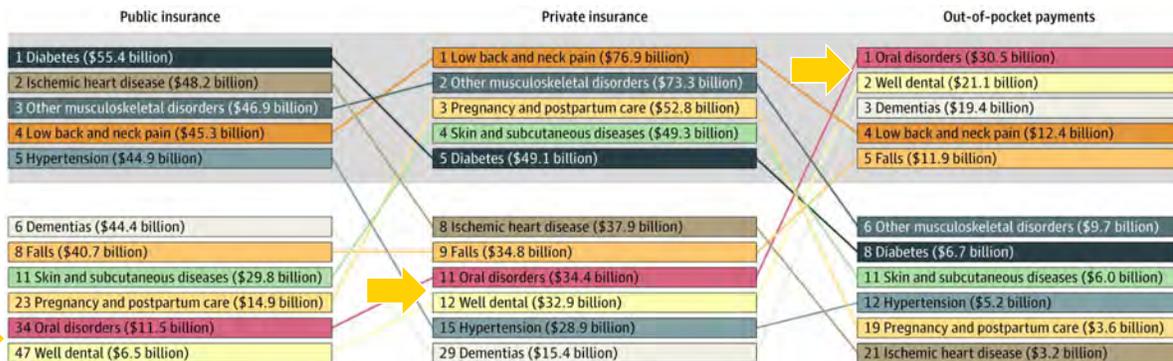
National Health Expenditure

Dental is 4% of all Health Expenditures, \$124 Billion



Source: National Health Expenditure, Centers for Medicare and Medicaid Services

2016 Health Care Spending



Source: Dieleman *et al.* JAMA 2020 US Health Care Spending by Payer and Health Condition, 1996-2016

Poor Oral Health Has Impacts Beyond Healthcare



Poor oral health is linked to all-cause mortality.



Poor oral health is an obstacle to employment.



Poor oral health is linked to substance use disorders.



Poor oral health impacts children's school attendance and performance.

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EMERGENCY DEPARTMENT VISITS FOR DENTAL CONDITIONS



Equity



Fiscal Responsibility



Readmissions



Mortality



Opioids

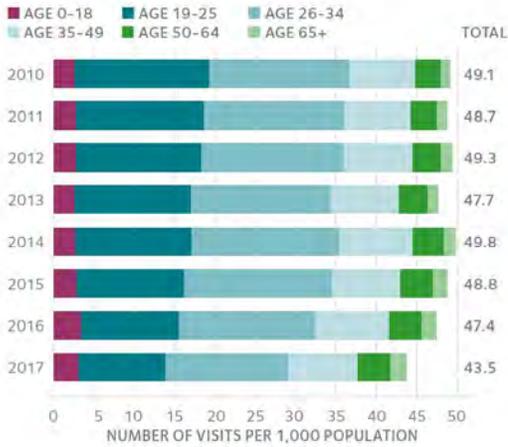


Antibiotics

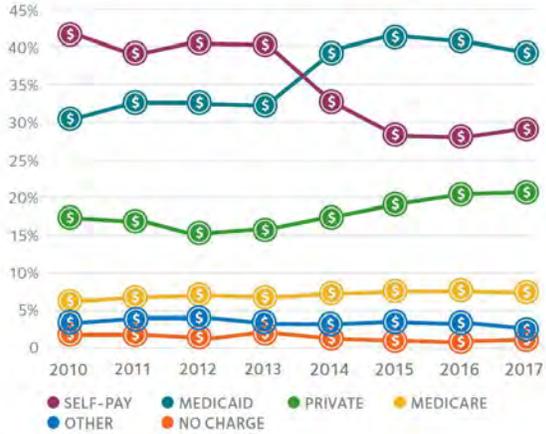
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Emergency Department Visits for Dental Conditions

