



Mississippi Community Water Fluoridation Plan



2022-2025



Mississippi Community Water Fluoridation Plan

A guide for optimizing the fluoride level in drinking water so that all Mississippians have improved oral health.

2022-2025

Prepared for:

Mississippi State Department of Health

(Offices of Environmental Health and Oral Health)

Authored by:

The American Fluoridation Society

This report was made possible by funding from the Centers for Disease Control, **Preventive Health and Health Services (PHHS) Block Grant**



Table of CONTENTS

Topic	Page #
– ACKNOWLEDGEMENTS	3
– INTRODUCTION	4
– FLUORIDE: NATURE’S GIFT OF PREVENTION	6
– AN OVERVIEW OF FLUORIDE IN MISSISSIPPI’S WATER	8
– HEALTHY PEOPLE 2030 GOALS	11
– COMMUNITY WATER FLUORIDATION OPERATIONS	12
– GOALS, OBJECTIVES, AND ACTION PLAN	17
– PROGRAM MANAGEMENT	22
– REFERENCES	25

NOTE: Throughout this plan and the terms community water fluoridation and optimally fluoridated water are considered to mean the U.S. Public Health Service recommended level

of 0.7 parts of fluoride per million of water (ppm). CWF can also be referred to in milligrams per liter (mg/L) of water.

Acknowledgments

This document is designed to create a shared understanding of the role that Community Water Fluoridation (CWF) has in supporting the ability to achieve good oral and overall health for the people of Mississippi through optimal fluoride levels. It was prepared under contract by the American Fluoridation Society (AFS), the Community Water Fluoridation Subject Matter Experts (CWF SME) for the Mississippi Oral Health Program, Department of Environmental Health.

Primary Author- American Fluoridation Society:

- Johnny Johnson, DMD, MS, President
- Tanya Dorf Brunner, Consultant
- Kathy Hunt, RDH, Consultant

The authors would like to thank the people from communities across Mississippi for their contributions of time, energy, and passion in helping to craft this Community Water Fluoridation Plan and the Ad Hoc Committee for their vision in preparing goals around CWF that will help improve the oral health of everyone in our state:

MS CWF Advisory Board Committee Members

- Dr. Angela Filzen - Dental Director, MSDH Office of Oral Health Department
- Ralph Hayes - Engineering Director, MSDH, Bureau of Public Water Supply
- Lester Herrington – Director, Environmental Health (MSDH Office of Environmental Health)
- Bill Moody – Bureau Director, Public Water Supply (MSDH Office of Environmental Health)
- Andre’ Johnson – Special Projects Officer, CWF Liaison (MSDH Office of Oral Health)
- Dr. Johnny Johnson – President, American Fluoridation Society
- Dr. Brad Jenkins – President, MS Dental Association
- Shannon Coker – MS Dental Association
- Harry Gong – Mississippi Engineering Society (MS Bureau of Public Water Supply)
- Kirby Mayfield – CEO, MS Rural Water Association
- Kyla Rice – MS Municipal League
- Dr. Melissa Bradley – MS Dental Society
- Dr. Sreenivas Koka – Dean, University of MS Medical Center, School of Dentistry

Introduction

Almost three million people call Mississippi home. With over 97% of our state made up of rural land, Mississippians can boast that we are the most rural state in the union. Half of our population lives in rural areas.

We are wonderfully diverse and have the largest percentage of Black residents in the United States. We're known for our "southern charm" and mouthwatering catfish and cornbread.

We also care about our family, friends, and neighbors. We work together to create communities where we can all enjoy good health and wellbeing.

A critical part of overall health is a healthy mouth, which includes the ability to eat, speak, and smile. When oral health is not a priority, tooth decay (cavities) can occur. Why do healthy teeth matter? Tooth decay is one of the most common chronic diseases among children in America, and it can negatively impact the overall quality of life at any age:

- Adults with poor oral health find it more difficult to get higher paying jobs and to keep a job.¹
- The high cost of dental treatment can leave families with less money to pay for other basic needs such as food, housing, and childcare.²
- Children who have poor oral health tend to miss more school days and receive lower grades than children with good oral health.³
- As we experienced in 2007 with the death of a 6-year-old Mississippi child, dental disease can also have tragic consequences.⁴

Social determinants of health, conditions in the places where people are born, live, learn, work, and play, can lead to poor oral health. A 2018 survey of third grade students across Mississippi found that nearly two of every three children have experienced tooth decay. One of every four children in Mississippi have active, untreated cavities in their teeth. The survey also shows that children with poorer oral health were more likely to be Black and living in poverty.⁵

In Mississippi, not everyone has access to the care they need to have good oral health. We are the poorest state in America, with one out of five of our residents living in poverty.

