

Integration of Oral Health & Overall Health



Disclosure(s)

I have no disclosures regarding financial relationships, commercial interests, or funding from commercial support or external sources.

Where appropriate, I have referenced sources for the information provided.

Overview

- Overview of the U.S. Public Health Service
- Oral Health Inequities in the U.S. & Key Driver (Access)
- History of Integration of Oral Health & Overall Health
- Making the Case for Bi/Multi-Directional Integration
- Possibilities for the Future

Learning Objectives

At the conclusion of this presentation, participants should be able to:

- Describe the rationale behind multi-directional integration of oral health and overall health;
- List at least two key oral health disparities as they relate to race, ethnicity, and income; and
- Implement one integrated concept into practice in your own practice.

Overview of the USPHS



Photo by Kian Shen



In the Service of Health

“In Officio Salutis”



“Protect, Promote, and Advance the Health & Safety of the Nation”



 MEDICAL	 DENTIST	 VETERINARIAN	 NURSE
 THERAPIST	 PHARMACIST	 DIETICIAN	 HEALTH SERVICE
 ENGINEER	 ENVIRONMENTAL HEALTH	 SCIENTIST	



USPHS Dentist Locations



National Institutes of Health



COMMISSIONED CORPS
OF THE U.S. PUBLIC HEALTH SERVICE

Multi-Directional Integration

Oral Health Interconnectivity

“5-eyes” Colleagues:

- Canada
- New Zealand
- Australia
- U.K. (England, Ireland, Scotland, Wales)



Global



Organized Dentistry



www.NDHAonline.org



Regulatory



Federal

USPHS Categories:

- Dietitians
- Engineers
- Environmental Health
- Health Services Officers
- Nurses
- Pharmacists
- Physicians
- Scientists
- Therapists
- Veterinarians



COVID-19 Public-Private Partner Dental Coordination Group

Federal Entities:

USPHS CDO
BOP
CDC
CMS
FDA
HRSA
ICE HSC
IHS
NIDCR
OSHA
USPHS

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Major Dental Organizations:

AADA
ADA
ADHA
AGD
DDS
HDA
NDA
NDHA
SAID

9

Specialty Organizations:

AAE
AAO
AAOMP
AAOMR
AAOMS
AAP
AAPHD
ACP
ASDA

9

Other National Dental & Public Health Organizations:

AACDP	AIDPH	NADP
AADB	ANOHC	NMCHOH
AADC	AOS	RC
AADOOCR	ASTDD	NNOHA
AAWD	CareQuest	OPEN
ACD	Comm. Catalyst	OSAP
ACFF	DTA	Proj. AOH
ADEA	Forsyth Inst.	Santa Fe
ADSO	MSDA	
AFS	NADL	

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Medical Organizations:

AAP
APHA
NIIOH
NRHA

4



A Look Back



1980's

“You’re not healthy without good oral health.”

C. Everett Koop

13th U.S. Surgeon General (1982-1989)

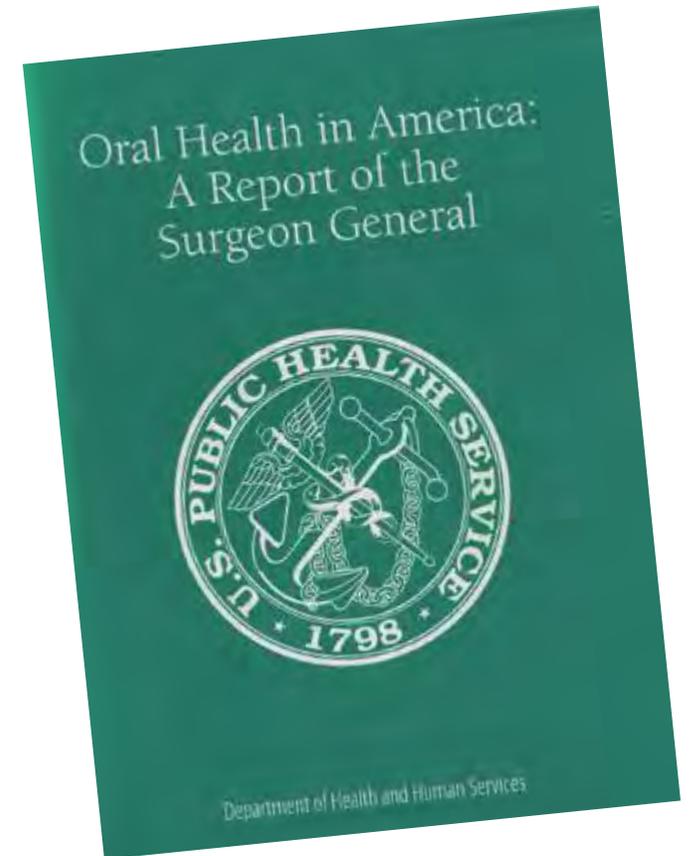


<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2518609/#:~:text=In%20the%20words%20of%20former,in%20health%20policies%20and%20programs>



2000

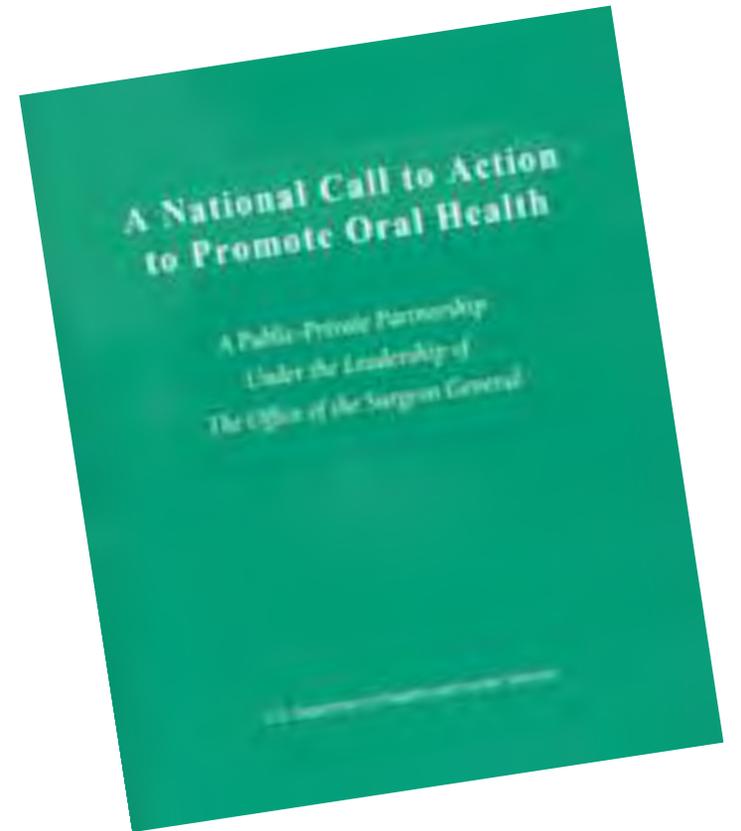
Oral Health means much more than healthy teeth, and is integral to the general health and well-being of all Americans.



