Community Water Fluoridation

CHARLESTON, WV
NOVEMBER 16, 2016
GINA SHARPS MPH, RDH
• Tooth Decay Prevalence and Disparities in West Virginia
• What Is Fluoride and Where Is It Found?
• What Is Community Water Fluoridation and How Does Fluoridation Prevent Tooth Decay?
• What Are the Current Public Health Recommendations for Fluoridation?
• Is Community Water Fluoridation Cost Effective?
• Why Do Some People Oppose Community Water Fluoridation?
• Board of Health Opportunities and Best Practices
Private Practice
1993-2006
Deliverables & Activities are Based on ...

Evidence-Based Research (water fluoridation)
Best Practices Models/Protocols (i.e age 1 dental visit)
Center for Disease Control (CDC) 2020 Oral Health Objectives
WV State Oral Health Plan

*Population Based Health vs. Individual*
• Tooth decay is a common, chronic disease that causes pain and disability across all age groups.

• Oral Health is essential to general health and well-being.

• US Surgeon General’s report details oral health as a “silent epidemic” and calls attention that oral diseases burdens some population groups.
Untreated Cavities Can Lead to....

• Extreme Pain
• Spread of Infection
• Difficulty chewing, poor nutrition
• Costly dental treatment

• Missed School/Work Days
• Impaired Speech development
• Inability to Concentrate
• Reduced Self-esteem
CAVITIES: Disproportionately Distributed

- Nearly 80% of cavities occur in 20% of the population

- *Those in poverty* bear a disproportionate burden of cavities
Prevalence of decay experience and untreated decay among children (Universal PreK) in West Virginia

“......boards of health make necessary policy and regulatory changes to introduce or institutionalize oral health programs and services into local public health agency practices.

Board of health (BOH) members serve as advocates and liaisons with neighbors, peers, stakeholders, and other partners.

Thus, it is the BOH’s responsibility to continually assure and improve the oral health of the community. “
Evidence-Based Prevention Strategies

Dental Sealants

Community Water Fluoridation
What Is Fluoride and Where Is It Found?

• 13th most abundant mineral in the earth’s crust

• Surface water (rivers) -- typically low concentrations, 0.2 mg/L (ppm) or less

• Groundwater (wells) -- higher concentrations, 0.1 mg/L to over 5.0 mg/L

• Ocean water is typically 0.8 to 1.4 mg/L
• Water fluoridation has both topical and systemic benefits

• Fluoride is a vital mineral for proper bone and tooth formation

• Decreased benefits below optimum

• No additional benefit above optimum
• One of ten great public health achievements of the twentieth century (CDC)

• Water fluoridation has over a 70 year history of success

• Began in in Grand Rapids, Michigan, in 1945.
Fluoridation is the adjustment of the fluoride in drinking water to the optimal level for reducing tooth decay.
Fluoridation is Effective

Fluoridation reduces tooth decay about 25%
U.S. Public Health Service Recommendation for Fluoride Concentration in Drinking Water for the Prevention of Dental Caries

Through this final recommendation, the U.S. Public Health Service (PHS) updates and replaces its 1962 Drinking Water Standards relative to community water fluoridation by adding a fluoridated drinking-water system to achieve a level of fluoride concentration that provides the best balance of protection from dental caries while limiting the risk of dental fluorosis. Fluoridation has been shown to reduce tooth decay by about 25 to 40 percent, and the amount of fluoride recommended in the new PHS recommendation is based on a balance of available scientific evidence. The new PHS recommendation promotes greater public health benefits by setting a fluoride concentration of 0.7 milligrams/liter (mg/L) to provide additional protection against tooth decay. This new recommendation is intended to apply to community public water systems that currently fluoridate or are considering fluoridating their drinking water supply.
1. Community Water Fluoridation is **RECOMMENDED** based on **STRONG EVIDENCE** of effectiveness in **reducing cavities across populations**.

2. Evidence shows the **prevalence of cavities is substantially lower** in communities with community water fluoridation (CWF).

3. There is **NO EVIDENCE** that CWF results in **severe fluorosis**.
Enamel Fluorosis (pg.4)

• Occurs when children with developing teeth consume excessive fluoride (under 8 yr)

• Potential for enamel fluorosis increases as water content exceeds 2 mg/L
Dental fluorosis is a change in the appearance of the tooth's enamel.

Very mild and mild forms of dental fluorosis (the most common forms)—teeth have scattered white flecks, occasional white spots, frosty edges, or fine, lacy chalk-like lines. These changes are barely noticeable and difficult to see except by a dental health care professional.

Moderate form—teeth have larger white spots.

The rare, severe form—rough, pitted surfaces.

Dental fluorosis only occurs when younger children (<8y.o.) consume too much fluoride while teeth are developing under the gums.

Is Fluoridation is **Cost-effective**?