Living in poverty is the number one reason that oral health services are difficult to access,

but anyone living in a rural area may also struggle to access dental care. When a Mississippian suffers with dental pain, sometimes going to an emergency department may be the only option available. Unfortunately, most emergency departments are not set up to treat dental disease, and often people are only prescribed antibiotics and pain relievers to

relieve the symptoms that will return without treatment of the disease itself. In the U.S., the cost of emergency department visits for dental pain (not related to trauma) is estimated to be more than \$2 billion every year. ⁶

Mississippi is experiencing a dental professional workforce shortage, which is another reason it can be hard to find dental care in our state. The Mississippi Primary Care Needs Assessment reports that only 45.82% of the oral health needs of people in our state are being met and the Health Resources and Services Administration (HRSA) Bureau of Health Workforce indicates that 248 additional dentists are needed to eliminate the dental workforce shortage designations across our state.⁷

Prevention of dental disease is a key strategy to address this shortage. The good news is that community water fluoridation (CWF) is a proven low-cost prevention strategy that can reduce cavities. CWF is defined as water that contains the optimal amount of fluoride to reduce tooth decay and has played a big part in improving of our nation's oral health for more than 75 years.⁸

The purpose of this fluoridation plan is to reaffirm Mississippi's commitment to promote, implement, and maintain consistency of community water fluoridation in our drinking water so that we can all enjoy improved oral and overall health for life.

Fluoride:

Nature's Gift of Prevention

The mineral fluoride occurs naturally on earth and is released from rocks into the soil, water, and air. All water contains some fluoride. Usually, the fluoride level in water is not enough to prevent tooth decay; however, some groundwater and natural springs can have naturally high levels of fluoride.

Fluoride benefits teeth in two ways.

1. **Topical** fluoride (applied on the outside of the tooth surface) strengthens the teeth of adults and children, making them more resistant to decay. Fluoridated toothpaste and fluoride varnish are examples of topical fluoride.
2. **Systemic** fluoride (ingested into the body) becomes incorporated into the developing tooth structure of permanent teeth of young children while the teeth are still under the gums. CWF is an example of a systemic fluoride.

It is important to note that CWF also provides topical protection for children and adults because fluoride from water contacts the teeth while in the mouth and is also incorporated into saliva, which continuously bathes the teeth.

Scientific evidence demonstrating the effect of fluoride on teeth became available beginning in the early 1900s. Fluoride has been proven again and again to protect teeth from decay by rebuilding and strengthening the tooth's enamel surface. Optimal fluoride levels in drinking water prevent tooth decay by ensuring teeth have frequent and consistent contact with low levels of fluoride. CWF is one of the most effective and inexpensive ways to ensure that an entire community has access to this naturally occurring, cavity-preventing mineral.⁸

In most parts of the country, naturally occurring levels of fluoride in water are too low to be able to reduce tooth decay, while other communities have naturally occurring fluoride levels that are too high. CWF is the process of adjusting the amount of fluoride in drinking water [up or down] to the optimal level recommended for preventing tooth decay. The U.S. Public Health Service has set 0.7 parts per million (ppm) of fluoride as the recommended optimal level for CWF.⁹ Fluoride that occurs naturally at 0.7 ppm is also considered optimal.⁹

Everyone who uses tap water in a community that is optimally fluoridated benefits. Given the dramatic decline in tooth decay in the 75 years since community water fluoridation began, the Centers for Disease Control and Prevention (CDC) named CWF as one of ten great public health interventions of the 20th century.⁸

Studies of CWF prove it is beneficial because it:

- **Is effective-** CWF reduces dental decay by 25% over a person's lifetime. This includes both adults and children. One community found that discontinuing community water fluoridation led to a 51% increase in cavities and emergency dental needs for children under the age of six.¹⁰
- **Is safe-** Other than occasional minor cosmetic effects in tooth enamel, research shows no clear evidence of adverse health impacts from consuming optimally fluoridated water.¹¹
- **Saves money-** CWF reduces the need for fillings and other dental treatment. On average, communities save \$20 for every dollar invested in CWF.⁸
- **Reduces disparities-** CWF is available to everyone, which makes it the most effective and practical method for achieving equitable outcomes in reducing rates of tooth decay.¹²

Surgeon General Regina Benjamin, MD, said "Fluoridation's effectiveness in preventing tooth decay is not limited to children, but extends throughout life, resulting in fewer and less severe cavities. Each generation born since the implementation of water fluoridation has enjoyed better dental health than the generation that preceded it."

- **Improves quality of life-** CWF reduces pain and suffering related to tooth decay, time lost from school and work, and money spent to restore, remove, or replace decayed teeth.¹³

An Overview of Fluoride in Mississippi Water

As a resident of the state of Mississippi, the tap water you drink most likely comes from a groundwater (well) source. Groundwater provides over 90% of Mississippi's drinking water supply. The 1,200 public water systems operating in the state use 3500 wells and only four surface water sources (lakes, rivers, and reservoirs).¹⁴ According to the 2018 U.S. Census, 12.8% (approximately 382,000) of people in our state have their own private wells.¹⁵

Fluoride-related Laws & Regulations

Water fluoridation in Mississippi is influenced by several laws and regulations at the federal, state, and local levels.

