New Fluoridation Challenges, The Internet and Social Media

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President, Massachusetts Coalition for Oral Health
Past President, American Public Health Association
### 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>12 – 15</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>69.88</td>
</tr>
<tr>
<td>75 +</td>
<td>92.70</td>
<td>74.08</td>
</tr>
</tbody>
</table>
COMMUNITY WATER FLUORIDATION (CWF)

- 210 million Americans, 74.6% of US public water supplies
- The foundation for better oral health
- One of the 10 greatest public health achievements, 20th Century, CDC
- Safe, effective and economical
  - Colorless, tasteless, odorless at 1 ppm
- Healthy People 2020 Goal: 79.6%
<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>
<tr>
<td>2012</td>
<td>210,655,401</td>
</tr>
</tbody>
</table>
Whack – A – Mole Strategy

WE NEED TO SWITCH TO PLAN B.

THERE WAS A PLAN A?
WE NEED A PLAN
LET'S WORK TOGETHER
I. EVERY COMMUNITY IS DIFFERENT
II. Know Your Community
III. Know Your Opposition
ANTIS ARE EVERYWHERE
III. KNOW YOUR OPPOSITION

A. Nature of Opposition
   * Origin of anti-fluoridation movement
   * Hard core opposition
   * Soft core opposition

B. How are they organized?
   * Local, or state or nationally linked
C. Communication Network

* Internet
* Social Media
* Newsletters and brochures
* Letters to the editor
* Local meetings and presentations
* Signs
* Mailings
D. Supporters and leaders

E. Avoid debates if possible

F. Tactics

* Petitions
* Town meetings
* Bills and legislature

* Media
* City Council
FLUORIDATION CHALLENGES

☐ Opposition since 1950, despite being a proven effective public health measure

☐ Since 2010, ~90 US communities have rejected or discontinued fluoridation

☐ Public policy debate has changed since 1950
  □ Mass Media
    □ Television
    □ Internet
    □ Social Media

PUBLIC NOTICE
PLEASE BE ADVISED
SODIUM FLUORIDE
(found in most bottled/tap water and foods)
☑ KILLS RODENTS
☑ CAUSES CANCER
☑ LOWERS YOUR IQ
☑ CAUSES APATHY
☑ USED BY NAZIS
☑ IN YOUR WATER

www.infowars.com

Anti-fluoridation website
Arsenic Compared

- 8167 x Fluoridation

Fluoridation - the foundation of oral public health
Internet Usage

- 87% of US adults
  - Used by over 75% of all races, ages (except 65+), education, income, and location
- 95% of US teens
- 97% of ages 18-29
- 72% of Internet users looked for health information in 2012
% OF AMERICAN ADULTS USING THE INTERNET
1995-2014
# Changing Generations

<table>
<thead>
<tr>
<th></th>
<th>Baby Boomers</th>
<th>Generation X</th>
<th>Generation Y Millennials</th>
<th>Generation Z</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>76 M</td>
<td>51 M</td>
<td>83 M</td>
<td>82 M, growing rapidly, $44 billion in purchasing power</td>
</tr>
<tr>
<td><strong>Famous people</strong></td>
<td>Bill Clinton, Meryl Streep</td>
<td>Barak Obama, Jennifer Lopez</td>
<td>Miley Cyrus, Serena Williams</td>
<td>Malala Yousafzai</td>
</tr>
</tbody>
</table>
INTERNET SEARCH ENGINES

- 77% of online health information seekers begin by using a search engine
- Top 6 search engines:
  - Google
  - Bing
  - Yahoo
  - AOL
  - Ask
  - Wow
Social Media

- Websites through which users create online communities to share information, ideas, messages and other content
- As of January 2014, used by 74% of online adults
- 66% of social media users use the platform for civic or political activities
  - Post thoughts
  - React to others
  - Press friends to act on issues and vote
- 50% of social media users share news
  - Stories, images or videos
- 46% have discussed a news issue or event
FACEBOOK

