



ORAL HEALTH OFFICE
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ALABAMA PUBLIC HEALTH

ALABAMA WATER FLUORIDATION: A COMMUNITY TOOLKIT

STATEMENT OF SUPPORT FOR COMMUNITY WATER FLUORIDATION

October 8, 2025

Alabama Department of Public Health/Oral Health Office
Alabama Dental Association
Alabama Dental Society
Board of Dental Examiners of Alabama
Alabama Academy of General Dentistry
Alabama Academy of Pediatric Dentistry
Alabama Society of Oral and Maxillofacial Surgeons

The Alabama Dental Association, the Alabama Department of Public Health/Oral Health Office, the Alabama Academy of General Dentistry, the Alabama Dental Society, the Board of Dental Examiners of Alabama, the Alabama Academy of Pediatric Dentistry, and the Alabama Society of Oral and Maxillofacial Surgeons affirm their strong support for the continued practice and expansion of community water fluoridation as a safe, effective, and essential public health measure to prevent dental caries (tooth decay).

Fluoridation of public water supplies is one of the most successful and cost-effective strategies for improving oral health across all age groups and socioeconomic backgrounds. For more than 75 years, scientific research has consistently demonstrated that optimal levels of fluoride in drinking water significantly reduce the prevalence of tooth decay—one of the most common chronic diseases affecting both children and adults.

The Centers for Disease Control and Prevention has recognized water fluoridation as one of the 10 great public health achievements of the 20th century. The practice is endorsed by lead-ing national and international health organizations, including the American Dental Association, the American Medical Association, and the World Health Organization.

In Alabama, where oral health disparities remain a significant concern, water fluoridation plays a critical role in protecting communities, particularly those with limited access to dental care. By supporting community water fluoridation, we help ensure a healthier future for all Alabamians.

We collectively urge policymakers, water system operators, and public health leaders to maintain and promote this vital public health initiative.

For additional authoritative information on community water fluoridation, the Alabama Department of Public Health has released its Alabama Water Fluoridation: A Community Toolkit available here: https://www.alabamapublichealth.gov/oralhealthcoalition/assets/alfluoridationtoolkit.pdf.

INTRODUCTION

Oral health is important throughout a person's life. The Alabama Department of Public Health Oral Health Office supports water fluoridation because it is one of the most cost-effective strategies for communities to improve the oral health of their residents.

Fluoride exists naturally in virtually all water supplies. "Fluoridation" is simply adjusting fluoride to the optimal level that protects teeth from decay. Studies show that fluoridation reduces tooth decay and benefits people of all ages and income groups. Two studies released in 2010 strengthened the already substantial evidence that fluoridated water prevents cavities.

As an oral health advocate, the Oral Health Office "Water Fluoridation: A Community Toolkit" is your resource on the health benefits, cost savings and media outreach on fluoridation. The Oral Health Office encourages you to use the toolkit as you talk with friends, colleagues and opinion leaders within your community about community water fluoridation.

For more information, visit us at alabamapublichealth.gov/oralhealthcoalition or 334-206-2978.

This toolkit is an adaptation of a document originally published by the Michigan Oral Health Coalition and the Missouri Coalition for Oral Health. The Alabama Department of Public Health Oral Health Office gratefully acknowledges their generosity in sharing these valuable materials.

TABLE OF CONTENTS

What is Fluoride? 4
How Fluoride Works 5
Myths and Facts about Water Fluoridation 6-7
Alabama Oral Health Office Policy Statement on Community Water Fluoridation 8
Fluoride in Public Drinking Water Supplies of Alabama (2020) 9
Savings from Water Fluoridation 10
Why Water Fluoridation Makes Good Business Sense 11
Water Fluoridation Prevents Decay and Saves Money 12
What Respected Organizations Say About Water Fluoridation 13-16
Frequently Asked Questions 17-18
Frequently Asked Questions: Infants & Fluoridated Water 19

WHAT IS FLUORIDE? 5 QUICK FACTS



1. Fluoride comes from fluorine - one of the 15 most common elements found on earth.
2. Fluoride exists naturally in virtually all water supplies.
3. "Fluoridation" is simply adjusting fluoride to the optimal level that protects teeth from decay.
4. According to the Centers for Disease Control and Prevention, 78 percent of Alabamians whose homes are connected to a community water system benefit from fluoridated water.[1]
5. It's one of many health interventions (e.g. Vitamin D in milk, Iodine in table salt, Folic acid in breads and cereals and Chlorine in drinking water supplies and swimming pools) we benefit from each day.

BACKGROUND

More than 65 years ago - in January 1945 - Grand Rapids, Michigan, became the world's first city to adjust the level of fluoride in its water supply. Since that time, fluoridation has dramatically improved the oral health of tens of millions Americans. Community water fluoridation is the single most effective public health measure to prevent tooth decay. The Centers for Disease Control and Prevention proclaimed community water fluoridation as "one of 10 great public health achievements of the 20th century."

Fluoridation of community water supplies is simply the precise adjustment of the existing and naturally occurring fluoride levels in drinking water to a fluoride level recommended by the U.S. Public Health Service (0.7 parts per million) for the prevention of dental decay. Based on data from 2002, approximately 170 million people (over two-thirds of the population) in the U.S. are served by public water systems that are fluoridated.

Studies conducted throughout the past 60+ years have consistently shown that fluoridation of community water supplies is safe and effective in preventing dental decay in both children and adults. It is one of the most efficient ways to prevent one of the most common childhood diseases - tooth decay (five times as common as asthma and seven times as common as hay fever in 5- to 17-year-olds).

Early studies, such as those conducted in Grand Rapids, showed that water fluoridation reduced the amount of cavities children get in their baby teeth by as much as 60 percent and reduced tooth decay in permanent adult teeth by nearly 35 percent. Today, studies prove water fluoridation continues to be effective in reducing tooth decay by 20-40 percent, even in an era with widespread availability of fluoride from other sources, such as fluoride toothpaste.