- **Federal/EPA:** The Environmental Protection Agency (EPA) provides regulatory oversight of the 1974 Safe Water Drinking Act (SDWA) and ensures safe public drinking water supplies throughout the nation. Under SDWA, surface water sources are tested for fluoride annually, and groundwater sources once every three years.¹⁶ The EPA does not provide guidance on adjusting fluoride levels to reduce tooth decay. Its focus is on identifying source waters that have extremely high fluoride concentrations that are associated with potential risks to human health. Currently, the maximum amount allowed for fluoride is set at 4.0 mg/L. All water systems in Mississippi have far lower levels of fluoride.
- **Federal/Military Bases:** In 2011, the [U.S. Department of Defense](#) adopted a policy directing all military bases that own or operate their own water system to provide optimally fluoridated water to military personnel and other residents of their bases, stating that CWF “helps to improve and sustain the military readiness and health of military personnel.”
- **State:** The Mississippi State Department of Health oversees the regulations governing fluoridation of community water supplies (Source: [Miss. Code Ann. § 41-26-6, p 35-39](#))

Mississippi Fluoridation Status

The level of naturally occurring fluoride in Mississippi is much lower than in other areas of the U.S. Some public water systems in our state adjust their water supplies so that communities can reap the full preventive benefits of CWF, but others do not. In recent years

there has been some confusion about the value of CWF that resulted in fewer communities having access to CWF. Studies have shown that decay rates increase when CWF is stopped.¹⁰

Fortunately, there are large amounts of recent and historical evidence from credible sources that continue to show optimal amounts of fluoride are effective and safe.

According to recent data from the Mississippi Department of Health, 47.5%, or 1.5 million people living in Mississippi currently receive optimally fluoridated water. That statistic ranks Mississippi 41st in the nation.

Knowing the amount of fluoride that is currently in our state's drinking water systems can assist with collaboration, engagement, and collective action at the community level to increase the number of Mississippians who have access to optimally fluoridated water. The tables below show the amount of fluoride that is found in Mississippi public water systems along with any recommended actions for optimal health.

Table 1 Optimal Range (0.6 - 1.2 ppm)

Number of water systems reporting: 235* (1 water system not included for reporting 1.34 ppm)

Number of fluoridating water systems reporting: 155 (1 water system not included for reporting 1.34 ppm)

Number of people served by these water systems: 1,519,955 Recommendation: No action needed.

*For fluoridating water systems and consecutive water systems that purchase their water from a fluoridating water system, data is compiled from samples collected by water system personnel between January - December 2021 and analyzed by the Mississippi State Department of Health (MSDH). For non-fluoridating water systems, data was compiled from Physical Chemistry samples providing natural fluoride levels collected by MSDH Bureau of Public Drinking Water Supply staff between 2015 - 2021.

Table 2 Suboptimal Range (less than 0.6 ppm)

Number of water systems reporting: 956*

Number of fluoridating water systems reporting: 44*

Number of people served by these water systems: 1,679,208

Recommendation: Adjust amount of naturally occurring fluoride to optimal levels.

*For fluoridating water systems and consecutive water systems that purchase their water from a fluoridating water system, data is compiled from samples collected by water system personnel between January - December 2021 and analyzed by the Mississippi State Department of Health (MSDH). For non-fluoridating water systems, data was compiled from Physical Chemistry samples providing natural fluoride levels collected by MSDH Bureau of Public Drinking Water Supply staff between 2015 - 2021.

Table 3**Greater or equal to 2.0 ppm**

Number of water systems reporting: 0*

Number of people served by these water systems: 0

Recommendation: Reduce amount of naturally occurring fluoride to optimal levels.

*For fluoridating water systems and consecutive water systems that purchase their water from a

fluoridating water system, data is compiled from samples collected by water system personnel between January - December 2021 and analyzed by the Mississippi State Department of Health (MSDH). For non-fluoridating water systems, data was compiled from Physical Chemistry samples providing natural fluoride

Table 4**Water System Figures in Mississippi**

Number of active water systems as of September 2022: 1,192

Number of people served by these water systems: 3,199,163

Percentage of this population receiving fluoride served by an optimal water system:
47.5%*

Percentage of this population receiving fluoride served by a suboptimal water system:
52.4%**

* Not all water systems listed in the optimal range are actively adding fluoride to the water system. Some systems in Mississippi have natural fluoride levels that fall within the optimal range. In this case, a system does not need to add any additional fluoride to the drinking water.

** The majority of water systems in Mississippi do not have optimal natural fluoride levels. These water systems need to add additional fluoride to raise the levels to the optimal range of 0.6 - 1.2 ppm. Some systems reporting suboptimal fluoride results are fluoridating water systems that do add fluoride to the system but fell below optimal standards in 2021.

Healthy People 2030

Healthy People is a nationwide initiative focused on achieving health promotion and disease prevention goals set by the United States Department of Health and Human Services. Every decade, a new set of science-based national objectives are created with the goal of improving the health of all U.S. residents.

[Healthy People 2030](#) (HP2030) acknowledges the importance of oral health to overall health by setting objectives to reduce tooth decay, including the proportion of adults, children, and older adults with active and untreated tooth decay. HP2030 also recognizes that

community-level interventions like community water fluoridation can help improve oral health by emphasizing health equity. As of 2018, nearly 75% of U.S. residents on public water systems had access to optimally fluoridated water. The HP2030 national target is to increase that percentage to 77.1%.¹⁷

In 2018, the CDC reported that over 60% of Mississippi's drinking water had optimal fluoridation levels. That number is currently less than 48%, so we have a lot of room for improvement. By working together, communities can reverse this unhealthy trend by adjusting the fluoride in their community water systems to optimal levels.

Community Water Fluoridation

Operations

As with most public and private health strategies, it is essential that the principles and practices are monitored to ensure that communities are enjoying the maximum health benefits. The Mississippi Public Water Supply Program, under the Mississippi State Department of Health (MSDH), ensures safe drinking water to the 2.8 million residents of Mississippi who utilize the state’s public water supplies. They do this by strictly enforcing the requirements of the Federal and State Safe Drinking Water Acts (SDWAs).

