Oral Health in the United States

Myron Allukian Jr. DDS, MPH
Past President
American Public Health Association
The health of a nation, 
is a key to its future.

John F Kennedy
February 9, 1961
CAN WE AFFORD THE DOCTOR?

MEMORIES OF HEALTH CARE
AN AGE EXCHANGE PUBLICATION
Can You Afford to Get Sick?
The Battle Over Health Benefits
Health Care Expenditures & Percentage of Gross Domestic Product (GDP) USA 1960 - 2018

- 1960: 27.8B, 5.2%
- 1970: 74.9B, 7.2%
- 1980: 253B, 9.1%
- 1990: 714B, 12.3%
- 2000: 1.35 T, 13.8%
- 2007: 2.24 T, 16.2%
- 2018: 4.35T, 20.3%
In 2010, the total cost for dental care in the U.S. ($104.8 billion) represented ONLY 4% of all healthcare expenditures, compared to 6% in 1970.
A healthcare system badly out of balance

Call it the 'Partners Effect': Elite hospitals are paid much more for care that is often no better than average. It is the best kept secret in Massachusetts medicine.

First in an occasional series.

As his patient lies waiting in an adjacent exam room, Dr. James D. Alderman watches while an assistant reaches into a white envelope and pulls out a piece of paper that will determine where the man will be treated. Big money is on the line.

Alderman, an interventional cardiologist, plans to open the patient's clogged coronary artery by inserting a flexible tube with a tiny balloon at the tip. Usually he does the procedure, called angioplasty, at MetroWest Medical Center in Framingham. But he sometimes operates in Boston as part of a research program. One time or every four, by the luck of the draw, Alderman and his patient go to a big teaching hospital in the city.

If the white slip of paper chooses him to do the procedure in Framingham, the insurance company will pay the hospital about $17,000, not counting the physician fee. If Alderman is sent to Brigham and Women's Hospital in Boston, the hospital will get about $62,000. In particular, even though the patient's care will be the same in both places.

"You have to ask, same doctor doing the procedure, said Andrei Sorin, MetroWest's chief executive. "But the cost? It's substantially higher."

"Call it the best-kept secret in Massachusetts medicine. Health insurance companies pay big bundles of hospitals far more for the same work even when there is no evidence that the higher-priced care produces healthier patients. In fact, sometimes the
The Federal Government does have the power to impose a tax on those without health insurance. "The mandate" is therefore constitutional.

CHIEF JUSTICE JOHN G. ROBERTS JR., writing for the majority

"To say that the Individual Mandate merely imposes a tax is not to interpret the statute but to rewrite it."

JUSTICE ANTHONY M. KENNEDY, in a jointly written dissent

UPHELD

HAILING THE RULING — "Whatever the politics, today's decision was a victory for people all over this country whose lives will be more secure," said President Obama.

DENOUNCING THE LAW — "What they did not do was say that Obamacare is good law. Obamacare was bad policy yesterday, it's bad policy today," said Mitt Romney.

Justices back health law, change the political landscape

By Tracy Jan and Christopher Rowland

WASHINGTON — The US Supreme Court on Thursday upheld President Obama's national health care law, including its requirement that most Americans obtain insurance, handing the president a major victory and setting battle lines for the 2012 election.

"I was jumping around school today," said Bari O'Brien, a 53-year-old New Hampshire mother and preschool teacher in summer camp who enrolled in a high-risk insurance pool set up by the law. "If you saw me, you would have thought I was crazy, it's the best news."

But even as Obama and Democrats rejoiced, a number of Republicans vowed to repeal.

"The court's ruling doesn't mark the end of the debate. It marks a fresh start on the road to repeal," declared Senate minority leader Mitch McConnell of Kentucky.

To have a realistic chance of repeal, opponents in November will have to eject Obama from the White House and replace him with presumptive GOP nominee Mitt Romney, says a
Currently in the US, about 33 MILLION low-income children are eligible for dental care under Medicaid.

