



American Dental Association
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Arkansas General Assembly
Joint Committee on Public Health, Welfare and Labor

Thursday, September 2, 2004

Consideration of ISP2003-157

To Study the Public Health Benefits of Including Fluoride in Water Systems in Arkansas

Mr. Chairman and Members of the Committee:

I am Dr. Howard Pollick, a clinical professor, in the School of Dentistry, at the University of California San Francisco. I also serve as vice-chair for the California Fluoridation Task Force. Today, I am speaking with you as a representative of the American Dental Association.

The ADA is the nation's largest dental association, representing more than 149,000 members. It has advocated for the public's health and promoted the art and science of dentistry since 1850.

The dental profession has long championed the disease prevention approach to oral health. The American Dental Association unreservedly endorses the fluoridation of community water supplies as a safe, effective and economical public health measure in preventing tooth decay.

Fluoridation is safe. With nearly 60 years of research and practical experience, the overwhelming weight of credible scientific evidence has consistently indicated that fluoridation of community water supplies is safe. Water fluoridation is the process of adjusting the natural level of fluoride up to a concentration sufficient to protect against tooth decay (0.7 to 1.2 parts per million). Fluoride in these low concentrations is not toxic or harmful. You'll probably hear claims of toxicity made at some point, but the

facts just don't support those allegations. The possibility of any adverse health effects from continuous low-level consumption of fluoride has been and continues to be extensively studied. Of the hundreds of credible scientific studies on fluoridation, none has shown health problems associated with the consumption of optimally fluoridated water. The only known risk associated with the use of fluoride is mild enamel (dental) fluorosis which is a cosmetic effect with no known health consequences. Almost all cases of fluorosis in the United States are of the very mild to mild category which is not readily apparent to the casual observer.

Fluoridation is effective. Even before the first community fluoridation program began in 1945, data from the 1930s and 1940s revealed 50-60% lower tooth decay rates in children living in communities where the water had a naturally-occurring, optimal concentration of fluoride compared to children living in communities with fluoride-deficient water – simply by virtue of the fact that they happened to live in those communities. Since that time, numerous studies have been published making fluoridation 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. Recent evidence indicates that the preventive effect of fluoridation was maximized by continuous exposure both before and after tooth eruption.

Fluoridation plays a protective role against dental decay throughout life, benefiting both children and adults. It is the most efficient way to prevent tooth decay, which is the most common chronic childhood disease. Tooth decay is five times as common as asthma and seven times as common as hay fever in children. For children, early tooth loss caused by tooth decay can result in failure to thrive, impaired speech development, absence from, and inability to concentrate in school, and reduced self-esteem. Without fluoridation, there would be many more than the estimated 51 million school hours lost per year in this country because of dental-related illness.

Fluoridation benefits adults, too. People in the U.S are living longer and retaining more of their natural teeth than ever before – thanks in part to fluoridation. Older adults experience more problems with receding gums, and consequently face a greater risk of cavities on the exposed roots of their teeth. Additionally, older adults may experience decreased saliva flow, or dry mouth, due to the use of medications. A decrease in saliva can increase the risk of tooth decay as saliva contains many elements necessary for early decay repair – including fluoride. Water fluoridation has been shown effective in reducing root decay in adults.

Overall, the benefits from the prevention of tooth decay include:

- freedom from dental pain
- a more positive self image
- fewer missing teeth
- fewer cases of mal-aligned teeth due to tooth loss
- fewer teeth requiring root canal treatment
- reduced need for dentures and bridges
- less time lost from school or work due to dental pain or visits to the dentist

Whether because of social embarrassment or functional problems, people with tooth decay may avoid laughing, smiling or even conversation that may show their teeth.

Tooth decay, by damaging self-image, can affect social relationships and employability.

Fluoridation is economical. Studies continue to confirm that fluoridation has substantial, lifelong decay preventive effects and is a highly economical means of preventing tooth decay in the United States, regardless of an individual's socioeconomic status. The lifetime cost per person to fluoridate a water system is less than the cost of one dental filling. With escalating health care costs, fluoridation remains a preventive measure that provides benefit at minimal cost. The economic importance of fluoridation is underscored by the fact that frequently the cost of treating dental disease is paid not only by the affected individual, but also by the public through services provided by health departments, welfare clinics, health insurance premiums, the military and other publicly supported programs.

