

To: Members,
House Committee on Resources, Recreation and Development

Fluoride exists naturally in nearly all water supplies. Water is “fluoridated” when a community water system adjusts the fluoride to a level known to prevent tooth decay.¹ Fluoridated water is a safe and effective way to protect teeth from decay. This health practice is endorsed by the American Academy of Pediatrics, the American Dental Association, the American Academy of Family Physicians and many other respected medical/health organizations.²

If passed, House Bill 1416 would impose a hidden “tax” on families and taxpayers. That’s because the evidence proves that fluoridation is inexpensive to maintain and saves tax dollars. The typical cost of fluoridating a local water system is between 40 cents and \$2.70 per person, per year.³ Studies have shown that states save approximately \$24 *per person, per year* in Medicaid expenditures because of the dental problems that were prevented by drinking fluoridated water.⁴ If passed, HB 1416 would deny fluoridated water to more than 350,000 New Hampshire residents who now receive it.⁵

The information that Committee members received recently from Margot Bergeron is a virtual copy of material posted last year on the website of a New York-based organization called the Fluoride Action Network (FAN). You can confirm this by visiting FAN’s [web page](#).⁶ FAN’s information should be viewed with serious doubt for the following reasons.

FAN’s website cites so-called research that is seriously flawed or misrepresents what valid research says. Among the sources cited by FAN is Dr. John Yiamouyiannis, who co-wrote a book making the false claim that the virus HIV does not cause AIDS. Dr. 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.⁷ Many years ago, *Consumer Reports* criticized the junk science behind Dr. Yiamouyiannis’ attacks on fluoridation, but FAN has praised him as an expert on fluoride and “a man of true honor and integrity.”⁸ Last November, FAN admitted posting an inaccurate, fluoridation-related claim on the Internet.⁹

Below is our response to the claims made in the email using FAN’s arguments. Unlike the misleading or inaccurate assertions made by FAN, our responses are fully footnoted and include, where possible, direct links to the original sources.

Response to #1: What about the ethics of fluoridation?

- It is ethical to act on what 65 years of scientific evidence show by allowing New Hampshire communities to continue giving children and adults access to the cavity-fighting protection of fluoridated water.
- This isn’t about individual choice. It is virtually impossible for any individual to consume food and water that isn’t fortified with at least some added ingredients to benefit human health. Iodide is added to salt to prevent goiter, which affects the thyroid gland. Chlorine is added to prevent outbreaks of E. coli or other forms of bacteria in drinking water. Folic acid is added to breads and cereals to produce healthy red blood cells.¹⁰

- Our society respects individual rights, but every right has boundaries. For example, New Hampshire requires certain vaccinations for children who attend public schools.¹¹
- There are certain policies in America that we choose to adopt communitywide because they are cost-effective ways to strengthen health and security. State courts have consistently upheld the ability of a city or town to fluoridate its public water system.

Response to #2: What about the dose of fluoride in water?

- FAN says that dose is an issue “because people drink different amounts of water.” Local water system operators in New Hampshire already take this into account. The Environmental Protection Agency sets maximum levels for fluoride in drinking water, and the level used to fluoridate water is significantly below those levels—a gap that provides an added margin of safety.¹²

Response to #3: Is it okay that fluoride “goes to everyone,” regardless of age or other factors?

- Fluoridated water should be consumed by people of *all* ages because it benefits everyone, not just children. A 2007 report examined 20 studies to estimate fluoride’s impact on adult teeth, and the report concluded that fluoridated water reduced decay by 27 percent.¹³
- Seniors benefit from fluoridation, partly because it helps prevent decay on the exposed root surfaces of teeth—a condition that especially affects older adults.¹⁴

Response to #4: What about fluoride that comes from other sources?

- We agree that fluoridated water “is not the only way people are exposed to fluoride.” Federal health officials have taken this knowledge into account by updating its recommendations on the fluoride level in drinking water.¹⁵

Response to #5: Is fluoridated water “essential” to human health?

