

From: Johnny Johnson
To: Water; Johnny Johnson; Harrington-McKinney, Barbara; Heck, Patrick; Lemmer, Lindsay; Verveer, Michael; Bidar, Shiva; Rummel, Marsha; Moreland, Donna; Prestigiacomo, Max; Skidmore, Paul; Henak, Zachary; Martin, Arvina; Abbas, Syed; Evers, Tag; Carter, Sheri; Foster, Grant; Tierney, Michael; Baldeh, Samba; Kemble, Rebecca; Furman, Keith; Albouras, Christian; Obeng, Kwasi; Mayor; Water Utility Board
Cc: Nancy Quirk; Dunkel, Russell D - DHS; Kuester, Robbyn L - DHS
Subject: Water Fluoridation Policy Document
Date: Monday, August 24, 2020 4:44:30 PM
Attachments: [AFS Additional Information on Policy 8-24-20.pdf](#)

Caution: This email was sent from an external source. Avoid unknown links and attachments.

Dear Water Utility Board Members,

The American Fluoridation Society would like to take this time to fully support the Madison and Dane County Public Health's Policy Statement on Fluoridation of Public Drinking Water.

The aforementioned document is outstanding in its description of community water fluoridation (CWF) and the review of the literature of over 75 years of CWF in the U.S. It is replete with information backed by evidence-based science that has been published in peer-reviewed, credibly recognized scientific journals. It even includes one reference from the anti-CWF website, fluoride alert, which is the portal for everything that runs counter to the scientific consensus of the overwhelming body of scientific evidence which supports CWF as effective and safe. It should be pointed out that this group, the fluoride action network, created its own journal, Fluoride, to publish literature which credibly recognized scientific journals in the world would not accept for publication. That journal is also not listed on PubMed.gov, nor are articles/publications published in Fluoride.

[PubMed.gov](#) is a search portal which is from the National Institutes of Health, National Library of Medicine, National Center for Biomedical Information:

"PubMed® comprises more than 30 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites."

The journal Fluoride is important to remember as one of the key arguments that will be brought before you in your meeting tomorrow night is a study from Canada which purports a loss in IQ of offspring from pregnant mothers who drank CWF. The IQ loss was in *boys only*, with the girls having an actual increase when the IQ was measured at ages 3-4 years old. That study used [four articles](#) in their references from the journal Fluoride. Additionally, it included a study which was internationally debunked by the Food Safety Authority of Ireland (FSAI) as the article (Waugh, Limeback, et al) made claims of health ills in Ireland from residents drinking tea mixed with CWF. Nearly all of the Republic of Ireland is fluoridated. FSAI, after conducting an intense two-year comprehensive study (2014-2016) measuring all intakes of foods and drinks of residents, concluded:

"Based on the results of this study, the FSAI Scientific Committee concluded that there is currently no scientific basis for concerns about the safety of children and adults in Ireland from exposure to fluoride from foods and beverages."

The American Fluoridation Society (AFS) would like to add additional points to the outstanding Madison and Dane County Public Health's Policy Statement on Fluoridation of Public Drinking Water in this emailed letter that contains additional information to supplement its discussions of studies and opponents of CWF claims.

Please keep in mind the rich history of Madison and Dane county when you listen to contributors to the meeting tomorrow night. Look around your community and reflect back over the past 72 years of CWF in your community, the improvements that have occurred, how our children and children's children have gotten steadily more intelligent than we are (not that I admit that to my children/grandchildren), and the steadily improving dental health of the generations of people who grew up with CWF. They experienced less pain from cavities, less cavities and severity of those cavities, less root canals, fillings and crowns, and less tooth loss. Their quality of life, as ours, has improved because of healthier mouths and healthier bodies. Keep these facts in perspective as outsiders, some of whom are paid for their time and work opposing fluoridation, will flood you with a torrent of cherry-picked facts and a ton of misinformation about CWF. (No one involved with [AES](#) receives any remuneration for their efforts).

Lastly, remember that Dane County and Madison Public Health officials are the experts that you depend on for guidance in all aspects of health. Especially now, with COVID-19 decimating our country, you look to the public health department for guidance and expertise in how to guide your community through this pandemic. Please rely on these same experts as they are leading you through the maze of information on CWF.