<https://www.surgeongeneral.gov/library/reports/index.html>

2003

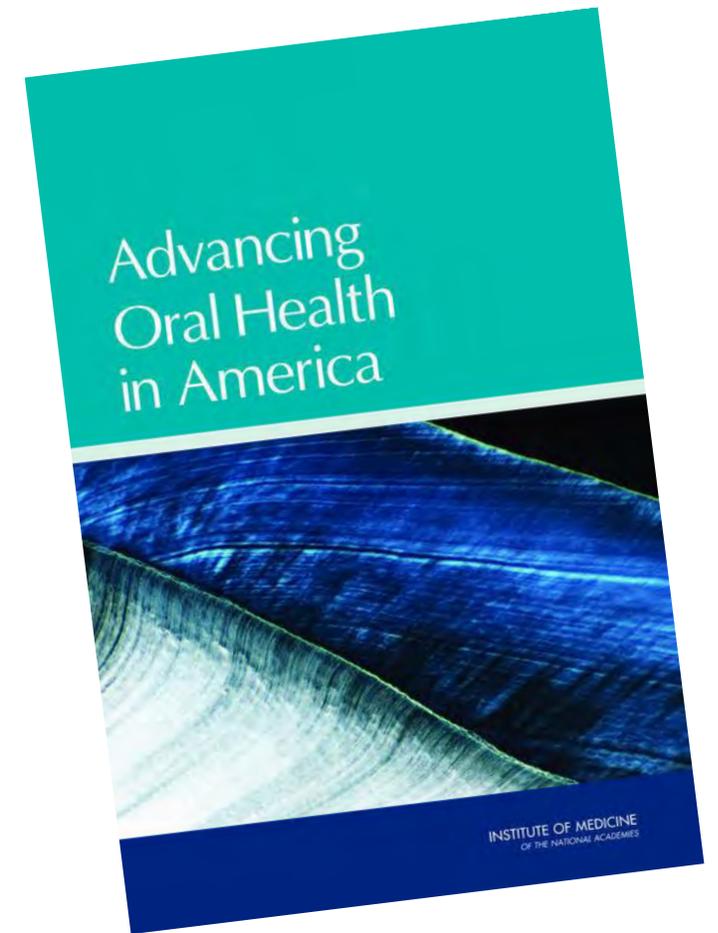
- Review and update health professional educational curricula and continuing education courses to include content on oral health and the association between oral health and general health.
- Train health care providers to conduct oral screenings as part of routine physical exams and make appropriate referrals.
- Promote interdisciplinary training of medical, oral health, and allied health professional personnel in counseling patients about how to reduce risk factors common to oral and general health.



<https://www.ncbi.nlm.nih.gov/books/NBK47472/>

2011

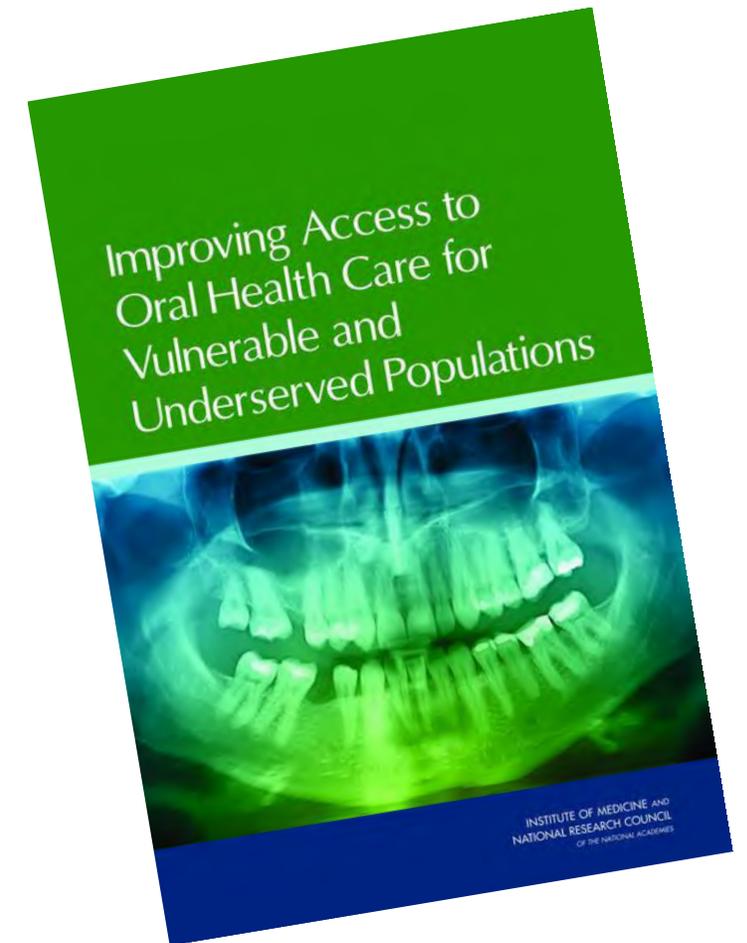
- “Every effort needs to be made by HHS to collaborate with, and learn from, the private sector.”
- Laid the foundation for the HRSA Oral Health Initiative



<https://www.hrsa.gov/sites/default/files/publichealth/clinical/oralhealth/advancingoralhealth.pdf>

2011

- Recommended expanding the oral health work force by training doctors, nurses, and other nondental professionals to recognize risk for oral diseases.



<https://www.nap.edu/catalog/13116/improving-access-to-oral-health-care-for-vulnerable-and-underserved-populations>



2011

- HRSA begins new oral health and primary care integration initiative

The screenshot shows the HRSA Health Center Program website. The main content area is titled "Oral Health and Primary Care Integration" and features a list of statistics and links. The right sidebar contains sections for "Clinical Quality Improvement", "Health Center Data & Reporting", "Oral Health Grants Opportunities", and "Did You Know?".

HRSA Health Center Program

Home > [Quality Improvement](#) > [Clinical Quality Improvement](#) > Oral Health and Primary Care Integration

Oral Health and Primary Care Integration

The U.S. Surgeon General's landmark report "[Oral Health in America](#)" (PDF - 36 MB) brought national attention to the importance of and disparities present in oral health. Furthermore, the Institute of Medicine (IOM) report "[Improving Access to Oral Health Care for Vulnerable and Underserved Populations](#)" (PDF - 3.4 MB) showed that unmet oral health care needs and barriers faced by these populations have a great impact on overall health.

Health centers continue to increase access to oral health care in the communities they serve. According to 2019 Uniform Data System (UDS) data, health center dental programs achieved the following:

- 6.7 million patients served
- 17.3 million patient visits
- More than 19,600 oral health Full-Time Equivalents (FTEs) to include dentists, dental hygienists, and dental therapists:
 - Dentists: 5,323.83 FTEs
 - Dental Hygienists: 2,855.58 FTEs
 - Dental Therapists: 36.39 FTEs
 - Other Dental Personnel: 11,482.66 FTEs
- Dental sealants on 6-9-year-old children with elevated caries risk increased from 42.5% in 2015 to 56.8% in 2019
- [Additional health center data and reporting information](#)

HRSA Oral Health Initiatives

- Learn about [HRSA-wide oral health initiatives, policy, practice, and resources](#).
- Learn more about the [Oral Health Infrastructure supplement funding opportunity and available technical assistance](#).

Resources

The following resources provide tips, promising practices, and recommendations on improving oral health and primary care integration in health centers.

[HRSA Resources](#)

Clinical Quality Improvement

- [Substance Use Disorders and Primary Care Integration](#)
- [Behavioral Health and Primary Care Integration](#)
- [Hepatitis and Primary Care Integration](#)
- [HIV and Health Centers](#)

Health Center Data & Reporting

- [Health Center Program Grantee Data](#)
- [UDS Resources](#)
- [Patient-Centered Medical Home Recognition \(PCMH\)](#)

Oral Health Grants Opportunities

- [Oral Health Infrastructure Supplement Funding](#)

Did You Know?

- The [National Health Service Corps](#) can help you recruit and retain qualified dental

<https://bphc.hrsa.gov/qualityimprovement/clinicalquality/oralhealth/index.html>

Since then...