The average annual cost for a community to fluoridate its water is estimated to range from approximately $0.50 per person in large communities to approximately $3 per person in small communities. For most cities, every $1 invested in water fluoridation saves $20 in dental treatment costs.

[1] https://www.cdc.gov/fluoridation/statistics/2014stats.htm

HOW FLUORIDE **WORKS**

When fluoridated water is consumed while the bones and teeth are still growing, fluoride works in **two** ways.



Fluoride is absorbed into the bloodstream through the stomach, and enters the teeth and bones.



Fluoride mixes with saliva to neutralize acid produced by bacteria found in the mouth. Fluoride heals teeth and protects them from further decay.



Fluoride combines with the phosphate and calcium to create a strong barrier to protect teeth from cavities.



Fluoride makes teeth stronger and able to withstand the acid produced by bacteria found in the mouth.

Source: Pew Center on the State

MYTHS AND FACTS ABOUT WATER FLUORIDATION

MYTH: Adding fluoride to water is like forcing people to take medication.

FACT: Fluoride occurs naturally in water. The term "fluoridated water" simply means that the fluoride level in a water system has been adjusted to a certain level - or optimal level - to prevent tooth decay. Most water systems in the U.S. are fluoride-deficient without this adjustment. Fluoride is not a medication. It is a mineral essential for human life based on its role in metabolism and other cell functions. Fluoride in drinking water has two beneficial effects: preventing tooth decay and contributing to healthy bones. U.S. court decisions have rejected the argument that fluoride is a "medication" that should not be allowed in water. The American Journal of Public Health summarized one of these rulings, noting that "fluoride is not a medication, but rather a nutrient found naturally in some areas but deficient in others." Adding fluoride to water is like any other treatment to improve the quality of drinking water. It is based on public officials making a decision that is informed by sound research - not driven by fear. Those who prefer not to drink from a public water system can do so. Maintaining an optimal amount of fluoride in water is based on the principle that decisions about public health should be based on what is healthy for the entire community.



MYTH: There is little difference in the dental health of people in communities with fluoridated water compared to those in communities without it.

FACT: There is a clear difference between the health of communities that fluoridate their drinking water and those that do not. Fluoridation prevents tooth decay and improves dental health. Studies consistently show that water fluoridation reduces tooth decay by 18 to 40 percent. A study of two similar, adjacent communities in Arkansas showed that residents without access to fluoridated water had twice as many cavities as those with access to fluoridated water. Children on Medicaid in less fluoridated counties in New York State require 33 percent more treatments for tooth decay than those in counties where most water systems are optimally fluoridated. Texas saves $24 per child, per year in Medicaid expenditures for children because of the cavities averted by drinking fluoridated water. The benefits of fluoridation are long-lasting. A recent study of U.S. adults found that those born in counties with fluoridation lose fewer teeth than those born in fluoride-deficient counties. International studies across the United States, Australia, Britain, Canada, Ireland, and New Zealand showed 15 to 40 percent less tooth decay in optimally fluoridated communities compared to fluoride-deficient communities. The Centers for Disease Control and Prevention named fluoridated water as one of "10 great public health achievements" of the 20th century."

MYTH: Fluoridation causes cancer and other serious health problems.

FACT: Fluoridated water is safe. Claims that it causes cancer or other life-threatening illnesses are unproven. The National Cancer Institute has stated, "Many studies, in both humans and animals, have shown no association between fluoridated water and risk for cancer." In 2006, a panel of the National Research Council - an arm of the National Academies of Science - found no convincing evidence of a causal link between fluoridation and cancer. A leading spokesperson for the Centers for Disease Control and Prevention notes that "60 years of research has shown that there's no persuasive evidence that points to any harm from community water fluoridation." Fluoridation opponents cite an "exploratory" Harvard study in the mid-1990s associating fluoride with osteosarcoma, a rare bone cancer. The author herself described the study as having "limitations." In addition, the principal investigator of the study has stated that further analysis does not support this association. The overwhelming evidence shows the benefits of water fluoridation far outweigh any perceived risk. A 2006 study by the Australian National Health and Medical Research Council examined 408 studies on fluoridation, and concluded that water fluoridation offers clear benefits without solid evidence of negative health effects. At least 100 million Americans have been drinking fluoridated water for many decades. Seventy-two percent of the U.S. population served by community systems has fluoridated water. Without fluoridated water, children face a much higher rate of tooth decay and the potential for related dental diseases can have lasting effects on their health, schooling and future. The risk we must avoid is that of allowing our children to grow up without water fluoridation.

MYTH: There are better ways of delivering fluoride than adding it to water.

FACT: Water fluoridation provides dental benefits to people of all age and income groups without requiring them to spend extra money or change their daily routine. The CDC notes that fluoride is most effective when provided in "the right amount in the right place at the right time," and there's no better way to ensure that than fluoridated water. A 2003 study of fluoridation in Colorado concluded that "even in the current situation of widespread use of fluoride toothpaste," water fluoridation "remains effective and cost saving" at preventing cavities. Studies conducted in communities that fluoridated water in the years after fluoride toothpastes were widely used have shown a lower rate of tooth decay than communities without fluoridated water. For low-income individuals who are at higher risk of dental problems, fluoride rinses are a costly expense, which is why these products are not the "easy" answer that opponents of fluoridation claim they are. Water fluoridation is the least expensive and most effective solution.

MYTH: Fluoridated water isn't safe for babies.

FACT: Water fluoridated at the optimal level is safe for babies and young children. The American Academy of Pediatrics and the American Medical Association support water fluoridation. Fluoridated water can be used to reconstitute infant formula. The issue for parents of infants to consider is enamel fluorosis - a minor, cosmetic condition that produces faint white markings on permanent teeth as they are forming (from birth through age 8). The risk of dental fluorosis is low. Even when it occurs, fluorosis is barely noticeable - if noticed at all. Mothers who rely on reconstituted infant formula should consult with their pediatricians about options other than using fluoridated water. Some pediatricians may recommend alternatives to fluoridated water, while others may tell parents to continue using fluoridated water. The CDC concludes the vast majority of fluorosis cases are mild, and fluorosis can also occur in communities without fluoridated water. Fluoridated water has stood the test of time, serving U.S. communities since 1945. Today, over 195 million people (72 percent of Americans on public water supplies) drink fluoridated water. Tens of millions, many of whom are now parents themselves, were given formula reconstituted with fluoridated water when they were infants.

