

We put no greater trust in our government than when we turn on our faucet and expect **safe** drinking water

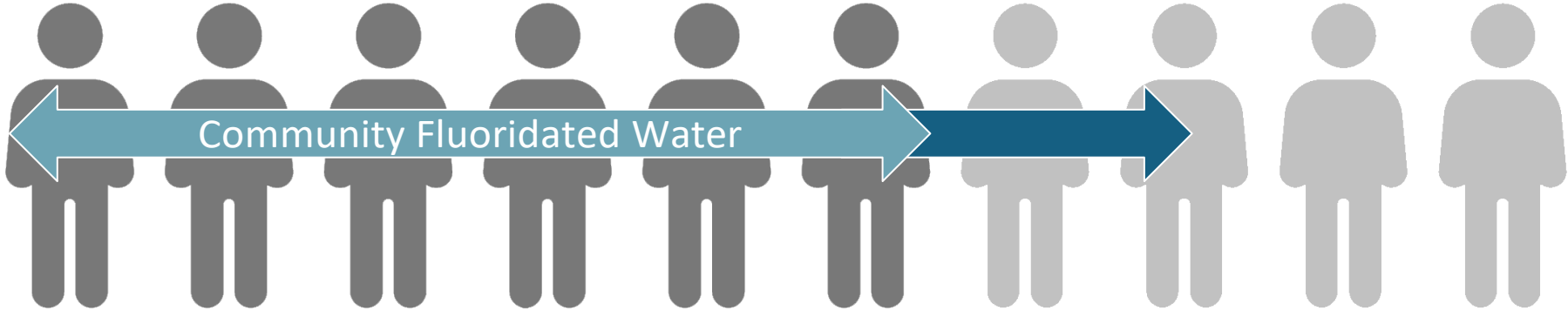
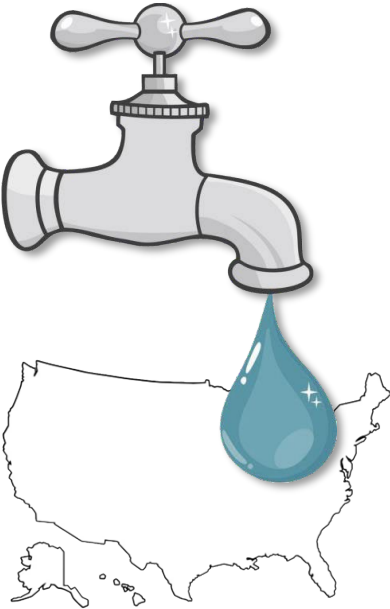
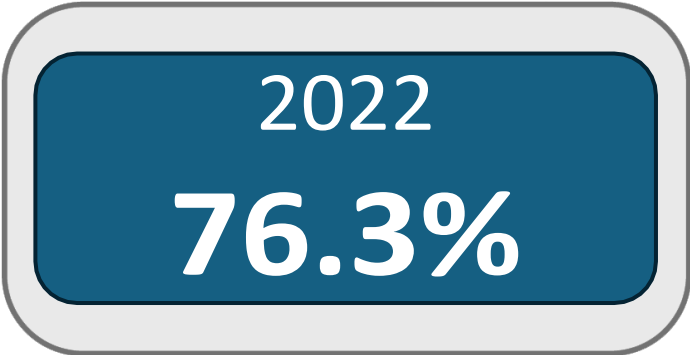


Christian S Stohler, *DDS, DrMedDent*

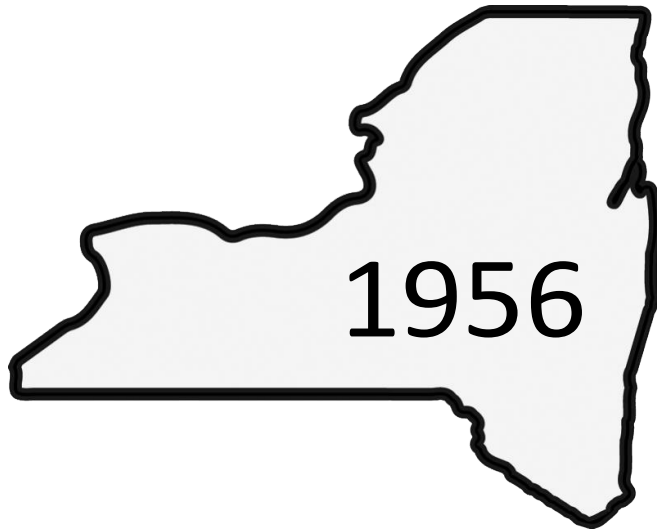
Sub-Committee on Health
Westchester County Board of Legislators
Wednesday, January 22, 2025
Michaelian Office Building
148 Martine Ave, 8th Floor
White Plains, New York 10601

Community water fluoridation is the controlled adjustment of the natural fluoride content in water (*by additions or removal*) to levels recommended by the **U.S. Public Health Service**

Today, the majority of the U.S. population receives fluoridated water.*



* Decisions about water fluoridation are made at the state or local level.



Newburgh-Kingston caries-fluorine study
XIV. Combined clinical and roentgenographic
dental findings after ten years of fluoride
experience

David B. Ast, D.D.S., M.P.H.; David J. Smith,† D.D.S.;
Barnet Wachs,‡ D.D.S., and Katherine T. Cantwell,§
Albany, N. Y.*



With regard to acute fluoride poisoning there is at least a 2,500-fold factor of safety in water fluoridation. The mechanics of water fluoridation are such that it is impossible to produce acute fluoride poisoning either by accident or intent.

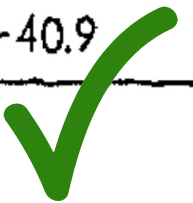


Table 1 • DMF¹ teeth per 100 erupted permanent teeth in children ages 6–16, based on clinical and roentgenographic examinations, Newburgh² and Kingston, N.Y., 1954–1955

Diseased, Missing or Filled Teeth

Age ³	Number of children examined		Number of permanent teeth erupted		DMF per 100 erupted permanent teeth ⁴		
	Newburgh	Kingston	Newburgh	Kingston	Newburgh	Kingston	Per cent difference K-N
6–9 ⁵	734	940	6,861	9,231	10.0	23.1	–56.7
10–12	522	640	11,139	13,888	15.4	32.2	–52.2
13–14	263	441	7,123	11,989	22.5	43.0	–47.7
16	109	119	3,054	3,330	34.8	58.9	–40.9

1. DMF includes permanent teeth decayed, missing (lost subsequent to eruption), or filled.
2. Sodium fluoride added to Newburgh's water supply beginning May 2, 1945.
3. Age (last birthday) at time of examination.
4. Adjusted to permanent tooth population in Kingston 1954-1955 examinations.
5. Newburgh children of this age group exposed to fluoridated water from time of birth.