EMERGENCY DEPARTMENT VISITS FOR DENTAL CONDITIONS BY AGE GROUP



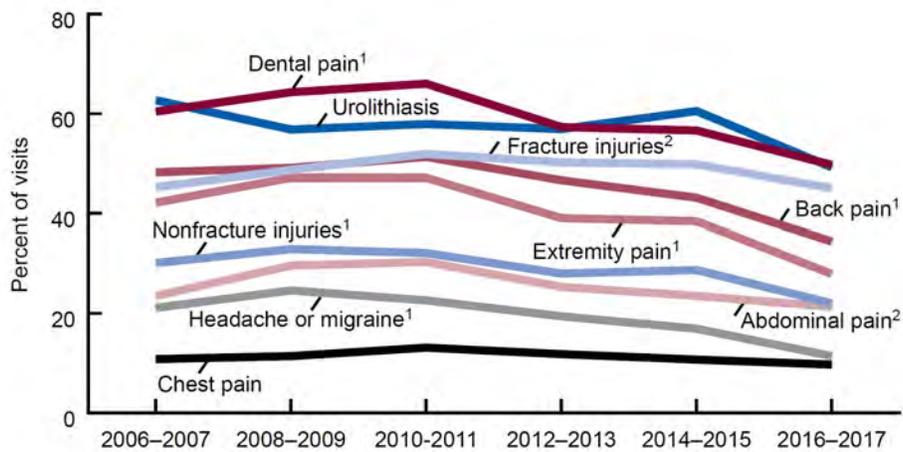
EMERGENCY DEPARTMENT VISITS FOR DENTAL CONDITIONS AMONG ADULTS BY PAYER



Source: ADA Health Policy Institute

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Percentage of Emergency Department Visits by Adults at which Opioids were Prescribed



Source: National Center for Health Statistics Report 135, 2020

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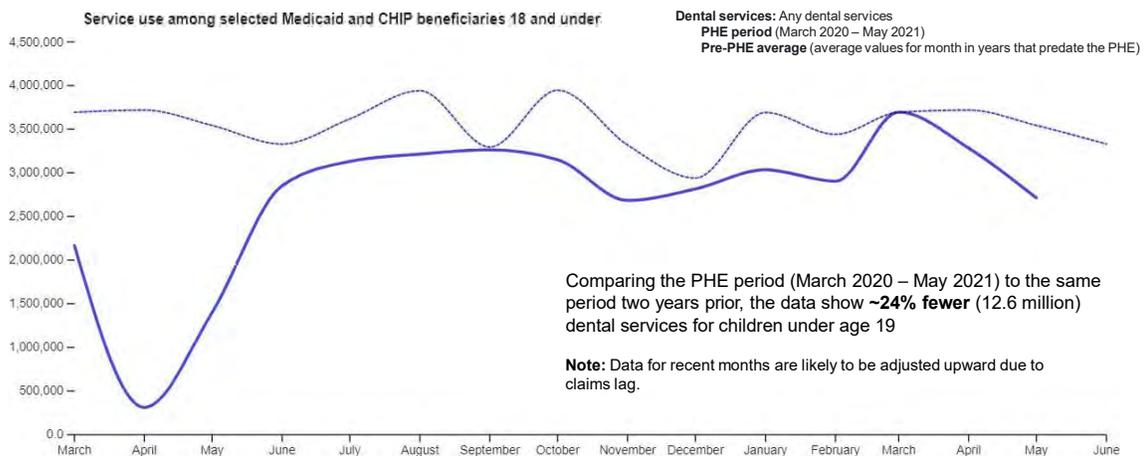
Medicaid Adult Beneficiaries Emergency Department Visits for Non-Traumatic Dental Conditions



Center for Medicaid and CHIP Services

<https://www.medicaid.gov/medicaid/benefits/downloads/adult-non-trauma-dental-ed-visits.pdf>

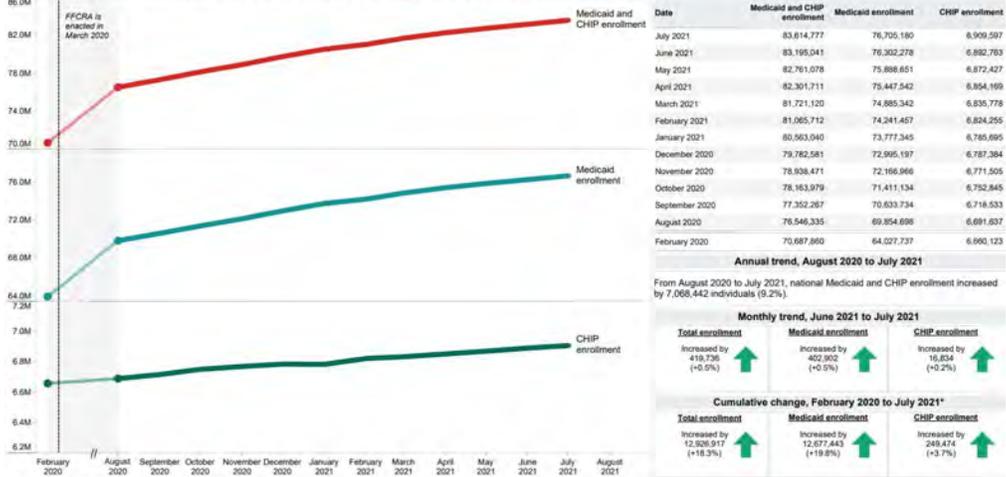
Preliminary data show the number of dental services for children declined drastically in April 2020, increased through September 2020 with a peak in March 2021, but remain below pre-PHE levels



