The Anti-Fluoridationist Threat to Public Health

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Declared by the Centers for Disease Control and Prevention to be one of the ten greatest public-health achievements of the Twentieth Century, community water fluoridation has been under attack by a small band of critics since its inception. The scientific consensus over fluoridation’s health benefits, safety, social justice, and economies has been firmly established over six decades of widespread use in the United States and elsewhere. Nevertheless, anti-science critics have never relented in their opposition — recycling previously disproven charges of harm, inventing new ones out of whole cloth, misrepresenting scientific facts and research, exaggerating risks, understating benefits, inappropriately invoking the precautionary principle, and accusing public health officials of corruption, conspiracy, and ‘mass medication’ of whole populations.

Background

Tooth decay is the most common disease of all mankind. Decay and loss of teeth due to decay can affect general health, especially for the elderly, and adversely impact an individual’s emotional and social well-being. Fluoride is a micro-nutrient essential to the development and maintenance of teeth and bones. Fluoride-fortified teeth are significantly resistant to dental caries.

Community water fluoridation (CWF) is an adjustment to the amount of fluoride that occurs naturally in all water supplies to a safe level that is optimal for dental health and safe for overall health. Scientific studies have established that CWF lowers the rate of tooth decay by 20-40% in children, over and above the effect of toothpaste and other sources of fluoride. Moreover, it benefits all residents of a community, regardless of age and socio-economic status. CWF is remarkably economical for community water systems serving 1,000 people or more. For such communities, every dollar spent on CWF on average saves $38 to $80 per year in dental treatment. To look at it another way, for the cost of a single small tooth restoration, an individual can be protected for life.

Thousands of reliable scientific studies have established the safety of CWF at the levels of optimal fluoridation. After decades of observation and examination, reviews by major scientific organizations have found there is no epidemiological evidence for any other threat to public or individual health associated with CWF.

In the United States, 62.2% of the population has access to public water supplies that are optimally fluoridated. Over 360 million people worldwide, in approximately 60 countries enjoy the benefits of fluoridated drinking water. Dr C. Everett Koop, a former US Surgeon General, has stated, “Fluoridation is the single most important commitment that a community can make to the oral health of its citizens.”

Yet in spite of overwhelming scientific evidence and greatly improved dental health, opposition to CWF persists. This opposition has had success in delaying the adoption of CWF in some
communities, and even causing others to abandon it, depriving tens of thousands of citizens of optimal dental health and putting a heavy financial burden on the community’s health care resources. Because of this threat to public health, the tactics of the anti-fluoridationists warrant examination and exposure.

**Tactics of the Anti-fluoridation Movement**

**Misrepresenting the Conclusions of Valid Research**

The National Research Council (NRC) is a group of distinguished experts that issues independent reports to improve government, decision making and public policy. In 2006, the NRC issued a report on fluoride. Anti-fluoride groups often cite the NRC’s report when they try to raise fears about community water fluoridation, but these groups’ statements misrepresent the NRC’s findings. Although the report’s title cites “drinking water,” the NRC produced a summary of its report, reiterating the focus of its concern, i.e. people living in areas of the United States with *natural* levels of fluoride in water that are at least double or triple the level used to fluoridate a public water system. As the NRC itself stated, “it is important to note that the safety and effectiveness of the practice of water fluoridation was outside the scope of this report and is not evaluated.”

**Citing Strange, Far-Fetched Case Studies to Attack Fluoridation**

The New York State Coalition Opposed to Fluoridation (NYSCOF) has cited bizarre case studies of people that are in no way representative of normal behavior or normal conditions. These case studies are not scientifically relevant to whether Americans drink fluoridated water. Here are some examples of the case studies that are presented with fearful headlines by NYSCOF.
In 2009, NYSCOF posted a press statement that quoted its president saying that “even water fluoridation will cause arthritic-like symptoms in susceptible individuals.” However, NYSCOF provided no evidence connecting fluoridated water to arthritis. One of the articles that the group cited to back up its claim was from a French medical journal. That article described a bizarre case study that had nothing to do with whether Americans drink fluoridated water. It was about a woman who brushed her teeth 18 times a day and swallowed the toothpaste, consuming a tube of toothpaste every two days. It is irresponsible to attack water fluoridation with a case study that (a) does not involve fluoridated water, and (b) is not representative of normal behavior. It is also instructive to note that while fluoride levels in water fluoridation do not exceed 1.0 parts per million, the fluoride levels in toothpastes range from 1100 to 1500 parts per million depending on the brand.