- Users create profiles to share personal interests
- 1.35 billion monthly active users in Q3 2014
  - 71% of Internet users, 58% of US adult population
- Important source of website referrals through sharing from posts
- Groups
  - Share thoughts with people with similar interests
- Pages
  - Used by organizations as a way to advertise
  - A tool to expand business, brand or organization
- Events
  - Inform people of upcoming events, e.g., town hall meetings with CWF votes

Above: Anti-CWF images from social media
Distribution of the 15 Most Common Anti-Fluoridation Tweet Arguments
March 1-14 and April 1-14, 2012, N=1815

- Cancer, 13%
- Useless, 12%
- Poison, 9%
- IQ, 8%
- Criminal, 7%
- Fluorosis, 6%
- Ind. Waste, 6%
- Non-specific, 5%
- Endocrine, 5%
- Pacify, 5%
- Bone Flh Defect, 3%
- Study Bias, 3%
- Environmental, 5%
ACTUAL TWEET EXAMPLES

Fluoride in water causes hypertension. We have an epidemic of this in Ireland thanks largely to fluoridation.

During WW2 the NAZIS used FLUORIDE in the water to do mind control on the cities that they had taken over.

#Flouridation victories continue as Washington town banishes toxic chemical from water supply

Mayor says 3 dentists privately expressed concern re fluoridation but won’t speak publicly 4 fear of losing license

FLUORIDE is found in 25% of major tranquillizers and is often called “The Chemical Lobotomy”
### Social Media Search Result Using The Keywords: Fluoride, Fluoridation, Water Fluoridation, and CWF

<table>
<thead>
<tr>
<th>Platform</th>
<th>Anti 2012</th>
<th>Anti 2014</th>
<th>Pro 2012</th>
<th>Pro 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>100% (193)</td>
<td>96% (109)</td>
<td>0% (0)</td>
<td>4% (5)</td>
</tr>
<tr>
<td>Twitter</td>
<td>94.5% (343)</td>
<td>82% (850)</td>
<td>5.5% (20)</td>
<td>8% (188)</td>
</tr>
<tr>
<td>YouTube</td>
<td>100% (3,645)</td>
<td>99% (527)</td>
<td>0% (0)</td>
<td>1% (4)</td>
</tr>
</tbody>
</table>
### Most Common Twitter and Social Media Anti-Fluoridation Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Social Media 2014</th>
<th>Twitter 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>41%</td>
<td>Cancer</td>
</tr>
<tr>
<td>Toxicity</td>
<td>32%</td>
<td>Useless</td>
</tr>
<tr>
<td>Brain Damage</td>
<td>11%</td>
<td>Poison</td>
</tr>
<tr>
<td>Calcified Pineal Gland</td>
<td>7%</td>
<td>IQ/Cost</td>
</tr>
<tr>
<td>Fluorosis/Bone Deformation</td>
<td>3%</td>
<td>Criminal</td>
</tr>
<tr>
<td>Decrease Fertility</td>
<td>2%</td>
<td>Fluorosis/Industrial Waste</td>
</tr>
<tr>
<td>IQ</td>
<td>1%</td>
<td>Endocrine/Environ’t/Pacify</td>
</tr>
</tbody>
</table>

**Notes:**
- The table lists the top arguments used in anti-fluoridation discussions on Twitter and social media from 2012 and 2014.
- The arguments are ranked by frequency with percentages indicating usage.
- The table highlights the most common concerns regarding the effects of fluoridation.
CDC CWF Website Traffic

2011-2012: 27,040
2014-2015: 42,754

The number increased by 15,714 (58%)
ADA.org Fluoride Page Views, 2014-15

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA.org/Fluoride Page Views</td>
<td>7,216</td>
<td>7,578</td>
<td>6,296</td>
<td>5,014</td>
<td>5,517</td>
<td>7,517</td>
<td>8,881</td>
<td>10,763</td>
<td>12,869</td>
</tr>
</tbody>
</table>
Discussion

- The public views most fluoridation information on anti-CWF websites
- The majority of search engine results are anti-CWF
- Most search results on social media were anti-CWF
- Anti-fluoridationists have a much better Internet and social media presence than pro-fluoridationists
Public Interest
Scientific consensus and credibility

