

Water Fluoridation: What the Science Says



Over the past decades, more than 3,000 studies or reports have been produced about fluoride or community water fluoridation. Although some people oppose this practice, the clear weight of the evidence shows that fluoridated water safely and effectively reduces tooth decay in children and adults.

Several individuals with extensive knowledge of public health research share their conclusions about fluoridation based on the scientific evidence:

Howard Koh, MD, MPH, and Nancy Stoner, JD



"Starting in the 1940s, communities across the United States began engaging in a public health effort aimed at reducing tooth decay. Those communities found that raising the concentration of fluoride in public water (it almost always occurs naturally at low levels) significantly improved their residents' oral health. This practice has grown steadily and today [nearly 70%](#) of Americans live on public water systems that provide fluoridated water. The Centers for Disease Control and Prevention [named](#) the fluoridation of drinking water one of ten great public health achievements of the 20th Century.

"For many years, panels of experts from different health and scientific fields have provided strong evidence that water fluoridation is safe and effective. The Administration recognizes the importance of fluoridation and its effectiveness in preventing tooth decay.

"Tooth decay is the most common chronic disease, and is likely to affect the majority of Americans during their lifetime. Thanks to community water fluoridation, the prevalence of tooth decay, especially among children, has decreased significantly."

Howard Koh is Assistant Secretary for Health at the U.S. Department of Health and Human Services. Dr. Koh served as Massachusetts' Commissioner of Public Health (1997-2003) after being appointed by Governor William Weld. He graduated from the Yale University School of Medicine and has earned board certification in internal medicine, hematology, medical oncology and dermatology. Dr. Koh is an elected member of the Institute of Medicine of the National Academies.



Nancy Stoner is the acting assistant administrator for the Office of Water at the U.S. Environmental Protection Agency. She began her career as an attorney in the Environment and Natural Resources Division of the U.S. Department of Justice. Stoner is a recognized expert on the federal Clean Water Act, and she served as Co-Director of the Natural Resources Defense Council's Water Program. The previous excerpt is from a statement co-written by Koh and Stoner in November 2011.

Jayanth V. Kumar, DDS, MPH



"I co-authored a [study](#) in 2010 that compared Medicaid recipients in two groups of New York counties. Most of the children in the first group had access to water fluoridated to the optimal level that is known to prevent tooth decay. The second group was children from counties in which water fluoridation was rare.

"We recognized that children living in the under-fluoridated counties had access to fluoride supplements and fluoride-rinse programs in schools. But despite having access to these other vehicles for fluoride, our study found that the people living in these under-fluoridated counties are at a disadvantage. We saw a big difference between the two groups of counties in the number of Medicaid claims for fillings, tooth extractions and other corrective procedures.

"We considered a variety of other explanations, such as the number of dentists and the socioeconomic status. But the

evidence led us to conclude that water fluoridation, by itself, plays a major role in reducing the cost of dental care. I can't think of any other health intervention that can show you that it saves health care costs to the extent that fluoridation can."

Dr. Jayanth Kumar is the director of Oral Health Surveillance and Research for the New York State Department of Health. He has authored or co-authored more than 35 research papers on oral health, and he served on the National Research Council's Committee on Fluoride in Drinking Water, which released its report in 2006. Dr. Kumar has served as a research consultant to the Centers for Disease Control and Prevention, the National Institute of Dental & Craniofacial Research, and other organizations.

Melvin D. Shipp, OD, MPH, DrPH

"Community water fluoridation is a sound public health preventive measure, and the most [cost-effective](#) public health intervention for the primary prevention of tooth decay for everyone, regardless of age. It has also been shown to be the most effective public health strategy to reduce the dramatic [disparities](#) in dental caries between ethnic and racial groups."

Dr. Melvin Shipp is the president of the American Public Health Association. He has served on review panels or in other advisory roles for several federal health agencies, including the Food and Drug Administration, the Centers for Disease Control and Prevention, and the National Eye Institute of the National Institutes of Health. Dr. Shipp is a former Robert Wood Johnson Health Policy Fellow. Since 2004, he has been the Dean of the Ohio State University College of Optometry.



Howard Pollick, BDS, MPH



"Fluoride is a huge success story. It is now rare for children to have permanent teeth pulled because of tooth decay. But it used to be common practice. The big change has been the result of fluoride in drinking water and toothpaste

"The scientific [evidence](#) is strong and compelling. Several years ago, I wrote a [research paper](#) that examined a variety of concerns raised by opponents about the fluoride compounds used for water fluoridation. I found that there was no credible evidence to support these concerns.

"Unfounded fears shouldn't guide decisions about something as important as a disease that affects so many people. That's why I have devoted my career to providing information about fluoride so that decisions about fluoridation are based on the best and most up-to-date science."

Dr. Howard Pollick is a clinical professor at the School of Dentistry at the University of California, San Francisco. He has authored or co-authored more than a dozen studies on oral health issues, and he was the principal investigator and oral epidemiologist for the 1993-94 California Oral Health Needs of Children project. Dr. Pollick has served on national panels convened by the U.S. Centers for Disease Control and Prevention, the American Dental Association, and the U.S. Maternal and Child Health Bureau.

Wendy Mouradian, MA, MD

"I grew up before fluoride was added to the community water where I lived, and still remember getting many cavities during those years. Today it is possible for children to grow up and never experience tooth decay, due in large measure to the use of fluoride in drinking water and toothpaste.

"Water fluoridation is one of the [safest](#) and most convenient ways to protect children's teeth. We have made strides in achieving the U.S. [public health goals](#) to increase water fluoridation. It would be a tragedy to deny children and adults the chance to benefit from this important public health measure."

Dr. Wendy Mouradian is professor of pediatrics and pediatric dentistry at the University of Washington, Seattle. She has pioneered efforts to train physicians in children's oral health needs and has authored or co-authored more than 50 scholarly articles or chapters on oral health issues. Dr. Mouradian is a senior



scientist for the Forsyth Institute. In addition to serving as a fellow of the American Academy of Pediatrics, Dr Mouradian chaired the Surgeon General's Conference on Children and Oral Health in 2000.

Jonathan E. Fielding, MD, MPH, MBA



"Water fluoridation has been recognized in Los Angeles County as a very important intervention in promoting oral health among our children. Local success in fluoridating the water provided by the region's largest [water supplier](#) and in supporting local jurisdictions that choose to fluoridate municipal water systems have afforded the benefits of good oral health to millions of children. Preventing tooth decay and other serious oral health conditions enable our children to enjoy a higher quality of life, to optimize days of school attendance, and to preserve a friendly, healthy smile into adult life."

Dr. Jonathan Fielding is the director of the Los Angeles County Department of Public Health, and he is the county's health officer. He chairs the U.S. Task Force on Community Preventive Services, an independent panel of health and medical experts. This task force reviewed dozens of studies on [fluoridation](#) and concluded that this public health practice reduced decay by 29 percent. Dr. Fielding is a professor of health services and pediatrics at the School of Public Health of the University of California, Los Angeles. He is the author of more than 170 original scientific articles, chapters and commentaries.

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