ALABAMA DEPARTMENT OF PUBLIC HEALTH ORAL HEALTH OFFICE POLICY STATEMENT OF COMMUNITY WATER FLUORIDATION

Dear Alabamians,

The year 2000 brought about a completely new appreciation of the importance of oral health. For the first time, the Surgeon General's Report acknowledged the relationship between the health of the teeth and gums and that of overall health. Emphasized was the fact that there are safe and effective ways to prevent the most common oral diseases. Among these diseases, dental caries is at or near the top of the list. In fact, tooth decay remains the most common chronic disease of children ages 6 to 11 years and adolescents 12 to 19 years of age according to the Center for Disease Control and Prevention (CDC). It is blamed for tremendous loss of school and work hours, and is responsible for countless hours of pain, infection, and potential for death. And yet, dental caries are almost 100% preventable.

In 1909, it was discovered that a naturally occurring mineral called fluoride helps prevent tooth decay. In 1945, Grand Rapids Michigan became the first city to introduce fluoride into its drinking water. This process, known as Community Water Fluoridation (CWF), has been credited for a decrease in the amount of decay in children's teeth by 18-40%. By maintaining the optimal level of 0.7-ppm fluoride in the water supply, CWF is the most cost effective and universally obtainable method of tooth decay prevention that exists for people of all socioeconomic backgrounds. This optimal level, as determined by the Environmental Protection Agency and Health and Human Services, is the smallest level known to have any impact on tooth decay. The CDC states, "Every $1 invested in this preventive measure yields approximately $20 savings in dental treatment costs." In fact, CWF is touted as one of the "ten greatest health achievements" in the United States in the 20th century.

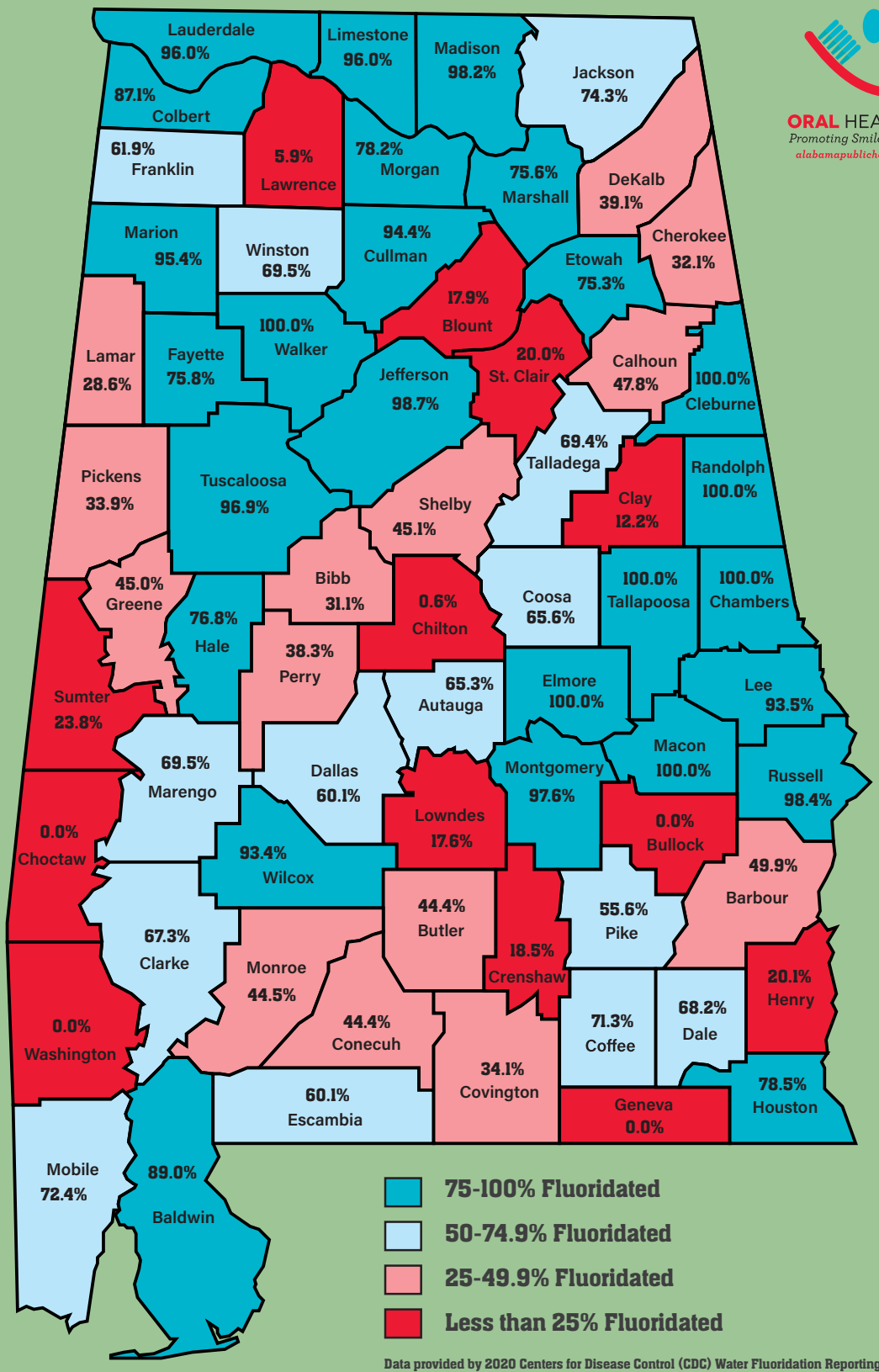
The benefits of CWF, however, are not without scrutiny and opposition by the uninformed. Many water boards choose to autonomously discontinue CWF without any prior notice. On April 6, 2018, Alabama became only the fourth state (joining Tennessee, New York and Missouri) to enact a law regarding CWF. The law, signed by Governor Kay Ivey, requires a public water system to notify the State Health Officer no fewer than 90 days before initiating any changes in the fluoridation status of its water supply. While the law by no means prohibits the removal of CWF, the 90-day requirement provides sufficient time to notify the communities and educate those impacted by the impending decision.