Please feel free to reach out to me with any questions or comments that you may have.

Warm regards,

Johnny

Johnny Johnson, Jr., DMD, MS
Pediatric Dentist
Diplomate, American Board of Pediatric Dentistry
Life Fellow, American Academy of Pediatric Dentistry
President, American Fluoridation Society
www.AmericanFluoridationSociety.org
@AFS_Fluoride
c: 727.409.1770



August 24, 2020

Overview:

What began as an [observation](#) by a dentist in Colorado Springs, CO in 1901, revolutionized dental and overall health for our country.

Dr. Frederick McKay moved to Colorado Springs, CO to set up his dental practice. He observed an unusual brown stain on the enamel surface of teeth of people who were born there, or had moved in as infants. It did not occur in adults that were not born there or moved in at a very young age or birth. The stain could not be easily removed, if at all. His curiosity was further peaked as he noticed that these patients had greatly reduced numbers of cavities. The only common denominator was that they all drank from the same water source. Testing of this water revealed nothing out of the ordinary. However, one key testing device did not exist at that time; a fluoride probe.

With the aid of the now called U.S. Public Health Service, McKay's observations were widely studied over the next 30 years. It was observed that some other communities had similar brown stains, nicknamed "Colorado Brown Stain", with the same low cavity pattern. However, cities were found in which people exhibited very few cavities and no brown stains on their teeth. Under close dental examination it could be seen that these teeth had small white streaks or flecks in their enamel. It was not visible to the casual observer. Again, the only common denominator was that all people in these communities drank from the same water source.

In 1930, a chemist invented a fluoride probe. Immediately water samples were sent in from Colorado Springs as well as from communities where cavities were low and no brown stain present. The Colorado Springs water tested fluoride levels at 2-12 ppm (= milligrams/liter), while the communities with no brown discoloration had levels at 1 ppm. Mother Nature had now shown us that the naturally existing mineral fluoride, that's present in nearly all water, has a level at which it protects teeth against cavities without imparting esthetically objectionable brown stains.

This accidental scientific discovery by Dr. McKay led to the initial trials of adjusting the naturally occurring levels of fluoride in Grand Rapids, MI up to 1 ppm in 1945. The study included four test cities and four control cities. Cavity rates dropped precipitously to the tune of 60-70%. The fifteen-year study in which Mother Nature was replicated showed the huge benefits of adjusting the existing fluoride in our water up to an optimal level where cavity reductions were maximized and any objectionable brown staining would not occur. Thus, community water fluoridation was begun.

The [CDC](#) named community water fluoridation one of 10 Great Public Health Achievements of the 20th century, including:

- Vaccinations
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Healthier mothers and babies
- Recognition of tobacco use as a health hazard

Effectiveness of Water Fluoridation (CWF) to Prevent Dental Caries:

Cavities are the most chronic disease of children and teens in our country. They are preventable! It takes multiple approaches to prevent this infectious and transmissible disease. CWF is but one of the tools in our toolkit. Good brushing/flossing habits, reduction in foods that are high in sugars, eating a healthy diet, regular dental care for everyone, and access to a dentist. The public health measure of CWF is a passive one, and one that we know works all of the time, 24/7/365. As a pediatric dentist, I can tell you that oral hygiene changes, diet modification, and reductions in sugar intakes are not long-lived habits for patients. And we're not talking just about people who receive regular dental care. Those advocating to cease CWF would like to have you believe that we can get everyone to stop eating sugar and we'd be fine. In a perfect world, that would greatly reduce the cavities that occur, I agree. But this isn't a perfect world; just think about your own children and your habits growing up, and now. I know you understand what I mean.

The effectiveness of water fluoridation has been continuously studied since its inception in the U.S. and around the world. A search on PubMed for the word "[fluoridation](#)" returns over 65,000 entries. A PubMed search on [childhood](#) vaccinations returns nearly 9,500 entries. Fluoridation and childhood vaccinations are two of the most studied public health measures ever.

