

Millions Face New Fluoridation Threats

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STORY AT-A-GLANCE

- › Government-funded studies confirm skyrocketing fluorosis rates, fetal and infant neurotoxicity, and numerous other side effects from fluoridation
- › The U.S. Centers for Disease Control has helped create and promote a new fluoridation system they hope will expose nearly 20 million more Americans to harmful levels of fluoride
- › The governments in the United Kingdom and New Zealand have passed bills that will effectively mandate fluoridation throughout their nations

The published science over the past decade has taught us a lot about water fluoridation, about both the very real and significant side effects inflicted on the public, but also about the credibility of those who continue to vouch for its safety.

At this point, the question we must ask isn't whether the overwhelming risks outweigh the theoretical scant benefits, or whether more research is needed to draw strong conclusions. No, the only appropriate question now is: **How much more harm will the promoters and regulators of fluoridation allow the practice to inflict on the public?**

Without the Fluoride Action Network, our coalition partners, and people like you taking a stand, their answer will be a resounding, **"a lot more harm!"** With their credibility and influence at stake after defending fluoridation for more than 75 years, they've sadly

shown that they'll not only be the last to act, but that they plan to double down until we stop them.

As we speak, tens of millions of residents currently living on community water systems with no added fluoride throughout the United States, Canada, the United Kingdom, Australia and New Zealand are facing the imminent threat of having their water dosed with hazardous fluoridation chemicals.

The CDC has announced a new strategy and helped develop a new technology to fluoridate an addition 19+ million Americans, which will also eventually expand to Canadians, Australians and likely others.

Meanwhile, the governments in the U.K. and New Zealand have exploited the recent pandemic to pass sweeping health care reform bills that effectively include nationwide fluoridation mandates due to decades of strong pushback from residents and elected officials at the local level, keeping fluoridation at bay.

Fluoride Has Already Damaged the Teeth of Millions

The U.S. Centers for Disease Control's own data taken from the National Health and Nutrition Examination Surveys (NHANES) has repeatedly found that our children in the United States are significantly overexposed to fluoride, evidenced by skyrocketing rates of dental fluorosis.

Fluorosis is a biomarker of toxicity from ingested fluoride, and is a permanent tooth defect, causing unsightly discoloration and mottling of the teeth, weakening the enamel and resulting in increased dental decay.

Ingesting fluoridated water — particularly in reconstituted infant formula — and processed foods made with fluoridated water are recognized as the primary sources of exposure, though swallowing toothpaste and fluoride prescriptions also contribute.

A [2015 review](#) of the practice of fluoridation by the Cochrane Collaboration, the gold standard for evidence-based reviews of health interventions, found that “there is a

significant association between dental fluorosis (of aesthetic concern or all levels of dental fluorosis) and [water] fluoride level."

The CDC reported that **41%** of adolescents (12 to 15) had dental fluorosis in 2004. At the time this was an increase of over 400% from the rates found 60 years prior. Then the 2012 survey found that the rate jumped significantly to **65+% of adolescents with dental fluorosis**.

Now, according to a recent study (**Yang, June 2021**) published in the journal Ecotoxicology and Environmental Safety using the data from the NHANES 2015-16 survey, the "prevalence of dental fluorosis was **70%** in the U.S. children."

This means that the teeth of millions of children, teens and adults have already been damaged by overexposure to fluoride during development, and the CDC, along with the other promoters of fluoridation are fully aware. However, the teeth are not the only tissues in the body that are harmed by or accumulate fluoride. There is no apparent reason, therefore, why fluoride's effects on the body would be limited to the teeth. As noted by renowned dentist and researcher **Dr. Hardy Limeback**:

... it is illogical to assume that tooth enamel is the only tissue affected by low daily doses of fluoride ingestion.

NHANES data has been used in recent published and peer-reviewed studies to link fluoridated water with a number of additional side-effects, including earlier **onset of menstruation** for black teens, **sleep disorders** in adolescents, **increase uric acid levels** in the blood, and **kidney and liver impairment** in adolescents.