Let me add one additional point.

Fluoridation is socially equitable. Community water fluoridation benefits everyone, especially those without access to regular dental care. Simply by drinking optimally fluoridated water, the entire community benefits regardless of age, socioeconomic status, educational attainment or other variables. Fluoridation does not discriminate against anyone based on income, education or ethnicity. The benefits of water fluoridation are not limited to those with access to dental care. Fluoridation's benefits are realized without behavior change on the part of an individual. Simply by drinking water, people can benefit from fluoridation's cavity protection whether they are at home, work or school.

Fluoridation is safe, effective and economical. This has been the American Dental Association's (ADA) policy since 1950. The ADA's policies regarding fluoridation are based on the overwhelming weight of credible scientific evidence. This body of knowledge is based on the efforts of nationally recognized scientists who have conducted research using the scientific method, have drawn appropriate balanced conclusions based on their research findings and have published their results in refereed (peer-reviewed) professional journals. Studies showing the safety of water fluoridation have been confirmed by repeated independent scientific research and review.

However, an abundance of misinformation on fluoridation has been circulated, sometimes taking statements or data out of context from legitimate research findings. It is important that information from all print and electronic sources be thoroughly and scientifically reviewed before conclusions can be drawn.

"Junk science" has played a role in provoking opposition to water fluoridation. In fact, some decision makers have been persuaded to postpone action on several cost-effective public health measures after hypothetical risks have made their way into the public media. Those involved in policy decisions need to be able to distinguish junk science

from legitimate scientific research or depend on others with those skills. Reputable science is based on the scientific method of testing hypotheses in ways that can be reproduced and verified by others; while junk science often provides too-simple answers to complex questions, and cannot be substantiated.

In the future, you may hear allegations that fluoridation causes cancer, AIDS, Down Syndrome, Alzheimer's disease, hip fracture, heart and kidney disease and even lower IQs in children. These claims have not been proven by credible scientific evidence – and indeed, generally accepted science is to the contrary. For example, in response to the claim that fluoridation causes cancer, the American Cancer Society states, “Scientific studies show no connection between cancer rates in humans and adding fluoride to drinking water.” The National Cancer Institute notes that researchers have found no indication of a cancer risk associated with fluoridated drinking water.

When the issue of fluoridation is discussed, decision makers often receive volumes of information from those opposed to fluoridation. When claims of toxicity or a myriad of other allegations are made against fluoridation, decision makers have the responsibility to demand proof and weigh those claims against demonstrated science.

Occasionally, decision makers are asked about the legality of fluoridation. Fluoridation has been thoroughly tested in the United States' court system, and found to be a proper means of furthering public health and welfare. No court of last resort has ever determined fluoridation to be unlawful. Moreover, fluoridation has been clearly held not to be an unconstitutional invasion of religious freedom or other individual rights guaranteed by the First, Fifth or Fourteenth Amendments to the U.S. constitution.

The ADA is not alone in its support for fluoridation. As you've heard from previous speakers today, fluoridation is one of ten great public health achievements of the 20th century. The ADA has compiled a list of approximately 100 national and international health organizations that recognize the public health benefits of fluoridation for preventing dental decay. Included are organizations such as the American Medical

Association, the World Health Organization, the U.S. Public Health Service, the National Academy of Sciences and the Institute of Medicine.

Next month, Dr. Richard Haught will be installed as president of the American Dental Association. In a recent interview, he was asked what he saw as the most significant changes in dental practice over the years. He replied, "Fluoridation has had a tremendous impact. When I started practicing, we were still seeing black teeth from decay, and you'd even see it in every tooth in a person's mouth. You don't see that anymore."

I noted earlier that the ADA represents more than 149,000 members. Our members, like many of you, have families including children and elderly parents. We care for them just as you care for your families. Fluoridation can help protect them against tooth decay and tangibly improve the quality of their lives.

When presented with an opportunity to provide people with a safe, demonstrated and cost-effective health care program that benefits everyone, there can be no doubt as to why states and communities across the nation have chosen to provide their citizens with the benefits of community water fluoridation. It works, it's safe, and it's economical.