This section will share information and links to further information on how community water systems manage and monitor CWF. Currently, Mississippi does not have a mandated process or requirement for managing and monitoring privately-owned wells that do not meet the definition of a community public water system under the Safe Drinking Water Act. If the owner is proactive and pays for testing, that will be the only way to verify the level of naturally occurring fluoride in privately-owned wells.

“Community water fluoridation is one of the most practical, cost-effective, equitable and safe measures communities can take to prevent tooth decay and improve oral health.”
Vivek H. Murthy, M.D.,
M.B.A., U.S. Surgeon General

Surveillance Data

The Mississippi State Department of Health monitors and reports various indicators of oral health status of our state’s population, including access to fluoridated water. The Mississippi Public Water Supply Program receives information on fluoride levels from water systems. As of 2022, the Mississippi State Department of Health is in the process of updating the records and will then upload the data into the CDC’s Water Fluoridation Reporting System (WFRS).

The WFRS database provides many benefits to our state:

- Serves as the basis for national surveillance reports describing the percentage of the U.S. population on community water systems that receive optimally fluoridated drinking water.
- Provides information that local decision-makers and the public can use to help define progress toward decreasing oral health problems.
- Displays fluoridation information for the public through the CDC’s My Water’s Fluoride website.

- Allows water system operators to review and validate their operational results. The data can also be used to identify areas for improvement and to make recommendations to comply with the optimal level of fluoride in water.

- Qualifies Mississippi for awards and recognition for the operational quality of its water fluoridation activities, when used in accordance with CDC recommendations and guidelines.

Quality Control & Monitoring

CWF is an effective, safe, and evidence-based public health measure. In 2015, the U.S. Public Health Service recommended the optimal level for fluoride in water be set at 0.7 ppm to realize the full benefits of water fluoridation while minimizing the risk of mild dental fluorosis, which may appear as barely noticeable white spots on the tooth surface and do not affect dental function. Most cases of dental fluorosis in the U.S. are very mild to mild.

For water systems to maintain optimally fluoridated water at 0.7 ppm, the CDC has set an interim operational range of 0.6-1.0 ppm.

Routine monitoring of fluoridation levels has the benefit of measuring and providing documentation that optimal levels of fluoride are maintained. Monitoring of community water systems for fluoride content in Mississippi is conducted based on the type of water system.

Quality control measures include inspections of water fluoridation facilities to verify equipment function, reliability, suitability, and recommendations for managing inventory of current and future equipment and system infrastructure needs to ensure facility compliance and sustainability.

Fluoride Additives

Community water systems in the U.S. currently use one of three additives for water fluoridation that are either water-based or salt-based. Decisions on which additive to use are based on product and space availability, cost of product, product-handling requirements, and equipment.

All water treatment additives, including those coming from outside the U.S., must meet National Sanitation Foundation International/American National Standards Institute (NSF International/ANSI) [Standard 223](#), a national safety standard managed by NSF International.¹⁸

New Fluoridation Technology Supports Rural Health

Equipment costs can make it difficult for smaller water systems to implement CWF, but in what has been hailed as a game-changer in fluoridation, a new fluoride delivery system has been developed that is less expensive and easier to use. It is the first system in the past 40 years to be introduced onto the U.S. market.

The New Wave Fluoridation System, which is [CDC](#) approved and meets strict NSF International Standards. It is made in the U.S., uses a tablet similar in size and shape to a chlorine tablet for swimming pools and is designed specifically for water systems serving

populations of 50-10,000 people. Water operators are excited about this system because the tablets are easy to handle, and the mechanics of the system are easy to monitor.

Mississippi has 964 water systems that are the perfect size for implementing the New Wave Fluoridation System. Over 1.4 million additional Mississippians would have access to healthy, optimally fluoridated water if their public water systems implemented this affordable and easy-to-use system.

Overfeed protections

Water operating systems have a variety of safety measures in place to prevent an “overfeed” of fluoride—meaning too much fluoride added into the local water. These include day tanks, metering pumps, backflow preventers and residual analyzers.

Occurrences of overfeeds are very rare. When an overfeed does occur, it typically does not pose a health risk as the overfeed is a temporary event.