- We firmly believe that it is. At a time when thousands of New Hampshire residents lack dental insurance, fluoridation offers an easy, inexpensive preventive strategy that people can benefit from simply by turning on their tap.¹⁶ Why would anyone would to create a mandate that prevents local communities from deciding to do this?
- Research has connected healthy teeth to how well children perform in school and the ability of adults to find good jobs. Studies show that fluoridation reduces the rate of tooth decay by 29 percent.¹⁷
- The benefits from water fluoridation build on those from fluoride in toothpaste. The co-author of a 2010 study noted that research has confirmed “the most effective source of fluoride to be water fluoridation.”¹⁸

- Even the U.S. armed forces recognize the need for fluoridated water. A senior official with the Department of Defense called tooth decay “a major problem for military personnel” and notes that expanding fluoridation on military bases will “directly reduce their risk for dental decay and improve [military] readiness.”¹⁹
- The U.S. Centers for Disease Control and Prevention has praised water fluoridation as one of the “10 great public health achievements of the 20th century.”²⁰

Response to #6, #18 and #19: What about fluoridated water and young children?

- The leaders of anti-fluoride groups are not experts on children’s health. They have an agenda to stop public water systems from providing fluoridated drinking water to Americans of all ages.
- FAN claims that fluoride poses a “risk” for young children, but this fear-based message ignores the broader evidence. The American Dental Association concludes that “it is safe to use fluoridated water to mix infant formula” and encourages parents to discuss any questions they may have with their dentists and pediatricians.²¹
- A 2010 study of infants and fluoride concluded that “no general recommendations to avoid use of fluoridated water in reconstituting infant formula are warranted.”²²

Response to #7, #9, #23–#29, #32 –#34 and #44: What about claims that FAN made about the safety of fluoridated water?

- More than 3,000 studies or reports have been published on fluoride and fluoridation.²³ This substantial body of research reinforces fluoridation’s safety and does not support the claims that have been made by anti-fluoride groups.
- The American Academy of Pediatrics, the American Dental Association and the American Academy of Family Physicians are among the leading medical and health organizations that endorse the safety and effectiveness of water fluoridation.²⁴
- The Centers for Disease Control and Prevention points out, “For many years, panels of experts from different health and scientific fields have provided strong evidence that water fluoridation is safe and effective.”²⁵
- More than 350,000 New Hampshire residents receive fluoridated water, and many of them have been drinking this water for decades.²⁶ If FAN’s allegations about safety were true, we already would have seen major health problems among these state residents—but we have not.
- One of FAN’s common tactics is to raise fears about safety by misrepresenting a 2006 report by the National Research Council (NRC). But the NRC’s report focused on water with naturally existed fluoride levels that were double or quadruple the level used to fluoridate public water systems. The NRC itself stated that “the practice of water fluoridation was outside the scope of this report and is not evaluated.”²⁷ The Centers for

Disease Control and Prevention noted that the NRC's report "does not question the use of lower levels of fluoride to prevent tooth decay."²⁸

Response to #8: What about FAN's claim that no health agency "is monitoring fluoride exposure"?

- This allegation is false. The Safe Drinking Water Act has various rules that require public water systems to monitor their water supply and share information about water quality with the public.²⁹
- As mentioned earlier, the Environmental Protection Agency sets maximum levels for fluoride in drinking water, and the level used to fluoridate water is significantly below those levels.³⁰
- FAN complains that no government agency is regularly collecting samples of "urine, blood, bones, hair, or nails of either the general population" or certain subgroups. The reason why is simple: it's make no sense to spend thousands of taxpayer dollars to collect all of these materials because we have strong confidence about fluoridation's safety.

Response to #10, #12–#15, #17: What about fluoridation's role in preventing tooth decay?