The Affordable Care Act will add another 7 MILLION low-income children to the program.
## Tooth Decay in the United States

<table>
<thead>
<tr>
<th>Age</th>
<th>Prevalence</th>
<th>Number of Affected Tooth Surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 years</td>
<td>5.6%</td>
<td>0.13</td>
</tr>
<tr>
<td>17 years</td>
<td>78%</td>
<td>7</td>
</tr>
<tr>
<td>40-44 years</td>
<td>98%</td>
<td>45</td>
</tr>
<tr>
<td>Over 75 years</td>
<td>60%</td>
<td>3.1 (root surfaces)</td>
</tr>
<tr>
<td>Over 65 years</td>
<td>30%</td>
<td>No teeth at all</td>
</tr>
</tbody>
</table>
## Prevalence of Tooth Decay and Mean Number of Permanent Tooth Surfaces Affected by Age Group, US, 1999 -2004

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% Prevalence</th>
<th>Mean Number Affected Tooth Surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 – 8</td>
<td>10.16</td>
<td>0.33</td>
</tr>
<tr>
<td>9 – 11</td>
<td>31.36</td>
<td>1.32</td>
</tr>
<tr>
<td><strong>12 - 15</strong></td>
<td><strong>50.67</strong></td>
<td><strong>2.85</strong></td>
</tr>
<tr>
<td>16 – 19</td>
<td>67.49</td>
<td>5.79</td>
</tr>
<tr>
<td>20 – 34</td>
<td>85.58</td>
<td>13.39</td>
</tr>
<tr>
<td>35 – 49</td>
<td>94.30</td>
<td>31.46</td>
</tr>
<tr>
<td><strong>50 - 64</strong></td>
<td><strong>95.62</strong></td>
<td><strong>53.87</strong></td>
</tr>
<tr>
<td>65 – 74</td>
<td>93.25</td>
<td>69.87</td>
</tr>
<tr>
<td>75 +</td>
<td>92.70</td>
<td>74.08</td>
</tr>
</tbody>
</table>
Extent of Oral Diseases

22% of 35-44 year olds have destructive periodontal disease

48% of 35-44 year olds have gingivitis

25% of Americans ages 6-50 have injured their upper or lower teeth

Nearly 31,000 Americans a year are diagnosed with oral and pharyngeal cancer, and 8,100 die annually
Americans are ADDICTED to

- Alcohol
- Nicotine
- Sugar
- Fat
- Salt
Food Industry in America

- $1.5 trillion business
  - spends about $30 billion a year promoting its products

- Beverage companies spend about $950 million a year to advertise sugary drinks and energy drinks through media

- Confectionary companies generate about $29 billion annually in retail sales
Figure 8: Annual global soda consumption versus GDP per capita

- countries plotted on a scatter plot
- USA indicated with a red arrow
- R² = 0.3453

Source: Euromonitor, Nielsen XAOC, Credit Suisse Research
# Obesity and Overweight
## U.S. vs. Canada

<table>
<thead>
<tr>
<th>Obesity &amp; Overweight</th>
<th>United States</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>69%</td>
<td>58%</td>
</tr>
<tr>
<td>Children</td>
<td>33%</td>
<td>26%</td>
</tr>
</tbody>
</table>

2004 Canadian Community Health Survey
Tobacco Industry in America

- Spends about $10 billion a year to promote smoking
  - about $28 million a day

- Spends about $17 million a year to lobby Congress
  - All states spend about $500 million for tobacco control annually
If it wasn’t for Winston, I wouldn’t smoke.

Taste isn’t everything. It’s the only thing.
I smoke for pleasure. That’s spelled T-A-S-T-E.
That means Winston. Winston won’t give you a new image.
All Winston will ever give me is taste.
A taste that’s very real. If a cigarette isn’t real, it isn’t anything. Winston is for real.

Fluoridation Worldwide
## Global Water Fluoridation, Top 10 Countries

### By percent of population

<table>
<thead>
<tr>
<th>Country</th>
<th># (in millions)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>5.08</td>
<td>100</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6.97</td>
<td>100</td>
</tr>
<tr>
<td>Brunei</td>
<td>0.38*</td>
<td>95</td>
</tr>
<tr>
<td>Australia</td>
<td>17.7</td>
<td>80</td>
</tr>
<tr>
<td>Malaysia</td>
<td>20.7</td>
<td>76</td>
</tr>
<tr>
<td>Irish Republic</td>
<td>3.45</td>
<td>73</td>
</tr>
<tr>
<td>Chile</td>
<td>11.8</td>
<td>70</td>
</tr>
<tr>
<td>Israel</td>
<td>5.42</td>
<td>70</td>
</tr>
<tr>
<td>US</td>
<td>195.5</td>
<td>64</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2.33*</td>
<td>61</td>
</tr>
</tbody>
</table>