Every $1 invested in water fluoridation

Saves $38 in unnecessary dental costs

Is Community Water Fluoridation Cost Effective?
Why Do Some People Oppose Community Water Fluoridation?

• FREEDOM OF CHOICE—LIMITING INDIVIDUAL FREEDOM
• BELIEF THAT FLUORIDE IS HARMFUL TO HEALTH
• BELIEF THAT FLUORIDE IS HARMFUL TO ENVIRONMENT
• MISINTERPRETATION OF THE SCIENCE BEHIND FLUORIDATION
• CONCERN ABOUT TECHNICAL ENGINEERING ISSUES
• BELIEVE THE COST OF FLUORIDATING SMALL WATER SYSTEMS ARE TOO HIGH
*Key Takeaway*

*Can one person influence the decisions of a board/city council without the dental/public health communities being aware?*
Scientific Illiteracy

- Alarming allegations/Junk science can drive public policy

- “It’s really terrifying the scientific illiteracy that supports these suspicions” - Dr. Marie McCormick, Institute of Medicine, 2004
“Everyone is entitled to their own opinion but not to their own facts.” - Daniel Patrick Moynihan
Organized anti-fluoride activists

Relatively small group with strong internet presence

- Distort research
- Misrepresent others’ views
- Ignore scientific evidence
- Spread fear and misinformation
Anti-fluoride activists make many claims of adverse health effects.
No widely respected medical and health organizations oppose fluoridation.

No adverse health effects from drinking fluoridated water.
Fluoridation of Public Water Supplies

The American Water Works Association (AWWA) supports the recommendations of the World Health Organization (WHO), American Medical Association (AMA), Canadian Medical Association (CMA), Centers for Disease Control (CDC), American Dental Association (ADA), Canadian Dental Association (CDA), and other professional organizations in the medical community, for the fluoridation of public water supplies as a public health benefit. AWWA supports the application of fluoride in a responsible, effective, and reliable manner that includes monitoring and control of fluoride levels mandated by provincial, state, and/or federal laws and that is subject to community acceptance through applicable local decision-making processes. AWWA is committed to regular reviews of the most current research on fluoride and the positions of the medical and dental communities.

Community Water Fluoridation

Oral Health in West Virginia: A Fact Sheet

Tooth Decay is a Problem!

Oral health is integral to general health. Although preventable, tooth decay is a chronic disease affecting all age groups. In fact, it is the most common chronic disease of childhood. The burden of disease is far worse for those who have limited access to prevention and treatment services. Left untreated, tooth decay can cause pain, tooth loss, and even death. Among children, untreated decay has been associated with difficulty in eating, sleeping, learning and proper nutrition. Among adults, untreated decay and tooth loss can also have negative effects on an individual's self-esteem and employability. 3

Community Water Fluoridation Prevents Tooth Decay

Fluoride in community drinking water, adjusted to a concentration of 0.7 parts per million, continues to be a safe, inexpensive and extremely effective method of preventing tooth decay. 4
- Community water fluoridation benefits everyone in the community, regardless of age and socioeconomic status.
- Fluoridation provides protection against tooth decay in populations with limited access to prevention services.
- For every dollar spent on community water fluoridation, up to $38 is saved in dental treatment costs. 5

The Task Force on Community Preventive Services, a national independent, nonfederal, multidisciplinary task force appointed by the director of the Centers for Disease Control and Prevention (CDC), recently reviewed their systematic review of studies of community water fluoridation. They reconfirmed, in communities initiating fluoridation, the decrease in childhood decay was almost 30 percent over 3-12 years of follow-up. 6 Communities have fluoridated the water since 1943. In West Virginia, water has been fluoridated since 1950.

Endorsed by

Community Water Fluoridation is endorsed by the following organizations who support good oral health.

What is West Virginia doing to meet the goals?

West Virginia has: initiated an oral health surveillance system to guide the planning, implementation, and evaluation of programs to prevent and control disease, implemented a standardized education curriculum, promoted interprofessional training with dental non-dental providers on appropriate fluoride supplement programs, maintained records on well-water testing, recognized water systems maintaining optimal levels of fluoride, and utilized fluoride data from water systems.

Strategies for West Virginia's Future

- Encourage fluoride supplements and/or fluoride treatments for those at increased risk for decay who are not receiving fluoridated drinking water, along with daily brushing with fluoride toothpaste morning and night.
- Promote accurate, scientific information about fluoride.
- Encourage the use of dental sealants and school-based dental disease prevention programs.