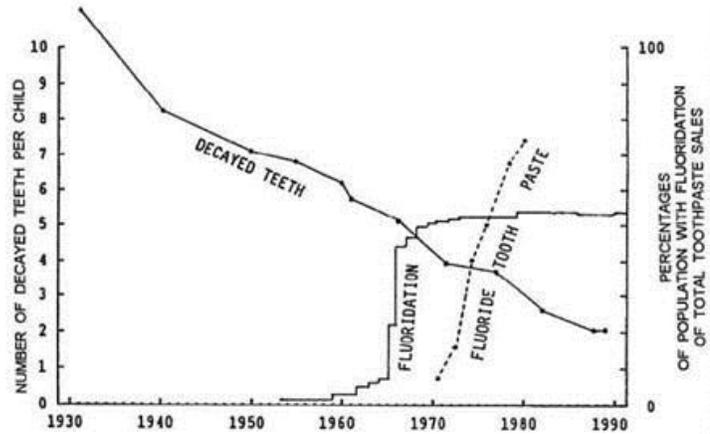
- In the email you were sent, FAN claimed that fluoridation's role in the decline of tooth decay "is in serious doubt." FAN may have a doubt, but the scientific community does not. FAN cited only two U.S. studies to voice its doubt, and each of these studies is more than 20 years old. FAN ignores numerous studies reinforcing fluoridation's benefits, including these recent studies:
 - In 2010, a New York study found that low-income residents in *less fluoridated* counties needed 33 percent more fillings, root canals, and extractions than those in counties where fluoridated water was common.³¹
 - A 2011 study showed that Alaska children living in non-fluoridated areas had a 32 percent higher rate of decayed, missing or filled teeth than kids in fluoridated communities.³²
 - In 2002, the U.S. Task Force on Community Preventive Services—an independent panel of health experts—reviewed dozens of studies on water fluoridation and determined that this practice reduced tooth decay among children by 29 percent.³³
- FAN also ignores an Illinois study that reviewed changes in decay rates between 1980 and 1990. The study concluded, "Water fluoridation has been the dominant factor in the decline of [cavities]."³⁴

Response to #11: What does data from Europe show about the need for fluoridation?

- Anti-fluoride activists say that European countries have “rejected” fluoridation, but this assertion is misleading because it ignores the fact that these nations use various public programs and other means to provide fluoride to their citizens:
 - Salt fluoridation 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.³⁵
 - Fluoridated water is provided to 12 million Europeans, mostly reaching residents of Great Britain, Ireland, Spain and other countries.³⁶
 - Fluoridated milk programs reach millions of additional Europeans.³⁷
 - Italy has not tried to create a national system of water fluoridation, but there are two reasons for this. First, many Italians regularly drink bottled water. Second, a number of areas in Italy have water supplies with natural fluoride levels that already reach the optimal level that prevents decay.³⁸

Response to #16: What about tooth decay trends?

- FAN’s claims about tooth decay rates cannot be trusted. The chart (*at right*) that was part of the email you received is inaccurate. FAN’s chart incorrectly shows the use of fluoride toothpaste starting in 1970. In fact, fluoride toothpaste made up 12 percent of the U.S. toothpaste market by 1960, and it rose by 1964 to 35 percent of the total U.S. market for toothpaste.³⁹



- FAN does not identify a source for its graph on “decayed teeth,” probably because it’s not reliable data. The first national survey that collected clinical data on decay rates in the U.S. was not completed until the years 1960-1962.⁴⁰ This means that FAN’s chart is sheer speculation or guesswork when it refers to the period of 1930 through 1960.

Response to #20: What are the facts about the condition known as fluorosis?

- FAN and other anti-fluoride groups try to raise public fear about fluorosis. Nearly all fluorosis in the U.S. is a mild, cosmetic condition, and a 2010 study found that the effect

of this condition “was not adverse and could even be favorable.”⁴¹ Mild fluorosis does not cause pain, nor does it affect the function or health of the teeth.⁴²

Response to #21 and #22: What about FAN’s claims that fluoride can negatively affect the brain—specifically IQ levels?

