The Surgeon General’s Report on Oral Health

Missouri Oral Health Policy Conference
March 5, 2020
Mission and Core Values

• Protect, promote, and advance the health and safety of our Nation
  – Rapid and effective response to public health needs
  – Leadership and excellence in public health practices
  – Advancement of public health science

• Core values:
  – Leadership
  – Service
  – Integrity
  – Excellence
Where Dentists Work
Current Openings

- CDC: https://www.usajobs.gov/
- FDA: https://www.usajobs.gov/
- HRSA: https://www.hrsa.gov/hr
- IHS: https://www.ihs.gov/dentistry/index.cfm/currentopenings/search/
- IHSC: https://www.usajobs.gov/
- NIH: https://www.usajobs.gov/
- USCG: https://www.gocostguard.com/active-duty-careers/officer-opportunities/programs/dental-officer
Oral Health in America: A Report of the Surgeon General

• 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.
Oral Health in America: Call to Action (2003)

Goals were:

• To promote oral health
• To improve quality of life
• To eliminate oral health disparities
Five Key Actions

1. Change perceptions of oral health
2. Replicate Effective Programs and Proven Efforts
3. Build the science base
4. Increase Oral Health Workforce Diversity, Capacity, and Flexibility
5. Increase collaborations
Key Actions: Missouri Coalition for Oral Health

4. Increase workforce capacity

5. Increase collaborations

1. Change perceptions of oral health
Global Burden of Disease

• Four oral health diseases ranked in the top 30 out of 328 conditions:
  – Untreated Dental Caries (tooth decay) in *permanent* teeth — 1<sup>st</sup>
  – *Severe* Periodontitis — 11<sup>th</sup>
  – Untreated Dental Caries (tooth decay) in *primary* teeth — 17<sup>th</sup>
  – *Severe/Complete* Tooth Loss — 29<sup>th</sup>
Why do we need a 

Surgeon General’s Report on Oral Health now?
Surgeon General’s Priorities

“Better Health Through Better Partnerships”

• Substance Misuse: Opioids, Tobacco, E-cigarettes
• Community Health and Economic Prosperity
• Health & National Security: Military Eligibility and Readiness
• Oral Health: https://youtu.be/snOxqakR2zk

JEROME M. ADAMS, M.D., M.P.H.
Vice Admiral, U.S. Public Health Service
Surgeon General
How has the U.S. changed in the last 20 years?

• Oral health disparities
• Aging of the population
• A changing workforce
• Mental illness & substance abuse
• Healthcare expenditures
• Emerging public health threats
• Advances in research and technology
How has the world changed in the last 20 years?

- Digitation of everything
- Demographic changes
- Delivery of services

Global Population Growth & Internet Usage, 2000-2019, in millions

- Population Pyramid. [www.populationpyramid.net/world/2019/](http://www.populationpyramid.net/world/2019/)
How has the U.S. changed in the last 20 years?

- Oral health disparities/inequities
- Aging of the population
- A changing workforce
- Mental illness & substance abuse
- Healthcare expenditures
- Emerging public health threats
### Oral Health: Persistent Disparities/Inequities

<table>
<thead>
<tr>
<th></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><strong>Male</strong></td>
<td>24.0%</td>
<td>11.1%</td>
<td>15.6%</td>
<td>4.9%</td>
<td>55.9%</td>
<td>17.7%</td>
<td>18.0%</td>
<td>17.7%</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>22.4%</td>
<td>9.5%</td>
<td>19.0%</td>
<td>5.5%</td>
<td>57.7%</td>
<td>15.4%</td>
<td>14.2%</td>
<td>16.9%</td>
</tr>
<tr>
<td><strong>White, non-Hispanic</strong></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><strong>Black, non-Hispanic</strong></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><strong>Mexican American</strong></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>
<tr>
<td><strong>&lt;200% FPL</strong></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><strong>&gt;200% FPL</strong></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>

Oral Health: Social Determinants & Disparities

Social Determinants
- Educational system
- Public policies
- Economic system

Familial Determinants
- Family structure
- Family health status
- Family norms
- Public health infrastructure
- Social inequalities
- SES
- Physical environment
- Social norms

Individual Determinants
- Sex
- Oral hygiene
- Smoking
- Stress
- Use of dental services
- SES
- SES

Periodontal status

Host and Genetic Factors
- Bacterial biofilm
- Immune and inflammatory factors
How has the U.S. changed in the last 20 years?

