Community Water Fluoridation

Benefits

All residents of a community can enjoy community water fluoridation's protective benefits simply by consuming foods and beverages prepared with fluoridated water. A person's income level or ability to receive routine dental care is not a barrier to receiving its health benefits.

Fluoridation Basics: Provides general information on the history and benefits of community water fluoridation.

Selected Reports and Journal Articles

The Halo Effect: Quantifying the diffused benefit from water fluoridation in the United States
Demonstrates the total contribution of water fluoridation, not just to fluoridated communities but to surrounding nonfluoridated communities as well. This article helps to:

- Explain the reason for the decrease in measurable effectiveness of fluoridation efforts over time.
- Explain that rates of dental disease between fluoridated and nonfluoridated communities underestimate the effectiveness of community water fluoridation because nonfluoridated communities are receiving benefits from neighboring fluoridated communities.
- Quantify the diffused benefit of community water fluoridation.
- Explain increases in dental decay if fluoridation is discontinued by taking into account the diffusion effect.

Oral Health in America: A Report of the Surgeon General
Chapter 7 presents the evidence for community water fluoridation for prevention of tooth decay.

Achievements in Public Health 1900–1999—Fluoridation of Drinking Water to Prevent Dental Caries
MMWR, October 22, 1999;48(41):933–940.
Recognizes community water fluoridation as one of the 10 great public health achievements of the 20th century, provides a brief history of water fluoridation, and describes the historical decline in tooth decay.

Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D, and Fluoride
Describes the dietary reference intakes for specific nutrients known to be beneficial to health, including fluoride. As is the case with all nutrients, there are recommendations for both adequate intake and tolerable intake levels. This report addresses both benefits and safety.

Scientific Reviews: Assessing the Weight of the Evidence
Various scientific reviews that provide compelling evidence that community water fluoridation is a safe and effective method for reducing tooth decay.

Surgeons General Statements on Community Water Fluoridation

The past five Surgeons General supported community water fluoridation and encouraged communities to fluoridate their water. Here are the most recent three statements.
2004, Richard H. Carmona, MD, MPH, FACS, VADM, USPHS

2001, David Satcher, MD, PhD

1995, Audrey F. Manley, MD, MPH

Cost Effectiveness

An Economic Evaluation of Community Water Fluoridation. [PDF–1.1M] Griffin SO, Jones K, Tomar SL. J Publ Health Dent 2001;61(2):78–86. An analysis of the most current data available on the effectiveness and costs of water fluoridation. The study compares average per person cost of community water fluoridation with the cost of prevented disease. This study:

- Demonstrates that fluoridation not only is cost-effective, but also is cost saving, which is rare for public health interventions.
- Shows that the reduction in costs of fillings (dental restorations) greatly exceeds the cost of water fluoridation in communities of any size.
- Illustrates the annual per person water fluoridation costs for communities of various sizes.
- Determines an average cost savings, which ranges from $15.95 per person per year in a small community to $18.62 per person per year in a larger community.

Cost Savings of Community Water Fluoridation
Studies continue to show that widespread community water fluoridation prevents cavities and saves money, both for families and the health care system.

MMWR, September 3, 1999;48(34):753–757. Findings suggest that Medicaid-eligible children in communities without community water fluoridation had an increased cost for dental treatment per child that was twice as high as those children living in fluoridated communities.

Systematic and Evidence-based Reviews

Comprehensive reviews on the science available to determine the benefits and effectiveness of community water fluoridation.

Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States
MMWR, August 17, 2001;50(RR–14):1–42. Also available as a [PDF–373K]. Provides guidance to health care providers, public health officials, policymakers, and the general public on how to achieve maximum protection against tooth decay while using dental care resources efficiently and minimizing any cosmetic concerns.

Reviews of Evidence on Interventions to Prevent Dental Caries, Oral and Pharyngeal Cancers, and Sports-Related Craniofacial Injuries
From the Task Force on Community Preventive Services, provides information on the studies used in the evidence review on community water fluoridation, the suitability of the study designs, and quality of the evidence used to determine the magnitude of effectiveness of community water fluoridation.

Summary Report

Promoting Oral Health: Interventions for Preventing Dental Caries, Oral and Pharyngeal Cancers, and Sports-Related Craniofacial Injuries
Reinforces the evidence-based prevention activities of community water fluoridation and school-based or school-linked dental sealant programs.

**A Systematic Review of Public Water Fluoridation**
Done by the University of York in the United Kingdom, this is a systematic review of the best available evidence on positive and negative effects of community water fluoridation.

**Review of Fluoride: Benefits and Risks**
Comprehensive review and evaluation of the public health benefits and risks of fluoride from drinking water and other sources by the U.S. Public Health Service.