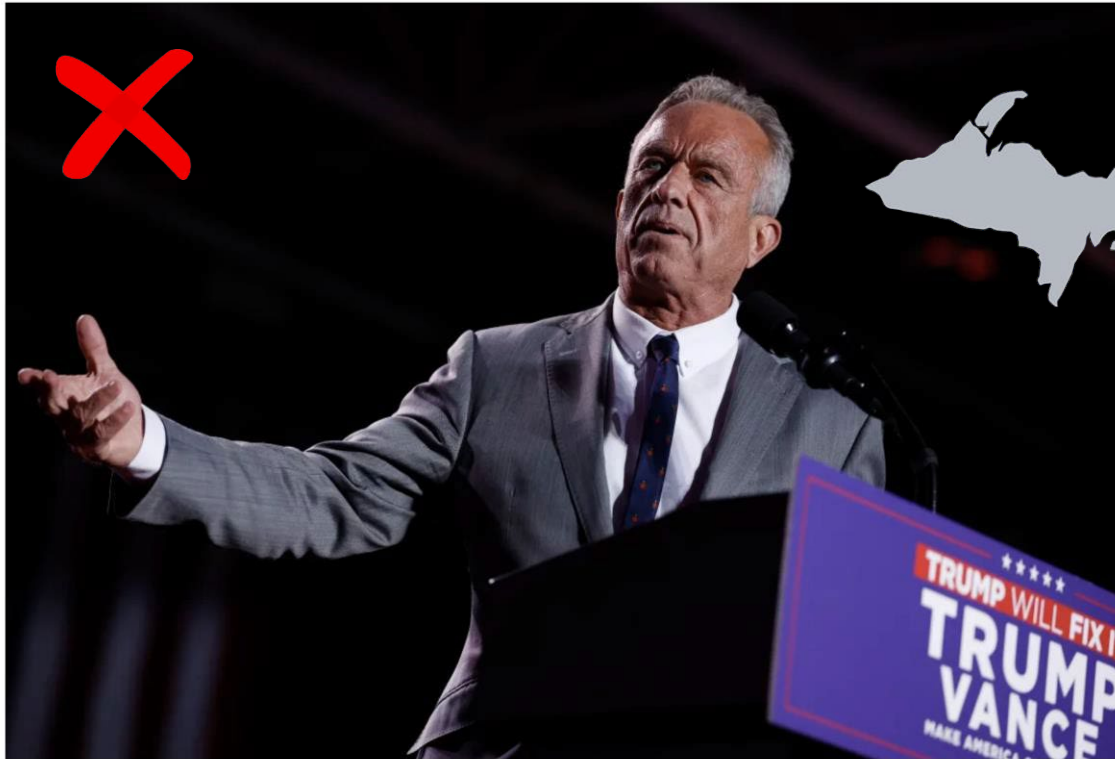


SHOTS - HEALTH NEWS

No more fluoride in the water? RFK Jr. wants that and Trump says it 'sounds OK'

NOVEMBER 4, 2024 · 3:54 PM ET

By Geoff Brumfiel, Selena Simmons-Duffin

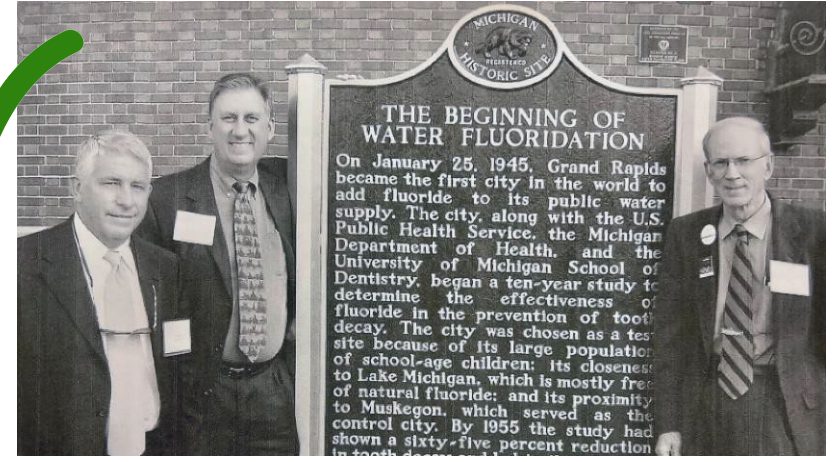


Robert F. Kennedy Jr. speaks during a campaign rally for Republican presidential nominee and former President Donald Trump at Macomb Community College on Nov. 1 in Warren, Mich. Kennedy has called for an end to fluoride in the water supply, a practice that saves billions each year in dental care.

Chip Somodevilla/Getty Images



"Big Hopes for Little Teeth" NIH-NIDR



In 1945, Grand Rapids became the **first city in the world to fluoridate its drinking water**. The Grand Rapids water fluoridation study was originally sponsored by the U.S. Surgeon General, but was taken over by the NIDR shortly after the Institute's inception in 1948.

November 20, 2024



By [Jason Puckett](#)

Published: Nov. 20, 2024 at 6:32 PM EST



UNION COUNTY, N.C. (WBTV) - Across the nation, a heated debate is unfolding over the safety of fluoride in drinking water.

While many consider it a public health triumph, others question its long-term effects, arguing that the chemical could be causing harm rather than protecting health.

The conversation has gained further attention recently, with prominent voices like Robert F. Kennedy Jr. speaking out against fluoride, and a federal judge ordering the **FDA** to impose stricter regulations on the chemical.

"On January 20, the Trump White House will advise all U.S. water systems to remove fluoride from public water," Kennedy wrote [on social media](#) on Nov. 2. In the post, Kennedy claimed that fluoride is an "industrial waste" associated with a variety of adverse health conditions, including bone cancer, arthritis, and more.

Senior U.S. District
Judge *Edward M.
Chen*



District Court Judge Edward Chen ruled last year that evidence showed fluoride was "***hazardous at dosages that are far too close to fluoride levels in the drinking water of the United States,***" but stopped short of ordering the EPA to ban the practice.



1/17/2025

Attorneys for the Biden administration said Friday they would *seek to challenge a court loss last year that could pave the way for the Trump administration to ban the use of fluoride in water.*

The Biden administration's notice, filed Friday with the federal district court in San Francisco, comes just days ahead of a Jan. 21 deadline for the appeal.

*While last year's ruling did not order the Environmental Protection Agency to ban water fluoridation, opponents say it carved out a "clear legal pathway" giving the federal government authority to force local governments to **stop adding the chemical to the water supply.***

Florida's surgeon general advises against adding fluoride to drinking water

Decades of evidence shows the cavity-fighting mineral drives down tooth decay. But some say the science behind fluoride is changing, and needs closer scrutiny.



Another high-profile politician supports removing fluoride from drinking water

02:13

A video player showing a man in a suit and tie speaking at a podium. The video is from NBC News.

BREAKING NEWS FLORIDA ADVISES AGAINST FLUORIDE IN WATER

00:14 / 02:12

CC Settings Full Screen

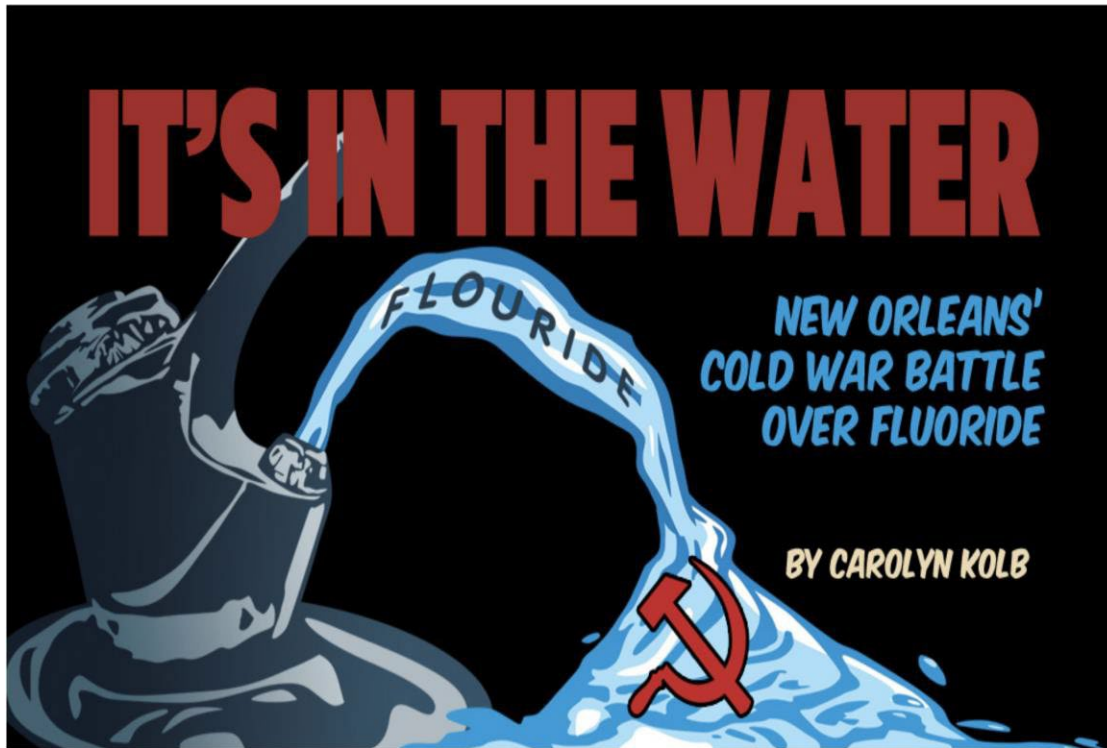
It's In The Water

Powerful forces in New Orleans turned fluoride into a Cold War battle

BY CAROLYN KOLB

Published: June 22, 2017

Last Updated: April 29, 2019



Red Scare

Dr. Strangelove – “Fluoridation – the most dangerous communist plot”