I hope that the information included in this Fluoridation Toolkit proves to be useful in helping promote, defend, and maintain CWF throughout Alabama. Fluoridation indiscriminately offers preventive tooth decay measures across a broad spectrum of the population and transcends disparity boundaries. The Toolkit provides information to encourage CWF efforts as well as to dispel myths about fluoride. We ask that you use and share it with others to ensure Alabama communities continue to have access to the benefits provided by CWF. Our healthy children today help ensure healthy adults tomorrow.



Tommy Johnson, DMD
State Dental Director
Alabama Department of Public Health
Oral Health Office

FLUORIDE IN PUBLIC DRINKING WATER SUPPLIES OF ALABAMA IN 2020



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Data provided by 2020 Centers for Disease Control (CDC) Water Fluoridation Reporting System (WFRS).

Populations on public water systems may exceed the county census population. Many water systems span multiple counties. WFRS collects population data for primary and secondary counties for each water system. However, due to difficulty in assigning population values to multiple counties, the primary county information can be over-estimated.

SAVINGS FROM WATER FLUORIDATION



Research shows that water fluoridation offers perhaps the greatest return-on-investment of any public health strategy. The reduction in just the costs of filling and extracting diseased teeth - not counting reductions in lost work time and dental pain - more than makes up for the cost of fluoridation. In recent decades, the evidence showing savings has grown:

For most cities, every **$1** invested in water fluoridation saves **$20** in dental treatment costs.

A Texas study confirmed that the state saved **$24** per child, per year in Medicaid expenditures for children because of the cavities that were prevented by drinking fluoridated water.

A 2010 study in New York State found that Medicaid enrollees in less fluoridated counties needed 33 percent more extractions and other corrective procedures than those in counties where optimal fluoridation was much more common. As a result, the treatment costs per Medicaid recipient were **$23.65** higher for those living in less fluoridated counties.

Researchers estimated that in 2003 Colorado saved nearly **$149 MILLION** in unnecessary treatment costs by fluoridating public water supplies - average savings of roughly **$61** per person.

By protecting the enamel of teeth, fluoridation makes it less likely that decay will develop into more serious dental problems that drive people to hospital emergency rooms (ERs) - where treatment costs are high. A 2010 survey of hospitals in Washington State found that dental disorders were the leading reason why uninsured patients visited ERs.

A 1999 study compared Louisiana parishes (counties) that were fluoridated with those that were not. The study found that low-income children in communities without fluoridated water were three times more likely than those in communities with fluoridated water to receive dental treatment in a hospital operating room.

Water fluoridation provides dental benefits to people of all ages and income groups without requiring them to spend extra money or change their daily routine.

[1]2010 Water Fluoridation Statistics, http://www.cdc.gov/fluoridation/statistics/2010stats.htm

WHY **WATER FLUORIDATION** MAKES **GOOD BUSINESS SENSE**

DENTAL HEALTH'S IMPACT ON THE WORKPLACE: Tooth decay is the most prevalent chronic disease in childhood, roughly five times more common than asthma. Unlike a cold, decay doesn't go away with time or bed rest; it lingers and can lead to more serious conditions. The consequences of poor dental health not only punish children and families, but also hurt the business climate in several ways.

REDUCING WORKER PRODUCTIVITY: Working adults are affected in three ways:

1. Adults who had poor dental health as kids often miss work time dealing with the consequences. An estimated 164 million hours of work are missed each year because of dental issues.
2. Adults who had poor dental health as kids are likely to find it harder to find or keep a good job. Research confirms the hurdles faced by people who are missing front teeth - they are viewed as less intelligent, less trust-worthy and less desirable than people without a gap in their smile.
3. Parents miss work time taking their children to clinics or hospitals for costly, corrective treatments that, in many cases, could have been avoided with proper preventive tools like drinking fluoridated water.

MISSING SCHOOL: Missed school days mean missed opportunities to learn. One study found that California children missed 874,000 schools days in 2007 due to toothaches or other dental problems. The goal of creating an educated workforce is undermined when health issues interfere with schooling.

DRIVING UP HEALTH CARE COSTS: Unmet dental needs burden our health care system. In a one-year study of seven Minnesota hospitals, patients made over 10,000 trips to the emergency room because of dental health issues, costing more than $4.7 million. A survey of hospitals in Washington State found that dental problems were the leading reason why uninsured patients visited Emergency Rooms.



WATER FLUORIDATION **PREVENTS DECAY** AND **SAVES MONEY**

Here's the good news. Research shows that community water fluoridation reduces decay by 18 to 40 percent. Fluoride occurs naturally in nearly all water supplies.

"Fluoridation" is simply adjusting fluoride to the level found to prevent tooth decay. In tough fiscal times, fluoridation is a strategy that produces clear savings to communities. Many public health policies can be expensive, but fluoridation costs only about $1 per person, per year in a medium-sized community, and it actually saves communities money by preventing decay and related treatment costs:

- For most cities, every **$1** spent on water fluoridation saves **$20** in dental costs.
- Fluoridated water saves state Medicaid dollars. A Texas study confirmed that the state saved **$24** per child, per year in Medicaid costs for children because of the cavities that were prevented by drinking fluoridated water. A 2010 study in New York State found that the dental treatment costs were **$23.65** per-person higher for those living in less fluoridated counties.
- Researchers estimated that in 2003 Colorado saved nearly **$149 MILLION** in unnecessary treatment costs by fluoridating public water supplies. The average savings were roughly **$61** per person.