<https://www.smilesforlifeoralhealth.org/>

<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Oral-Health/Pages/Chapter-Oral-Health-Advocates.aspx>



Oral Health Inequities



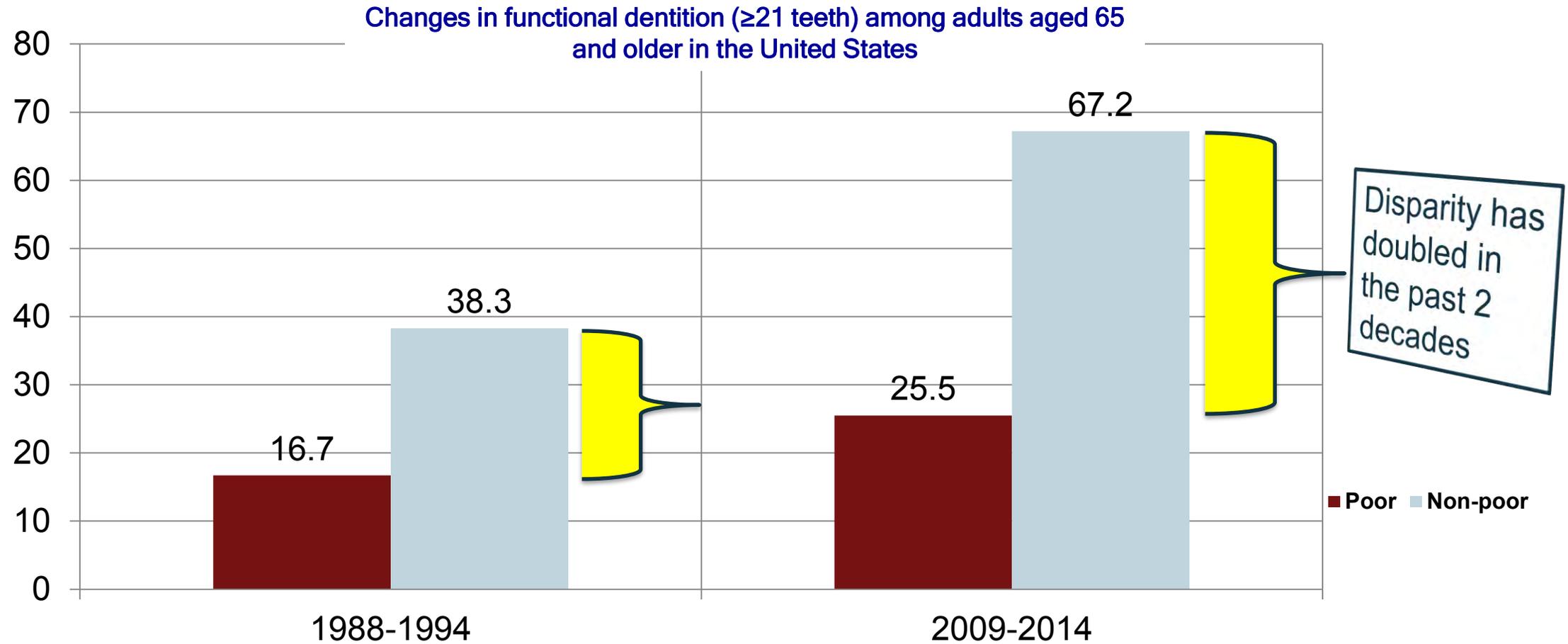
Oral Health Disparities Across the Lifespan

	Caries Prevalence, 2-5 years	Untreated Decay, 2-5 years	Caries Prevalence, 6-11 years	Untreated Decay, 6-11 years	Caries Prevalence, 12-19 years	Untreated Decay, 12-19 years	Untreated Decay, 65+ years	Total tooth loss 65+ years
<i>Race/Ethnicity</i>								
White, non-Hispanic	17.9%	6.7%	13.4%	4.3%	54.3%	15.6%	13.4%	15.2%
Black, non-Hispanic	28.0%	14.8%	21.6%	7.1%	57.1%	20.4%	29.1%	30.7%
Mexican American	32.9%	15.1%	24.5%	7.5%	68.9%	20.8%	35.9%	16.7%
<i>Income</i>								
<200% FPL	29.6%	13.9%	22.0%	6.9%	65.0%	21.6%	28.6%	28.6%
≥200% FPL	15.7%	6.0%	12.0%	3.5%	48.7%	11.1%	9.9%	10.7%

<https://www.cdc.gov/oralhealth/publications/OHSR-2019-index.html>



Older Adult Disparities



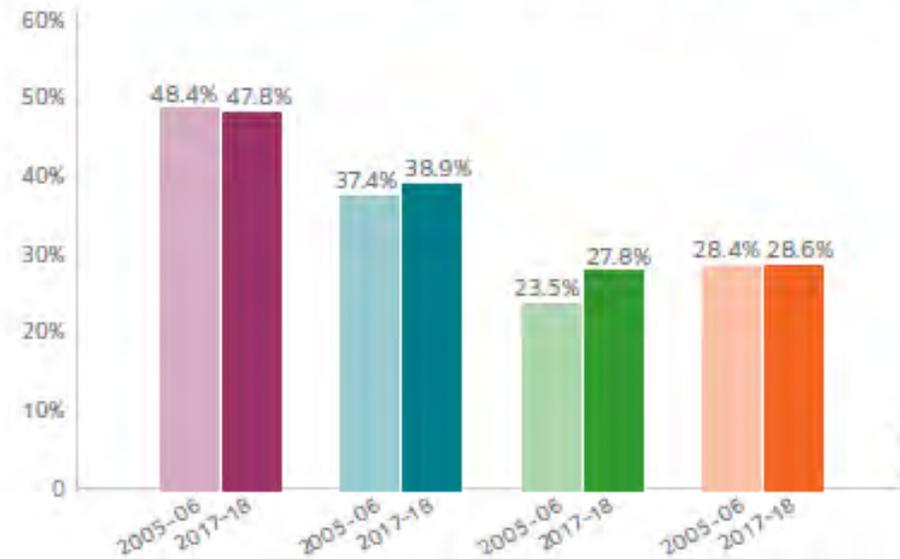
Dye et al. <https://pubmed.ncbi.nlm.nih.gov/17633507/>

Access by Race/Ethnicity

PERCENTAGE WITH A DENTAL VISIT IN THE PAST YEAR – CHILDREN



PERCENTAGE WITH A DENTAL VISIT IN THE PAST YEAR – ADULTS

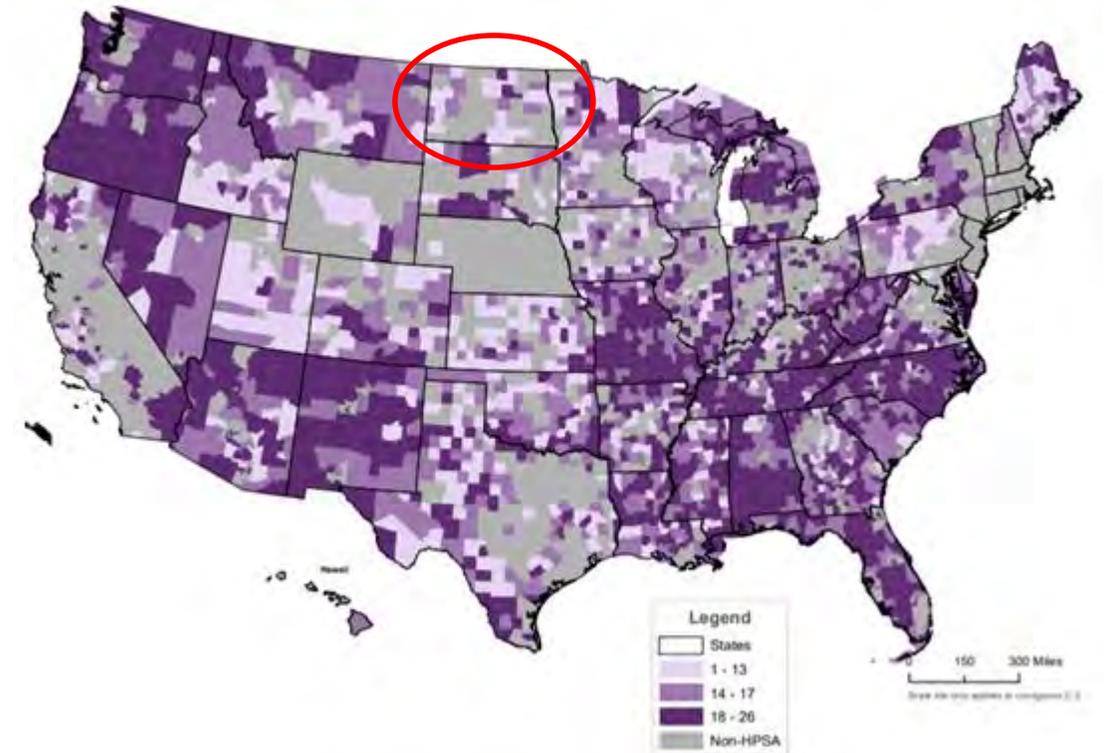


https://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic_0421_4.pdf?la=en



Dental Health Professional Shortage Areas (HPSAs)