De-fluoridation

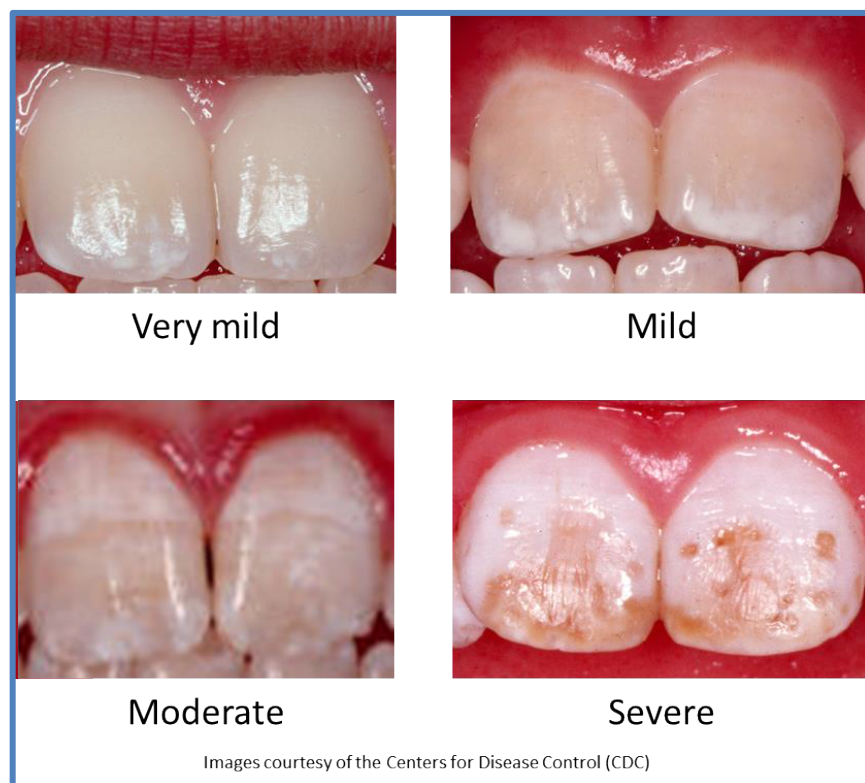
The Safe Drinking Water Act (SDWA) regulates drinking water and sets standards to limit possible contaminants. While optimal amounts of fluoride in the water protect our teeth, significantly higher levels of fluoride can lead to unwanted health effects. Some water systems with naturally occurring fluoride greater than 4.0 ppm must treat their water supply to remove the excess fluoride to comply with SDWA limits and protect public health. Water systems can use a variety of methods to reduce the amount of fluoride to levels that provide protection from tooth decay.

This chart summarizes fluoride levels in water and what, if any, actions are needed.

Fluoride Level	Description	Action
Less than 0.6 ppm	Little to no prevention against tooth decay as fluoride approaches zero	Adjust the fluoride level to optimal of 0.7
0.7 ppm	Optimal level for preventing tooth decay. No health risks. Slight risk for mild cosmetic fluorosis.	None
≥2.0 ppm	EPA Secondary Maximum Contaminant Level- long term consumption may result in severe dental fluorosis in children by age 8	Notify users

	years of age	
≥ 4.0 ppm	EPA Primary Maximum Contaminant Level- long term consumption at or above this level may result in skeletal fluorosis (serious bone disorder)	Reduce fluoride levels to the optimal fluoride level of 0.7 ppm
\geq greater than or equal to		

The independent, non-governmental [Community Preventive Services Task Force](#) has noted that research shows community water fluoridation does not result in any unwanted health effects other than dental fluorosis, a condition that causes primarily cosmetic changes in the appearance of tooth enamel.⁸ It may result when children regularly consume higher levels of fluoride than is found in optimally fluoridated water during the teeth-forming years, age 8 and younger. Most dental fluorosis found in the U.S. is very mild to mild, appearing as white spots on the tooth surface that may be difficult to see except by trained dental health professionals and does not affect dental function. There is no evidence that CWF results in severe fluorosis.¹¹



Consistent exposure to high amounts of fluoride over a lifetime may cause skeletal fluorosis. We do not see these health effects in the United States. The U.S. EPA has set a Maximum Contaminant Level of 4.0ppm to prevent against skeletal fluorosis and a Maximum Contaminant Level of 2.0ppm to prevent against severe dental fluorosis. The highest average fluoride levels in Mississippi's public water supplies reported in 2021 was 1.38.

A contaminant referred to by the U.S. EPA is to *anything* in water except H₂O (water formula) molecules.

Sustainability

The key to the long-term success of CWF is sustainability. Various long-term strategies should be considered to ensure that our drinking water continues to be effective and safe decades in the future.

- Funding
 - Ensure adequate funding for fluoridation equipment. There is a once in a generation opportunity available in 2022 through federal infrastructure funding.
 - Provide competitive salaries for water operators to attract and retain staff for these vital positions.
- Education
 - Provide support for water operators. As science evolves and new treatment techniques are developed, it is critical to include the new science in training and work plans for both new and experienced water operators.
 - Promote the use of CWF training available from the CDC and state training programs.
 - Provide continuing education credit for water operators who participate in CWF training.

Goals, Objectives & Action Plan

Goal setting is a powerful tool. Goals help to focus attention and define what we want to achieve and how to get there. The overarching goal for Mississippi’s Fluoridation Plan is to improve oral health outcomes across all our communities through access to optimally fluoridated drinking water.

A successful CWF program is driven by compassion, coordinated efforts, and achievable goals. The current downward trend of optimally fluoridated water systems is a serious concern. The following goals, objectives and activities were developed by a committed group of Mississippians who identified data driven actions that can be realistically obtained in the 3-year timeframe of this plan. Each of these steps are designed to provide guidance so that communities can come together and engage with their neighbors to promote CWF for their water systems to establish this public health strategy that will result in better oral and overall health outcomes for their families, friends, and neighbors.