Over 201 million residents of the U.S. served by community water systems have CWF. That is nearly 3 out of 4 people on community water systems. CWF has grown every year since it began in 1945. The oral health of each generation born since CWF began has been better than the one before it because of CWF. This [2-minute video](#) by immediate past U.S. Surgeon General Dr. Vivek Murthy succinctly points to the huge value of CWF to the overall health of our country. It is well worth the two minutes that you will spend to hear from the top medical health officer in our country.

CWF [reduces cavities](#) (aka caries, decay) by at least 25% over a person's lifetime. Cavities are an infectious and transmissible disease. CWF is the closest thing that we have to a vaccination against this disease. It is the most cost-effective means to get the optimal level of fluoride to everyone in the community without a single change in their daily routine.

Turn on the faucet, reap the cavity fighting benefits of fluoride. This 25% reduction is **above and beyond** those already reduced by fluoride toothpaste, rinses, gels, or varnish. Per the [CDC](#):

“Although other fluoride-containing products, such as toothpaste, mouth rinses, and dietary supplements are available and contribute to the prevention and control of tooth decay, community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all, reducing tooth decay by 25% in children and adults.”

CWF benefits adults, children, those with physical and/or mental challenges, and our aging population alike. Everyone benefits, regardless of age, race socioeconomic status, ethnicity, level of education, or access to dental care. For some, especially those that are living at or below poverty in Madison/Dane County, it is the only preventive dental care that they will ever receive.

Cessation of CWF:

The real horrific side of challenges to stop fluoridation is born out in the exponential increases in cavities that occur rapidly. The poorest of the poor get twice as many cavities than those not living in poverty. Everyone, adults and children, experience huge increases in cavities when CWF is stopped. But it is the poorest families who are impacted the hardest when this occurs. Just ask your public health officials. They know the impacts that CWF has on cavity rates in Madison/Dane County as well as around the state where it exists and where it doesn't. The difference is night and day. As a private practice pediatric dentist for over 35 years, I can attest to the horrific damage to the teeth, mouth, and bodies from my patients who grew up without the benefits of CWF. Likewise, I can attest to the huge impacts that growing up with it had on the teens and children in my practice. But don't just take my word or that of your public health officials. Ask your own dentists and pediatricians about it. They may not be versed in the research about CWF like many of us are, but they will tell you what they see in their offices. Trust those that you entrust your babies and grandchildren with, and to whom you allow to take care of your oral health. They have no reason to mislead you. In fact, CWF reduces the income that those of us in the dental profession make by reducing the number and severity of cavities that we could make money from repairing. But that's not how you fight a disease. As doctors, we are committed to prevent this disease.

- Opponents to CWF would like to convince you that CWF prevents one cavity over a 40-year timespan. Have them cite credible scientific sources for this. They can't as they don't exist. They choose to play with numbers and percentages to purposely mislead you. And, frankly, they can make up a very good story. However, the rubber meets the road when CWF is ceased. This is where the credibly conducted research and public health data have shown CWF decision-makers the facts from fiction.

Four cessations which show the tragedies that occur when CWF is stopped:

1. **Antigo, WI:** Controlled Fluoridation: The Dental Effects of Discontinuation in Antigo, Wisconsin (full article attached as it behind a paywall-I accessed it for you)

Antigo stopped and when the results on cavity increases were seen, they restarted CWF:

“Fluoridation of the water supply of the city of Antigo, Wisconsin, began in June 1949 and ended in November 1960. The actions of a militant antifuoridation group brought about its discontinuance.

Summary

Dental examinations made in 1960 in Antigo, Wisconsin, before the removal of fluoride, showed DMF (decayed, missing, and filled teeth-JJ insertion) rates comparable to those characteristic of other fluoridated areas in Wisconsin. Dental examinations made in 1964, four years after fluoridation had stopped, and in 1966, just after fluoridation had been reinstated, showed that DMF rates had greatly increased and were characteristic of those rates found in nonfluoridated areas in Wisconsin. Findings substantiate previous studies regarding the withdrawal of fluorides from the water supply and the ineffectiveness of fluoride as a prenatal therapeutic measure.”