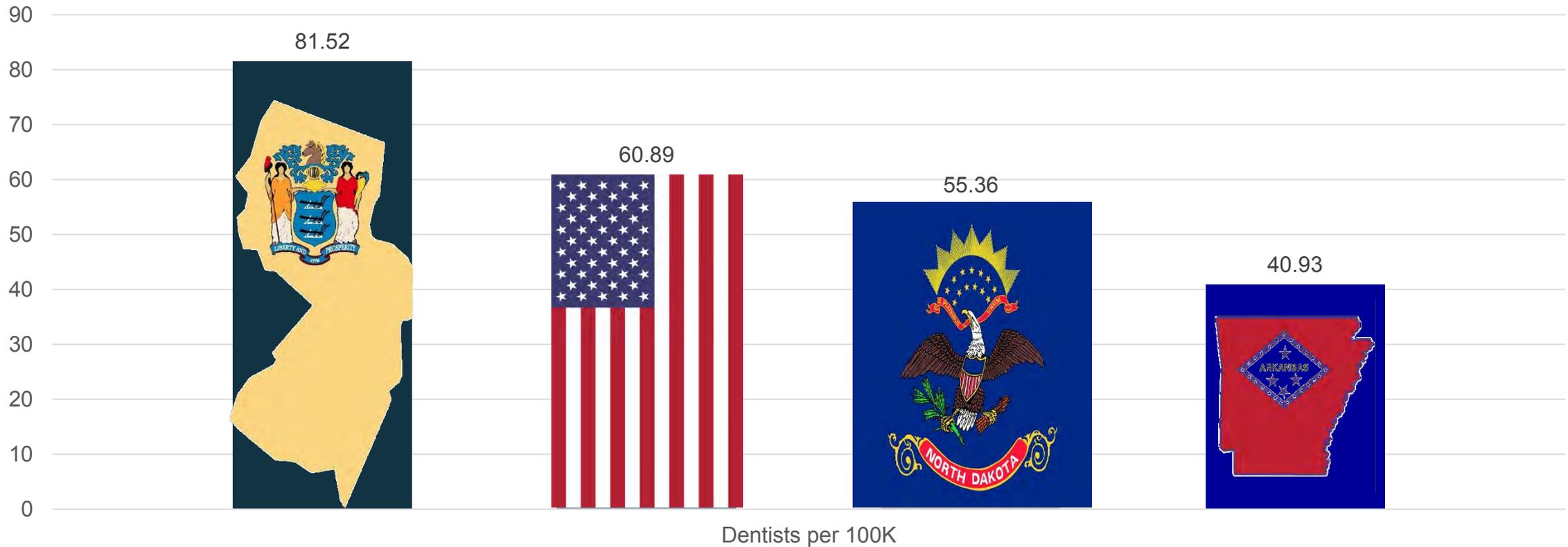
- Over 60 million people living in dental HPSAs
- 6,559 dental health professional shortage areas (HPSAs)
- 10,853 practitioners needed to remove HPSA designation



<https://data.hrsa.gov/topics/health-workforce/shortage-areas>

Number of Dentists Per Capita

Active Dentists in the U.S., 2015



<https://www.cdc.gov/nchs/data/hus/2016/086.pdf>

Factors Affecting Access to Dental Care



Healthy People Social Determinants of Health

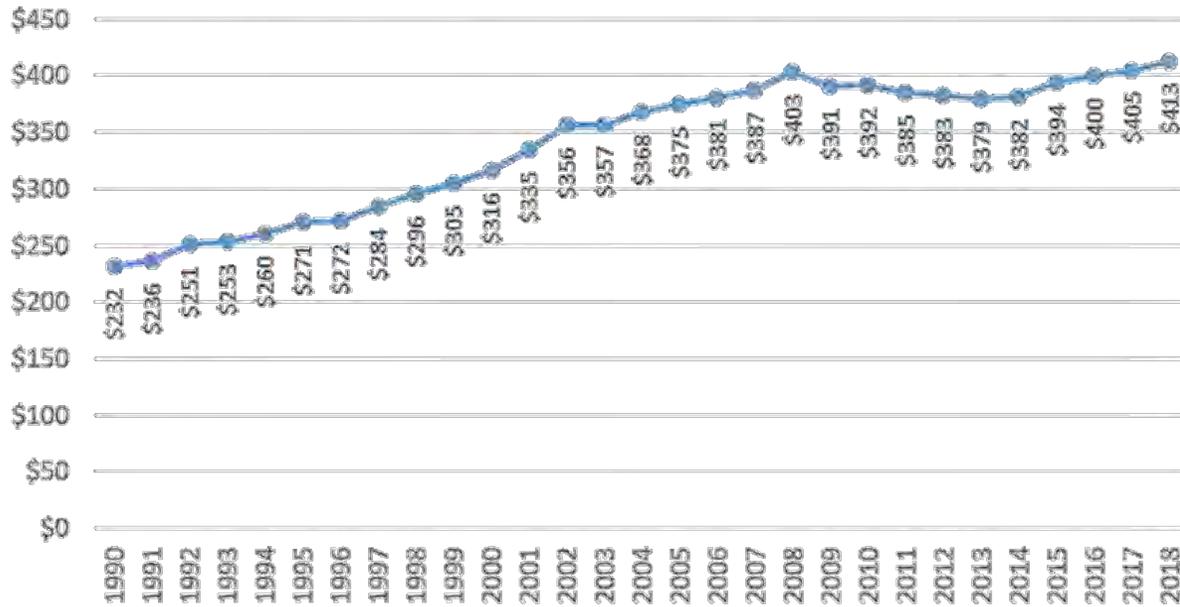
- **Economic Stability**
 - Poverty
 - Employment
 - Food Security
 - Housing Stability
- **Education**
 - High School Graduation
 - Enrollment in Higher Education
 - Language and Literacy
 - Early Childhood Education & Development
- **Social and Community Context**
 - Social Cohesion
 - Civic Participation
 - Discrimination
 - Incarceration
- **Health and Health Care**
 - Access to Health Care
 - Access to Primary Care
 - Health Literacy
- **Neighborhood and Built Environment**
 - Access to Healthy Foods
 - Quality of Housing
 - Crime and Violence
 - Environmental Conditions