In 2010, NYSCOF cited the case of a 53-year-old British woman in a Facebook post headlined, “Fluoride Damages Bones, Studies Show.” Unless people read the full article, they never learn what a bizarre lifestyle this woman had, drinking six cups of high-fluoride “brick tea” and brushing her teeth 8-10 times each day. Ordinary Americans do not drink that type of tea, and they do not brush their teeth every two hours they’re awake. Presenting this woman’s case as a reason to fear water fluoridation in the United States is misleading.

Engaging in Misleading Spin about Europe and Fluoride

Fluoridation.com, an anti-fluoride website managed by Canadian activist Elke Babiuk, contends that “99% of western continental Europe has rejected, banned, or stopped fluoridation due to environmental, health, legal, or ethical concerns.” There is no citation for this statement, and this assertion is a classic example of spin. Based on this language, one would conclude that virtually nobody in Western Europe regularly receives systemic forms of fluoride. The reality is very different.
First, the insertion of the word “continental” is a way of ignoring that millions of Irish and British people drink water that is optimally fluoridated. In fact, fluoridated water is provided to 12 million Europeans, mostly reaching residents of Great Britain, Ireland, Spain and other countries.14

Second, this statement by Fluoridation.com obscures the fact that fluoride is widely used in Europe. In fact, at least 70 million Europeans consume fluoridated salt, and this method of fluoridation reaches most of the population in Germany and Switzerland. These two countries have among the lowest rates of tooth decay in all of Europe.15 Fluoridated milk programs reach millions of additional Europeans.16

Italy has not tried to create a national system of water fluoridation, but there are logical reasons for this. Firstly, many Italians regularly drink bottled water. Secondly, a number of areas in Italy have water supplies with natural fluoride levels that already reach the optimal level that prevents decay.17

Misrepresenting the Positions of Governmental or Health Organizations

In 2012, a group called the New York State Coalition Opposed to Fluoridation (NYSCOF) claimed in an Internet article that the U.S. Department of Health and Human Services (HHS) “recommends avoiding fluoridated water when making infant formula.”18 The hyperlink contained within this statement takes readers to yet another article by NYSCOF that makes the same inaccurate claim.19 NYSCOF asserted that its source for this assertion is a video commentary recorded by Dr Howard Koh, HHS’s Assistant Secretary for Health in 2011. But in the video, Dr Koh did not warn parents against using fluoridated water for infant formula.20 This is what he actually said:

Parents and caregivers can use fluoridated water for preparing infant formula. However, if the child is exclusively consuming infant formula reconstituted with fluoridated water, there is an increased potential for mild dental fluorosis. The majority of fluoride comes from the water used to mix the formula. Some parents may choose to use low-fluoride bottled water some of the time to mix infant formula.

This HHS message suggests another option for parents who may be concerned about fluorosis, but it is a far cry from telling parents to avoid fluoridated water. Incidentally, nearly all fluorosis in the United States is a mild, cosmetic condition that doesn’t affect the health or function of the teeth. In most cases, only a dentist will detect the condition because the faint white streaks on teeth are so subtle.

