Priorities in Advancing Oral Health Equity

New Hampshire Oral Health Forum Series

May 10, 2021
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
• Summary of COVID-19 and oral health, including impact on delivery of care and opportunities for the future
• Description of oral health disparities
• Dental workforce issues
• Overview of the forthcoming Surgeon General’s Report on Oral Health
Priorities in Advancing Oral Health Equity
Who We Are

- **Our origins trace back more than 200** years to when the U.S. Marine Service acted to contain the spread of disease from sailors returning from foreign ports and provide care to new immigrants.

- **One of eight uniformed services**, and the only one dedicated solely to protecting America’s public health.

- **Specialties include** physicians, dentists, nurses, pharmacists, clinical and rehabilitation therapists, dieticians, engineers, environmental health and health services officers, scientists, and veterinarians.

- **Led by the Assistant Secretary for Health**, with operations and activities overseen by the U.S. Surgeon General.

- **Inspired by the call to serve vulnerable and underserved communities** through addressing public health issues.
What We Do

Protect, promote and advance the health and safety of our nation.

• Provide essential health services to vulnerable and underserved populations.

• Serve on the frontline of public health emergencies

• Lead public health programs and policy development throughout the federal government.

• Advance innovation and science
USPHS Dentist Locations

Priorities in Advancing Oral Health Equity
What a USPHS dentist does

- Delivers critical dental services to vulnerable and underserved populations including American Indians and Alaska Natives (Indian Health Service), inmates (Federal Bureau of Prisons), immigrants and detainees (Immigration and Customs Enforcement Health Service Corps), service members (U.S. Coast Guard), and to poor and underserved across the country through community health centers (Health Resources and Services Administration).

- Manages population-based oral health programs such as Medicaid (Centers for Medicare and Medicaid Services), national surveillance, infection control guidance, and community water fluoridation (Centers for Disease Control and Prevention), oral health-related grants (HRSA), etc.

- Conducts Research including basic laboratory, translational, and clinical research (National Institute of Dental and Craniofacial Research).

- Regulates Dental Products such as dentrifices (Food and Drug Administration).
Oral Health Interconnectivity

“5-eyes” Colleagues:
- Canada
- New Zealand
- Australia
- U.K. (England, Ireland, Scotland, Wales)

USPHS Categories:
- Dieticians
- Engineers
- Environmental Health
- Health Services Officers
- Nurses
- Pharmacists
- Physicians
- Scientists
- Therapists
- Veterinarians

Priorities in Advancing Oral Health Equity
COVID-19 & Oral Health
Opportunities Ahead

• **Tele-dentistry**
  - Screening
  - Specialty Care

• **Integration of Oral Health and Overall Health**
  - Education: HPV, Influenza, etc.
  - Referral
  - Point of Care Testing

• **Expansion of Alternative Dental Workforce Models**

• **Minimally Invasive Dentistry**
  - Silver Diamine Fluoride
  - Interim Therapeutic Restorations
## Opportunities Ahead – HPV Vaccinations

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

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

\(^a\) Percentage probably caused by any HPV type calculated based on estimated prevalence of HPV in cancers.

\(^b\) Anus includes anal and perianal cancers.

[https://www.cdc.gov/cancer/hpv/statistics/cases.htm](https://www.cdc.gov/cancer/hpv/statistics/cases.htm)
Oral Health Inequities
What is "health inequity" then?

Oral Health Equity: March 31, 2021

EQUALITY

EQUITY
### What is “health inequity?”

<table>
<thead>
<tr>
<th>Concept</th>
<th>Research question</th>
<th>Application to policy or program planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disparity</td>
<td>Is there a difference in health status rates between population groups?</td>
<td>Is the difference too large?</td>
</tr>
<tr>
<td>Inequity</td>
<td>Is the disparity in rates due to differences in social, economic, environmental or healthcare resources?</td>
<td>Is the distribution of resources fair?</td>
</tr>
<tr>
<td>Inequality</td>
<td>How do rates vary with the amount of the resource, and how is the population distributed among resource groups?</td>
<td>Can the distribution of the population among resource groups and/or the rates within resource groups be influenced?</td>
</tr>
<tr>
<td>Burden</td>
<td>How many people are affected in specific groups and in the total population?</td>
<td>How many people would benefit from interventions?</td>
</tr>
</tbody>
</table>

When is a health disparity an inequity?

• One in six American Indian/Alaska Native (AI/AN) adults aged 45 years and older experiences subjective cognitive decline, the self-reported experience of worsening or more frequent confusion or memory loss.

• African Americans aged 18–49 years are twice as likely to die from heart disease as whites, and African Americans aged 35–64 years are 50% more likely to have high blood pressure than whites.