SOURCE: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health#two>



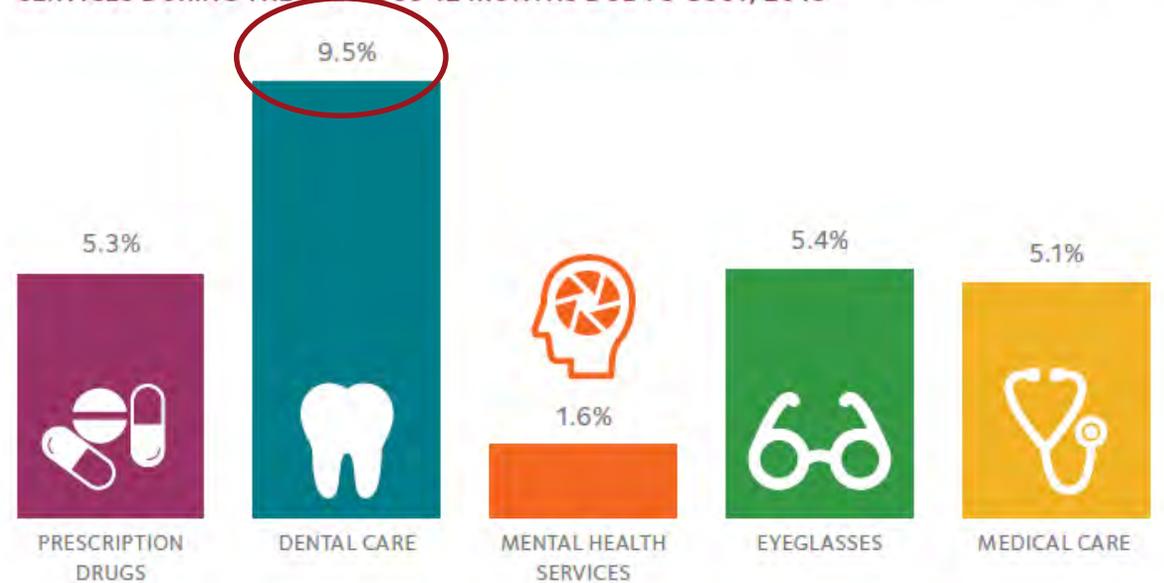
Oral Health Expenditures

Total Per-Capita Dental Spending in the U.S. (Inflation Adjusted)



DENTAL CARE consistently ranks at the top in terms of health care services with affordability challenges.

PERCENTAGE OF THE POPULATION WHO NEEDED BUT DID NOT OBTAIN SELECT HEALTH CARE SERVICES DURING THE PREVIOUS 12 MONTHS DUE TO COST, 2015²

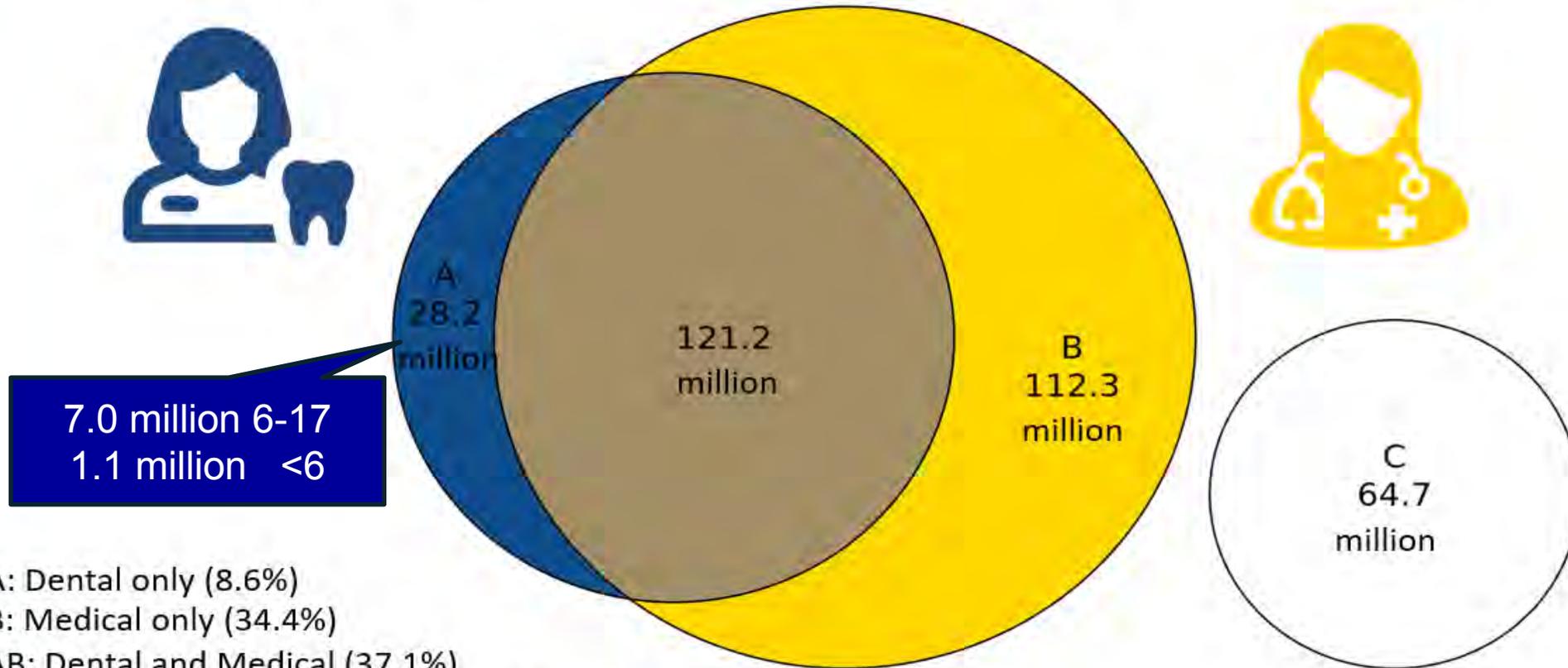


https://www.ada.org/en/science-research/health-policy-institute/publications/infographics?utm_source=adaorg&utm_medium=hpifeaturedbox&utm_content=infographics

Why Bi-Directional?



Population with Any Dental and Medical Visits



7.0 million 6-17
1.1 million <6

- 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.