<p>Goal 1: Mississippi has a network of stakeholders across the state who collaborate effectively to promote community water fluoridation</p>	<p>Objective 1-1: By 2025, the Mississippi Community Water Fluoridation Advisory Committee membership will include at least 80% of the groups included on the committee matrix</p>	<ul style="list-style-type: none"> • Create a matrix to identify the organizations and populations that should be represented on the Community Water Fluoridation Advisory Committee • Identify diverse populations and communities that can help make progress on increasing number of communities with optimal fluoridation • Create and disseminate stakeholder recruitment materials • Articulate a clear delineation of roles and responsibilities between the state and water
--	---	---

		systems
	Objective 1-2: By 2024, establish a Statewide Water Action Team pilot program	<ul style="list-style-type: none"> • Define the Statewide Water Action Team’s (SWAT) role in identifying and addressing initiation and discontinuation efforts
		<ul style="list-style-type: none"> • Identify a central point of contact and create a phone tree system to receive and disseminate alerts from the SWAT members • Identify a region or small group of counties in which to establish a pilot SWAT program • Create and disseminate stakeholder recruitment materials • Develop a plan to send community water fluoridation updates to the team and the

		frequency to send them
	<p>Objective 1-3: By 2025, the Mississippi Community Water Fluoridation Advisory Committee will strengthen partnerships with water operators to improve access to community water fluoridation</p>	<ul style="list-style-type: none"> • Develop a plan to integrate CWF into ongoing training and technical assistance for water operators. • Create and disseminate messages, such as a pocket guide, about the effectiveness and safety of community water fluoridation • Conduct research to determine water operators' views on community water fluoridation • Conduct research and share resources to procure fluoridation materials and equipment • Designate a central point of contact for CWF information and technical assistance for water operators

<p>Goal 2: Mississippians understand the benefits of community water fluoridation</p>	<p>Objective 2-1: By 2025, conduct a media campaign on the benefits and safety of optimally fluoridated drinking water</p>	<ul style="list-style-type: none"> • Create a public awareness plan • Identify the different audiences to whom the campaign will be directed
		<ul style="list-style-type: none"> • Develop relatable messages that use oral health disease data • Identify strategies to deploy the messages, such as social media • Secure funding to implement the campaign statewide
	<p>Objective 2-2: By 2025, create and deliver science-based messages on the importance and safety of optimally fluoridated drinking water</p>	<ul style="list-style-type: none"> • Identify specific groups to target (dental, medical, water operator, policymakers, etc.) • Design specific content for each targeted group • Publish the MS community water fluoridation flip chart • Provide community trainings about how to talk to water boards • Attend and present at summits and conferences to discuss community water fluoridation

<p>Goal 3: Community water fluoridation is available to future generations</p>	<p>Objective 3-1: By 2025, identify means to ensure the provision and management of community water fluoridation within the state system and across communities.</p>	<ul style="list-style-type: none"> • Provide technical assistance to water systems to access federal infrastructure funding for water system upgrades • Research methods to implement CWF initiations and reduce discontinuations • Update the action plan for discontinuation and temporary stoppages • Update the discontinuation plan that is already in place, including differentiating the action to take for discontinuation and temporary stoppages
	<p>Objective 3-2: By 2025, establish systems to improve water operators' ability to easily fluoridate</p>	<ul style="list-style-type: none"> • Conduct an environmental scan about the water operator workforce, including workforce adequacy
	<p>the water in their communities</p>	<ul style="list-style-type: none"> • Partner with water departments to create a plan to recruit, train, and support water operators • Determine a way to simplify fluoridation data reporting mechanisms • Set strategies to ensure continuous and timely access to appropriate fluoride chemicals, such as mapping for availability/pricing and exploring new types of fluoride • Receive continuing education credit for taking the Fluoridation on-line training

		and other education on CWF.
	<p>Objective 3-3: By 2025, Increase access to the tablet fluoridation system.</p>	<ul style="list-style-type: none"> • Identify and launch a tablet system in at least one community

<p>Goal 4: Communities in Mississippi have access to data they need to promote and protect community water fluoridation.</p>	<p>Objective 4-1: By 2025, Mississippi-specific data will be made available to support communities with community water fluoridation promotion</p>	<ul style="list-style-type: none"> • Make WFRS data public through the My Water’s Fluoride website • Collect and make available Emergency Department data on number and costs of non-traumatic dental visits • Update Mississippi Department of Health website to reflect most recent and accurate information regarding community water fluoridation • Synchronize Mississippi Department of Health fluoridation data with other oral health and water websites in the state • Teach medical and dental professionals how to read average monthly fluoride report in My Water’s Fluoride
		<ul style="list-style-type: none"> • Teach medical and dental professionals how to use and interpret the natural fluoride levels report in My Water’s Fluoride • Identify people in the state who can troubleshoot CWF issues. • Explore options to provide tablet computers for real-time data collection in the field