Additional studies on fluoridation have also recently found **higher rates of hip fractures**, disruption of the **endocrine system**, and increased rates of **hypothyroidism**.

Fluoride Is the New Lead

There is now a large body of government-funded research indicating that fluoride is neurotoxic, and is associated with lowered IQ in children and a significant increase in

ADHD diagnosis and related behaviors in children at doses experienced in fluoridated communities. Experts in the toxicology have likened the size of the effect to that from lead.

To date, [69 human studies](#), most from endemic fluorosis areas in China, have associated lowered IQ with fluoride exposure. The highest quality fluoride brain studies have been published since 2017, when the first of five NIEHS-NIH (National Institutes of Health) funded prospective-cohort studies was published ([Bashash et al., 2017](#)) finding an association between fetal exposure to fluoride and lowered IQ in Mexico.

A year later, another NIH-funded study found an increase in ADHD symptoms associated with in utero exposure to fluoride ([Bashash et al., 2018](#)).

Over the next two years, two more of these government-funded studies found similar results, linking fetal exposure to fluoridated water in Canada to lowered IQ ([Green et al., 2019](#)), and finding that bottle-fed infants in fluoridated communities in Canada had a significantly lowered IQ compared to bottle-fed infants in non-fluoridated communities ([Till et al., 2020](#)).

And just last year, the fifth NIH-funded study ([Cantoral et al, 2021](#)), found that for every 0.5 mg increase in dietary fluoride intake during pregnancy was associated with a 3.10 to 3.46-point lower cognitive score in boys. The authors stated:

"Fluoride is not an essential nutrient and ... fluoride ingestion in pregnancy does not strengthen enamel during tooth formation in the fetus but has been associated with increased risk of neurotoxicity, even at optimal exposure levels ...

These findings suggest that the development of nonverbal abilities in males may be more vulnerable to prenatal fluoride exposure than language or motor abilities, even at levels within the recommended intake range."

I strongly urge you to watch and share this recent [20-minute PowerPoint presentation](#) by professor Christine Till, Ph.D., lead author of some of these landmark fluoride

studies, explaining her team's research and findings.

In 2021, the first benchmark dose analysis conducted on maternal fluoride exposure and neurotoxicity to the fetus was published in the journal Risk Analysis (Grandjean, 2021). Benchmark doses analyses are used by the EPA and toxicologist to determine at what level a substance starts to cause harm. It is well established that a loss of one IQ point leads to a reduced lifetime earning ability of \$18,000.

The analysis confirmed that extremely low fluoride exposure during pregnancy impairs fetal brain development, finding that a maternal urine fluoride concentration of only 0.2mg/L – which coincides with the level in water (0.2ppm) – was enough to lower IQ by at least 1 point.

This is **four times lower** than the current government “recommended” level of 0.8ppm in fluoridated communities. It's also **six times lower** than the level that was recommended as “safe” by the CDC, HHS, and the American Dental Association for over 60-years up until 2011 (1.2ppm).

For perspective, A urinary fluoride (UF) concentration of 0.2mg/L is far below what a pregnant woman in a fluoridated community would have, as confirmed by two recent studies. A [recent study](#) of pregnant women in fluoridated San Francisco, California, found a mean UF concentration of 0.74mg/L. A [second study](#) with participants in fluoridated communities across Canada found a mean UF concentration of 1.06mg/L.

Both studies also found that the UF levels were significantly lower for the participants living in the non-fluoridated communities. The authors of the benchmark dose analysis stated:

"These findings suggest that fetal brain development is highly vulnerable to fluoride exposure ... and provide additional evidence that fluoride is a developmental neurotoxicant (i.e., causing adverse effects on brain development in early life).

Given the ubiquity of fluoride exposure, the population impact of adverse effects from fluoride may be even greater than for other toxic elements like lead, mercury, and arsenic ... and the benchmark results should inspire a revision of water fluoride recommendations aimed at protecting pregnant women and young children."