JADA, [VOLUME 80, ISSUE 4](#), P782-786, APRIL 01, 1970

2. **Juneau, Alaska**: Ceased in 2007. Results showed one more cavity-related dental need per child per year under the age of 7 years old.
3. **Calgary, Alberta Canada**: Ceased in 2011. After just 3 years, cavity rates shot up 146% when compared to continuously fluoridated Edmonton to its north
Note: Opponents will tell you this study is flawed and they published an article on it. Here is the [response](#) by the authors of the Calgary study to the opponent’s claims.
4. **Windsor, Ontario Canada**: Ceased in 2013. The city council asked the health unit to track the changes and report back to them in 5 years. In 2018 the health unit reported that cavities and emergency dental needs rose by 51% over that five-year period for children, with similar results in adults.
Windsor voted to restart CWF.

Potential Health Concerns from CWF:

CWF has not been shown to be associated with any [adverse](#) health effects.

1. Acute fluoride toxicity from CWF: Extremely rare as described in Policy document due to strict guidelines and fail-safe mechanisms. Human error (personnel) has led to these incidences. One death occurred in Alaska due to mechanical failure,

improper equipment fail-safes, and operator error. This is the only death that's occurred in the U.S. from CWF.

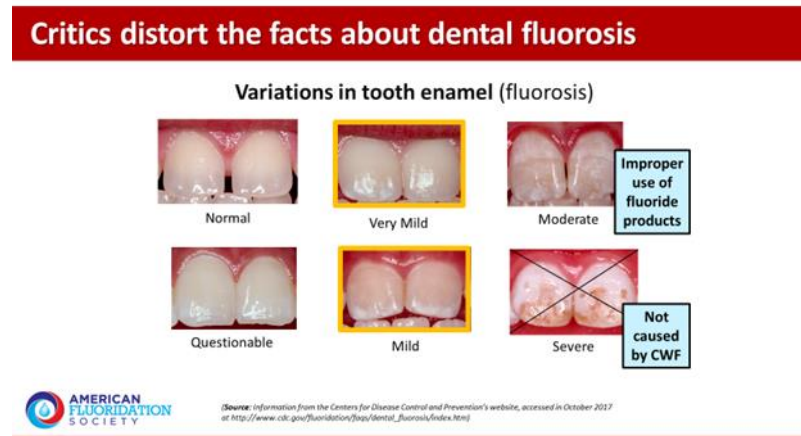
2. Dental fluorosis is a change in the appearance of tooth enamel caused by high intakes of fluoride during the tooth-forming years.

Dental fluorosis is typically a mild cosmetic effect:

- It does not cause pain
- It does not affect the health or function of teeth
- It is so subtle most people don't even notice it

Dental fluorosis can only occur **up to 8 years of age** while permanent teeth are developing. It does not occur in adults after the teeth have formed.

Severe dental fluorosis does not occur from CWF.



3. **Hip Fracture:** Covered extremely well in Policy document

4. **Reduction in IQ:**

Opponents will bring up studies as discussed in the Policy document.

- a. Harvard Meta-analysis by Choi and Grandjean. Evaluated areas of naturally high fluoride levels vs low fluoride levels (levels comparable to CWF).

- The low area served as the Control Group in their analysis
- The Control Groups had **no** IQ changes.
- The high fluoride groups had a 7 point IQ loss. These fluoride levels were at multiples of what we have in CWF, 0.7 ppm fluoride.

- b. Green et al study "Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada"

This study was conducted by good researchers. The study itself has come under international criticism by the scientific community.

In addition to the points presented in the Policy document which explains specific issues with this study and the Harvard Meta-analysis, other experts have conducted extensive analyses of this study. Below are statements from their analyses.

Canadian Agency for Drugs and Technologies in Health
(CADTH) :

CADTH conducted [review](#) of the Green et al study.

“CADTH RAPID RESPONSE REPORT: SUMMARY WITH CRITICAL APPRAISAL Community Water Fluoridation Exposure: A Review of Neurological and Cognitive Effects”, *October 23, 2019*, made the following statements on the Green et al study (a few of numerous statements regarding the study’s limitations):

“The study by Green et al., 2019¹³ concluded that “maternal exposure to higher levels of fluoride during pregnancy was associated with lower IQ scores in children aged 3 to 4 years.” (p. 12) This conclusion was not supported by the data.”(JJ bolding)

“No attempt was made to control for potential important confounding factors including parental IQ, father’s education, socioeconomic status, duration of breast feeding, postnatal exposure to fluoride, postnatal diet and nutrition, child’s health status, and other confounders between birth and the children’s age of 3 or 4 when IQ was measured.^{18,19} Although the authors controlled for and performed sensitivity analysis to test the robustness of association estimates for a number of substances (including lead, mercury, arsenic) in the mothers’ blood samples, they did not consider postnatal exposure of children to these substances. Lead, in particular has been found to have a high association with IQ in children.²³ With incomplete control for potential confounders, it remains uncertain to know if the effect is true, and if it is due to prenatal exposure or postnatal exposure.”