Vs

Junk science
Emotion
Confusion
IV. KNOW YOUR RESOURCES
Digital Promotion Toolkit
### Social Media Messages Specific to Preventing Tooth Decay

<table>
<thead>
<tr>
<th>Images (Examples only. Use images attached to digital promotion toolkit email or in promotion-call calendar invite.)</th>
<th>Social Media Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Preventing Tooth Decay" /></td>
<td><strong>Tweet A:</strong> Dental sealants can save state Medicaid programs up to $6 per tooth. Find more #StateStrategies: <a href="http://1.usa.gov/1TtNNRA">http://1.usa.gov/1TtNNRA</a> [attach image]</td>
</tr>
<tr>
<td></td>
<td><strong>Facebook post A:</strong> Dental sealants and fluoride varnish can improve the well-being of children and save Medicaid $6 per tooth sealed over a 4-year period. Read more about the State Strategies Project: <a href="http://1.usa.gov/1TtNNRA">http://1.usa.gov/1TtNNRA</a> [attach image]</td>
</tr>
<tr>
<td></td>
<td><strong>Tweet B:</strong> States can spend smarter and improve health using water fluoridation: <a href="http://1.usa.gov/1TtNNRA">http://1.usa.gov/1TtNNRA</a> [attach image]</td>
</tr>
<tr>
<td></td>
<td><strong>Facebook post B:</strong> Over 800,000 ER visits each year are due to preventable dental conditions. States can spend smarter with water fluoridation which can yield an annual return on investment of between $5 and $32 for every $1 spent, depending on community size. <a href="http://1.usa.gov/1TtNNRA">http://1.usa.gov/1TtNNRA</a> [attach image]</td>
</tr>
</tbody>
</table>
Social Media Tips

- The best time to post to Facebook is Wednesday at 3 p.m. Facebook engagement rates are 18 percent higher on Thursdays and Fridays. The afternoon (1–4 p.m.) is the best time to post.

- The best times to tweet are Monday through Thursday, 1–3 p.m., for exposure. For higher engagement, try posting 3–6 p.m.

- Tweets with pictures tend to get re-tweeted more often. Just make sure your tweet provides context for the image.

- Hashtags are a great way to connect to existing conversations. Use the hashtags #StateStrategies and #infographic.

- If your organization has an Instagram account, feel free to re-purpose the tweets and images on Instagram.
WE SUPPORT COMMUNITY WATER FLUORIDATION AS A SAFE AND EFFECTIVE PUBLIC HEALTH MEASURE

Massachusetts Agencies and Organizations:

Massachusetts Department of Public Health
Massachusetts Coalition for Oral Health
Massachusetts Department of Environmental Protection
Massachusetts Public Health Association
Massachusetts Health Council
Massachusetts Hospital Association
Massachusetts Medical Society
Massachusetts Dental Society
Massachusetts Dental Hygienists’ Association
Massachusetts League of Community Health Centers
Massachusetts Coalition of School-Based Health Centers
Massachusetts Chapter, American Academy of Pediatrics
Massachusetts Association For Mental Health
National and International Organizations That Recognize the Public Health Benefits of Community Water Fluoridation for Preventing Dental Decay

Academy of Dentistry International
Academy of General Dentistry
Academy for Sports Dentistry
Alzheimer's Association
America's Health Insurance Plans
American Academy of Family Physicians
American Academy of Nurse Practitioners
American Academy of Oral and Maxillofacial Pathology
American Academy of Orthopedic Surgeons
American Academy of Pediatrics
American Academy of Pediatric Dentistry
American Academy of Periodontology
American Academy of Physician Assistants
American Association for Community Dental Programs
American Association for Dental Research
American Association for Health Education
American Association for the Advancement of Science
American Association of Endodontists
American Association of Oral and Maxillofacial Surgeons
American Association of Orthodontists
American Association of Public Health Dentistry
American Association of Women Dentists
American Cancer Society
American College of Dentists
American College of Physicians—American Society of Internal Medicine
American College of Preventive Medicine
American College of Prosthodontists
American Council on Science and Health
American Dental Assistants Association
American Dental Association
American Dental Education Association
American Dental Hygienists’ Association
American Dental Hygienists’ Association of California
American Federation of Labor and Congress of Industrial Organizations
American Dental Association
American Legislative Exchange Council
American Medical Association
American Nurses Association
American Osteopathic Association
American Pharmacists Association
American Public Health Association
American School Health Association
American Society for Clinical Nutrition
American Society for Nutritional Sciences
American Student Dental Association
American Water Works Association
Association for Academic Health Centers
Association of American Medical Colleges
Association of Clinicians for the Undererved
Association of Community Health Centers
Association of State and Territorial Dental Directors
Association of State and Territorial Health Officials
Association of State and Territorial Public Health Nutrition Directors