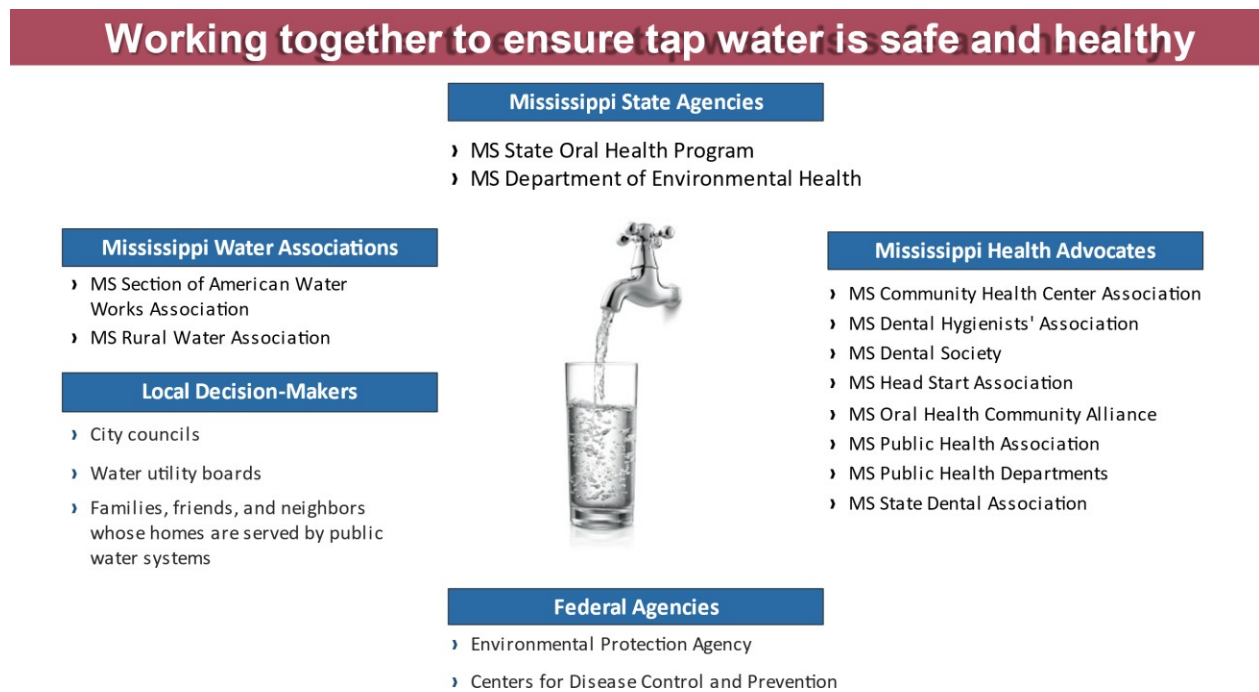
<p>Goal 5: The Mississippi Community Water Fluoridation Plan has an evaluation system to provide accountability and demonstrate plan progress</p>	<p>Objective 5-1: By 2025, the Mississippi Community Water Fluoridation Advisory Committee will establish and deploy an evaluation system</p>	<ul style="list-style-type: none"> • Identify outside or internal evaluators to lead a process to evaluate progress with the state fluoridation plan • Identify evaluation measures such as social media impressions and website traffic • Determine which partners will track progress on the state fluoridation plan • Set a schedule to launch the evaluation plan • Establish a process to review the evaluation results and make appropriate adjustments to the state fluoridation plan
--	--	---

Program Management

The management of the community water fluoridation program resides with the Bureau of Public Water Supply in the Mississippi State Department of Health, but CWF requires the collaboration and expertise of many people and organizations across state government and our communities. By working together, the state CWF program, local leaders, and oral health champions can provide support to engage in community-driven grassroots efforts to promote CWF and ensure healthy communities.

Strong Partnerships

An effective CWF program brings together and embraces working partnerships that are aligned and guided by a central plan. Through collaboration, oral health champions across Mississippi can ensure that a shared vision is achieved and improvements, especially regarding equitable access, are made. The diagram below illustrates the entities involved in ensuring that Mississippi has safe and healthy drinking water.



Community Engagement

While agencies and organizations can serve as important resources for a community, the key to a successful CWF program is engaging a community of diverse partners. Interested parties can work together to create a community coalition to develop local strategies to

promote the benefits of community water fluoridation. Dental and medical providers are generally well-respected by the public and are an important part of a local coalition, but it is

important to also find others in the community to be involved. Understanding what each partner brings to the table will maximize the reach and contributions of the network.

Additional community champions may be found among:

- School principals
- Children’s advocates
- Local health department
- Parents
- Civic activists
- Local decision makers
- Community leaders
- Faith community leaders
- Young leader

Effective Communication

When highlighting the benefits of optimal water fluoridation, it is important to understand that different audiences have different informational needs.

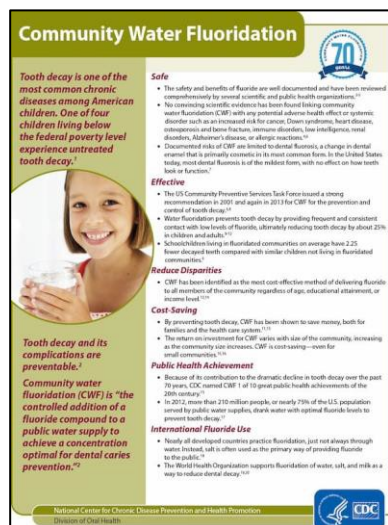
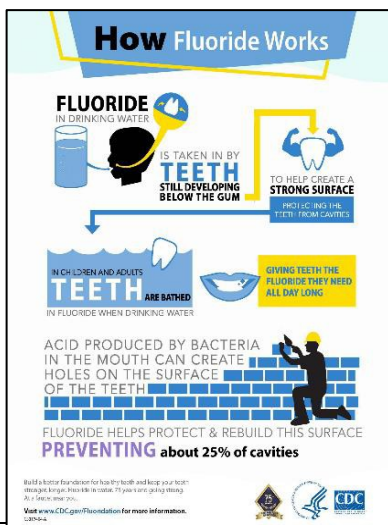
- **Community members** need to understand that CWF is effective and safe.
- **Decision makers** need to understand that CWF benefits the entire community and provides a positive return on investment.
- **Water treatment professionals** need to understand the importance, effectiveness, and safety of CWF so they can explain it to others.

