



Rhode Island Department of Health
A Statement on Community Water Fluoridation Safety and Efficacy

May 2023

The Rhode Island Department of Health (RIDOH) has taken into account the extensive research done on community water fluoridation since its inception and has formulated the following statement in response to claims of the practice being harmful to the public. This document provides a brief overview of the safety and efficacy of community water fluoridation as a public health practice to reduce the incidence of dental decay. It must be pointed out that this document is intended to be brief in nature and does not encompass the entire body of scholarly work on water fluoridation that overwhelmingly supports both the effectiveness and safety of community water fluoridation as a proven public health practice.

Water safety is defined and determined by federal, state, and local regulations. The main federal law that ensures the quality of Americans' drinking water is the Safe Drinking Water Act (SDWA). Under SDWA, the U.S. Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. Our understanding about the safety of fluoridation is guided by federal regulations, comprehensive reviews conducted by expert panels, and individual studies. Some of those reviews and studies have been conducted by:

National Academy of Medicine, U.S.A. (2023) [Link](#)
U.S. Public Health Service (2015) [Link](#)
National Research Council, U.S.A. (2006) [Link](#)
Agency for Toxic Substances and Disease Registry, U.S. Public Health Service (2003) [Link](#)
World Health Organization (2006) [Link](#)
International Programme on Chemical Safety, W.H.O. (2002) [Link](#)
National Health and Medical Research Council, Australian Government (2017) [Link](#)
Canadian Association of Public Health Dentistry (2014) [Link](#)
Forum on Fluoridation, Ireland (2002) [Link](#)
Medical Research Council, U.K. (2002) [Link](#)
University of York, U.K. (2000) [Link](#)

The effectiveness of water fluoridation has been documented in scientific literature for over 75 years. Since the introduction of fluoridation in 1945, numerous studies have been published making it one of the most widely studied public health measures in history. Studies prove water fluoridation continues to be effective in reducing tooth decay by 20-40%, even in an era with widespread availability of fluoride from other sources, such as fluoride toothpaste.

In August 2002 and December 2021, the U.S. Task Force on Community Preventive Services (Task Force) concluded that the evidence for the effectiveness of fluoridation is strong based on the number and quality of studies that have been done, the magnitude of observed benefits and the consistency of the findings. The Task Force issued a strong recommendation that water fluoridation be included as part of a comprehensive population-based strategy to prevent or control tooth decay in communities, [available here](#). Additional documentation of this recommendation is listed below.

- Centers for Disease Control and Prevention (CDC). Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States. MMWR 2001;50(No. RR-14) [Link](#).
- US Department of Health and Human Services. Oral Health in America: Advances and Challenges. Bethesda MD, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2021. [Link](#)
- Endorsements of Community Water Fluoridation from current US Surgeon General Vivek Murthy MD, 2016. [Link](#)
- Horowitz HS. The effectiveness of community water fluoridation in the United States. J Public Health Dent 1996;56(5 Spec No):253-8. [Link](#)
- Yeung CA. A systematic review of the efficacy and safety of fluoridation. Evid Based Dent 2008;9:39-43 [Link](#).
- The Centers for Disease Control and Prevention (CDC) has proclaimed community water fluoridation as one of 10 great public health achievements of the 20th century. [Link](#)

In addition to the listed documentation above, below are a list of scholarly articles (with links to the original article) that echo the fact that properly implemented community water fluoridation is safe and effective. Again, this is only a portion of the large amount of research supporting the safety and efficacy of this public health practice:

- Moynihan P, Tanner LM, Holmes RD, Hillier-Brown F, Mashayekhi A, Kelly SAM, Craig D. Systematic Review of Evidence Pertaining to Factors That Modify Risk of Early Childhood Caries. JDR Clin Trans Res. 2019 Jul;4(3):202-216. [Link](#)
- Burns B, Crozier S, American Dental Association, 2023. *Federal science panel recommends revisions to fluoride-IQ report*. [Link](#)
- National Research Council. Committee on Fluoride in Drinking Water, Board on Environmental Studies and Toxicology, Division on Earth and Life Studies. Fluoride in Drinking Water: A Scientific Review Of EPA's Standards. THE NATIONAL ACADEMIES PRESS. Washington, D.C. Available at [Link](#)
- J. Fawell, K. Bailey, J. Chilton, E. Dahi, L. Fewtrell and Y. Magara. Fluoride in Drinking-water. World Health Organization (WHO) 2006. Available at [Link](#)