https://youtu.be/ttlluyMFwRw?si=_01hsQ5QeyvyO-JH



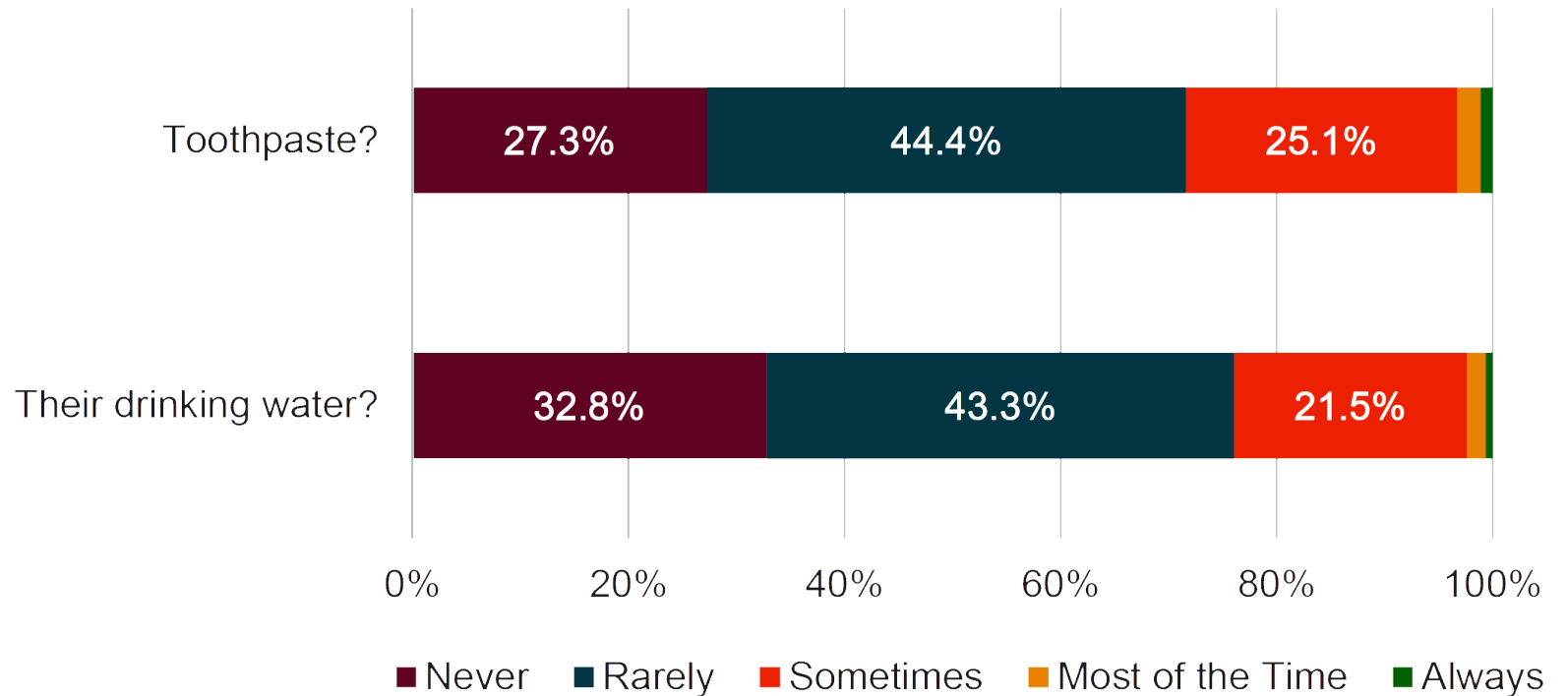
ADA American Dental Association®



Concerns about fluoride among persons interacting with a ADA dentist

Patients' Concerns About Fluoride

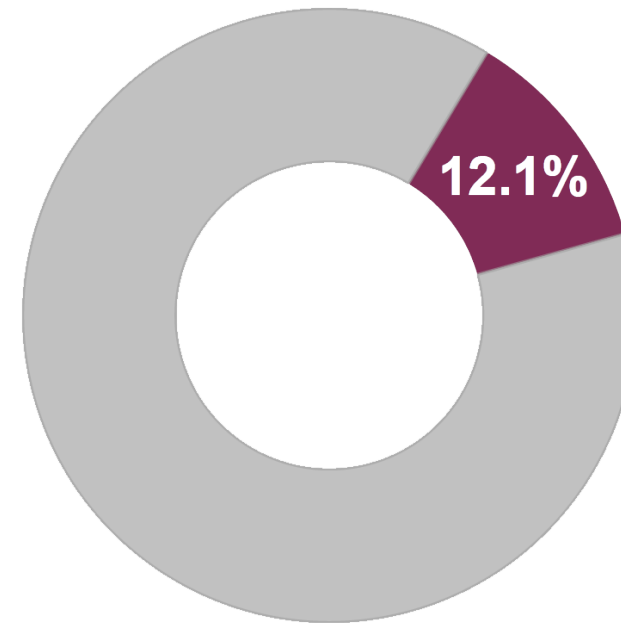
In the past month, how often have patients in your dental practice expressed concerns about fluoride in...





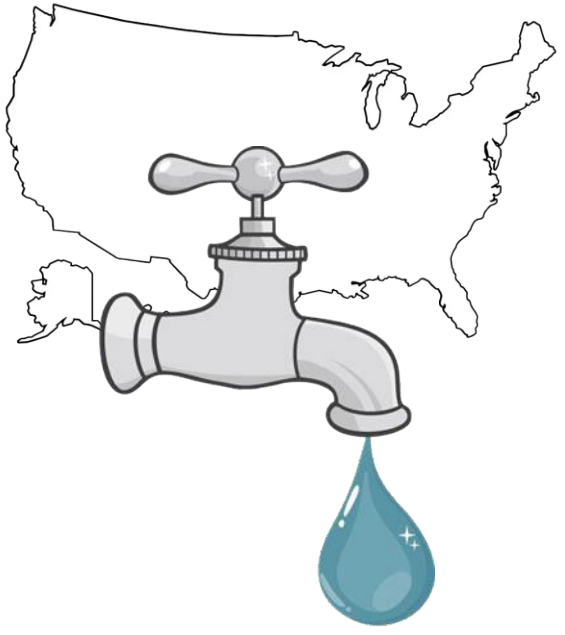
Opting out of topical fluoride application

In the past month, about what percentage of child patients have had their parents/guardians opt them out of topical fluoride treatment?