- Oral health disparities
- Aging of the population
- A changing workforce
- Mental illness & substance abuse
- Healthcare expenditures
- Emerging public health threats
The Aging Population: Population Growth

Projected Population Growth for Adults 65 and over, U.S., 2000 to 2030

The Aging Population: Perspective

• Our current population of seniors is more than the population of 25 states combined

• Causes:
  – People are living longer
  – The Baby Boomers

The Aging Population: Perspective

![An Aging Nation](image.png)

**An Aging Nation**

Projected Number of Children and Older Adults

For the First Time in U.S. History Older Adults AreProjected to Outnumber Children by 2035

- **Projected percentage of population**
  - Adults 65+: 23.5%
  - Children under 18: 19.8%
  - Total: 43.3%

- **Projected number (millions)**
  - 2016: Adults 49.2, Children 73.6
  - 2025: Adults 78.0, Children 76.4
  - 2035: Adults 94.7, Children 79.8

Source: National Population Projections, 2017

www.census.gov/programs-surveys/popproj.html

Note: 2016 data are estimates, not projections.
Changing Dependency Ratio

- 2000: 20 older adults: 100 working adults
- Today: 28 older adults: 100 working adults
- In 2040: Older adults increase to 38:100

Source: Dependency ratio: the number of youths (<18 years) and older adults (≥65 years) for every 100 working-age adults (18-64 years). US Census Bureau, Current Population Reports, March 2018.
The Aging Population: Healthcare Expenditures

Figure 2: Annual health care costs per person by number of chronic conditions (Boomer and Non-Boomer)

Adapted from When I'm 64: How Boomers Will Change Health Care, American Hospital Association, 2007.

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

The Aging Population: Self-Reported Oral Health

OVERALL CONDITION OF MOUTH AND TEETH AMONG SENIORS

33% VERY GOOD
39% GOOD
21% FAIR
7% POOR

How has the U.S. changed in the last 20 years?

• Oral health disparities
• Aging of the population
• A changing workforce
• Mental illness
• Substance abuse
• Healthcare expenditures
• Emerging public health threats
A Changing Workforce: Dentist Shortage Areas

- 58 million people
- 5,862 dental health professional shortage areas (HPSAs)
- 10,593 practitioners needed

Health Resources and Services Administration. www.data.hrsa.gov/topics/health-workforce/shortage-areas
Dentist Shortage Areas: Missouri

- Overall ratio of dentists to population: 1:1,846 (ranging from 1:563 in Marion County to 1:17,823 in Pemiscot County)

- Disparities in disease (untreated decay) related to access:
  - Hispanics <18 = 16.9%
  - African Americans <18 = 16.3%
  - Caucasians <18 = 14.1%

A Changing Workforce: Changes in Dentists’ Practices

American Dental Association, Health Policy Institute. Fewer dentists are practicing solo. October 10, 2018, ADA News.

A Changing Workforce: The Rise of Dental Therapy

- Begun in 2000
- No universal model
- Authorized
How has the U.S. changed in the last 20 years?

• Oral health disparities
• Aging of the population
• A changing workforce
  • Mental illness & substance abuse
  • Healthcare expenditures
• Emerging public health threats
Teenagers reporting mental illness in the past year (765,000)

Kaiser Family Foundation. Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2016 and 2017. (Accessed 10 April 2019)

Mental Illness and Substance Abuse: Opioids & Teens

Number of Opioid Prescriptions Written by Dentists per 1,000 Dental Patients Ages 11-18, U.S., 2010-2015

## Mental Illness & Substance Abuse: Opioid Prescribing

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Opioid Rx n, millions (%)*</th>
<th>Total Rx n, millions (%)*</th>
<th>Opioid Rx/Total Rx %*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family practice</td>
<td>52.5 (18.2)</td>
<td>946.9 (22.3)</td>
<td>5.6</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>43.6 (15.1)</td>
<td>913.9 (21.5)</td>
<td>4.8</td>
</tr>
<tr>
<td>General practice</td>
<td>32.2 (11.2)</td>
<td>431.2 (10.1)</td>
<td>7.5</td>
</tr>
<tr>
<td>Surgery</td>
<td>28.3 (9.8)</td>
<td>77.6 (1.8)</td>
<td>36.5</td>
</tr>
<tr>
<td>Dentistry</td>
<td><strong>18.5 (6.4)</strong></td>
<td><strong>64.0 (1.5)</strong></td>
<td><strong>29.0</strong></td>
</tr>
<tr>
<td>Pain Medicine</td>
<td>14.5 (5.0)</td>
<td>29.8 (0.7)</td>
<td>48.6</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>12.5 (4.3)</td>
<td>60.5 (1.4)</td>
<td>20.7</td>
</tr>
</tbody>
</table>