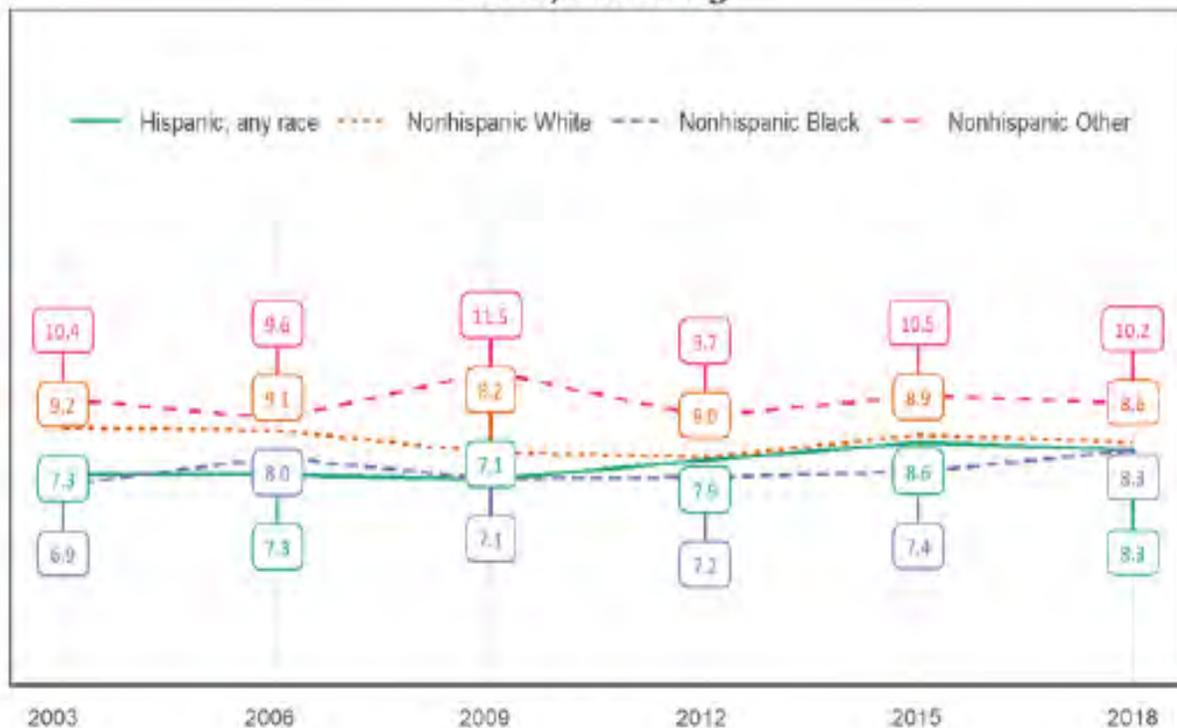


Figure 2: Percentage with only dental visits by demographic

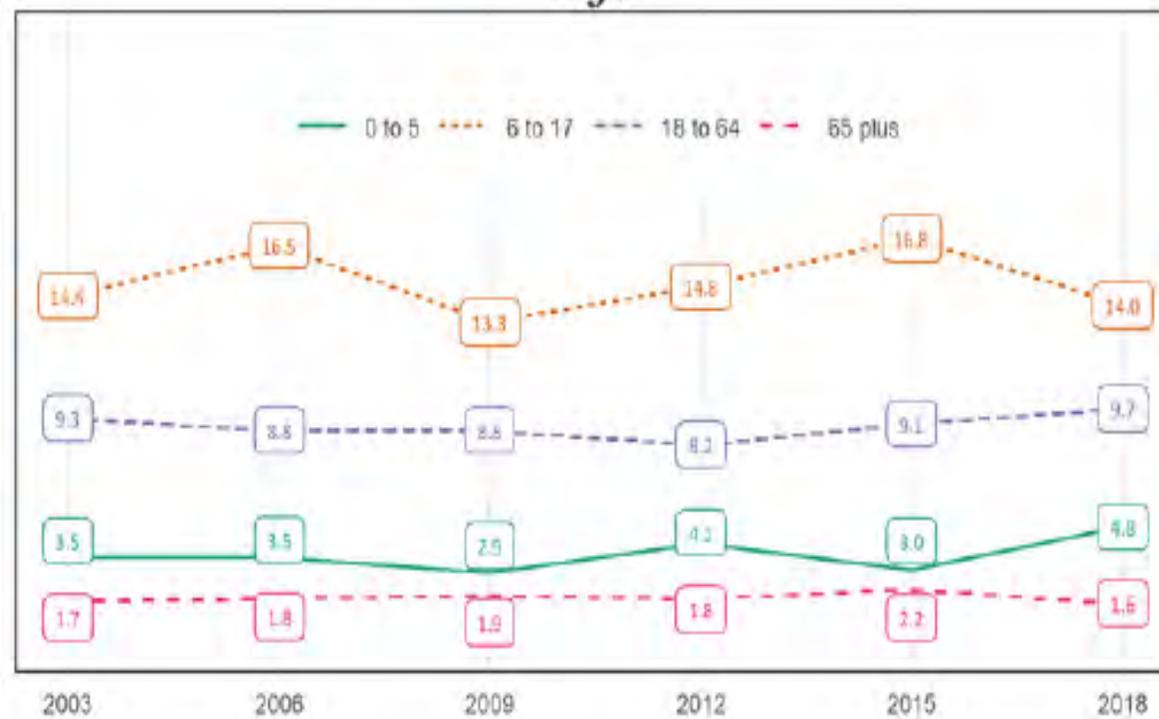


https://meps.ahrq.gov/data_files/publications/st537/stat537.pdf

Race/ethnicity



Age



Condition	# Potentially Undiagnosed	Reference
Hypertension	11 million	https://www.cdc.gov/mmwr/volumes/67/wr/mm6729a2.htm#
Diabetes	7.3 million	https://www.diabetes.org/resources/statistics/statistics-about-diabetes#
High Cholesterol	Many millions	https://www.cdc.gov/cholesterol/facts.htm#
Depression	10 million	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5769115/
Substance Use Disorder	17.7 million	https://www.samhsa.gov/data/sites/default/files/report_2790/ShortReport-2790.html

Number of HPV-Associated and HPV-Attributable Cancer Cases per Year

Cancer site	Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)	Percentage probably caused by any HPV type ^a	Number probably caused by any HPV type ^a
Cervix	12,143	91%	11,000
Vagina	867	75%	700
Vulva	4,114	69%	2,800
Penis	1,348	63%	900
Anus ^b	7,083	91%	6,500
Female	4,751	93%	4,400
Male	2,332	89%	2,100
Oropharynx	19,775	70%	14,000
Female	3,530	63%	2,200
Male	16,245	72%	11,800
TOTAL	45,330	79%	35,900

<https://www.cdc.gov/cancer/hpv/statistics/cases.htm>



55% of Adults (≥ 18) do not get the annual influenza vaccination

31% of Adults ≥ 65 have never received the pneumococcal vaccination



19% of children (≤ 24 months) have not received 4 doses of DTP/DT/DTaP

9% of children (≤ 24 months) have not been vaccinated against measles, mumps, and rubella

<https://www.cdc.gov/nchs/fastats/infectious-immune.htm>



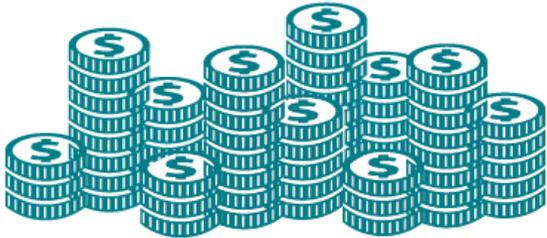
-
- Annual economic impact on the U.S. economy of the most common chronic diseases is more than \$1 trillion, which could balloon to nearly \$6 trillion by the middle of the century.



<https://www.fightchronicdisease.org/latest-news/milken-institute-study-chronic-disease-costs-us-economy-more-1-trillion-annually>



SCREENING FOR CHRONIC DISEASES IN DENTAL OFFICES COULD REDUCE U.S. HEALTH CARE COSTS BY ...



up to

\$102.6

MILLION per year

https://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/ADA_HPI_DentalOfcScreening.pdf?la=en

OR



up to

\$32.72

per person screened⁴

HPI Health Policy Institute

ADA American Dental Association®



Population	Recommendation	<u>Grade</u>
Adults 18 years or older without known hypertension	The USPSTF recommends screening for hypertension in adults 18 years or older with office blood pressure measurement (OBPM). The USPSTF recommends obtaining blood pressure measurements outside of the clinical setting for diagnostic confirmation before starting treatment.	A
Adults aged 40 to 70 years who are overweight or obese	The USPSTF recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.	B

Population	Recommendation	<u>Grade</u>
Adults age 18 years or older	The USPSTF recommends screening by asking questions about unhealthy drug use in adults age 18 years or older. Screening should be implemented when services for accurate diagnosis, effective treatment, and appropriate care can be offered or referred. (Screening refers to asking questions about unhealthy drug use, not testing biological specimens.)	B
General adult population, including pregnant and postpartum women	The USPSTF recommends screening for depression in the general adult population , including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B
Adolescents aged 12 to 18 years	The USPSTF recommends screening for major depressive disorder (MDD) in adolescents aged 12 to 18 years. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B