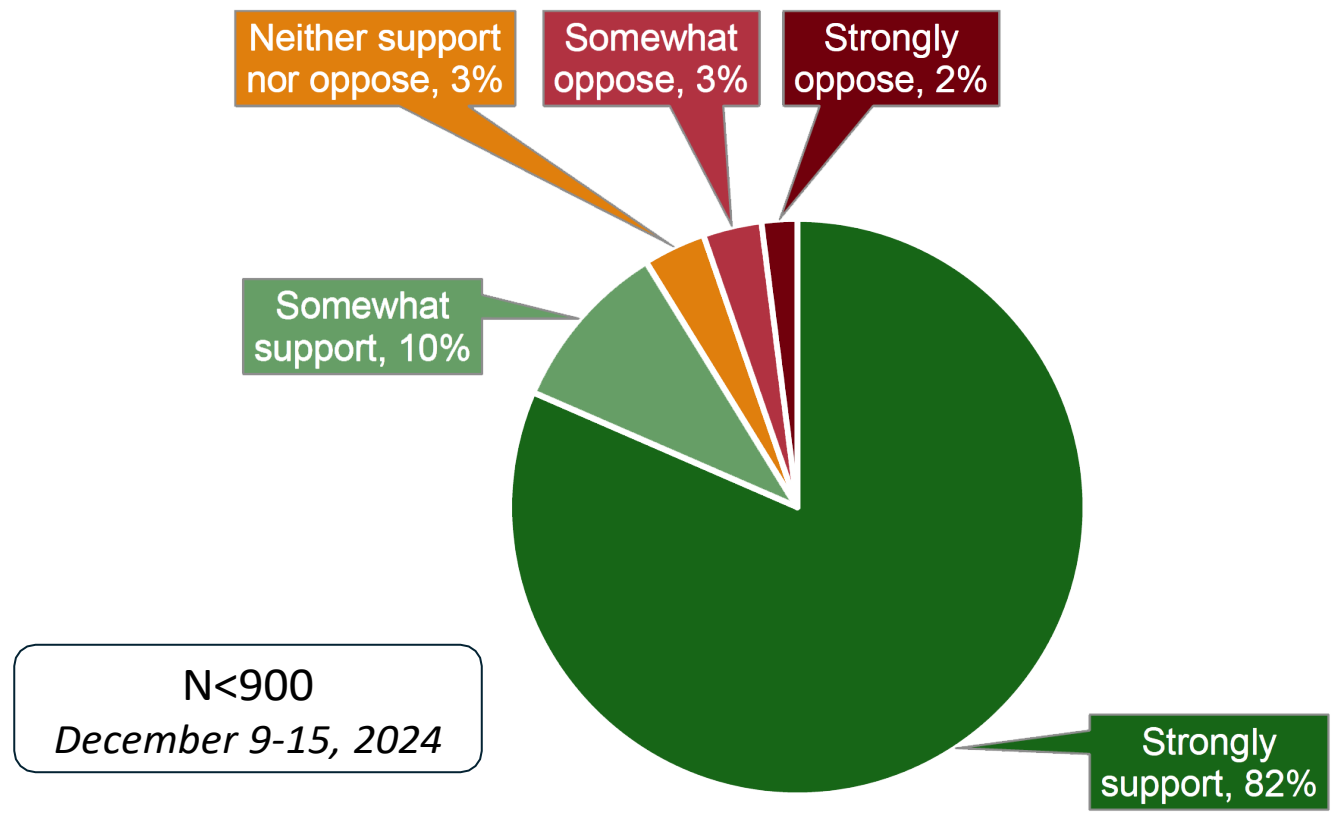


Community Water
Fluoridation

ADA Dentists SURVEY



Do you support community water fluoridation as a public health measure?





Environmental Protection Agency (**EPA**)

- The EPA is responsible for regulating the levels of fluoride in drinking water to ensure that it is safe for human consumption
- Operates under the Safe Drinking Water Act. The current limit is 4.0 mg/L of fluoride
- Responsible to review studies on the potential health impacts of fluoride and evaluates the need for regulatory updates based on new scientific findings



Centers for Disease Control and Prevention (**CDC**)

- The CDC promote public health and safety
- Is a major proponent of community water fluoridation as a public health intervention



National Institute of Dental
and Craniofacial Research

National Institutes of Health (**NIH**)

- Specifically, the *National Institute of Dental and Craniofacial Research (NIDCR)* supports research on the health effects of fluoride



Food and Drug Administration (**FDA**)

- The FDA regulates fluoride-containing products
- Oversees products that contain fluoride to ensure safety and efficacy for their intended uses
- Provides guidance on fluoride-related labeling and safety standards for fluoride supplements



Agency for Toxic Substances and Disease Registry (**ATSDR**)

- The ATSDR assesses the health risks associated with exposure to hazardous substances



U.S. Public Health Service (**PHS**)

- The PHS, through the Surgeon General, is involved in public health guidance and education related to water fluoridation
- The Surgeon General issued statements endorsing the safety and effectiveness of water fluoridation



Department of Agriculture (**USDA**)

- Oversees the regulation of fluoride in agricultural practices
- Helps to ensure that fluoride exposure through agricultural sources is within safe limits



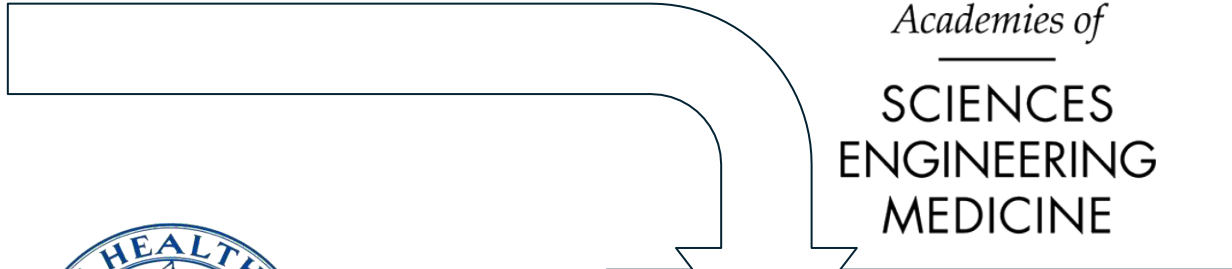
Federal Trade Commission (*FTC*)

- The FTC plays a role in overseeing the marketing of fluoride-related products
- Ensures that claims made by manufacturers of fluoride-containing products (*e.g., toothpaste*) are truthful and substantiated



National Toxicology Program (*NTP*)

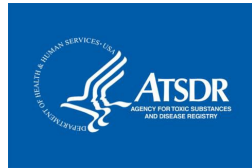
- The NTP, which is part of the NIH, evaluates the potential toxicity of substances, including fluoride
- Conducts scientific reviews and research to assess the potential neurotoxic effects and other health risks associated with fluoride exposure
- **NTP published a draft review suggesting "some evidence" of developmental neurotoxicity from fluoride exposure, particularly in high-dose scenarios, though not at levels typical in U.S. water fluoridation**
- The NTP's findings started the ongoing scientific discussions about fluoride safety



The National Academies of
 SCIENCES
 ENGINEERING
 MEDICINE



National Institute of Dental and Craniofacial Research



Senior U.S. District Judge *Edward M. Chen*



World Health Organization

ADA

American Dental Association®



State Surgeon General
Dr. Joseph A. Ladapo





National Toxicology Program
U.S. Department of Health and Human Services

**DRAFT NTP MONOGRAPH ON THE
SYSTEMATIC REVIEW OF FLUORIDE EXPOSURE
AND NEURODEVELOPMENTAL AND
COGNITIVE HEALTH EFFECTS**

September 6, 2019

Office of Health Assessment and Translation
Division of the National Toxicology Program
National Institute of Environmental Health Sciences
National Institutes of Health

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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A bombshell report from the National Toxicity Program has made devastating findings regarding the health impacts of water fluoridation on American children.