“The evidence is weak due to multiple limitations (e.g., non-homogeneous distribution of data, potential errors and biases in the estimation of maternal fluoride exposure and in IQ measurement, uncontrolled potential important confounding factors); therefore, the findings of this study should be interpreted with caution.”

“Toxicity of fluoride: critical evaluation of evidence for human developmental neurotoxicity in epidemiological studies, animal experiments and in vitro analyses”

[Guth et al, Archives of Toxicology, 26 March 2020](#)

"based on the totality of currently available scientific evidence, the present review does not support the presumption that fluoride should be assessed as a human developmental neurotoxicant at the current exposure levels in Europe."

*"An additional limitation of the study performed by **Green et al. (2019)** is that the intelligence tests have been performed only once between the age of 3 and 4 years, but the exact age of the children at the time point of the test has not been considered in the statistical analysis. This may be problematic, because the IQ of children changes strongly between 3 and 4 years."*

New Studies showing NO IQ changes from CWF:

Two studies not included in discussions are listed below. These are large-scale studies which have shown no changes in the IQ of residents whose water is naturally fluoridated or is adjusted to optimal levels.

A. “Community Water Fluoridation and Intelligence: Prospective Study in New Zealand”

This [study](#) followed over a thousand people over 38 years. Their robust study concluded:

“Conclusions. These findings do not support the assertion that fluoride in the context of CWF programs is neurotoxic. Associations between very high fluoride exposure and low IQ reported in previous studies may have been affected by confounding, particularly by urban or rural status.”

(Note: I have a full copy if you'd like it.)

B. “The Effects of Fluoride In The Drinking Water”

This [study](#) was conducted by two Swedish Economists. Sweden does not fluoridate their water. The economists wanted to see the outcomes of fluoride in water at levels up to 1.5 ppm. Their sample size was enormous.....

Their analysis of the available data for the 1985 to 1992 birth cohorts includes IQ at the age of 16 (for a subset of the population), and dental outcomes in

2008 and 2013, as well as income and employment data from 2014. The fluoride exposure via the water supply was determined based on residence and national data on fluoride concentration in each region. Potential confounders were also considered in the analysis. The total population of the cohort was 825,000 persons, with subsets available for a more detailed analysis (e.g. 728,000 persons were evaluated for the important outcome of employment status).

The results were as follows.

1. Exposure to water fluoridation is associated with improved dental health.
2. Fluoride exposure had no effect on cognitive or non-cognitive function. Further, no differences were seen for math scores.
3. Fluoride exposure was associated with an increase in annual income and being employed (versus unemployed). Their interpretation is that better dental health provides an advantage in the labor market.

The authors conclude that in terms of policy implications, especially for countries considering water fluoridation, introduction of fluoridation will have health and personal benefits. Further, if the fluoride concentration is at or below the recommended concentration, fluoridation is safe.”

5. Hypothyroidism: Covered extremely well in Policy document

6. Cancer:

Opponents will bring up a study by Elyse Bassin which was from the midpoint of the study being conducted at Harvard University discussed in the Policy document. Their explanation of her research is only half complete, as her study was part of the larger study published in 2011.

- *In the words of Dr. Elyse Bassin, her [Conclusions](#):*
“Our exploratory analysis found an association between fluoride exposure in drinking water during childhood and the incidence of osteosarcoma among males but not consistently among females. Further research is required to confirm or refute this observation.”
- When the [study](#) was completed and published in 2011, the full analysis of bone samples showed no association between CWF and Osteosarcoma:

“No significant association between bone fluoride levels and osteosarcoma risk was detected in our case-control study, based on controls with other tumor diagnoses.”