* Only adjusted fluoridation data

### By population

<table>
<thead>
<tr>
<th>Country</th>
<th># (in millions)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>195.5</td>
<td>64</td>
</tr>
<tr>
<td>Brazil</td>
<td>73.2*</td>
<td>41</td>
</tr>
<tr>
<td>Malaysia</td>
<td>20.7</td>
<td>76</td>
</tr>
<tr>
<td>Australia</td>
<td>17.7</td>
<td>80</td>
</tr>
<tr>
<td>Canada</td>
<td>14.6</td>
<td>44</td>
</tr>
<tr>
<td>Chile</td>
<td>11.8</td>
<td>70</td>
</tr>
<tr>
<td>Argentina</td>
<td>7.6</td>
<td>19</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6.97</td>
<td>100</td>
</tr>
<tr>
<td>UK</td>
<td>6.1</td>
<td>10</td>
</tr>
<tr>
<td>Israel</td>
<td>5.42</td>
<td>70</td>
</tr>
</tbody>
</table>

British Fluoridation Society, 2012
Global Community Fluoridation

- **Community Water Fluoridation**
  - 370 M - adjusted
  - 50 M - natural

- **Salt Fluoridation**
  - 40 M
## Number of People in the US Who Had Access to Adjusted Water Fluoridation 1945-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>231,930</td>
</tr>
<tr>
<td>1950</td>
<td>1,578,578</td>
</tr>
<tr>
<td>1955</td>
<td>26,278,820</td>
</tr>
<tr>
<td>1960</td>
<td>41,179,694</td>
</tr>
<tr>
<td>1965</td>
<td>58,369,355</td>
</tr>
<tr>
<td>1970</td>
<td>83,725,771</td>
</tr>
<tr>
<td>1975</td>
<td>94,627,294</td>
</tr>
<tr>
<td>1980</td>
<td>106,170,149</td>
</tr>
<tr>
<td>1985</td>
<td>120,100,100 (est.)</td>
</tr>
<tr>
<td>2008</td>
<td>195,545,109</td>
</tr>
<tr>
<td>2010</td>
<td>204,283,554</td>
</tr>
</tbody>
</table>
FLUORIDATED WATER
POISON

I'VE HAD IT!

WHAT WILL IT DO TO YOU?

VOTE NO X
ALL IN FAVOR OF
FORCED-Fluoridation
RAISE YOUR
RIGHT HAND

Endorsed by many powerful government agencies and supportive fertilizer Corps. Good for the children! Take my word for it!

Fluoridated Mind Control Of The Masses

The Nazi’s scheme used water fluoridation to control prisoners and the public.
At the end of the Second World War, the United States Government sent Charles Eliot Perkins, a research worker in chemistry, biochemistry, physiology and pathology, to take charge of the vast Farben chemical plants in Germany.

While there he was told by the German chemists of a scheme which had been worked out by them during the war and adopted by the German General Staff. This was to control the population in any given area through mass medication of drinking water. In this scheme, sodium fluoride played a prominent role.

Repeated doses of small amounts of fluoride will in time reduce an individual’s power to resist domination by slowly poisoning and narcotizing a certain area of the brain and will thus make people more submissive to the will of those who wish to govern them. Both the Germans and the Russians added sodium fluoride to the drinking water of prisoners of war to make them stupid and docile.
ORGANIZATIONS AGAINST FLUORIDATION

Ku Klux Klan
John Birch Society
Fluoride Action Network
International Association for Fluoride Research
National Committee Against Fluoridation
American Association for Medico-Physical Research
Pure Water Association of America
Preventive Dental Health Association
Massachusetts Citizens Rights Association
NATIONAL ORGANIZATIONS ENDORSING FLUORIDATION

American Dental Association
American Medical Association
American Public Health Association
American Association of Public Health Dentistry
American Academy of Pediatrics
U.S. Public Health Service
American Cancer Society
American Water Works Association
American Pharmaceutical Association
National Congress of Parents & Teachers
American Heart Association
March 22, 2013

Dr. Myron Allukian, Jr.
Immediate Past President, American Association for Community Dental Programs
Associate Clinical Professor, Harvard School of Dental Medicine
Via email: myalluk@aol.com

Dear Dr. Allukian:

As Deans of Harvard Medical School, Harvard School of Dental Medicine and the Harvard School of Public Health, we continue to support community water fluoridation as an effective and safe public health measure for people of all ages.