These authors are hardly alone in comparing fluoride's neurotoxic impact to the well-established harm of lead:

- Dr. Dimitri Christakis, MPH, and Dr. Frederick Rivara, MPH, editors for the Journal of the American Medical Association (JAMA) on their podcast ([around 4:25](#)): "[The 4.5 IQ loss is] An effect size which is sizeable — on par with lead."
- Christine Till, PhD, co-author of several landmark fluoride/neurotoxicity studies, on [Canada's CTV](#): "4.5 points is a dramatic loss of IQ, comparable to what you'd see with lead exposure."
- David Bellinger, Ph.D., MSc, Harvard professor of neurology, [on NPR](#): "It's actually very similar to the effect size that's seen with childhood exposure to lead."

Other experts, including Linda Birnbaum PhD, former Director of the National Toxicology Program, [stress](#) the need to [avoid fluoride](#):

"Given the weight of evidence that fluoride is toxic to the developing brain, it is time [to] protect pregnant women and their children [and recommend they] reduce their fluoride intake."

There are now nine fluoride [mother-offspring studies](#) linking fluoride exposure to harm, and [23 studies](#) published on the association between fluoride exposure and reduced IQ since 2017.

How FAN Responded to the Science

Because of the growing list of published fluoride-IQ studies, and the downplaying of their importance by pro-fluoridation advocates such as the Division of Oral Health at the

CDC and the American Dental Association, FAN embarked on two initiatives in 2016.

First, we requested the National Toxicology Program undertake a systematic review of ALL the studies (animal, human and cellular) pertaining to fluoride's potential to damage the brain. The NTP agreed with our request, and they plan to publish the final results of their multiyear [review](#) of fluoride neurotoxicity any day now. In the two first drafts the NTP concluded, **"that fluoride is presumed to be a cognitive neurodevelopmental hazard to humans ..."**

The review drafts identified over 100 studies showing adverse effects including IQ loss and increased ADHD. Among [27 studies](#) designated as high quality, 15 show fluoride injury at the same exposure levels found in community fluoridation programs.

Second, we petitioned the EPA under provisions in the Toxic Substances and Control Act to ban the deliberate addition of fluoridation chemicals to the drinking water supply because it poses an unreasonable risk to the developing brains of children. The EPA's lack of action led to [FAN suing them in federal court](#).

The initial phase of the trial was held in June 2020, concluding with the judge saying, "I don't think anyone disputes that fluoride is a hazard." However, the court is awaiting the final NTP report before moving forward with the final phase of the trial. Here is a [short video update](#) on the lawsuit from FAN's attorney.

This past year, FAN embarked on a two more initiatives. We communicated with the [U.S. surgeon general](#) about the risk posed by fluoridation to developing children, and asked that he take action to warn parents.

We also initiated a dialogue with CDC officials ([see initial letter](#) signed by 112 professionals) that ultimately led to them organizing presentations for their leadership from several fluoride/neurotoxicity study authors, Dr. Bruce Lanphear, Christine Till, Ph.D., and Dr. Philippe Grandjean on their research.

How Promoters Have Responded to the Science: A New Threat

It has been six months since the CDC heard the presentations on neurotoxicity from the three veteran researchers, and it's been over a decade since the CDC acknowledged that fluoridation has damaged the teeth of millions.

Yet, the CDC, along with the EPA, World Health Organization, American Academy of Pediatrics, American Dental Association and their state level peers not only have failed to warn residents about the dangers posed by fluoridation, but have continued advocating for fluoridation expansion **in spite of the science**.

The CDC has partnered with the chemical industry to **target 19 million residents** in 32,000 small and medium sized communities across the United States that do not add fluoridation chemicals to the public drinking water. Using your tax dollars, the CDC provided upward of \$2 million dollars in funds to private business to develop a fluoridation delivery product for water systems serving between 50 and 10,000 people.