Fluoridation Compound Sources and Potential Contaminants:

1. It is important to point out that anything in water besides H₂O molecules is called a contaminant by the EPA. There are over [90 contaminants](#) that are monitored for in drinking water, including odor.
2. Contaminants as discussed in regards to the fluoride additives are present because they are in the rock used for gaining the fluoride from. These contaminants have not been placed in the water by some mishandling or intentional means as is often suggested by opponents.
3. There are [three sources](#) of fluoride additives in the U.S.: from the CDC:

According to the American Water Works Association Standards Committee on Fluorides, the sources of fluoride products used for water fluoridation in the United States are as follows:

- Approximately 90% are produced during the process of extracting phosphate from phosphoric ore.
- Approximately 5% come from the production of hydrogen fluoride or sodium fluoride.
- Approximately 5% come from the purification of high-quality quartz.

Opponents would like you to think that fluoride additives all come from the fertilizer industry. That is incorrect. However, the purity, availability, and low cost of this source of fluoride additives make it the best choice for most community water systems to use.

One last point. When someone tells you that fluoride is a toxic waste by-product of the fertilizer industry, ask them what gives the “bite” to their soda. Or where did they purchase their drywall from for their dwelling. The answer to both questions is that phosphoric acid gives the bite in soda and gypsum is what drywall is made of. Both of these are co-products of phosphate production, just as the fluoride that we use. The phosphate is made into fertilizer to feed the grass for animals to graze on. Which we then eat. It’s a full cycle of maximizing what Mother Nature has given us.



Johnny Johnson, Jr., DMD, MS
Pediatric Dentist
Diplomate, American Board of Pediatric Dentistry
Life Fellow, American Academy of Pediatric Dentistry
President, American Fluoridation Society
Web: <https://americanfluoridationsociety.org/>
Cell: 727-409-1770
Email: drjohnnyjohnson@gmail.com

American Fluoridation Society's Board of Directors and Advisory Committees

Board of Directors

President:

Johnny Johnson, Jr., DMD, MS
Pediatric Dentist

Vice President:

Myron A. Allukian, Jr., DDS, MPH
Public Health Dentist, Educator

Communications Officer:

Steven Slott, DDS
Dentist

Treasurer:

Kurt Ferré, DDS
Dentist

Secretary:

Jennifer Martinson, BS, RDH
Dental Hygienist

Emeritus:

Charles Haynie, MD, FACS
Vascular Surgeon

Bruce Austin, DMD

Immediate past Oregon State Dental
Director

Kimberlie Yineman-Payne, BA, RDH

Dental Hygienist
Immediate past North Dakota State Dental
Director

Science Advisory Committee

William Maas, DDS, MPH, MS

Former Director, Division of Oral Health, U.S.
Centers for Disease Control and Prevention

John Morris, DDS, BDS, FDS (UK)

University of Birmingham School of Dentistry,
former national lead for water fluoridation with
Public Health England and regional consultant for
the Midlands and East of England

Howard Pollick, BDS, MPH

Professor, Preventive & Restorative Dental Sciences
University of California San Francisco, School of
Dentistry

Michael Foley, BDS, MPH, MEpi (Aus)

Director of Research and Advocacy for Metro North
Oral Health Services, Former Director of Brisbane
Dental Hospital

Timothy Wright, MS, DDS

Bawden Distinguished Professor
Pediatric and Public Health
Adams School of Dentistry
The University of North Carolina

Mark Moss, DDS, PhD

Associate Professor, Department of Foundational
Sciences, East Carolina School of Dentistry,
Greenville, NC

Gary D. Slade, BDS, DipDPH

John W. Stamm Distinguished Professor of Dentistry
at the UNC Adams School of Dentistry, Chapel Hill,
NC

Jennifer Meyer, PhD, MPH, CPH, RN

Assistant Professor of Health Sciences, University of
Alaska Anchorage, AK

Water Advisory Committee

Nancy Quirk, C.E.

General Manager
Green Bay Water Utility

Kip Duchon, P.E.

Immediate past CDC National Fluoridation
Engineer

Communications Committee

Steve Slott

AFS Communications Officer

Randy Johnson

Biology