It's unrealistic to expect people to get all of the fluoride they need from toothpaste or visiting a dentist. First, more than 16 million children go each year without seeing a dentist, and roughly 45 million Americans don't have dental insurance. In addition, millions of Americans live in areas where there is a shortage of dentists.

Second, the benefits from water fluoridation build on those from fluoride in toothpaste. Studies conducted in communities that fluoridated water in the years after fluoride toothpastes were widely used have shown a lower rate of tooth decay than communities without fluoridated water. The co-author of a 2010 study noted, "Studies have confirmed the most effective source of fluoride to be water fluoridation."

FLUORIDATION: A SMART INVESTMENT WORTH **MAKING** AND **PRESERVING**

Fluoridation is a sound policy supported by the American Academy of Pediatrics, the American Dental Association, the Centers for Disease Control and Prevention, and many other respected health and medical experts. Yet, despite this broad consensus of support, more than 74 million people whose homes are connected to public water systems do not receive fluoride-adjusted water.

Even worse, small groups of activists are encouraging cities and towns to stop fluoridating their community water system. Some of these fluoridation opponents are claiming this could save money, even though substantial evidence shows the opposite is true - children, families and taxpayers would pay a long-term price for ending fluoridation.

In a time of tight budgets and shrinking resources, state and local governments must invest in cost-effective strategies that support the development of a healthy, well-educated workforce. By supporting fluoridation, you can help your community significantly reduce both its dental problems and the long-term economic costs that these problems have on businesses and taxpayers.

WHAT RESPECTED ORGANIZATIONS SAY ABOUT **WATER FLUORIDATION**

Academy of General Dentistry
"Fluoride makes the entire tooth structure more resistant to decay and promotes remineralization, which aids in repairing early decay before damage is even visible. Studies have confirmed the most effective source of fluoride to be water fluoridation."

"Instead of drilling holes to fix cavities, dentists would rather educate the public on how to avoid developing tooth decay in the first place. Drinking tap water to receive fluoride is safe, and it's easier on your wallet than going to the dentist for a filling."

American Academy of Pediatrics
"Fluoride plays a very important role in the prevention of dental caries. Although the primary mechanism of action of fluoride in preventing dental caries is topical, systemic mechanisms are also important."

"Water fluoridation is a cost-effective means of preventing dental caries, with the lifetime cost per person equaling less than the cost of one dental restoration. In short, fluoridated water is the cheapest and most effective way to deliver anticaries benefits to communities."

American Academy of Family Physicians
"Fluoridation of public water supplies is a safe, economical, and effective measure to prevent dental caries."

American Academy of Physician Assistants
"Primary prevention keeps disease from occurring at all by removing its causes. Examples of primary prevention include . . . giving immunizations for many communicable diseases, and counseling patients to adopt healthy lifestyles ... Examples include chlorination and fluoridation of the water supply ..."

"Fluoride substantially decreases caries rates. ... All children should receive fluoride through systemic water fluoridation or dietary supplements."

American Association for the Advancement of Science
"... fluoridation of community water supplies is repeatedly demonstrating that it is an effective public health measure for the mass partial control of dental cavities, and ... [AAAS is] on record as endorsing fluoridation of community water supplies as a method for advancing dental public health, as this 121st meeting of the AAAS."

American Association of Oral and Maxillofacial Surgeons
"Community water fluoridation, which adjusts the fluoride in water to a level sufficient for preventing and controlling tooth decay, reduces tooth decay by 30–50%."

"Although great progress has been made, nearly 28% of public water systems do not have the capacity to deliver - and approximately 100 million Americans do not have access to - optimally fluoridated water. Many communities need support to upgrade or purchase new water systems and fluoridation equipment."

American Association of Public Health Dentistry
"... it has been shown that children with the greatest dental need and who are at highest risk for tooth decay benefit the most from water fluoridation."

"The Association recommends that federal, state, and local agencies and organizations promote water fluoridation as the foundation for better oral health."

American Association of Retired Persons
"[Water fluoridation] is inexpensive and eminently safe. It benefits children and adults for a lifetime if consumption continues. Costs of dental treatment are reduced. It is socially equitable because everyone in a community benefits and no individual effort or direct action is required by those who will benefit."

"... Vocal opponents to fluoridation have attempted to link various adverse health effects with fluoridation. Claims that fluoride is harmful have been amply reviewed by international, national, state, and local authorities. Many committees or commissions of experts in medicine, epidemiology, pathology, pharmacology, and toxicology have reaffirmed the safety of community water fluoridation."

American Council on Science and Health
"Fluoride is harmless at the levels necessary for maximum (dental) benefits. Thousands of studies on fluorides and fluoridation have been completed in the last 50 years - more than 3,700 since 1970 alone. Over 50 peer-reviewed epidemiological studies have dealt with the claim that fluoridation increases cancer risk. None has substantiated the claim."

American Dental Association
"Studies conducted throughout the past 65 years have consistently shown that fluoridation of community water supplies is safe and effective in preventing dental decay in both children and adults. Simply by drinking water, children and adults can benefit from fluoridation's cavity protection whether they are at home, work or school."

American Dental Education Association
"ADEA supports and encourages fluoridation of community water supplies and the use of topical fluoride. Community water fluoridation is safe, practical, and the most cost-effective measure for the prevention of dental caries."

WHAT RESPECTED ORGANIZATIONS SAY ABOUT **WATER FLUORIDATION**

American Dental Hygienists' Association
"Good scientific evidence supports the use of community water fluoridation and the use of fluoride dental products for preventing tooth decay for both children and adults."

"Adjusting the level of fluoride in drinking water first used fluoride as a preventative for tooth decay in Grand Rapids, Michigan. Fluoridation of drinking water has been used successfully in the United States for more than 50 years."

American Dietetic Association
"The American Dietetic Association reaffirms that fluoride is an important element for all mineralized tissues in the body. Appropriate fluoride exposure and usage is beneficial to bone and tooth integrity and, as such, has an important, positive impact on health throughout life."