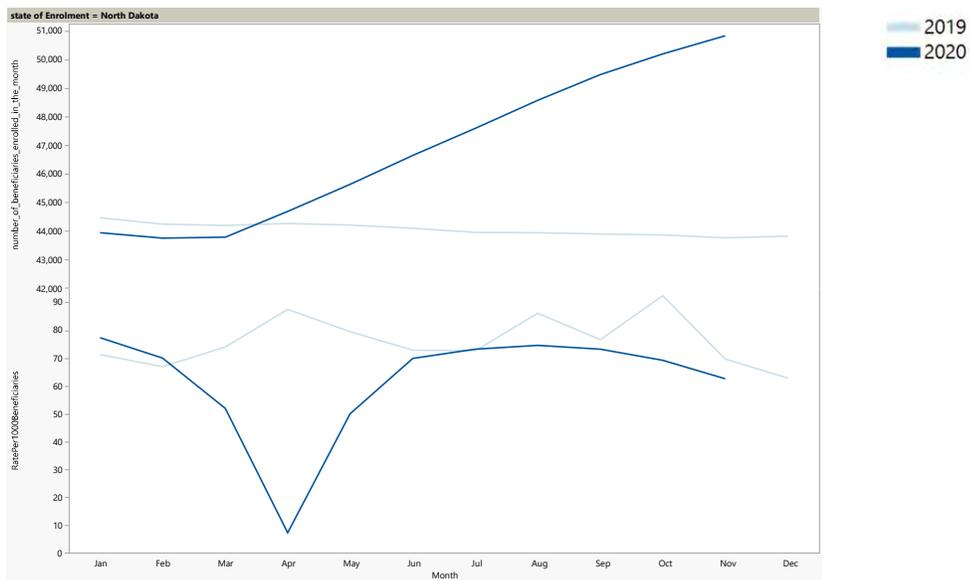
Notes: These data are preliminary. Data are sourced from the T-MSIS Analytic Files v5 in DataConnect using final action claims. They are based on July T-MSIS submissions with services through the end of June. Recent dates of service have very little time for claims runout and we expect large changes in the results after each monthly update. Because data for June are incomplete, results are only presented through May 31, 2021. The PHE period includes data for March 2020 through May 2021. The pre-PHE average is the average of all values for that month in the years that predate the PHE, including data from January 2018 through February 2020.

July 2021 Medicaid and CHIP Enrollment Trends Snapshot

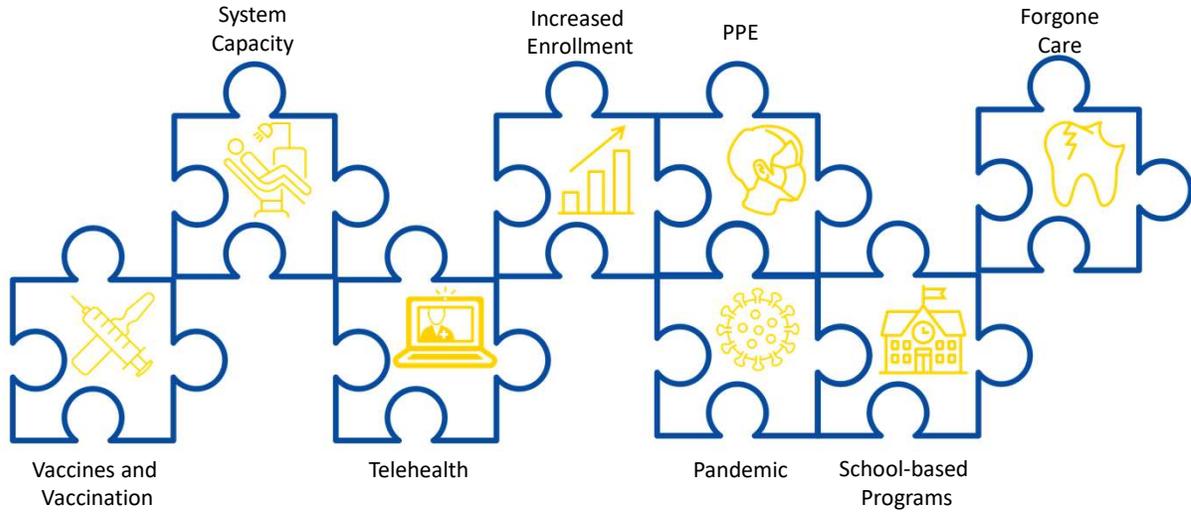
Figure 1. National Medicaid and CHIP enrollment, February 2020 to July 2021, CMS Performance Indicator Data



North Dakota (example)



Oral Health: Challenges and Opportunities



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CONTACT INFORMATION

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