• Americans living in rural areas are more likely to die from heart disease, cancer, unintentional injuries, chronic lower respiratory disease, and stroke than Americans in urban areas.

• Native Americans are twice as likely as whites to have diabetes. For 2 in 3 Native Americans with kidney failure, diabetes is the cause.

https://www.cdc.gov/publichealthgateway/didyouknow/topic/healthdisparities.html
# Oral Health Disparities Across the Lifespan

## Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Caries Prevalence, 2-5 years</th>
<th>Untreated Decay, 2-5 years</th>
<th>Caries Prevalence, 6-11 years</th>
<th>Untreated Decay, 6-11 years</th>
<th>Caries Prevalence, 12-19 years</th>
<th>Untreated Decay, 12-19 years</th>
<th>Untreated Decay, 65+ years</th>
<th>Total tooth loss 65+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, non-Hispanic</td>
<td>17.9%</td>
<td>6.7%</td>
<td>13.4%</td>
<td>4.3%</td>
<td>54.3%</td>
<td>15.6%</td>
<td>13.4%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>28.0%</td>
<td>14.8%</td>
<td>21.6%</td>
<td>7.1%</td>
<td>57.1%</td>
<td>20.4%</td>
<td>29.1%</td>
<td>30.7%</td>
</tr>
<tr>
<td>Mexican American</td>
<td>32.9%</td>
<td>15.1%</td>
<td>24.5%</td>
<td>7.5%</td>
<td>68.9%</td>
<td>20.8%</td>
<td>35.9%</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

## Income

<table>
<thead>
<tr>
<th>Income Category</th>
<th>Caries Prevalence, 2-5 years</th>
<th>Untreated Decay, 2-5 years</th>
<th>Caries Prevalence, 6-11 years</th>
<th>Untreated Decay, 6-11 years</th>
<th>Caries Prevalence, 12-19 years</th>
<th>Untreated Decay, 12-19 years</th>
<th>Untreated Decay, 65+ years</th>
<th>Total tooth loss 65+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤200% FPL</td>
<td>29.6%</td>
<td>13.9%</td>
<td>22.0%</td>
<td>6.9%</td>
<td>65.0%</td>
<td>21.6%</td>
<td>28.6%</td>
<td>28.6%</td>
</tr>
<tr>
<td>&gt;200% FPL</td>
<td>15.7%</td>
<td>6.0%</td>
<td>12.0%</td>
<td>3.5%</td>
<td>48.7%</td>
<td>11.1%</td>
<td>9.9%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

Inequities among American Indians/Alaska Natives

- AI/AN children and youth have twice the prevalence of caries experience as the U.S. population.
- AI/AN children, youth, and adults have 2–4x the rate of untreated dental caries, an indicator of access to dental services.
- AI/AN adults also disproportionately suffer from periodontal disease, missing teeth, and self-reported food avoidance due to oral pain.

### Comparing AI/AN Oral Health to the rest of the U.S.

<table>
<thead>
<tr>
<th>Age</th>
<th>How do American Indians &amp; Alaska Natives compare to the rest of the U.S. with dental disease?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-5</td>
<td>Decayed &amp; filled teeth</td>
</tr>
<tr>
<td>3-5</td>
<td>Untreated tooth decay/cavities</td>
</tr>
<tr>
<td>6-8</td>
<td>Untreated tooth decay/cavities</td>
</tr>
<tr>
<td>13-15</td>
<td>Ever had a cavity</td>
</tr>
<tr>
<td>13-15</td>
<td>Untreated tooth decay/cavities</td>
</tr>
<tr>
<td>35+</td>
<td>Untreated tooth decay/cavities</td>
</tr>
<tr>
<td>35+</td>
<td>Severe gum disease</td>
</tr>
<tr>
<td>35+</td>
<td>Avoid food because of toothaches</td>
</tr>
</tbody>
</table>
Older Adult Oral Health Disparities

Changes in functional dentition (≥21 teeth) among adults aged 65 and older in the United States

Disparity has doubled in the past 2 decades

Access to Care in the U.S.