American Federation of Teachers
"The good news is that tooth decay and other oral diseases are preventable. The combination of dental sealants and fluoride has the potential to nearly eliminate tooth decay in school-age children."

American Medical Association
"The AMA urges state health departments to consider the value of required statewide fluoridation (preferably a comprehensive program of fluoridation of all public water supplies, where these are fluoride deficient), and to initiate such action as deemed appropriate."

AMA has also encouraged physicians to "become involved" in the fluoridation issue by determining "whether municipal water supplies are optimally fluoridated and ... working with public health agencies to take corrective action if suboptimal fluoridation is found."

American Osteopathic Association
"The American Osteopathic Association supports the fluoridation of fluoride-deficient public water supply."

American Public Health Association
"[The U.S. Department of Health and Human Services] announced proposed recommendations to simplify the recommended optimal level for community water systems to 0.7 mg/L fluoride ... APHA continues to support community water fluoridation as a sound public health preventive measure."

"Much of the credit for the nation's better oral health can be attributed to the decision in the 1940s to begin adding fluoride to public drinking water systems."

American Water Works Association
"... community water fluoridation at optimal levels is beneficial for preventing tooth decay."

"The goal of community water fluoridation is to achieve the desired oral health benefit while minimizing potential health risks. That is why water providers undergo thorough and extensive training to safely apply fluoride in the amount recommended by the world's most respected public health authorities."

Association of State and Territorial Dental Directors
"Community water fluoridation remains the cornerstone of dental caries prevention in the United States and has been demonstrated to be safe, cost-effective and beneficial through every stage of life and for all people, regardless of age, race, ethnicity or socio-economic status."

Audrey F. Manley, M.D., M.P.H., Surgeon General Under President Bill Clinton
"Water fluoridation continues to be the cornerstone of community oral disease prevention. The benefits of fluoridation are available, on average, for little more than $0.50 per person per year, and even less, in large communities."

Autism Society of Maine
"The Autism Society of Maine has seen no direct research connection between fluoride and autism."

Canadian Dental Association
"Fluoride is added to public drinking water to protect all members of the community from tooth decay. Community water fluoridation is a safe and effective way of preventing tooth decay at a low cost."

Centers for Disease Control and Prevention
The CDC named the "fluoridation of drinking water" as one of "10 great public health achievements" of the 20th century.

Children's Dental Health Project
"Water fluoridation is particularly beneficial during childhood and in adolescence when cavity experience first begins. Not only do children who drink fluoridated water have fewer cavities but their cavities are smaller and less deep when they do occur."

Children's Hospital of Pittsburgh
"In general, fluoride consumption is safe. Health risks associated with fluoridation are usually limited to misuse and over concentration."

Council of State Governments
"... states need to reduce expenditures in Medicaid budgets and studies have proven that communities benefiting from fluoridated water use fewer Medicaid dollars to treat dental decay."

WHAT RESPECTED ORGANIZATIONS SAY ABOUT **WATER FLUORIDATION**

"... simply by drinking water, everyone, especially those without access to regular dental care, can benefit from fluoridation's cavity protection whether they are at home, work or school."

Department of Defense, U.S.A., From a Memorandum Issued by the Assistant Secretary of Defense for Health Affairs
"Dental decay continues to be a major problem for military personnel and is a significant reason for personnel to be classified as non-deployable. ... By far, the most effective preventive program for preventing dental decay is water fluoridation. I request that your office ensure that all DoD facilities operating a water treatment facility that services over 3,300 personnel provide optimally fluoridated water ..."

Early Head Start National Resource Center
"Fluoride is the most effective agent to prevent tooth decay. It can be added to community water supplies, as needed, and occurs naturally in some areas."

"... Early Head Start staff and parents should be aware that purchased bottled water usually does not contain enough fluoride to prevent tooth decay."

Indian Health Service (U.S. Department of Health and Human Services)
"An effective community water fluoridation program should be the cornerstone of all public oral health programs."

"Recent studies have found a smaller difference in the caries prevalence between optimally fluoridated and fluoride-deficient communities. In American Indian/Alaska Native populations the expected reductions in disease may be even greater, given the high caries rates."

Institute of Medicine
A panel of the IOM examined the issue of oral health access and issued a 2011 report that included this finding:

"Evidence continues to reaffirm that community water fluoridation is effective, safe, inexpensive, and is associated with significant cost savings."

International Agency for Research on Cancer
"Fluoridation of drinking-water was introduced in the USA in 1950, and thus the studies in the USA encompass periods of observation of 20 years or more. ... The studies have shown no consistent tendency for people living in areas with high concentrations of fluoride in the water to have higher cancer rates than those living in areas with low concentrations or for cancer mortality rates to increase following fluoridation."

"Since a large number of comparisons were made, some would be expected by chance alone to show differences. However, no consistent difference has been seen, and there have been as many significant negative associations between fluoridated water supplies and cancer incidence or mortality as there have been positive associations."

"... Epidemiological studies have shown no association between the presence of fluorides in drinking-water and the incidence of Down's syndrome."

International Association of Dental Research
"The International Association for Dental Research (IADR), considering that dental caries (tooth decay) ranks among the most prevalent chronic diseases worldwide . . . and taking into account that over 50 years of research have clearly demonstrated its efficacy and safety; and noting that numerous national and international health-related organizations endorse fluoridation of water supplies; fully endorses and strongly recommends the practice of water fluoridation for improving the oral health of nations."

Michigan Department of Community Health
"Community water fluoridation has proven to be safe through both practical experience and research. During the past 40 years, over 4,000 studies have measured and confirmed the safety of fluoride. Community water fluoridation has been studied more thoroughly than any other public health measure."

Michigan State Medical Society
"The Michigan State Medical Society, in cooperation with the Michigan Association of Public Health and Preventive Medicine Physicians, is urging citizens and public water facilities throughout the state not to misinterpret the new [federal] recommendations regarding the fluoridation of municipal water."