The widespread sale and promotion of this new product began in January throughout the U.S., but is also planned for Canada and Australia in the near future. The American Dental Association has joined the CDC in pushing this new strategy.

In July of 2021, the CDC held a "Public Health Grand Rounds" presentation on fluoridation. While there was no mention of the large number of new studies linking low levels of fluoridated water to neurotoxicity, it was an infomercial for a new technology that the CDC and ADA were calling "a game changer" in their efforts to expand fluoridation.

Below is a slide from that presentation, where you can see they intend to increase the percentage of fluoridated water systems from 73% to 77% — representing 19 million people on 32,000 water systems — by 2030.

 cdc press release march 2021

This goal isn't exactly new. The CDC and ADA have utilized a number of strategies over the past decade to expand the practice, but largely due to FAN and our network of local

volunteers and professionals, the number of fluoridating communities has actually decreased, while the population served has increased slightly due to urban growth.

To accomplish this significant increase over the next eight years, they intend to utilize a new fluoridation system specifically designed to be simple and cheap enough for even the smallest water systems, which could include private systems, or even colleges and public schools.

They're calling it the "New Wave Fluoridation System." It utilizes compacted sodium fluorosilicate in a tablet form designed to dissolve over time in a small amount of water, much like the deodorizer tablets used in urinals.



supporting rural health

We have learned that this process started in 2013, when CDC's chief fluoridation engineer, Kip Duchon, suggested that the CDC help develop a product that was feasible for small and rural communities. Soon thereafter the CDC announced a Small Business Innovation Research grant opportunity — providing upward of \$2 million — for private business to develop and test the idea.

KC Industries, of Mulberry, Florida, was [awarded at least two large grants](#), one to develop the tablet and the other to develop the injection/feeder system.

KC Industries is a small chemical manufacturer with a handful of employees. According to their website, "The plant was built by Kaiser Aluminum & Chemical Corporation and began producing Sodium Fluorosilicate in 1957 as a raw material to manufacture aluminum."

KC Industries purchased the facility in 1999 and appears to have focused heavily on the "dry" fluoride drinking water additive market with sodium fluoride. Here is their page on their sodium fluoride product; it's [worth a quick look](#).

Over the past 20 years, more communities have switched their additive to [fluorosilicic acid](#), which is an incredibly dangerous and corrosive liquid, but is cheaper. This led to a massive decline in sales of dry additives, and KC Industries' profits.

According to their [press release](#), they were struggling until the CDC's grant, which they say provided "a new lease on life" for the chemical company. They're expecting "an immediate return on investment" as communities clamor for the new system.

KC Industry representatives have said that interest in the system has come from around the world. The first community to use the product as part of a free pilot project is Cleveland, Georgia. Other communities that have signed on include Marathon, Wisconsin; Center, Colorado; and Aulander, North Carolina. The Missouri state legislature has also included nearly \$4 million in funding over the next few years to go toward grants to expand the program in their state.

The CDC employee who initiated this process, Kip Duchon, has retired from the CDC and is now a consultant to the ADA's National Fluoridation Advisory Committee.

The ADA has already [called it a "game-changer"](#) and [lobbied Congressional members](#) to include taxpayer funding for this technology in the recent infrastructure bill intended to help economy out of the pandemic.

Meanwhile, the CDC also continues to [give very large taxpayer-funded grants to states](#) to pay for public relations campaigns to promote fluoridation.

Pandemic Exploited to Mandate Fluoridation in UK, New Zealand

Even worse than what is happening in North America with the new tablet fluoridation system, is the recent passage of legislation in both the United Kingdom and New Zealand, transferring authority over fluoridation from local officials (and indirectly the public) to unelected public health bureaucrats who have vowed to mandate the practice throughout their respective nations without concern for what the public wants.

Both nations include fluoridation resolutions as part of a much broader legislative effort to centralize public health decisions in response to the pandemic. The U.K. and New Zealand will now join Ireland and Singapore as the four public health outliers in a world that has [overwhelmingly rejected](#) fluoridated water.