- This claim is based on junk science. The foreign studies about IQs that anti-fluoride groups cite from China, Mexico and other countries involved fluoride levels that were at least double or triple the level used to fluoridate drinking water in the U.S.⁴³
- British researchers who evaluated these IQ studies found “basic errors” and wrote that the lower IQs might be traceable to other factors, including arsenic exposure, the burning of high-fluoride coal inside homes and the eating of contaminated grain.⁴⁴

Response to #30 and #31: What are claims that fluoridation “may cause bone cancer”?

- In 2011, a major U.S. study found no link between the fluoride and bone cancer.⁴⁵ The design of this study was approved by the National Cancer Institute. The study is also considered very reliable because—unlike the study that FAN cites in #31—it examined actual fluoride levels in bone.
- In October 2011, after lengthy review, a committee of California’s Office of Environment Health Hazard Assessment voted unanimously that the evidence did not support classifying fluoride as a cancer-causing substance.⁴⁶

Response to #35: What about claims that there is “no margin of safety” for fluoride?

- People have been drinking fluoridated water in the U.S. for more than 60 years. If there is no margin of safety and a real risk of harm, then where are all of the negative effects that FAN claims should have happened?
- FAN’s use of sources is abusive. It cites the Centers for Disease Control and Prevention (CDC) as a source for this FAN statement: “There is clearly no margin of safety for dental fluorosis.” When did any CDC official say this? Where’s the evidence for this?

Response to #36–#39: What about low-income people and fluoridated water?

- FAN claims that low-income families are “penalized” by fluoridation. This is a ridiculous claim. Fluoridation has helped to reduce the gap in tooth decay rates that exist by different income levels. In fact, a 2002 study called water fluoridation “the most effective and practical method” for reducing this decay gap.⁴⁷
- Denying New Hampshire residents access to fluoridated water will hurt families, especially low-income people who are less likely to see a dentist regularly.

Response to #40 and #41: Where does the fluoride come from that is use for fluoridation?

- The fluoride used for fluoridating local water systems is usually extracted from phosphate rock, and so is phosphoric acid—an ingredient in Coke and Pepsi. Neither one of them comes from fertilizer, despite the misleading claim made by FAN.
- FAN’s is being untruthful when it claims in #41 that fluoride compounds are not or have not been “tested.” The American Water Works Association’s “Standard 60” requires regular testing of fluoride additives to ensure they meet tests for safety and purity.⁴⁸

Response to #42 and #43: What about claims by FAN that fluoride additives have a corrosive effect on pipes?

- According to the Centers for Disease Control and Prevention, “The concern that using fluorosilicate additives to fluoridate drinking water causes water system pipes to corrode is not supported by science.” In fact, the CDC points out that these fluoride additives reduce the potential for corrosion.⁴⁹

Response to #45–47: Where does the scientific community stand on fluoridation?

- There are many thousands of scientists and medical researchers around the world. It isn’t hard to find a few of them who hold strange beliefs—people like Dr. Yiamouyiannis (mentioned in our introduction). But, viewed overall, the scientific community overwhelmingly supports water fluoridation.
- Numerous U.S. Surgeons General have endorsed water fluoridation, including those appointed by both Republican and Democratic presidents. Surgeon General C. Everett Koop, who served under two Republican presidents, called fluoridated water the “most efficient means” in America to reduce dental disease.⁵⁰
- FAN claims, “Many scientists oppose fluoridation.” But who are all of these scientists? FAN points to a list of 3,700 “professionals” who have signed the group’s anti-fluoridation statement. But FAN has been collecting signatures for more than four years, and most of the signers are *not* scientists.⁵¹

Response to #48-49: What about the approach that anti-fluoride groups take versus the approach that health officials take when they talk about fluoridation?

- Anti-fluoride activists cite so-called studies, but they rarely provide direct links to those studies or share the actual transcripts. This is because many of those “studies” are not peer-reviewed and/or are seriously flawed.
- Anti-fluoride activists rely heavily on junk science. According to the Pew Center on the States, fluoride opponents circulate “a lot of misleading information about fluoride.”⁵²

(See the following pages for detailed source citations)

Sources

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