"... the FDA believes that reducing the level of fluoride in municipal water will help reduce the occurrence of dental fluorosis, a harmless discoloration (mottling) that can occur with higher levels of exposure to fluoride. Fluoridation of water can decrease cavities by up to 40% if available to children during the first 7 years of their lives. The value of fluoridation has been thoroughly established as safe and effective."

National Consumers League
"Bottled water consumption has doubled over the past decade and as a result, the exposure to fluoride from tap water, which can not only prevent tooth decay, it can repair tooth decay, has been reduced as well."

"Oral health is a critical component of overall health, and we need to spread the word about the importance of brushing

WHAT RESPECTED ORGANIZATIONS SAY ABOUT **WATER FLUORIDATION**

with fluoridated toothpaste twice a day, drinking tap water wherever possible, and seeing the dentist twice a year. The benefits will pay off exponentially."

National Council Against Health Fraud
"Antifluoridationists who point out that fluoride can produce adverse effects deliberately fail to mention that the concentrations that produce adverse effects [are] higher than the concentration produced by properly maintained fluoridation systems."

"... NCAHF believes that the factions that keep alive the antifluoridation movement are a major detriment to the health and well-being of the public."

National Dental Association
"As a result of water fluoridation half of all children ages 5 to 17 have never had a cavity in their permanent teeth. Despite the overwhelming evidence of the value of water fluoridation 34% of the population still does not have access to fluoridated water. Water fluoridation would save over $1.5 billion per year."

National Parent-Teacher Association (PTA)
"PTA involvement laid the groundwork for cooperative partnerships with medical associations and health organizations in the decades to come. ... [PTA also worked] to educate members about other immunizations and treating water with fluoride to prevent rampant dental problems."

Pew Center on the States
"Fluoride counteracts tooth decay and strengthens the teeth by fighting harmful acids and drawing calcium back into the teeth. Community water fluoridation can reduce tooth decay in children by up to 60 percent, and it costs as little as $1 per person, per year.

"Research shows that community water fluoridation offers perhaps the greatest return-on-investment of any dental care strategy. The reduction in just the costs of filling and extracting diseased teeth (not counting reductions in lost work time and dental pain) more than makes up for the cost of fluoridation."

Public Health Law Research (Temple University)
"Fluoride is a mineral that has been proven effective at preventing tooth decay."

"... In the judgment of a Community Guide expert panel, there is significant evidence to support water fluoridation as an effective public health intervention aimed at reducing tooth decay."

Richard H. Carmona, M.D., Surgeon General Under President George W. Bush
"Water fluoridation is a powerful strategy in our efforts to eliminate differences in health among people and is consistent with my emphasis on the importance of prevention."

"... Fluoridation is the single most effective public health measure to prevent tooth decay and improve oral health over a lifetime, for both children and adults."

Robert Wood Johnson University Hospital *"Fluoride, either applied topically to erupted teeth, or ingested orally (called systemic fluoride) during tooth development, helps to prevent tooth decay, strengthen tooth enamel, and reduce the harmful effects of plaque."*

Stand for Children
"Proven preventive measures, such as water fluoridation and dental sealants, can markedly reduce dental disease ... Although those people who oppose fluoridation often publicly cite health concerns as the reason for their opposition, a professional poll of anti-fluoridationists found that health concerns were actually number 8 on the list of 10 concerns. The primary reason people are opposed to fluoridation is for philosophical reasons."

Webmd.com
"Fluoride helps prevent tooth decay by making the tooth more resistant to acid attacks from plaque bacteria and sugars in the mouth. It also reverses early decay. In children under six years of age, fluoride becomes incorporated into the development of permanent teeth, making it difficult for acids to demineralize the teeth. Fluoride also helps speed remineralization as well as disrupts acid production in already erupted teeth of both children and adults."

World Health Organization
"Fluoride is being widely used on a global scale, with much benefit. Millions of people worldwide use fluoridated toothpaste. They benefit from fluoridated water, salt fluoridation or other forms of fluoride applications ..."

FREQUENTLY ASKED QUESTIONS

The Pew Children's Dental Campaign supports water fluoridation because it's one of the most cost-effective strategies for states and communities to improve the oral health of their residents. Although a number of communities in the U.S. have been fluoridating their public water systems for more than 60 years, this strategy re-entered the spotlight in the wake of recent announcements from federal health officials about fluoride.

This FAQ is meant to answer many key questions about the benefits of fluoridation and address the federal announcements.

Q: What is fluoride and how does it benefit dental health?

A: Fluoride is a mineral that exists naturally in nearly all water supplies. Research proves that at a certain level in drinking water, fluoride prevents tooth decay. This optimal level is reached when a public water system adjusts - either increasing or lowering - the level of fluoride.

Q: I recently found the website of a group that opposes fluoridation. This group claims that the connection between fluoridation and cavity prevention isn't solid. Is that true?

A: No, it is not true. There is solid, consistent evidence supporting fluoride's role in cavity prevention. Studies show that fluoridation reduces tooth decay by 18 to 40 percent. Two studies released in 2010 strengthened the already substantial evidence that fluoridated water prevents cavities.

Q: Does fluoride in drinking water protect only the teeth of children or does it benefit everyone?

A: People of all ages benefit from drinking water that is optimally fluoridated. Oral health is important throughout a person's life. In the 1950s, before water fluoridation was common, most people over the age of 65 had lost their teeth. Now, after decades of widespread fluoridation, more seniors are keeping most or all of their teeth. Between 1972 and 2001, the rate of edentulism - losing all of one's teeth - dropped 26 percent among lower-income seniors and fell 70 percent among upper-income seniors.

Q: What do leading medical and health organizations say about drinking water that is optimally fluoridated?

A: The American Academy of Pediatrics, the American Dental Association, the American Medical Association and many other respected medical or health organizations recognize the health benefits of fluoridation. The U.S. Centers for Disease Control and Prevention called water fluoridation "one of 10 great public health achievements of the 20th century."

Q: Federal health officials recently recommended that public water systems reduce the level of fluoride in drinking water. Exactly what was the recommendation and why was this new level set?