Painting an Inaccurate Picture of Dental Fluorosis

One typical way that anti-fluoride activists raise fears about safety is by talking about a condition called dental fluorosis. They don’t mention that nearly all fluorosis in the United States is a mild, cosmetic condition that is so subtle that only a dentist is usually able to detect it and only
when the teeth are completely dry. Mild fluorosis does not cause pain, and it does not affect the health or function of the teeth. Here are two examples of how opponents misrepresent what fluorosis is:

- The Fluoride Action Network (FAN), a web-based anti-fluoridation organization, has cited the incidence of fluorosis in India and other nations to raise concern about water fluoridation. Yet FAN neglects to inform readers that the cause of this condition is not fluoridated water. In fact, the process of adjusting fluoride in public water systems is extremely rare in India. The problem is that several regions of India have geological conditions that make the natural fluoride levels between four and 15 times higher than the level used to fluoridate water in the United States. Moreover, some excessive levels of fluoride in India’s ground water is the result of widespread unabated industrial pollution. India’s leading health officials do not blame the practice of what is called “fluoridation.” In fact, the director of India’s Institute of Public Health publicly endorsed water fluoridation. Skeletal fluorosis is a condition that is virtually unheard of in the United States.

- The leader of NYSCOF posted a statement on the web about fluoridation in which he declared that a study links dental fluorosis to bone fractures. The Chinese study he cited was about fluorosis “from drinking traditional brick-tea.” Although brick tea is consumed in many areas of China, it is virtually unheard of the United States. Brick tea has a concentration of fluoride that is between three and 10 times higher than the level recommended to fluoridate drinking water in the United States. This study was described in an anti-fluoride publication called Fluoride, which does not have the same rigorous standards for peer review and integrity that are required of full-fledged scientific journals. For example, the World Health Organization’s guidelines recommend that a study’s methodology be “clearly defined” and the procedures used in a study “should be described in detail.” The article in Fluoride is only three and a half pages long, and most of one page consists of photographs. Few details are provided of the methodology or procedures used by the Chinese researchers. The article states that the children had “a known regular consumption” of brick tea, but there is no way...
to determine how much brick tea was consumed by the children who were studied — or for how many years they consumed such tea.

Leaving Out Critical Facts

• An anti-CWF group cited a study about a city in Cuba that ceased fluoridation, presenting it as proof that fluoridation offers no benefits.\(^\text{29}\) It’s true that decay rates fell for children in this city after CWF ended in 1990, but the anti-fluoride group ignored a crucial point that could well have influenced these rates — that very same year, this city started a weekly, fluoride mouth-rinsing program in its schools.\(^\text{30}\) Effective mouth-rinsing programs generally cost significantly more per person than CWF.

• Citizens for Safe Drinking Water (www.nofluoride.com) has posted anti-fluoridation quotes on its website, claiming that these statements “are made by the top medical authoriti-\(s\)…based on the latest medical research.” But several of these quotes are more than 40 years old and, therefore, are not based on the latest research. The group even cites a quote from an American Medical Association leader, without revealing that he was AMA’s president in the 1930s — many years before fluoridation was first tried in the United States.\(^\text{31}\) The American Medical Association has since endorsed CWF as an effective public health strategy.

Using a “Rhetorical Question” to Create Fear

One example of anti-fluoride propaganda seeks to raise a major health concern, claiming a link between fluoride and fibromyalgia, without offering any credible evidence to back it up. Instead, this article engages in guesswork:

Is it possible that some cases of fibromyalgia are actually cases of fluoride poisoning? Again, it is a possibility. … The problem is, there is no actual research to determine a solid connection between fluoride and fibromyalgia...\(^\text{32}\)

Saying something is “possible” is a poor reason for raising a concern that is not backed by scientific evidence. People who suffer from
fibromyalgia deserve our compassion, not our wild speculations about their illness. The article was written by a woman who is described as a writer “with a special interest in health-related topics.” Yet there is no indication that she holds a medical degree or has any expertise in this particular field.

Holding Extreme Views About Health and Medicine

Several of the leading voices in the anti-fluoride movement have expressed radical views that place them at odds with the scientific and medical community.

- **Mike Adams**, editor of NaturalNews.com, is a vocal opponent of water fluoridation. In 2009, he launched an online petition endorsing a health reform plan for the United States that includes a provision preventing state medical boards from being able to license “who can or cannot practice medicine.” Adams also attacks vaccines. In 2011, he wrote, “Vaccines make you stupid. The chemical adjuvants added to vaccines actually cause neurological damage and interfere with healthy cognitive function.”