The Dallas Express
The People's Paper



NTP | National Toxicology Program
U.S. Department of Health and Human Services

*The National
Academies of*
**SCIENCES
ENGINEERING
MEDICINE**

**REVIEW OF THE REVISED NTP MONOGRAPH
ON THE SYSTEMATIC REVIEW OF FLUORIDE
EXPOSURE AND NEURODEVELOPMENTAL AND
COGNITIVE HEALTH EFFECTS:
A LETTER REPORT**

Committee to Review the Revised NTP Monograph on the Systematic Review of
Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects

Board on Environmental Studies and Toxicology
Division on Earth and Life Studies

A Consensus Study Report of
The National Academies of
SCIENCES • ENGINEERING • MEDICINE

THE NATIONAL ACADEMIES PRESS
Washington, DC
www.nap.edu

NTP Monograph

**on the State of the
Science Concerning
Fluoride Exposure
and Neurodevelopmental
and Cognitive Health**

This review finds, with moderate confidence, that higher estimated fluoride exposures (e.g., as in approximations of exposure such as drinking water fluoride concentrations that exceed the World Health Organization Guidelines for Drinking-water Quality of 1.5 mg/L of fluoride) are consistently associated with lower IQ in children. More studies are needed to fully understand the potential for lower fluoride exposure to affect children's IQ.





- Report submitted to **Kathleen M Gray, PhD, Chair NTP-BSC, April 28, 2023**
- Statement of the American Dental Association to the National Toxicology Program **Board of Scientific Counselors NTP-BSC, May 4, 2023**
- Judge orders EPA to address impacts of fluoride in drinking water. **ADA says community water is safe, September 26, 2024**
- ADA reaffirms commitment to community water fluoridation amid **JAMA Pediatrics report, January 6, 2025**



In Canada, community water fluoridation (CWF) is the process of monitoring and controlling fluoride levels (**by adding or removing fluoride**) in the public water supply to reach the optimal level of **0.7 mg/L** and not to exceed the maximum concentration of **1.5 mg/L**, as recommended in the 2010 *Health Canada Guidelines for Drinking Water Quality*. Reaffirmed October 23, 2019



Populations whose total fluoride exposure exceeds the World Health Organization Guidelines for Drinking Water Quality of **1.5 mg/L** of fluoride is consistently associated with lower IQ in children

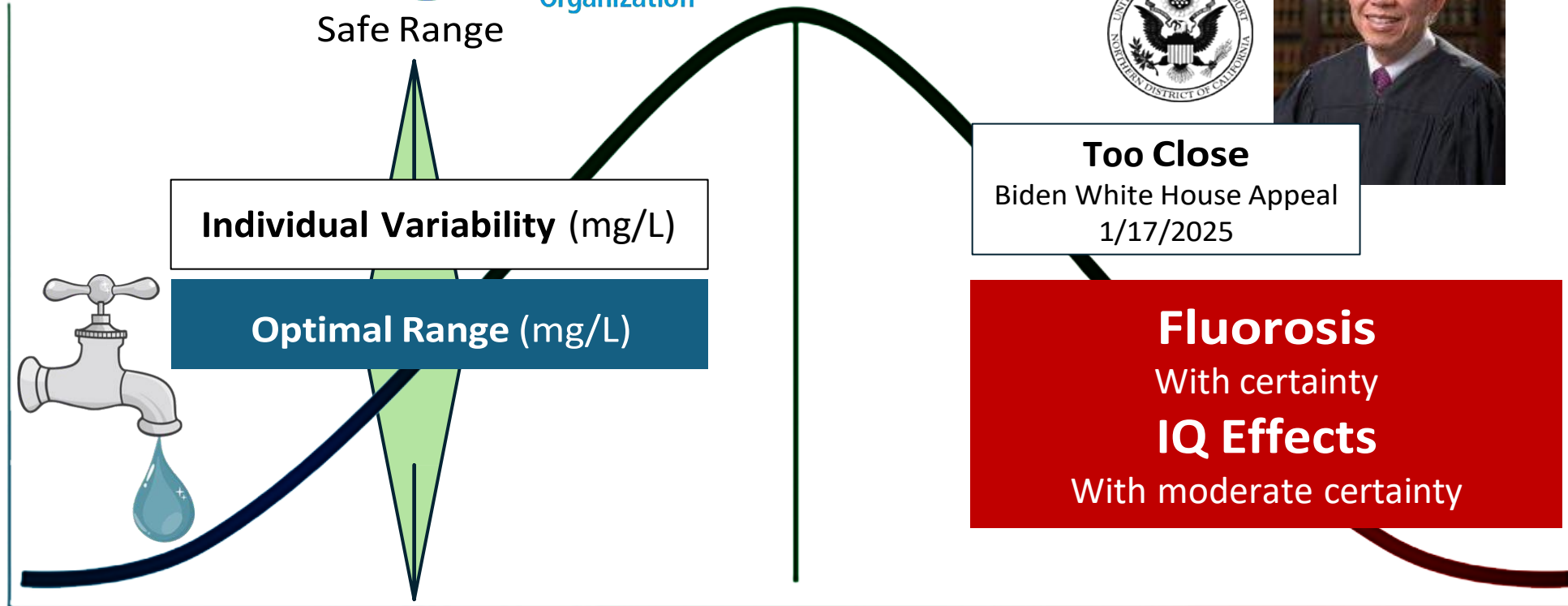
Managing Dental Benefits While Minimizing Risks



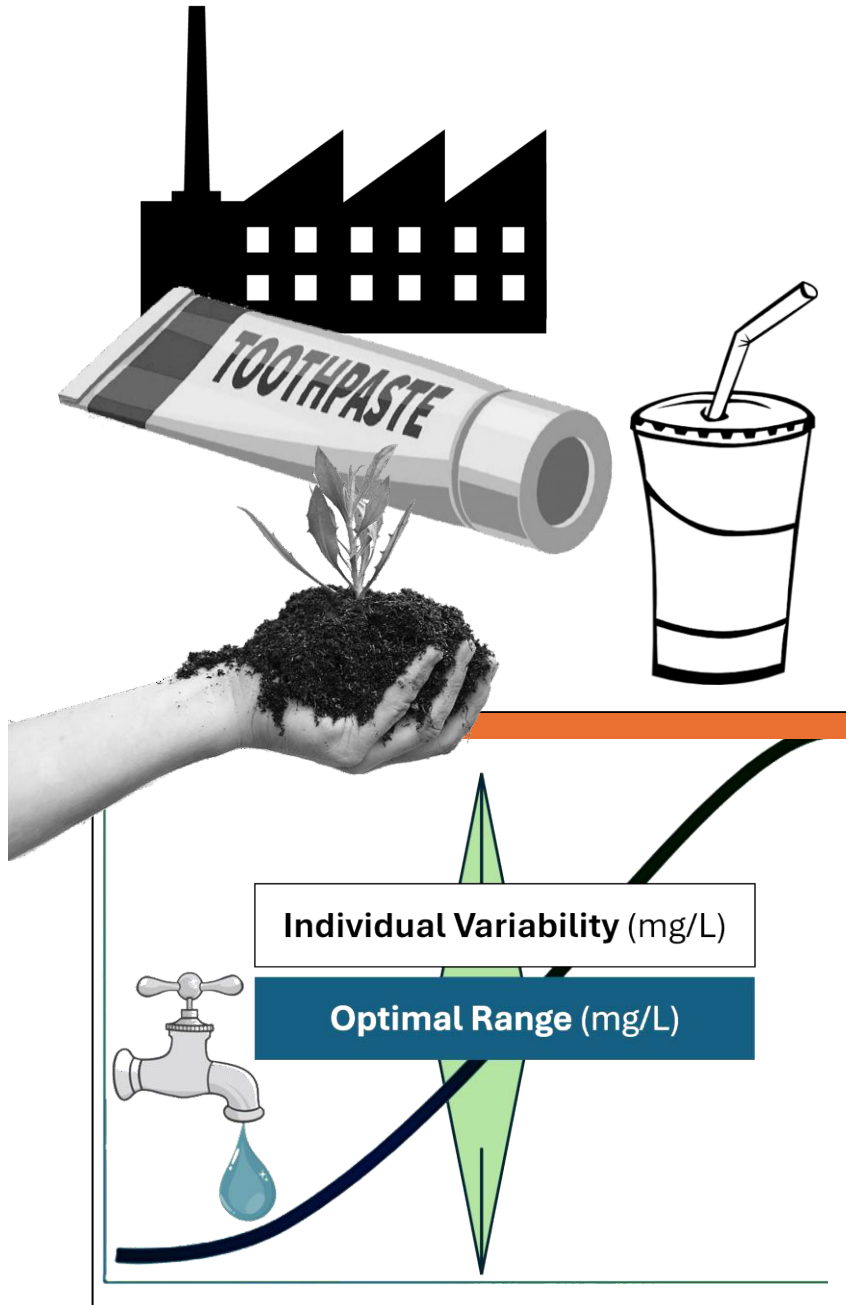
Senior U.S. District
Judge *Edward M. Chen*