Mental Illness & Substance Abuse: Opioid Prescribing

https://www.ada.org/~/media/ADA/Advocacy/Files/Opioids%202018_ADA%20HPI_Opioids%20Prescribing%20by%20Dentists.pdf?la=en
Mental Illness & Substance Abuse: Opioid Overdose Deaths

3 Waves of the Rise in Opioid Overdose Deaths

- **Wave 1:** Rise in Prescription Opioid Overdose Deaths
- **Wave 2:** Rise in Heroin Overdose Deaths
- **Wave 3:** Rise in Synthetic Opioid Overdose Deaths

**Other Synthetic Opioids**
- e.g., Tramadol and Fentanyl, prescribed or illicitly manufactured

**Commonly Prescribed Opioids**
- Natural & Semi-Synthetic Opioids and Methadone

**Heroin**

Among 15–49 year-olds in the United States, 19% of all deaths were attributed to SUDs in 2017.

- Canada: 9%
- Mexico: 0.5%
I, Surgeon General of the United States Public Health Service, VADM Jerome Adams, am emphasizing the importance of the overdose-reversing drug naloxone. For patients currently taking high doses of opioids as prescribed for pain, individuals misusing prescription opioids, individuals using illicit opioids such as heroin or fentanyl, health care practitioners, family and friends of people who have an opioid use disorder, and community members who come into contact with people at risk for opioid overdose, knowing how to use naloxone and keeping it within reach can save a life.

BE PREPARED. GET NALOXONE. SAVE A LIFE.
Surgeon General’s Postcard on Opioid Misuse

WHAT CAN YOU DO TO PREVENT OPIOID MISUSE?

TALK ABOUT IT.
Opioids can be addictive and dangerous. We all should have a conversation about preventing drug misuse and overdose.

BE SAFE.
Only take opioid medications as prescribed. Always store in a secure place. Dispose of unused medication properly.

UNDERSTAND PAIN.
Treatments other than opioids are effective in managing pain and may have less risk for harm. Talk with your healthcare provider about an individualized plan that is right for your pain.

KNOW ADDICTION.
Addiction is a chronic disease that changes the brain and alters decision-making. With the right treatment and supports, people do recover. There is hope.

BE PREPARED.
Many opioid overdose deaths occur at home. Having naloxone, an opioid overdose reversing drug, could mean saving a life. Know where to get it and how to use it.

For help, resources, and information:
https://www.hhs.gov/opioids/
1-800-662-HELP (4357)
Mental Illness & Substance Abuse: Adults

- 45.6 million adults (18.2%)
- 6.7 million persons (3%) age 18 and older reported illicit drug dependence or abuse

Prescription opioid overdose deaths and death rate per 100,000 population (age-adjusted) in the US

Kaiser Family Foundation. Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (NSDUH), 2016 and 2017. (Accessed 10 April 2019)

How has the U.S. changed in the last 20 years?

- Oral health disparities
- Aging of the population
- A changing workforce
- Mental illness & substance abuse
- Healthcare expenditures
- Emerging public health threats
In 2016, the United States spent 3.3 Trillion dollars on Health care

- China: $600 Billion
- Canada: $177 Billion

https://vizhub.healthdata.org/gbd-compare/
Financing Global Health, All cause total health care spending
Healthcare Expenditures:
Per capita spending, global

Healthcare Expenditures: Dental Expenditures

Total dental expenditures in the United States

Adjusted Inflation

$ billions

Healthcare Expenditures: Out-of-Pocket and Oral Health

Percent of people who did not get selected health care services they needed in the past 12 months because of cost

How has the U.S. changed in the last 20 years?