Numerous reputable studies over the years have consistently demonstrated that community water fluoridation is safe, effective, and practical. Fluoridation has made an enormous impact on improving the oral health of the American people.

Our country is fortunate to have over 204 million Americans living in fluoridated communities and having access to the health and economic benefits of this vital public health measure.

Sincerely,
<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>2020 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoridation</td>
<td>72.4%</td>
<td>79.6%</td>
</tr>
<tr>
<td>Dental Sealants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5 years</td>
<td>1.4%</td>
<td>1.5%</td>
</tr>
<tr>
<td>6-9 years</td>
<td>25.5%</td>
<td>28.1%</td>
</tr>
<tr>
<td>13-15 years</td>
<td>19.5%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>
Healthy People 2020 Launch
Washington, DC

www.healthypeople.gov/2020/
Oral Health in America: A Report of the Surgeon General

EXECUTIVE SUMMARY

Department of Health and Human Services
Country Income and Dental Care

COUNTRY INCOME AND DENTAL CARE
Relationship between GDP per capita and care index for people aged 33–44 years 1990s

The Care Index shows filled teeth as a percentage of Decayed, Missing, Filled Teeth (DMFT).

FDI World Health Atlas, 2009
## Dental Professionals Canada vs. U.S.

<table>
<thead>
<tr>
<th>Professionals/Population Ratio</th>
<th>United States</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dentists</strong></td>
<td>1,980</td>
<td>1,797</td>
</tr>
<tr>
<td></td>
<td>155,700 Dentists</td>
<td>19,563 Dentists</td>
</tr>
<tr>
<td><strong>Dental Hygienists</strong></td>
<td>1,698</td>
<td>1,598</td>
</tr>
<tr>
<td></td>
<td>181,800 Dental Hygienists</td>
<td>22,000 Dental Hygienists</td>
</tr>
<tr>
<td><strong>Dental Therapists</strong></td>
<td>Not many</td>
<td>117,194</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300 Dental Therapists</td>
</tr>
</tbody>
</table>

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New Workforce Models

- Advanced Dental Hygiene Practitioner
  - Developed by ADHA

- Community Dental Health Coordinator
  - Developed by ADA

- Dental Therapist Models:
  - Minnesota
  - Kellogg Foundation
  - RDH/Dental Therapist Combination
Current Status - Demographics

- 181,800 licensed dental hygienists in U.S
  - 25% hold licenses in more than one state

- Predominantly female profession (99%)

- Mean years in profession - 18.3 years

- Mean age 44/Median 45

- 91.5% Caucasian

Direct Reimbursement under Medicaid

- Dental hygienist has provider number
- Dental hygienist bills directly for services delivered
Direct Medicaid Reimbursement
15 States
Restorative Services

- Temporary restorations
  - 37 States & District of Columbia
- Place temporary crowns
  - 9 States
- Place/Finish amalgam restorations
  - 20 States
- Place/Finish composite restorations
  - 15 States
Why ADHP?
More than a clinician!

- Primary provider of educational, preventive, diagnostic, therapeutic, and minimally invasive restorative services
- Provide care to wide range of patient populations
- Understand and effectively function within health care delivery system
- Evaluate and synthesize data for improved patient care outcomes
- Utilize and/or conduct research to make evidence-based decisions
Dental Health Aide Therapist

- W.H.O. cites 52 countries that utilize Dental Therapists
- Functions as part of the dental team under the supervision of a dentist
- New Zealand has 88 yrs experience and Canada has over 38.
- Exceptional safety record under general supervision for children and adults
- They are equipped to help us provide the educational, preventive and safety net services that are most needed.
Governor Murkowski

2nd class dental care for Alaska Natives deserves a ferocious reaction!

No Alaskan should face irreversible dental surgery by an unlicensed therapist with no dental degree. Alaska law is being broken unnecessarily.