Desired Effect of Fluoride Exposure



Increasing Exposure (mg/L)



Dental Products

- Drinking water (fluoridated water, natural fluoride in groundwater)
- Dental products (toothpaste, mouth rinses, supplements)

Food and Beverages

- Processed foods/beverages made with fluoridated water
- Naturally fluoridated foods (e.g., tea leaves, seafood)

Airborne Exposure

- Industrial emissions (e.g., aluminum smelting, coal-burning plants)

Occupational Exposure

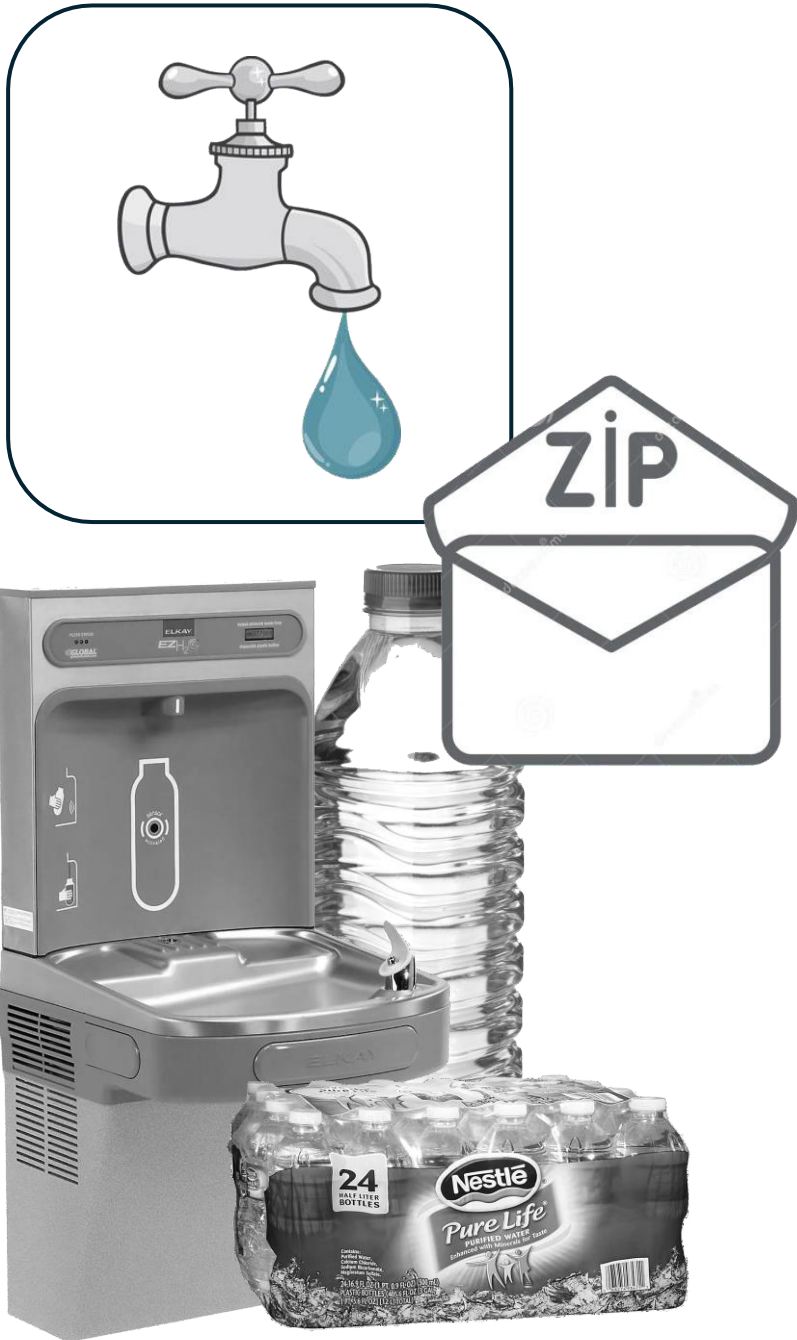
- Industries like aluminum production, ceramics, and glass manufacturing

Consumer Products

- Fluoride-containing pesticides (e.g., sulfuryl fluoride)
- Fluorinated chemicals

Environmental Deposition

- Soil and plants affected by industrial emissions and fertilizers



Spring Water

- Sourced from natural springs.
- *Fluoride levels depend on the natural fluoride content of the source.* Some spring water contains fluoride, but concentrations vary widely.

Purified Water

- Treated through methods like distillation, reverse osmosis, or deionization.
- *These processes typically remove fluoride unless it is re-added by the manufacturer.*

Mineral Water

- Contains minerals naturally present in the source, including fluoride in some cases.
- *The fluoride concentration is usually listed on the label if present.*

Fluoridated Bottled Water

- Some brands specifically add fluoride during processing to provide dental health benefits.
- *These products will typically state “fluoridated” or “contains added fluoride” on the label.*



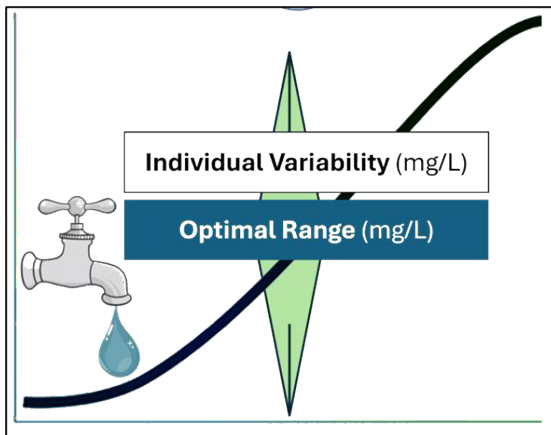
Individual Variability

In **young children** toothpaste is a source of fluoride, which can reach up to **25%** of the total fluoride intake (*European Commission, 2011*).