- **Dr. Joseph Mercola** is a leading opponent of fluoridation who claims it “causes teeth to rot and crumble.” In 2010, Dr Mercola posted a series of lengthy interviews with Paul Connett, leader of the FAN, and kicked off these interviews by declaring his intent “to remove fluoride from the water supply of the United States.” In 2011, the website Quackwatch reported, “Many of Mercola’s articles make unsubstantiated claims and clash with those of leading medical and public health organizations.” Quackwatch also reports these claims include articles opposing immunization and promoting dietary supplements. For instance, Mercola’s website has warned women against getting mammograms to screen for breast cancer. Instead, Mercola encourages women to use thermograms – digital images of skin temperatures – as a tool for detecting cancer and other health conditions. Since 2005, Mercola has received at least three letters from the Food and Drug Administration, ordering him to stop making certain claims about thermograms or other products promoted on his website. The FDA has concluded that the broad claims made by the Illinois physician do not accurately reflect the medical evidence about thermograms. The Chicago Tribune reported that “science has yet to back his claims” about the Med2000, a thermographic camera that Mercola promotes. According to the American Cancer Society, “no study has ever shown that [a thermogram] is an effective screening tool for finding breast cancer early. It should not be used as a substitute for mammograms.”

- **John Yiamouyiannis**, a PhD chemist whose anti-fluoride articles are still cited by FAN, co-wrote a book making the false claim that the virus HIV does not cause AIDS. Yiamouyiannis also predicted that people who received childhood vaccinations would have a higher rate of AIDS—another assertion that is at odds with the evidence. Yiamouyiannis died at age 58 of cancer. He had neglected symptoms of rectal cancer, and then, rejecting standard treatment, he opted for IV vitamin C and laetrile at a Mexican clinic. Many years ago, Consumer
Reports criticized the junk science behind Yiamouyiannis’s attacks on fluoridation, but FAN continues to praise him as an expert on the subject.

- **Stanley Monteith, MD**, is a retired orthopedic surgeon. He has a syndicated program called Radio Liberty that airs on over 50 stations. A long-time member of the John Birch Society, Monteith’s favorite issues include a “secret cabal” that controls the United States, the “New World Order,” promoting belief in the supernatural, and a conspiracy to reduce the world’s population to 500 million using fluoridation which he claims lowers sperm production. In 2004, he published the book *Hidden Agenda: The Fluoride Deception (Training Manual for Parents, Physicians, and Dentists)*.

- **Mehmet Oz, MD**, reaches a TV audience of millions with the *Dr. Oz Show*. Oz recommends individuals purchase reverse osmosis filters, as his family has done, for the purpose of removing fluoride from drinking water. Oz also promotes Joseph Mercola (see above) and many discredited health care practices, such as Reiki and acupuncture; he even claims that homeopathy is “worth considering.” As a practicing cardiothoracic surgeon, Oz brought a “radical energy healer” into his operating room to reduce patients’ anxiety stemming from their repressed “birth trauma.”

- **Paul H. Connett**, a retired professor of chemistry at St. Lawrence University, authored *The Case Against Fluoride: How Hazardous Waste Ended Up in Our Drinking Water and the Bad Science and Powerful Politics That Keep It There* (2010). Connett is the head of the family-operated FAN. At the end of 2011, fewer than 200 of America’s 150,000 dentists had signed Connett’s “Professionals’ Statement to End Fluoridation.” Connett considers fluoridation to be forced medication and repeats many of the usual anti-fluoridation arguments. He often frames his opposition to fluoride in the form of questions, such as “What parent in their right mind would put the interest of their children’s teeth…above the interest of their brains?” He also claims that with fluoridation, “There’s no adequate margin of safety.” In an unguarded moment with an interviewer, Connett recently stated, “All these liberal commentators around the world immediately jump in and use the fact that the Tea Party is involved to slam us as being crazy conspiracy theorists. We might be wrong, but we’re not looney.”

