2020 Surgeon General’s Report
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Disclosure

We, Bruce Dye, Judith Albino, and Timothy Ricks do not have any financial affiliations or conflicts of interests to disclose.
2020 Surgeon General’s Report

*Oral Health in America: Advances and Challenges*

Judith Albino, PhD and Bruce A. Dye, DDS, MPH and Timothy Ricks, DMD, MPH

September 5, 2019
American Dental Association and FDI World Dental Congress
Major Message of 2000: Oral Health is more than healthy teeth and is integral to the general health and well-being of all Americans.

– Safe and effective measures exist to improve oral health and prevent disease.

– Health risk factors, such as tobacco use and poor dietary practices, affect oral and craniofacial health.
The 2003 Call to Action Urged that We:

– Change perceptions of oral health
– Replicate effective programs
– Build the science base and accelerate science transfer
– Increase oral health workforce diversity, capacity, and flexibility
– Increase collaborations
How has the U.S. Changed in the Last 20 years?

- Aging of the population
- Oral health disparities
- A changing workforce
- Mental illness and substance abuse
- Health care expenditures
- Emerging public health threats
- Advances in research and technology

Source: [http://sphweb.bumc.bu.edu/](http://sphweb.bumc.bu.edu/)
“Better Health Through Better Partnerships”

– Substance Misuse: Opioids, Tobacco, and E-cigarettes
– Community Health and Economic Prosperity
– National Security: Military Eligibility and Readiness
– Vaccinations
– Oral Health
Message from the U.S. Surgeon General

https://youtu.be/snOxqakR2zk
How has the World Changed in 20 years?

– Digitization of everything
  ▪ Communication
  ▪ Information/data management
  ▪ Technology

– Delivery of services
  ▪ Consolidation
  ▪ Economic efficiencies

– Demographic changes
  ▪ 1.5 billion more of us
  ▪ More diverse, more urban, older
Global Impact of Oral Disorders

– Oral Disorders are highly prevalent worldwide
  ▪ Untreated Dental Caries in permanent teeth – 1st
  ▪ Severe Periodontitis – 11th
– 3.5 billion affected

Global Impact of Oral Disorders

– Global Burden of Disease

- Oral Disorders were 2.14% of total YLDs for all ages in 2017
- 0.6% annual change since 1990

https://vizhub.healthdata.org/gbd-compare/
Oral Disorders, Both Sexes, All Ages, 2017, YLDs
Global Impact of Oral Disorders

Global Burden of Oral Disorders since 2000

- Little change globally in total YLDs for all ages
- Some countries are experiencing increases in total YLDs

https://vizhub.healthdata.org/gbd-compare/
Oral Disorders, Both Sexes, All Ages, Annual percent change, 2000-2017, YLDs per 100k
Global Impact of Oral Disorders

Global Burden of Edentulism and Severe Tooth Loss since 2000

- Some improvement in total YLDs for adults aged 50–69 years since 2000
- Some countries are improving; some are worsening

https://vizhub.healthdata.org/gbd-compare/
Edentulism and severe tooth loss, Both Sexes, Ages 50-69, Annual percent change, 2000-2017, YLDs per 100k
Sociodemographic Influences on Oral Health

Sociodemographic factors are significant risk indicators for poor oral health

– **Sex**
  ▪ Men have 3 times more oropharyngeal cancer than women

– **Race/ethnicity**
  ▪ Significant untreated dental caries disparities exist by race/ethnicity among children and working-age adults

– **Poverty**
  ▪ Being poor increases the likelihood of increased tooth loss

– **Age**
  ▪ Periodontitis in older adults (65+) is twice that of younger adults (30–44 years)
The World is Aging

Increasing elderly populations 1996–2014 among 35 OECD countries

962M people aged 60+ years in the world (13% of global population in 2017)

Population aged 60+ is projected to be 1.4B in 2030

Aging of America is Critical for Oral Health

By 2035, there will be more older adults than youth in the U.S.
The Working-Age Population is Declining

Working-age population percentages in 35 OECD countries, 1996-2014

Dependency Ratio is a major concern

2000:
20 older adults: 100 working-age adults

Today:
28: 100

2040:
Increase to 38:100

Greying America is Becoming More Dentate

The aging population in the United States, as in many countries, is experiencing less edentulism.

Disparities Persist Despite some OH Improvements

Changes in functional dentition (≥21 teeth) of U.S. adults 65+ years

Geography Influences Oral Health

Percentage of adults aged 65+ years with no natural teeth (2016)

Declining Edentulism (18%), but disparities remain among lower income adults (34%)

This disproportionately affects some adults based on where they live

Life Expectancy Differences by Sex

2017 life expectancy for men and women in 35 OECD countries

Gender differential in older age profoundly affects prevalence of some chronic diseases
Total periodontitis (42%) for adults age 30 and older:
- 50% (men)
- 35% (women)

Severe Periodontitis (9%) for adults age 65 and older:
- 13% (men)
- 5% (women)

Gender Disparities for Oropharyngeal Cancer

Oropharyngeal cancer is now the most common HPV-associated cancer

Oral oncogenic HPV prevalence is 6.6% for men and 1.5% for women

Men have 3½ times more oropharyngeal cancer than women

Impact of Depressive Disorders Globally

- 45.6 million adults (18.2%) reported mental illness in the US
- 1,082 DALYS per 100K people age 15–49 years in 2017
  - Canada: 842
  - Mexico: 542
Substance Abuse: Adults

6.7 million adults (3%) report drug dependence or abuse

48,000 opioid overdose deaths in 2017 (69% of all overdose deaths)

Source: Kaiser Family Foundation analysis of Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released 2018. Data are from the Multiple Cause of Death Files, 1999-2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. (Accessed May 24, 2019.)