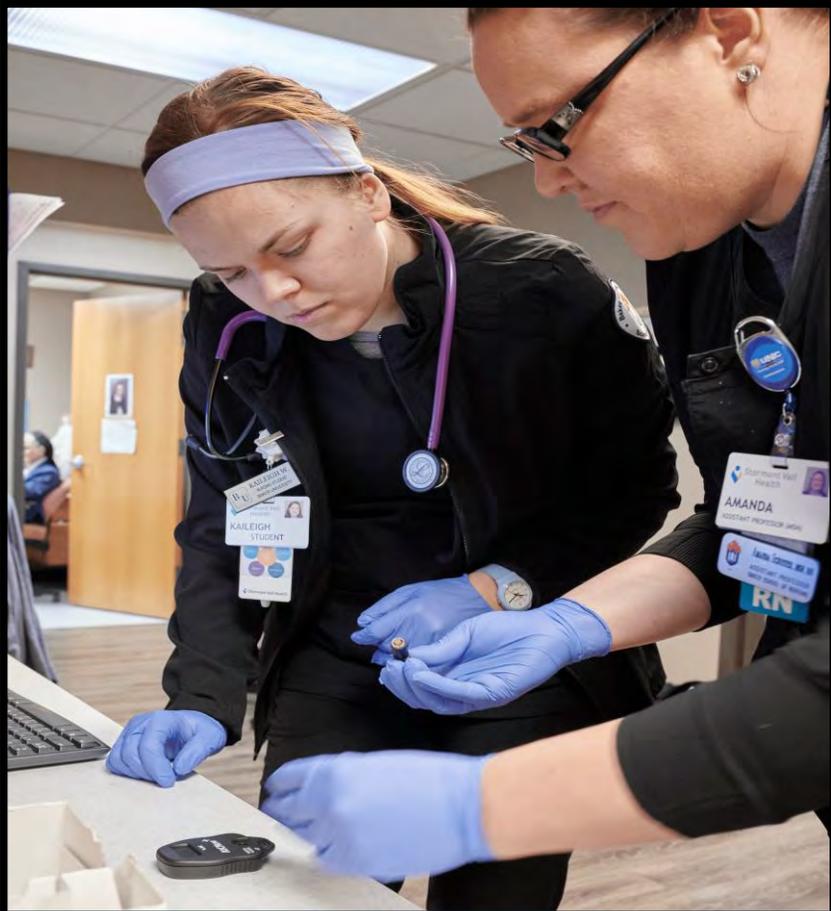


*A dental assistant performing a blood pressure screening at HealthWorks for Northern Virginia
(courtesy of Dr. Renner)*



Dr. Daniel Brody, a dentist at Valley Health CHC in Fort Gay, West Virginia, screens a patient for SUD.



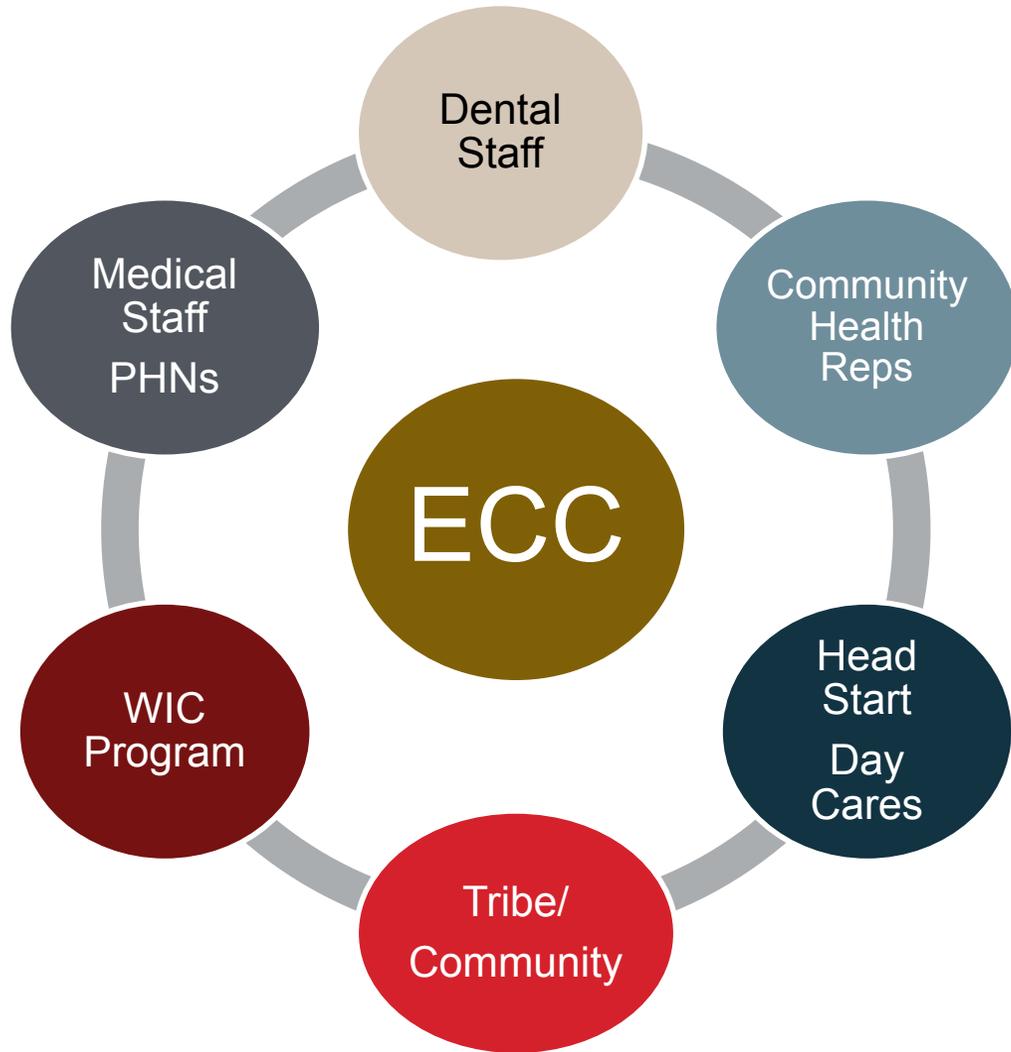


Point of care diabetic screening at Marian Dental Clinic, Topeka, Kansas



A dental staff member discusses medication interactions with a patient as part of a comprehensive screening protocol at the Agape Clinic in Dallas, Texas.

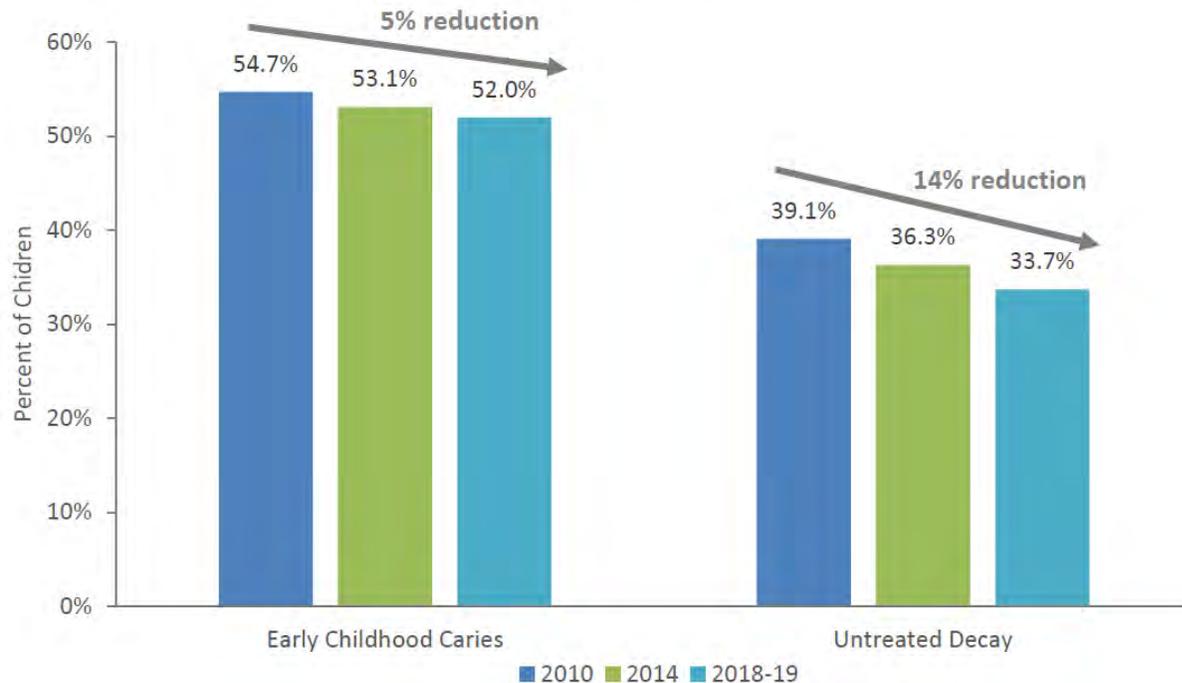




www.ihs.gov/doh/ecc



Figure 1. Prevalence of early childhood caries and untreated decay in AI/AN children 1-5 years of age at the 53 service units that participated in the 2010, 2014 and 2018-19 IHS oral health surveys