- **Christopher Bryson** is a reporter whose book, *The Fluoride Deception*, purports to link water fluoridation to the Manhattan Project at Los Alamos. In an interview aired on *Democracy Now*, Bryson stated, “The post-war campaign to fluoridate drinking water was less a public health innovation than a public relations ploy sponsored by industrial users of fluoride—including the government’s nuclear weapons program.” The studies Bryson refers to are of poor quality and don’t hold up to scientific scrutiny. He refers to fluoridation as “rat poison.”

- **Hardy Limeback** is a Canadian dentist who teaches the University of Toronto and who has opposed fluoridation since 1998. He seems to have changed his support for fluoridation after losing a bid for the presidency of the Canadian Dental Association. He repeatedly makes the scientifically unfounded claim that, “In Canada, we are now spending more money treating dental fluorosis than we do treating cavities.” He often asserts that fluoride has cumulative
toxic effects that can be ‘catastrophic,’ although he cites scientific evidence that actually does not support his assertions.

• Carol Kopf appears to be principal voice behind the New York Coalition Opposed to Fluoridation (NYSCOF). A Long Island housewife without any health-related training, Kopf peppers the internet with unscientific articles under her actual name and the *nom de plume* “Sally Stride.” She bombards newspapers with letters to the editor in response to almost any mention of fluoridation. It also appears that she is the ghost writer for attorney Paul Beeber, titular head of NYSCOF.

**Conclusions**

For decades, a small, but vocal, movement of anti-fluoridation activists has spread unfounded fears among the public about community water fluoridation, with the result that some communities have opted to stop this beneficial and cost-effective public health measure. While the value of fluoride is gaining gradual acceptance, overcoming the misinformation promoted by those opposed to fluoridation is a long and difficult process.

The anti-fluoridationists’ fake scientific controversy has resulted in reduced dental health, needless pain, suffering, and lost productivity, with substantially increased financial burdens on individuals and our health care system.

The anti-fluoridation movement employs classic propaganda methods, such as misrepresentation, fear mongering, false analogies and outright lies to further their political goals. As William Jarvis, past executive director of the National Council Against Health Fraud, has said:

*These charges seem to grow out of a mentality of distrust. Anti-fluoridation groups are led by many of the same people who oppose immunization, pasteurization, sex education, mental health programs, and other public health advances. Most are closely connected with sellers of alternatives to medically accepted products and services.*

Fluoridation is safe, effective, efficient, socially equitable, and environmentally sound public health policy for the prevention of the most common disease afflicting children and adults. It is imperative that the optimal fluoridation of community water systems continue throughout the United States and, indeed, the world.
Sources


8 Committee on Fluoride in Drinking Water, op. cit.


11 It is reasonable to conclude that this British woman had consumed brick tea because the fluoride level reported in the tea is only reached by brick tea; the level reported (7.6 mg./L) is more than triple the fluoride level found in green, black and oolong teas. See: Micronutrient Information Center, The Linus Pauling Institute, Oregon State University, “Tea” (http://lpi.oregonstate.edu/infocenter/phytochemicals/tea/), accessed 2011 Oct 26.


White Paper: The Anti-Fluoridationist Threat to Public Health

16 Ibid.


22 Lennon MA, Whelton H, O’Mullane D & Ekstrand J. “Fluoride: rolling revision of the WHO guidelines for drinking-water quality” [draft report] (World Health Organization, 2004 Sep). See Tables 1 and 2 which list the countries with laws or policies to fluoride-adjust their public water systems. Warning: this document is labeled “not for citation”.


24 Ramachandra SS, Ramachandra SS & Rao M. “Need for community water fluoridation in areas with suboptimal fluoride levels in India,” Perspectives in Public Health, 2010 Sep; 130(5):211-212. [DOI]


27 Micronutrient Information Center, op. cit.


36 “Dr. Mercola interviews Dr. Paul Connett on Fluoride (Part 1 of 5),” 2010 Jun 22. (http://www.youtube.com/watch?v=UpPv290z2-Y)
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39 Ibid.


44 “The population control agenda - Dr. Stanley Monteith M.D.” (http://www.youtube.com/watch?v=5I8ALoZCurE) [accessed 2012 Mar 30]