British Fluoridation Society
Canada’s Dental Association
Canadian Dental Hygienists Association
Canadian Medical Association
Canadian Nurses Association
Canadian Public Health Association
Child Welfare League of America
Children’s Dental Health Project
Chlorine Manufacturers Association
Consumer Federation of America
Council of State and Territorial Epidemiologists
Delta Dental Plans Association
FDI World Dental Federation
Expatriates of American Hospitals
Hispanic Dental Association
Indian Dental Association (New York)
Institute of Medicine
International Association for Dental Research
International Association for Orthodontics
International College of Dentists
March of Dimes Birth Defects Foundation
National Association of Community Health Centers
National Association of County and City Health Officials
National Association of Dental Hygienists
National Association of Dental Laboratories
National Association of Dental University Administrator
National Association of Local Boards of Health
National Association of Social Workers
National Condominiums Association
National Dental Assistants Association
National Dental Association
National Dental Hygienists’ Association
National Down Syndrome Congress
National Health Foundation
National Institute of Dental and Craniofacial Research (NIDCR)
National Organization of Dental Laboratories
National Organization for Women Dentists
National Pharmacies Association
National Public Health Organization
National Rural Health Association
National Rural Health Association
National Society of Executive Administrators
National Society of Public Health Professionals
National Student Dental Association
National Women’s Dental Association
 Oral Health America
Robert Wood Johnson Foundation
Society for Public Health Education
Society of American Indian Dentists
Special Care Dentistry
Academy of Dentistry for Persons with Disabilities
American Association of Hospital Dentists
American Dental Association
American Society for Geriatric Dentistry
The Children’s Health Fund
The Dental Health Foundation of California
U.S. Department of Defense
U.S. Department of Veterans Affairs
U.S. Public Health Service
Health Resources and Services Administration (HRSA)
Centers for Disease Control and Prevention (CDC)
National Institute of Dental and Craniofacial Research (NIDCR)
World Federation of Orthodontists
World Health Organization
V. DEVELOP BROAD BASED COMMUNITY SUPPORT
INHOSHOSH, AGHCH GCHCHH

GHCHCHGU USHOSHCH UGG ACHGCHH?

AGGAGOGSH!

SO YOUR MOUTH SORES FEEL A LOT BETTER, HUH? GOOD.

YES, THERE IS A LOT LESS INFLAMMATION AND THEY'RE HEALING NICELY.

YOU'RE WELCOME.
Action Alert

Say NO to Ed Begley Jr., an Anti-F speaker at the APHA Opening Session, November 4

Contact APHA Executive Board Members

- Pamela Aaltonen, PhD, RN Chair, Executive Board  aaltonen@purdue.edu
  (Director of Nursing Program, Purdue University, Indiana)

- Shiriki Kumanyika, PhD, MPH President, APHA  skumanyi@mail.med.upenn.edu
  (Emeritus Professor of Epidemiology, Univ. of Penn. School of Medicine)

- Camara P. Jones, MD, PhD, MPH President-elect, APHA  cpjones@msm.edu
  (Adult and Community health, National Ctr for chronic disease prevention and health promotion)

- Georges Benjamin, MD, Executive Director, APHA  georges.benjamin@apha.org
VI. ALWAYS BE READY
THANKS TO FLUORIDATION OUR NATION HAS BETTER ORAL HEALTH!
We Make a Living By
What We Get,

We Make a Life By
What We Give

Winston Churchill