State and National Healthy People 2020 Objectives and Progress

Increase percentage of persons on public water receiving fluoridated water
National HP Goal = 79.5% WV’s Current Status = 91.3%

Reduce by 10% adults 65-74 who have lost all their teeth
National HP Goal = 21.0% WV’s Current Status = 37.8%
Board of Health Opportunities and Best Practices

- EDUCATION
- SUPPORT POLICY
- COLLABORATION
- FINANCIAL RESOURCES
**Education**

**Community Water Fluoridation**

- **Preventing Tooth Decay for a Lifetime Two Ways**
- **Say This, Not That:** Tips for talking about Community Water Fluoridation
  - **Say This**
  - **Not That**

**What Critics of Fluoride Say & What the Facts Say**

1. Critics say: "The TFA has never approved fluoride’s use in drinking water."
   - **FACT:** The TFA has had the authority to regulate fluoride in public drinking water since 1978. The Environmental Protection Agency (EPA) performs its role in the field. The TFA continues to have responsibility for water fluoridation in the late 1950s established by the D.A. (Learn more)

2. Critics say: "A national study showed that fluoride levels are too high for children."
   - **FACT:** This is a repeated mistake. It was a group of studies from China and India showing fluoride levels in water. These studies are based on current fluoride levels and do not support the claim that fluoride is harmful to children. (Learn more)

3. Critics say: "Fluoride is a chemical waste product of industry."
   - **FACT:** Fluoride is a natural mineral found in many water sources. It is not a waste product of industry. (Learn more)

4. Critics say: "Fluoride is not natural; nothing should be added to our water that is not already there."
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**Education**

- **What Critics of Fluoride Say & What the Facts Say**
  - **Say This, Not That:** Tips for talking about Community Water Fluoridation
  - **Say This**
  - **Not That**

**Community Water Fluoridation**

- **Preventing Tooth Decay for a Lifetime Two Ways**
  - **When children are young, fluoride that is swallowed enters the bloodstream and combines with calcium and phosphorus as the tooth is formed under the gums.**
  - **These teeth are more resistant to decay throughout childhood and the teenage years.**
  - **For people of all ages, fluoride in beverages and foods mixes with the saliva.**
  - **Saliva neutralizes acid produced by bacteria on teeth, and the fluoride heals the teeth and protects them from further decay.**

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Recommended Resources

ADA Fluoridation Facts
http://www.ada.org/sections/newsAndEvents/pdfs/fluoridation_facts.pdf

http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1373

Armfield, J M; When public action undermines public health: a critical examination of antifluoridationist literature: Aust New Zealand Health Policy. 2007; 4:25
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2222595/

Fluoride and IQ and other good responses to anti-fluoridation myths at Campaign for Dental Health Life Is Better with Teeth website
http://www.ilikemyteeth.org/fluoridation/dangers-of-fluoride/fluoride-iqs/

Community Water Fluoridation: A Vital 21st Century Public Health Intervention
Dec 17, 2014 CDC Public Health Grand Rounds
http://www.cdc.gov/about/grand-rounds/archives/2013/december-17-2013.htm

CDC Water Fluoridation Additives, updated 2012
8.2. Public water systems that plan to make long term changes in the method being used to artificially adjust fluoride levels, such as a change in the chemical composition or the dosage rate, shall notify the Commissioner prior to implementing the proposed change. The commissioner shall approve the change in writing before the public water system may begin implementation of the changes.
Collaboration

From: WV Oral Health Coalition <oralhealthcoalition@gmail.com>
Date: August 17, 2016 at 5:47:12 PM EDT
To: undisclosed-recipients:

Subject: West Virginia Community Water Fluoridation (CWIF) Coalition Rapid Response ALERT – Wellsburg, WV-Brooke County 8/17/2016

Dear Coalition Members,

Today, we just learned that the Wellsburg Water and Sanitary Board voted on discontinuing the use of fluoride in the city water supply at their August meeting. The Board cited studies that show the ingestion of fluoride as being detrimental to the health and well-being of those served in their community. The Board further stated that “the decision is quite simple...after having full knowledge that it may cause several health problems” that community water fluoridation is “improper and unethical.”

The board voted unanimously to cease the addition of fluoride into the water supply.

The city of Wellsburg is located in Brooke County and the water system serves approximately 3,456 individuals.

(Wellsburg, WV-Brooke County) Rapid Response ALERT:

Please contact your respective targets (e.g., local water operators, local dentists and dental hygienists, local municipalities, etc.) immediately to alert, organize and demand reversal on the recent decision by the City of Wellsburg. In addition, encourage these individuals to write letters in support of CWIF to the City of Wellsburg.

Wellsburg City Manager is Mr. Stephen Magness
City Manager
70-7th Street
Wellsburg, WV 26070
304-737-2104-Office
304-737-3004-Fax

Please consider sharing the Fluoridation Myths and Facts document attached to this email or the following information links below.

Resources:

www.likemyteeth.org
(document attached)
3 Key Messages

FLUORIDATION IS A COMMUNITY HEALTH MEASURE THAT BENEFITS PEOPLE OF ALL AGES.

FLUORIDATION IS **SAFE** AND IS SUPPORTED BY CREDIBLE SCIENTIFIC EVIDENCE.

FLUORIDATION IS BOTH COST **EFFECTIVE** AND COST **EFFECTIVE**.
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