A: In January 2011, the U.S. Department of Health and Human Services (HHS) recommended that the optimal level of fluoride in public water systems should be 0.7 milligrams per liter (mg/L) of water. This is a change from the previous recommendation that the optimal level would vary by a region's climate (average temperatures) within the range of 0.7 to 1.2 mg/L. This new recommendation by HHS recognizes these scientific findings:

1) Americans today are getting fluoride from more sources than they were when the original level was set, and
2) the water intake of children does not vary by climate or region. This new fluoride level demonstrates that federal health officials are periodically reviewing research and relying on the best science to update - if and when appropriate - their recommendations on fluoridated water.

FREQUENTLY ASKED QUESTIONS

Q : Are many communities planning on completely removing fluoride from water because of the recent federal announcement on the fluoride level?

A : Many communities are reviewing their fluoride levels and planning to adjust those levels to meet the new recommendation. There is no sign that many communities either want or plan to remove fluoride entirely. HHS and leading health experts do not support removing fluoride from water to a level below the recommended level because this would deprive people of cavity protection. In fact, the American Dental Association welcomed HHS' new fluoride level and said that water fluoridation remains "one of our most potent weapons in disease prevention." In Grand Rapids, Michigan - the first U.S. city that optimally fluoridated its water system - the city's daily newspaper wrote an editorial noting that the new HHS recommendation "should not feed the flawed notion . . . that fluoride must be removed entirely from drinking water. "

Q . What impact will the new fluoride level have on Americans who are served by a public water system that's fluoridated?

A : The new optimal fluoride level that federal health officials have recommended will have a positive impact. First, it will continue to protect teeth by helping to reduce tooth decay. Second, the new level will minimize the chances of fluorosis, a condition that typically causes a minor discoloration of teeth that is usually visible only to a dentist. The new HHS recommendation reflects the fact that Americans today receive fluoride from more sources (toothpaste, mouth rinses and other products) than they were getting several decades ago.

Q : How many Americans receive water that is optimally fluoridated?

A : Roughly 72 percent of Americans whose homes are connected to a community water system receive fluoride-adjusted water. Some communities have been doing so for over 60 years.

Q : Water fluoridation helps to prevent tooth decay, but is that really a concern in the U.S. anymore?

A : Yes, it remains a concern. Although dental health has improved for many Americans, tooth decay remains the most common chronic childhood disease - five times more prevalent than asthma. Tooth decay causes problems that often last long into adulthood, affecting kids' schooling and their ability to get jobs as adults.

Q : If I use fluoridated toothpaste, am I getting enough fluoride to protect against decay?

A : No. The benefits from water fluoridation build on those from fluoride in toothpaste. Studies conducted in communities that fluoridated water in the years after fluoride toothpastes were widely used have shown a lower rate of tooth decay than communities without fluoridated water. The author of a 2010 study noted that research has confirmed "the most effective source of fluoride to be water fluoridation." Water fluoridation provides dental benefits to people of all ages and income groups without requiring them to spend extra money or change their daily routine.

Q : Do any states have laws guaranteeing residents' access to fluoridated water?

A : Twelve states and the District of Columbia have laws designed to ensure access to fluoridated water. Forty-three of the 50 largest cities in the U.S. fluoridate their drinking water. Research shows that every $1 invested in water fluoridation saves $20 in unnecessary dental costs.

FREQUENTLY ASKED QUESTIONS: INFANTS & FLUORIDATED WATER

Q. Why do children need fluoride?

A: Fluoride is an important mineral for young children. As a child's teeth begin to form, fluoride strengthens the enamel to make it resistant to tooth decay. Later, after teeth are in the mouth, fluoride helps to reverse early signs of decay. This is how children benefit from drinking fluoridated water. Fluoride exists naturally in water, and "fluoridation" is simply adjusting fluoride to the optimal level for preventing tooth decay.

Q. I read something on the Internet suggesting that infants shouldn't be exposed to fluoride. What's this all about?

A: In recent years, questions have been raised about the use of fluoridated water to prepare infant formula. Some of these questions have come from groups like the Fluoride Action Network, which has a much broader agenda - to prevent Americans of all ages from having access to fluoridated water through their public water systems. The Fluoride Action Network wrongly claimed that the American Dental Association (ADA) recommends "that children under 12 months of age should not consume fluoridated water." In fact, the ADA concludes that "it is safe to use fluoridated water to mix infant formula" and encourages parents to discuss any questions they may have with their dentists and pediatricians.

Q. What options do parents have if they prefer not to use fluoridated water for infant formula?

A: Parents or caregivers have three simple alternatives for feeding an infant. First, they can breast-feed their infants, which is what the American Academy of Pediatrics generally recommends. Second, they can use bottled or purified water that contains no fluoride. Third, they can use a ready-to-feed formula that does not require water to be added.

Q. What is dental fluorosis and will fluoridated water increase the odds that an infant will later develop this condition?

A: Although using fluoridated water to prepare infant formula might increase the chance that a child develops dental fluorosis, nearly all instances of fluorosis are mild, cosmetic condition. Fluorosis usually appears as very faint white streaks on teeth. For examples of what mild fluorosis looks like, go to this web page: http://www.ada.org/5576. aspx?currentTab=1. In fact, the ADA reports that often "the effect is so subtle that, usually only a dental expert would notice it during an examination."[4] It does not cause pain, nor does it affect the function or health of the teeth. And once a child reaches age 8, they cannot develop dental fluorosis.

Q. Is fluoridated water the reason why the rate of dental fluorosis among children has increased?

A: Experts point to a different reason. Officials at the Centers for Disease Control and Prevention believe the rise in fluorosis is due mainly to children who swallow fluoride-containing toothpaste when they brush their teeth. Researchers at Oregon State University also point to the swallowing of fluoride toothpaste as a key factor in excess fluoride intake by kids. This is why parents of children under the age of 6 are advised to supervise their kids' tooth-brushing and apply only a pea-sized amount of toothpaste to the toothbrush.

Source: Pew Center on the State