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 on April 10, 2019.)
Global Mortality due to Substance Use Disorders

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

- Canada: **9%**
- Mexico: **0.5%**

https://vizhub.healthdata.org/gbd-compare/

Drug Use Disorders, Mortality: percent of total deaths, Both Sexes, aged 15-49 years, 2017
Substance Abuse: Adolescents

- Record increase in vaping among teens from 2017 to 2018
- First SG Advisory on E-cigarettes among youth
- Nearly 1 in 11 students reported using cannabis in E-cigarettes in 2016
In 2016, the United States spent **3.3 trillion** dollars on health care

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

[Financing Global Health, All cause total health care spending](https://vizhub.healthdata.org/gbd-compare/)
Health Care Expenditures are a Concern

2017 Health Spending in 35 OECD Countries

United States: $10,739/capita

Dental services accounts for 4% of total US health expenditures

Total inflation-adjusted dental expenditures in the United States

Cost: A Major Obstacle to Health Care

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

Workforce: United States

Total Number of Dentists working per 100,000 people in the United States

Workforce: Global

Total number of Dentists working in select countries

- United States: 250,000
- India: 200,000
- Japan: 150,000
- Germany: 100,000
- France: 50,000
- United Kingdom: 50,000
- Canada: 30,000
- Turkey: 20,000
- Korea: 20,000
- Belgium: 10,000
- Finland: 10,000

Graph showing the number of dentists in various countries from 2000 to 2016.
Access to Professional Dental Care Affects OH

5,862 Dental Health Professional Shortage Areas (HPSAs) affect 58 million*

Emerging Models of Care

**New Providers**
- Dental Therapists
- Community OH Coordinators
- Physicians/Nurses

**New Settings**
- Primary Care
- Schools
- Teledentistry

The costly paradox of health care technology

Innovation increases the cost of health care

The paradox of too much data and not enough information

Barriers remain for precision medicine/public health interventions to effect change that benefits individuals and population groups
Developing the 2020 SG’s Report on Oral Health
Guiding the 2020 Report

The report will describe and evaluate oral health and the interaction between oral health and general health throughout the lifespan, considering advances in science, health care integration, and social influences to articulate promising new directions for improving oral health and oral health equity across communities.
Focus: The 2020 Report

“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, and
– What are some promising new directions for research and improvement in oral health?
How are We Gathering Input?

**SG Listening Session (November 2018)**
- Elicited input from more than 150 health professionals, researchers, educators, and other experts

**Overview Webinar Inviting Public Comment (January 2019)**
- More than 1700 Views
- 180 Comments, including 40 descriptions of programs

**Association of State and Territorial Dental Directors (March 2019)**
- Asked ASTDD members to share exemplary private-public partnerships for improving oral health – 19 responses to date
Using the Input to Shape Content

– Six Section Editors and 20 Associates outline and expand topics and content
– About 300 researchers and health professionals review science and practice and write text
– More than 50 experts critically read and revise
– Federal clearance procedures ensure that standards of the Surgeon General and the US Department of Health and Human Services are met
1. Effect of Oral Health on the Community, Overall Well-Being and the Economy
2. Oral Health in Children and Adolescents
3. Oral Health in Working-Age and Older Adults
4. Oral Health Integration, Workforce, and Practice
5. Substance Use Disorders, the Opioid Epidemic, High-Risk Behaviors, and Mental Health
6. Emerging Technologies and Promising Science to Transform Oral Health
Effect of Oral Health on the Community, Overall Well-Being, and the Economy

– **Section Editor:** Robert Weyant

– **Associate Editors:** Carlos Quinonez, Scott Tomar, and Marko Vujicic
Oral Health in Children and Adolescents

– **Section Editor:** Paul Casamassimo

– **Associate Editors:** Belinda Borrelli, Margherita Fontana, Jessica Lee, and Norman Tinanoff
Section 3 of the 2020 Report

Oral Health in Working-Age Adults and Older Adults

– Section Editor: Jocelyne Feine

– Associate Editors: Eliza Chavez, Judith Jones, Linda Niessen, and Susan Reisine
Section 4 of the 2020 Report

Oral Health Integration, Workforce, and Practice

– **Section Editor:** Kathy Atchison
– **Associate Editors:** Jeff Chaffin, Jeff Fellows, and Nadeem Karimbux
Section 5 of the 2020 Report

Substance Use Disorders, the Opioid Epidemic, High-Risk Behaviors, and Mental Health

– **Section Editor:** Christian Stohler

– **Associate Editors:** Israel Agaku, Linda Fried, and Jon-Kar Zubieta
Section 6 of the 2020 Report

Emerging Technologies and Promising Science to Transform Oral Health

– Section Editor: Laurie McCauley
– Associate Editors: William Giannobile, Michelle Robinson, and Wenyan Shi
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
Available in Fall 2020, the Surgeon General’s Report will provide:

– Information that will impact population health, the economy, national security, health professions education, and public policy
– Information providing guidance for research, education, and practice related to oral health
– Promising approaches to achieving oral health equity for our country’s diverse communities
– A road map to optimal oral health for all
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
How can the 2020 SGR Influence Dental Practice?

– Identify changes in disease patterns
– Identify trends and changes that impact the Oral Health workforce
– Highlight new directions in science and technology that can improve practice
– Clarify how patient populations are changing
– Raise awareness of practices that impact oral health inequities

Image from WSJ
Questions

E-mail to: NIDCR-SGROH@nidcr.nih.gov

Copies of the 2000 Surgeon General’s Report are available