Last year, the New Zealand government revived, amended and passed a bill that was introduced in 2016, but lacked enough support for passage. As introduced, the bill would have moved fluoridation decisions from local councils — where they reside presently — to district health boards.

However, the current government amended the language to centralize fluoridation authority even further, by **giving full control** to the director-general of health, Dr. Ashley Bloomfield. Using this process defied the normal democratic process, with no select committee, community consultation or public input. Local councils (and local taxpayers) will be responsible for all capital and operational costs.

Like the CDC, government officials and public health officials **were warned in advance** of the harm their decision would cause, yet they ignored it.

Some local leaders have quickly made their opposition to this proposal heard, including the **mayor of Whangarei**, Sheryl Mai, who said, “People who drink water from the tap will be mass medicated whether they want to be or not.”

Mayor Greg Lang of Carterton, and Mayor Alex Beijen of South Wairarapa, **both opposed the measure** because it took councils, consumers and ratepayers out of the decision. Officials in **Christchurch** and **Southland** have also recently voiced opposition, saying safety is a greater priority than fluoride. Clearly, there is still a chance for those communities that push back against this proposal.

In the U.K., decades of efforts by the government to expand fluoridation stalled having reached only 10% of the population. Efforts to fluoridate Northern Ireland failed miserably with 22 councils voting against the measure. Scotland too remained unfluoridated. Efforts over the last two decades to fluoridate Southampton, Manchester, and Hull also failed.

As a result, Prime Minister Boris Johnson proposed an addition to the large **Health and Care Act** that would effectively mandate fluoridation by giving the health secretary, Sajid Javid, unilateral power to force communities throughout the country to add fluoridation chemicals to the public water supplies.

FAN coordinated with locals to mount opposition to this proposal, including a [series of public letters from British scientists](#) accusing public health officials of ignoring the science. The opposition culminated on the floor of the House of Lords, where a [number of members](#) spoke out against the proposal, including Lord Reay, who [warned of the dangers](#) posed to developing children.

Since passage into law, FAN has made an official submission to the government urging the Department of Health and Social Care to [perform a health risk assessment](#) on the effects of fluoridated water on the pregnant woman, the fetus and the formula-fed infant, before implementing fluoridation into the U.K. No regulatory agency in any fluoridating country has ever done this.

However, as the U.K. is contemplating expanding fluoridation to the whole country, it is essential that this is done before they embark on this program.

The Last Line of Defense

I want to conclude by asking the same question I asked at the beginning of this article, but rephrased: **How much more harm will YOU allow the promoters and regulators of fluoridation to inflict on the public?**

As I write this, millions of developing babies and infants are being overexposed to fluoride from their fluoridated tap water. The research has shown that there is **no safe amount of fluoride for the fetus or infant**. All will be impacted, some significantly more than others.

Please help us defend these vulnerable children and give them the gift of normal brain development. Help us also protect other vulnerable subpopulations, including those with hypersensitivities, dental fluorosis, bone brittleness and kidney, liver, or thyroid impairment.

The Fluoride Action Network is a nonprofit advocacy group set up in 2000 to broaden awareness among citizens, scientists and policymakers on the toxicity of fluoride compounds. It maintains the largest [online database](#) for fluoride toxicity studies, and

has helped many of the 300+ communities that have ended or rejected fluoridation chemicals since 2010.

We're amplifying the voices of a growing chorus of renowned international experts in toxicology, neurology and environmental toxins, warning the public about fluoridation, and educating and recruiting more to speak out.

We've captured the surgeon general's and the CDCs' attention, made progress with our federal lawsuit against the EPA, helped communities come together to fight fluoridation, and worked with state legislators to defeat mandate bills and support prohibition efforts.

Can you help us continue defend our water and our health, and expand our efforts as new threats arise here in North America and around the world in the United Kingdom and New Zealand? Will you stand with FAN?