- Oral health disparities
- Aging of the population
- A changing workforce
- Mental illness & substance abuse
- Healthcare expenditures
- Emerging public health threats

https://www.everydayhealth.com/oral-head-neck-cancer/hpv-related-oral-cancers-on-rise/
## Rise in Oropharyngeal-HPV Cancers

### 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&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Number probably caused by any HPV type&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervix</td>
<td>11,866</td>
<td>91%</td>
<td>10,751</td>
</tr>
<tr>
<td>Vagina</td>
<td>846</td>
<td>75%</td>
<td>635</td>
</tr>
<tr>
<td>Vulva</td>
<td>3,934</td>
<td>69%</td>
<td>2,707</td>
</tr>
<tr>
<td>Penis</td>
<td>1,269</td>
<td>63%</td>
<td>803</td>
</tr>
<tr>
<td>Anus</td>
<td>6,530</td>
<td>91%</td>
<td>5,957</td>
</tr>
<tr>
<td>Female</td>
<td>4,333</td>
<td>93%</td>
<td>4,008</td>
</tr>
<tr>
<td>Male</td>
<td>2,197</td>
<td>89%</td>
<td>1,949</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>18,226</td>
<td>70%</td>
<td><strong>12,885</strong></td>
</tr>
<tr>
<td>* Female</td>
<td>3,412</td>
<td>63%</td>
<td>2,160</td>
</tr>
<tr>
<td>* Male</td>
<td>14,814</td>
<td>72%</td>
<td><strong>10,725</strong></td>
</tr>
<tr>
<td>TOTAL</td>
<td>42,671</td>
<td>79%</td>
<td>33,737</td>
</tr>
<tr>
<td>Female</td>
<td>24,391</td>
<td>83%</td>
<td>20,260</td>
</tr>
<tr>
<td>Male</td>
<td>18,280</td>
<td>74%</td>
<td>13,477</td>
</tr>
</tbody>
</table>

<sup>a</sup> For Oropharynx cancers, the data is presented separately for males and females.

[https://www.cdc.gov/cancer/hpv/statistics/cases.htm](https://www.cdc.gov/cancer/hpv/statistics/cases.htm)
Emerging Public Health Threats: E-Cigarettes

- Record increase in vaping from 2017 to 2018 among teens
- Prompting first-ever SG Advisory on E-Cigarettes among Youth
- Nearly 1 in 11 students reported using cannabis in e-cigarettes in 2016
I, Surgeon General of the United States Public Health Service, VADM Jerome Adams, am emphasizing the importance of protecting our children from a lifetime of nicotine addiction and associated health risks by immediately addressing the epidemic of youth e-cigarette use. The recent surge in e-cigarette use among youth, which has been fueled by new types of e-cigarettes that have recently entered the market, is a cause for great concern. We must take action now to protect the health of our nation’s young people.

KNOW THE RISKS. TAKE ACTION. PROTECT OUR KIDS.
As of February 18, 2020:

- **2,807** cases of hospitalized EVALI in 50 states, 2 U.S. territories, and D.C.
- **68** total deaths confirmed in 29 states and D.C.
- Median age: 24 years, with 15% < 18 years of age
- Since the sharp rise in August 2019 and a peak in September 2019, there has been a gradual and persistent decline since then. CDC is no longer providing an update on hospitalized EVALI cases and deaths nationally.
- **Message:** Any tobacco use, including e-cigarettes, is unsafe, especially for youth. Nicotine can harm the developing adolescent brain. We must do everything we can to reduce the use of e-cigarettes among middle and high school students to protect them from immediate lung injury and a lifetime of nicotine addiction.

[https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html)
What does this all mean for this Surgeon General’s Report on Oral Health?
“The report will describe and evaluate oral health and the interaction between oral health and general health throughout the life span, considering advances in science, healthcare integration, and social influences to articulate promising new directions for improving oral health and oral health equity across communities.”
“Big” questions to answer

– Where we are now?
– Where we have made advances since 2000?
– What challenges persist since the last report?
– What new threats are emerging?
– What are some promising new directions for research and improvement in oral health?
Framework for the 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
Using the input to shape content

- Six Section Editors and 20 Associates outline and expand topics and content.
- Approximately 400 researchers and health professionals are contributing to the report either as authors or reviewers.
- Federal clearance procedures ensure that standards of the Surgeon General and the DHHS are met.
It is anticipated that the 2020 Report will:

– Emphasize the importance of poor oral health as a public health issue
– Reinforce the importance of oral health throughout life
– Describe important contemporary issues affecting oral health
– Outline a vision for future research and policy directions, and
– Educate, encourage, and call upon all Americans to take action
Global Oral Health and the 2020 Report

How can the 2020 SGR Influence Global Oral Health?

- Learning
- Workforce Issues
- OH Inequities
- Shared Disease Burden and Shared Cost

Image from NASA
Follow-up questions or requests for speaking engagements, please contact:

USPHSCDO@ihs.gov