- International Programme on Chemical Safety (IPCS) Environmental health criteria, No. 227. Fluorides. Geneva: World Health Organization, 2002 Available at [Link](#)
- Whelton HP, Spencer AJ, Do LG, Rugg-Gunn AJ. Fluoride Revolution and Dental Caries: Evolution of Policies for Global Use. *Journal of Dental Research*. 2019;98(8):837-846. Available at [Link](#)
- Position of the Simcoe Muskoka District Health Unit on Municipal Water Fluoridation, April 2009. [Link](#)
- Iheozor-Ejiofor Z, Worthington HV, Walsh T, O'Malley L, Clarkson JE, Macey R, Alam R, Tugwell P, Welch V, Glenny A. Water fluoridation for the prevention of dental caries. *Cochrane Database of Systematic Reviews* 2015, Issue 6. [Link](#)
- U.S Public Health Service Recommendation for Fluoride Concentration in Drinking Water for the Prevention of Dental Caries, USPHS. U.S Department of Health and Human Services Federal Panel on Community Water Fluoridation. 2015. Available at: [Link](#)
- Ha DH, Spencer AJ, Peres KG, Rugg-Gunn AJ, Scott JA, Do LG. Fluoridated Water Modifies the Effect of Breastfeeding on Dental Caries. *Journal of Dental Research*. 2019;98(7):755-762. Available at: [Link](#)
- Meyer, J., Margaritis, V. & Mendelsohn, A. Consequences of community water fluoridation cessation for Medicaid-eligible children and adolescents in Juneau, Alaska. *BMC Oral Health* 18, 215 (2018). Available at: [Link](#)

Recent opponents of water fluoridation have cited the JAMA Pediatrics article in which authors claim that fluoride might cause neurodevelopmental harm. (Green R, Lamphear B, Hornung R et al. Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada. *JAMA Pediatr*. 2019;173(10):940-948). RIDOH would refer these individuals to a response letter from Health Canada and available at the following [link](#). Their response addresses the various confounding variables that were not taken into account in the original meta-analysis and points to many various flaws in the study design that regularly leads to misuse and misinterpretation of the paper.

To help illustrate the national consensus on community water fluoridation being a benefit for communities, RIDOH recommends viewing the American Dental Association's "National and International Organizations That Recognize the Public Health Benefits of Community Water Fluoridation for Preventing Dental Decay" List which is too long to include the body of this letter, [here](#). This list shows over one hundred (100) national and/or international organizations that have recognized community water fluoridation as beneficial to the oral health of a population.

In conclusion, the large weight of scientific evidence shows that community water fluoridation is a safe and cost-effective public health intervention that yields substantial impacts in reducing early childhood caries (cavities).

That being said, community water fluoridation is not mandated by the State of Rhode Island or the Federal government, but is rather decided at the local level, with each municipality making

their own decision on enacting community water fluoridation. Many Rhode Island municipalities have chosen to make this part of their drinking water supply; however, none have been mandated or forced to fluoridate their water by the State or Federal government.

RIDOH continues to support communities that have enacted community water fluoridation as a public health practice and would encourage any communities lacking this proven preventive measure to begin adjusting their water fluoride levels to help prevent dental decay.

For further documentation supporting this practice, please direct inquiries to the Oral Health Program Manager, Jasmine Franco, MS (Jasmine.Franco@health.ri.gov), or to the Dental Director, Sam Zwetchkenbaum, DDS, MPH (Samuel.Zwetchkenbaum@health.ri.gov)