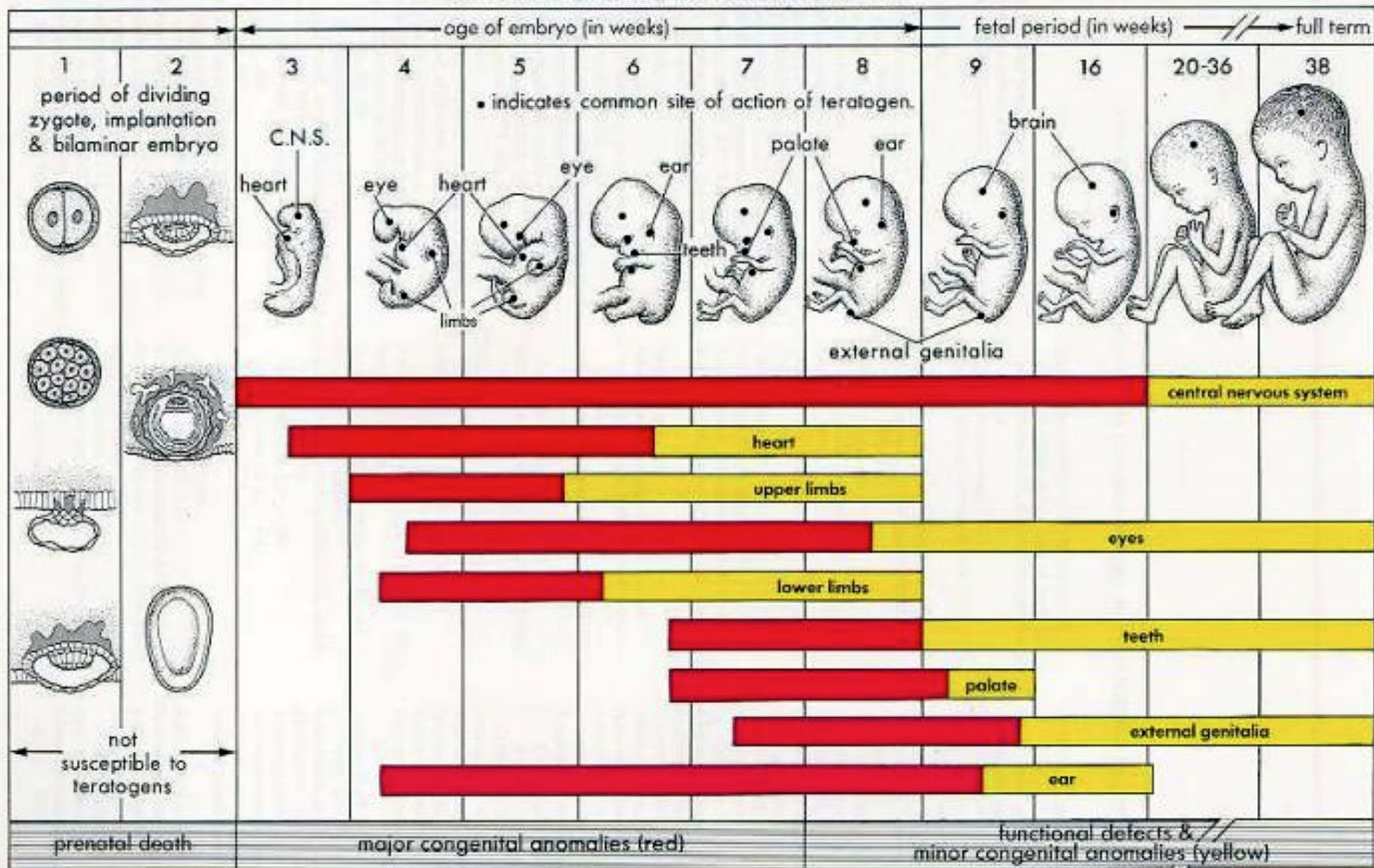


According to the *European Food Safety Authority (EFSA)* **children younger than 14 years old** have a mean daily water intake of approximately **0.6 L**.

Other estimates report a higher daily water intake of **0.8–1.3 L**, since the amount of water intake can vary along with different environmental and seasonal temperatures.



CRITICAL PERIODS IN HUMAN DEVELOPMENT*



* Red indicates highly sensitive periods when teratogens may induce major anomalies.



Developmental fluoride neurotoxicity: an updated review

Philippe Grandjean^{1,2}

Abstract

Background: After the discovery of fluoride as a caries-preventing agent in the mid-twentieth century, fluoridation of community water has become a widespread intervention, sometimes hailed as a mainstay of modern public health. However, this practice results in elevated fluoride intake and has become controversial for two reasons. First, topical fluoride application in the oral cavity appears to be a more direct and appropriate means of preventing caries. Second, systemic fluoride uptake is suspected of causing adverse effects, in particular neurotoxicity during early development. The latter is supported by experimental neurotoxicity findings and toxicokinetic evidence of fluoride passing into the brain.

Method: An integrated literature review was conducted on fluoride exposure and intellectual disability, with a main focus on studies on children published subsequent to a meta-analysis from 2012.

Results: Fourteen recent cross-sectional studies from endemic areas with naturally high fluoride concentrations in groundwater supported the previous findings of cognitive deficits in children with elevated fluoride exposures. Three recent prospective studies from Mexico and Canada with individual exposure data showed that early-life exposures were negatively associated with children's performance on cognitive tests. Neurotoxicity appeared to be dose-dependent, and tentative benchmark dose calculations suggest that safe exposures are likely to be below currently accepted or recommended fluoride concentrations in drinking water.

Conclusion: The recent epidemiological results support the notion that elevated fluoride intake during early development can result in IQ deficits that may be considerable. Recognition of neurotoxic risks is necessary when determining the safety of fluoride-contaminated drinking water and fluoride uses for preventive dentistry purposes.

Keywords: Cognitive disorder, Dental caries, Drinking water, Fluoridation, Fluoride poisoning, Intellectual disability, Neurotoxic disorder, Prenatal exposure delayed effects

Background

In 2006, the U.S. National Research Council (NRC) evaluated the fluoride standards of the Environmental Protection Agency (EPA) and concluded that fluoride can adversely affect the brain through both direct and indirect means, that elevated fluoride concentrations in drinking-water may be of concern for neurotoxic effects, and that additional research was warranted [1]. At the time, and continuing through today, the EPA's Maximum Contaminant Level Goal (MCLG) for fluoride was 4.0 mg/L that aimed at protecting against crippling

skeletal fluorosis, which is still considered to be the critical adverse health effect from fluoride exposure [2]. Following the NRC review, evidence has accumulated that the developing human brain is inherently much more susceptible to injury from neurotoxic agents, such as fluoride, than is the adult brain [3]. A review and meta-analysis published in 2012 [4] assessed a total of 27 research reports, all but two of them from China, on elevated fluoride exposure and its association with cognitive deficits in children. All but one study suggested that a higher fluoride content of residential drinking water was associated with poorer IQ performance at school age. Only a couple of these studies had been considered by regulatory agencies [1, 5]. As much additional evidence has emerged since then, it seems appropriate

[...] there is little doubt that developmental neurotoxicity is a serious risk associated with elevated fluoride exposure, whether due to community water fluoridation, natural fluoride release from soil minerals, or tea consumption, especially when the **exposure occurs during early development.**

Even the most informative epidemiological studies involve **some uncertainties**, but imprecision of the exposure assessment most likely results in an underestimation of the risk [Budtz-Jorgensen E, Keiding N, Grandjean P. *Effects of exposure imprecision on estimation of the benchmark dose. Risk Anal. 2004;24(6):1689–96*].

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Low-income communities are more susceptible to fluoride's toxicity

- Health conditions that render people more vulnerable to fluoride exposure (*e.g., kidney disease and diabetes*) are more prevalent among low-income populations.



Significant disparity in oral health status

Oral Health in America: Advances and Challenges [Internet].
Bethesda (MD): National Institute of Dental and Craniofacial
Research(US); 2021

<https://www.ncbi.nlm.nih.gov/books/NBK578300/>

Key Opposing Groups

Health Advocacy Groups

- Fluoride Action Network (FAN) and other anti-fluoridation organizations. These groups campaign globally to reduce or eliminate fluoridation of water supplies.

Environmental Organizations

- Some argue that fluoridation introduces industrial chemicals (e.g., hydrofluorosilicic acid) into water, potentially harming ecosystems.

Alternative Health Advocates

- Individuals and practitioners promoting natural or holistic health approaches often oppose fluoridation, citing concerns about chemical exposure.

Some Scientists

- While the scientific community broadly supports fluoridation, a minority of researchers question its safety and long-term effects.

Libertarian and Civil Rights Groups

- These groups argue against mandatory fluoridation on the grounds of personal choice and bodily autonomy.