<table>
<thead>
<tr>
<th>Year</th>
<th>Access %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>44.2%</td>
</tr>
<tr>
<td>2000</td>
<td>42.7%</td>
</tr>
<tr>
<td>2003</td>
<td>45.0%</td>
</tr>
<tr>
<td>2005</td>
<td>44.3%</td>
</tr>
<tr>
<td>2010</td>
<td>42.1%</td>
</tr>
<tr>
<td>2016</td>
<td>43.3%</td>
</tr>
<tr>
<td>HP2020 Goal</td>
<td>49.0%</td>
</tr>
<tr>
<td>HP2030 Goal</td>
<td>45.0%</td>
</tr>
</tbody>
</table>

Data Source: Medical Expenditure Panel Survey (MEPS), Agency for Healthcare Research and Quality (AHRQ)
Additional footnotes may apply to these data. Please refer to footnotes below the data table for further information.
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

Dentists Per Capita, 2015

- U.S. Overall: 60.89
- New Jersey: 81.52
- Arkansas: 40.93
- New Hampshire: 63.96

Maldistribution of Dental Access by Race/Ethnicity

NH: 3% Hispanic, 2% AA, 3% Asian-American, 94% White

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

NH: $76,768 median household income, 8th highest, but 7.3% living in poverty

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, 2015[

Medicaid Participation Rates

Dentist Participation in Medicaid

BY RACE/ETHNICITY

63%  51%  50%  39%  53%
Black Hispanic Asian White Other Race

BY GENDER

49%  41%
Female Dentists Male Dentists

BY AGE

54%  50%  36%  33%
21-34 35-49 50-64 65+

Impact on Medicaid

Preliminary data show the number of dental services for children declined substantially in April, increased through July, but are still below prior years’ rates.

Dental service rates among children dropped from 93 per 1,000 in February to a low of 8 per 1,000 beneficiaries in April and increased to about 71 per 1,000 beneficiaries in July.

- Dental services: Any dental service.
- Years: 2017 ⋮, 2018 ⋮, 2019 ⋮, 2020 ⋮
- Service use among selected Medicaid and CHIP beneficiaries 18 and under

~50% fewer (9.1 million) dental services were provided between March through July 2020, compared to March through July 2019.

Note: Data for recent months are likely to be adjusted upward due to claims lag.
Adult Medicaid Dental Benefits

- 74 million Americans lack dental coverage.
- As of 2020, only 18 states have extensive dental benefits as part of Medicaid.
- “Extensive” or “Comprehensive” means more than 100 services covered.

https://dentaquest.com/oral-health-resources/adult-dental-benefit/
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

Other Drivers of Inequities

- Oral health literacy/education
- Lack of culturally competent care
- Transportation
- Other social determinants (housing, food availability, etc.)
- Other health problems
- And many more….
What is "health inequity then?"

Oral Health Equity: March 31, 2021

EQUALITY

EQUITY
Workforce Issues

Priorities in Advancing Oral Health Equity
Workforce Issues – where are dentists going?

Supply of Dentists, 2001-2018

Dentists per 100,000 population, 2001-2018

Cost of Dental Education

- **$292,169** - Average educational debt for the Class of 2019
- **39%** - Percentage of 2019 dental school graduates owing >$300,000
- Assuming $300,000 debt paid over 25 years:
  - **$2,314** per month for 25 years
  - **$694,239** total repayment
  - **$394,239** total interest cost

https://www.adea.org/GoDental/Money_Matters/Educational_Debt.aspx
https://www.adea.org/GoDental/Money_Matters/Sample_repayment_amounts.aspx
Changing Workforce Models – Group Practice

Changing Workforce Models - Therapy

- Begun in 2000
- No universal model
- 12 states have authorized therapy
  - 2004 – Alaska
  - 2009 – Minnesota
- 9 states “actively exploring authorizing dental therapy”

Changing Workforce Models – Dental Hygienists

The purpose of this graphic is to help planners, policymakers, and others understand differences in legal scope of practice across states, particularly in public health settings. Research has shown that a broader scope of practice for dental hygienists is positively and significantly associated with improved oral health outcomes in a state's population.1,2

https://oralhealthnc.org/ncohcs-policy-brief-workforce-utilization/
Changing Workforce Models – Expanded Function Dental Assistants

Dental Assistant Restorative Functions
Where can dental assistants be credentialed for expanded functions?

https://oralhealthnc.org/ncohcs-policy-brief-workforce-utilization/
Changing Workforce Models – Community Dental Health Coordinators

STATUS
- FULL FUNCTION CDHC ON-SITE
- CDHC HELP NAVIGATE TO PROVIDERS
- PILOTING A CDHC PROGRAM
- VISITING CDHC
- CDHC PROGRAMS IN DEVELOPMENT

The Surgeon General’s Report

Oral Health in America: A Report of the Surgeon General

Priorities in Advancing Oral Health Equity
Revisiting the 2000 Report

• First-ever report commissioned by the Surgeon General on oral health

• Available at:

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

• Major Message:

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

- Effect of Oral Health on the Community, Overall Well-being, and the Economy
- Oral Health Across the Lifespan – Children & Adolescents
- Oral Health Across the Lifespan – Adults & Older Adults
- Oral Health Integration, Workforce, and Practice
- Effects of Addiction and Mental Health Disorders on Oral Health
- Emerging Technologies and Promising Science to Transform Oral Health

Thank You!

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