Phipps KR, Ricks TL, Mork NP, and Lozon TL. The oral health of American Indian and Alaska Native children aged 1-5 years: results of the 2018-19 IHS oral health survey. Indian Health Service data brief. Rockville, MD: Indian Health Service. 2019. Available at www.ihs.gov/doh

- Access to care, 1-5 year-olds
 - 22% increase annually
 - **14% were referrals from outside the health system**

- Dental sealants, 1-5 year-olds
 - 48% increase annually

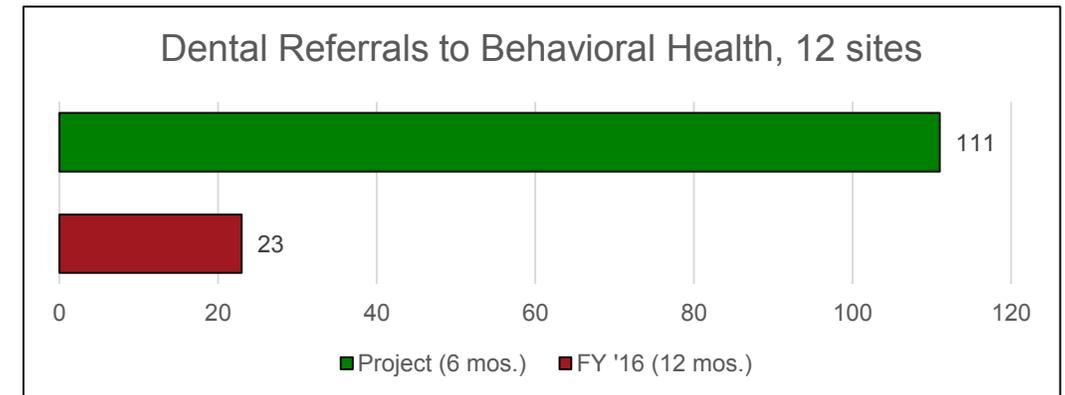
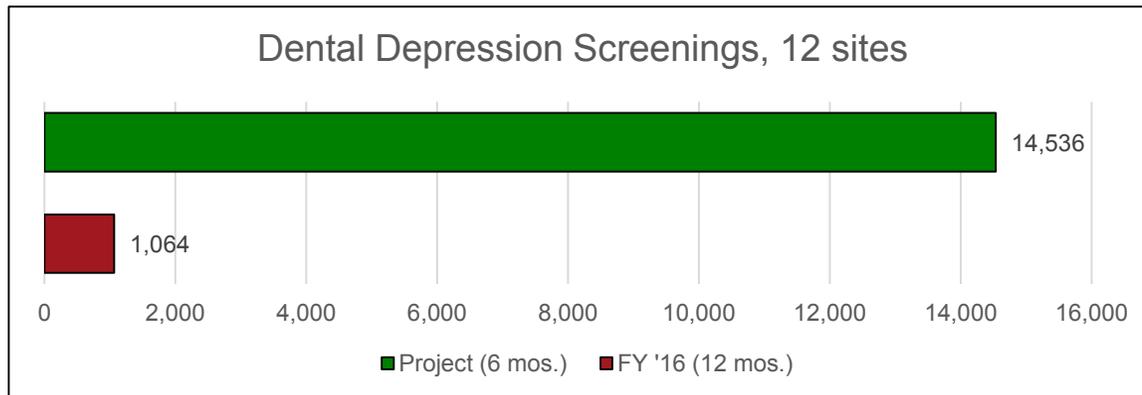
- Fluoride varnish applications
 - 115% increase annually, including
 - **335% increase among non-dental**
 - **(227% increase among 1-2 year-olds)**

- Interim therapeutic restorations, 1-5 year-olds
 - 232% increase annually

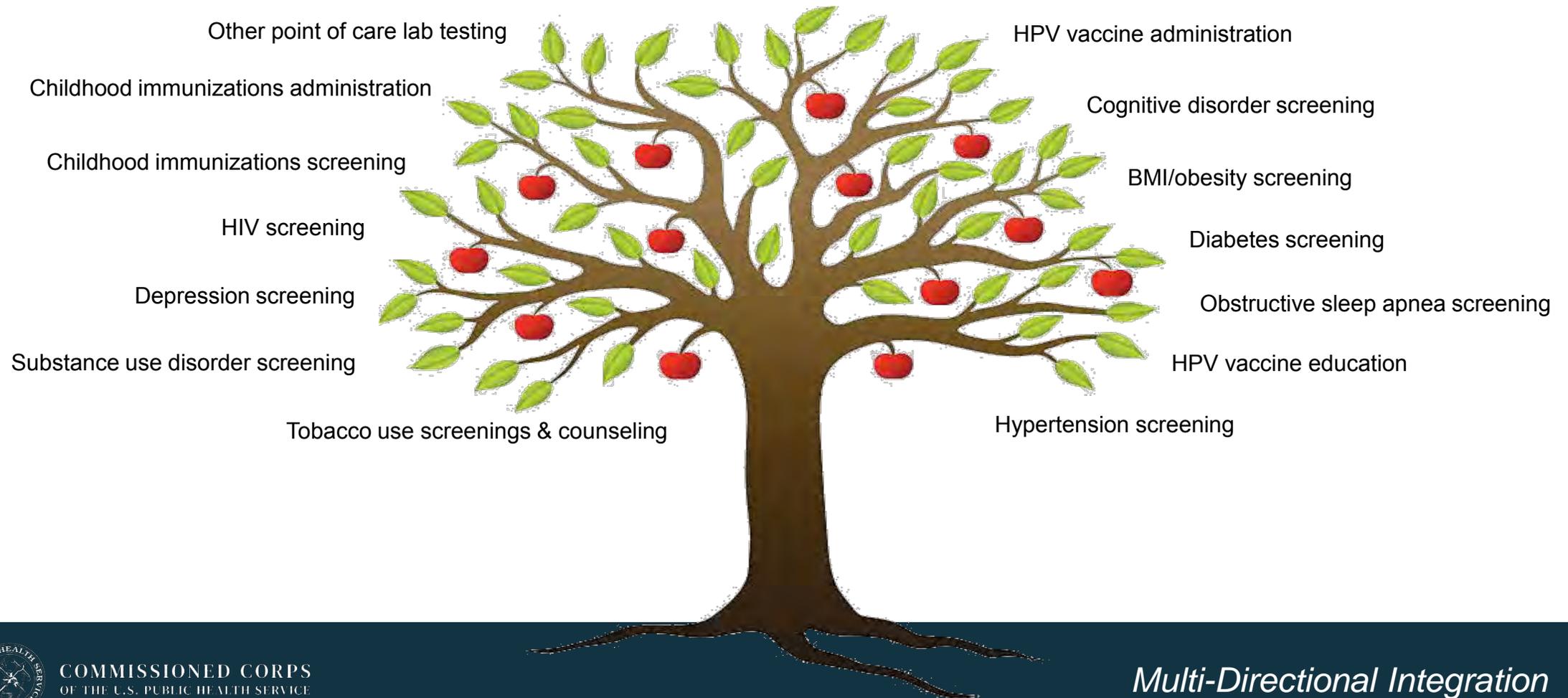
The IHS Division of Oral Health recommends that IHS, Tribal, and Urban dental programs screen all patients ≥ 12 years for depression at least once annually using the scored PHQ-2 form.

- Frequency: Annually
- Ages: 12 years and over
- Form: PHQ-2 Scored, Adult & Adolescent versions
- Referral: When the patient has an overall score of 3 or higher

	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3



Opportunities for the Present & Future



Thank You!

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