Common Arguments Against Water Fluoridation [1]

Health Concerns

- **Potential Toxicity:** Critics argue that fluoride, in excessive amounts, can be toxic and may accumulate in bones, tissues, and organs over time.
- **Dental Fluorosis:** Opponents highlight that fluoridation can lead to dental fluorosis, a cosmetic condition caused by excessive fluoride exposure, particularly in children.
- **Neurological Effects:** Concerns about fluoride's potential impact on brain development have been raised, citing studies suggesting associations between high fluoride exposure and reduced IQ in children.
- **Thyroid Function:** Some claim fluoride can interfere with thyroid function, particularly in iodine-deficient individuals.
- **Skeletal Fluorosis:** Chronic exposure to high levels of fluoride may lead to skeletal fluorosis, a condition characterized by joint pain and stiffness.
- **Cancer Risks:** While evidence is inconclusive, some activists suggest a possible link between fluoride exposure and certain cancers, such as osteosarcoma.

Ethical and Legal Issues

- **Informed Consent:** Opponents argue that fluoridation is a form of mass medication without individual consent, violating ethical principles.
- **Overexposure Risk:** Critics point out that people consuming fluoridated water in addition to other fluoride sources (toothpaste, food, etc.) may exceed safe levels.



Common Arguments Against Water Fluoridation [2]

Effectiveness Concerns

- **Declining Relevance:** Skeptics argue that improved dental hygiene practices and widespread use of fluoride toothpaste have reduced the need for fluoridation.
- **Efficacy Debate:** Some question the strength of evidence supporting fluoridation's role in reducing dental decay.

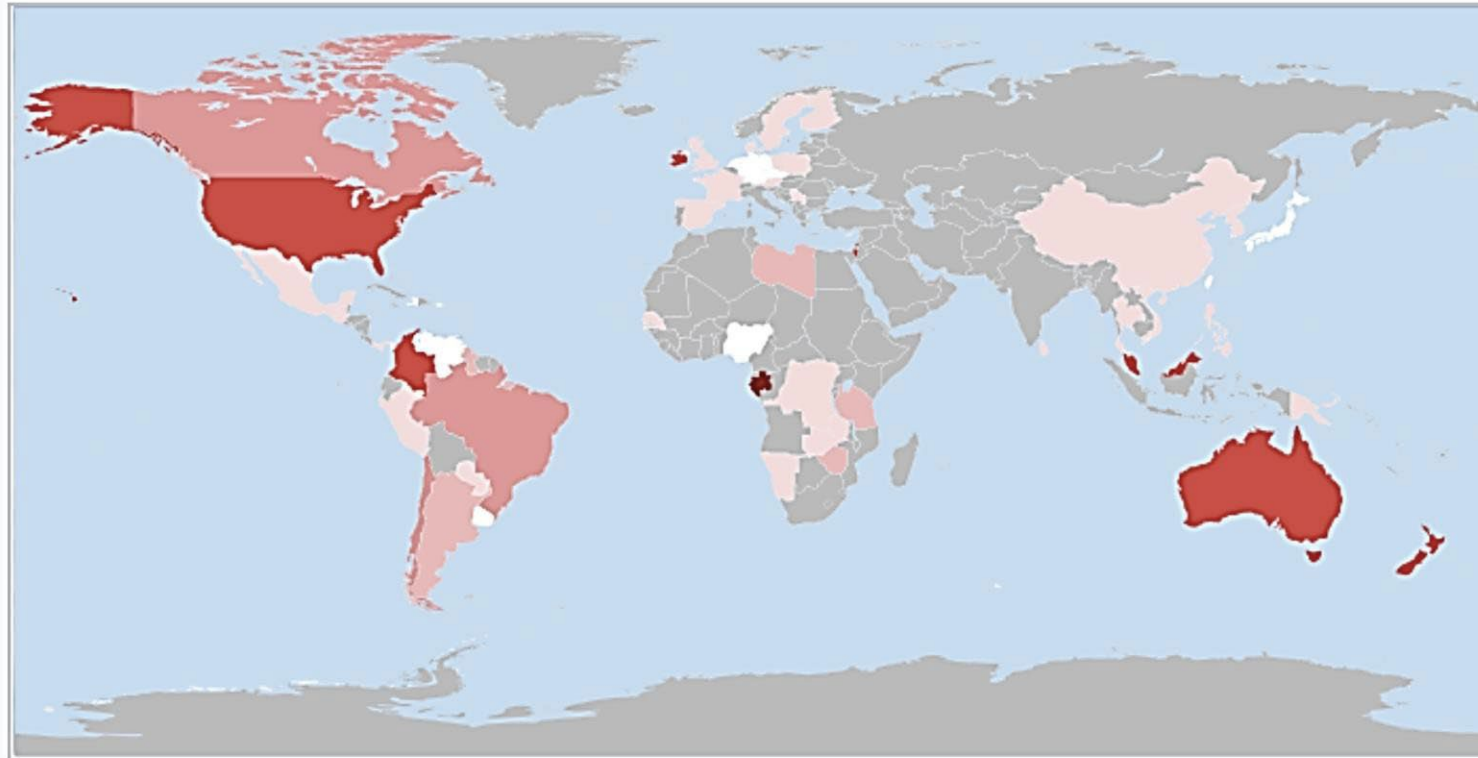
Environmental and Contamination Issues

- **Industrial Byproducts:** Critics note that fluoride compounds used for water fluoridation (*e.g.*, *hydrofluorosilicic acid*) are byproducts of the phosphate fertilizer industry, raising concerns about impurities and safety.
- **Waterway Contamination:** There are concerns that fluoridation chemicals can harm aquatic ecosystems if discharged into natural waterways.

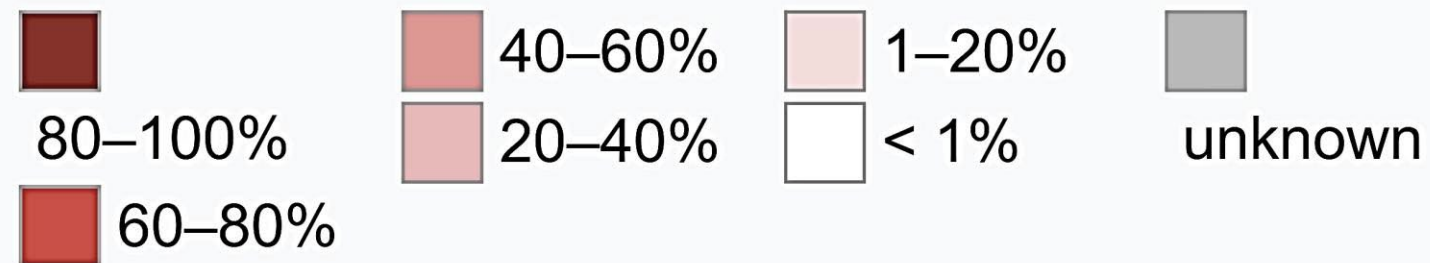
Economic and Social Considerations

- **Cost-Effectiveness:** Some argue that the costs of water fluoridation programs outweigh the benefits, especially in areas with low rates of tooth decay.
- **Unequal Impact:** Critics contend that low-income communities might face higher risks of overexposure due to greater reliance on tap water and lack of access to alternative water sources.





Percentage of population receiving fluoridated water, including both artificial and natural fluoridation, as of 2012:^[75]





Counterarguments from Proponents



- Public health organizations, including the World Health Organization (WHO), the American Dental Association (ADA), the Centers for Disease Control and Prevention (CDC) and the U.S. Surgeon General, counter that water fluoridation is a safe, cost-effective method to prevent tooth decay and that concerns about toxicity are based on misinterpretation of data or rare high-exposure cases.

Understanding both perspectives helps communities make informed decisions about fluoridation policies.