Promotional Resources

There are many readily available, evidence-based, and culturally appropriate resources that can be used to create a shared understanding of the benefits of CWF. Additional tools and resources specific to Mississippi can be created on how to get involved in promoting CWF.

Infographic materials from CDC

These resources are downloadable and printable for electronic posting or distribution.



Social media messages from DC

[Community Benefits](#)

[How Fluoride Works](#)

[CWF Fact Sheet](#)

[Spanish](#)

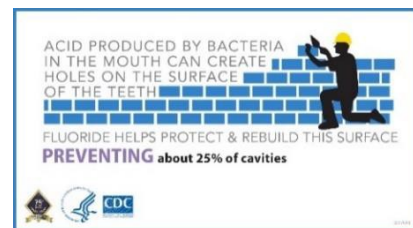
These resources are designed for electronic posting to Facebook or Twitter.



[Creates a strong surface](#)



[Protects teeth all day long](#)



[Rebuilds tooth surfaces](#)

Additional Resources

Learning the science behind the oral health benefits of fluoride and CWF plays an essential role in helping Mississippians have healthy teeth and good overall health. Below is a listing of evidence-based resources that provide reliable information about CWF.

- American Dental Association
 - [Fluoridation Facts](#)
 - [For consumers](#)
 - [For health professionals](#)
- American Academy of Pediatrics- Information on water fluoridation for parents
- American Fluoridation Society- Science-based education about water fluoridation and CWF support for communities across the United States
- Campaign for Dental Health- Evidence based facts about oral health and preventive strategies like fluoride
- Centers for Disease Control and Prevention
 - [Community Water Fluoridation- General information](#)
 - [My Water's Fluoride \(MWF\)- Access to information about drinking water fluoridation levels in specific communities.](#)
 - [Fluoridation Online \(FLO\)- Free online training course to help increase knowledge and skills to implement and maintain community water fluoridation programs.](#)
- Fluoride Legislative User Information Database- Electronic search engine for case law, legislation, and journal articles related to fluoridation laws and regulations.
- National Institutes of Health- Fluoride fact sheet
 - [For Health Professionals](#)
 - [For Consumers](#)

With tooth decay present in every community across the state and because there is not enough naturally occurring fluoride in most of Mississippi's water, now is the time for communities and their oral health champions to promote the adjustment of the fluoride in their drinking water (up or down) to optimal levels. This plan serves as a roadmap for advancing CWF in our state so that every community can secure the benefits of good oral and overall health and well-being for generations to come.

References

1. U.S. Department of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.
2. Righolt AJ, Jevdjevic M, Marcenes W, Listl S. Global-, regional-, and country-level economic impacts of dental diseases in 2015. *J Dent Res.* 2018;97(5):501–507.
3. Naavaal S, Kelekar U. School hours lost due to acute/unplanned dental care. *Health Behav Policy Rev.* 2018;5(2);66–73.
4. WLOX, A Gray Media Group, Inc. Station, “[Health Care Official Elaborate on Septic Shock, Ailment that Killed Local 6-Year-Old](#)”, March 2007
5. Mississippi State Department of Health, “[Every Smile Counts The Oral Health of Mississippi Children 2018](#)”, November 2018
6. Texas A&M University School of Public Health, “[Emergency Dental Visits Take A Bite Out Of Everyone’s Wallets](#)” October 2020
7. Mississippi State Department of Health, “[Mississippi Primary Care Needs Assessment](#)”, March 2021
8. Centers for Disease Control and Prevention, “[Community Water Fluoridation](#)” Accessed September 2022
9. U.S. Public Health Service, “[U.S. Public Health Service Recommendation for Fluoride Concentration in Drinking Water for the Prevention of Dental Caries](#)” Accessed September 2022
10. BMC Oral Health 2018, “[Consequences of community water fluoridation cessation for Medicaid-eligible children and adolescents in Juneau, Alaska](#),” Accessed September 2022
11. National Library of Medicine, “[Systematic review of water fluoridation](#)” Accessed September 2022
12. National Library of Medicine, “[Cost-Effectiveness of Caries Prevention in Practice: A Randomized Controlled Trial](#),” Accessed September 2022
13. National Library of Medicine, “[Costs and Savings Associated with Community Water Fluoridation Programs in Colorado](#)”
14. Mississippi State Department of Health, “[Groundwater Protection](#)” September 2022
15. Mississippi State University, “[Mississippi Private Well Populations](#)”, September 2022
16. U.S. Environmental Protection Agency, “[Safe Drinking Water Act Compliance Monitoring](#)”, Accessed September 2022
17. U.S. Department of Health and Human Services, “Healthy People 2030,” [Oral Conditions](#) Accessed September 2022
18. Centers for Disease Control and Prevention, “[Water Fluoridation Additives](#)” Accessed September 2022



MISSISSIPPI STATE DEPARTMENT OF HEALTH