



Dental Public Health Activity Descriptive Report

Practice Number: 05006
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SECTION I: PRACTICE OVERVIEW		
Name of the Dental Public Health Activity: <p style="text-align: center; color: blue;">Arkansas Statewide Mandated Community Water Fluoridation</p>		
Public Health Functions: Policy Development – Collaboration and Partnership for Planning and Integration Policy Development – Oral Health Program Policies Policy Development – Use of State Oral Health Plan Assurance – Population-based Intervention Assurance – Building Linkages and Partnerships for Interventions Assurance – Building State and Community Capacity for Interventions		
Healthy People 2020 Objectives: OH-1 Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth OH-2 Reduce the proportion of children and adolescents with untreated dental decay OH-3 Reduce the proportion of adults with untreated dental decay OH-4 Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease OH-13 Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water		
State: Arkansas	Federal Region:	Key Words for Searches: Prevention, fluoridation, community water fluoridation, fluoridation bill, fluoridation legislation
Abstract: <p>For more than 65 years, community water fluoridation has been proven to be a safe and healthy way to effectively prevent tooth decay. CDC has recognized water fluoridation as one of 10 great public health achievements of the 20th century. With the hiring of Dr. Lynn Mouden in the year 2000 as Director of the Office of Oral Health, Arkansas Department of Health, the Department began a concerted effort to achieve fluoridation of all community water systems in the state. By the year 2010, Arkansas reported 65% of its population receiving the benefits of fluoridated water. However, Dr. Mouden’s goal was 85%. To achieve this goal, Dr. Mouden initiated an effort to rally collaborative support from the Arkansas Oral Health Coalition, identify a legislator who wanted to be an <i>oral health champion</i>, encourage the naming of “Oral Health” as a priority legislative issue for the Arkansas Department of Health, and to solicit help and support from the PEW foundation.</p> <p>During the 2011 Legislative Session, ACT 197 was passed by both the House and the Senate, realizing a 10 year goal of the Office of Oral Health. ACT 197 requires all Arkansas water systems who service 5,000 or more customers to maintain a level of fluoride to prevent tooth decay. To avert financial stress on community water systems, and as a compromise with fiscally concerned representatives, the act further stated: <i>A water system required to fluoridate under this section is not required to comply with the requirements of this section until funds sufficient to pay capital start-up costs for fluoridation equipment for the system have become available from any source other than tax revenue or service revenue regularly collected by the company, corporation, municipality, county, or other government agency that owns or controls the water system.</i> Knowing this was a compromise that had the potential to thwart fluoridation efforts, the Delta Dental Foundation, an Arkansas Oral Health Coalition member, agreed to fund the capitol start-up costs needed to initiate water fluoridation for the 33 water systems affected by ACT 197. To date, Delta Dental has pledged</p>		

over four million dollars to the effort.

Once all 33 water systems are online with fluoridation efforts, Arkansas should see 85% of its citizens receiving the scientifically proven, carries fighting benefits of fluoridated water.

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SECTION II: PRACTICE DESCRIPTION

History of the Practice:

For more than 65 years, community water fluoridation has been a safe and healthy way to effectively prevent tooth decay. CDC has recognized water fluoridation as one of 10 great public health achievements of the 20th century. For over 40 years, organized dentistry in Arkansas had attempted to promote water fluoridation to Arkansas citizens and had only managed to achieve a 65% fluoridation rate. However, with the hiring of Dr. Lynn Mouden in the year 2000 as Director of the Office of Oral Health, Arkansas Department of Health, a ten year concentrated effort was begun to achieve fluoridation of all community water systems in the state. Dr. Mouden's goal was 85%. Numerous bills had been presented to the legislature during the ten year time frame only to be defeated by either the house or the senate. However, during the 2011 legislative session, ACT 197, which guarantees the benefits of fluoridated water to all Arkansans served by water systems with 5,000 or more customers, passed both the house and the senate, was signed by the governor, and became Arkansas law. This triumph was achieved through collaboration with the Arkansas Oral Health Coalition, the active support of the Arkansas Department of Health, financial support from Delta Dental of Arkansas, the legislative support of an oral health champion in the senate, and through lobbying support from the PEW Foundation.

Justification of the Practice:

Arkansas is home to approximately 2.9 million residents, one fourth of whom are 18 years of age or younger. The population is diverse, with 15.4% being Black and 6.4% being Hispanic. The median household income in the state is \$40,150, compared to \$52,760 in the US overall. According to the 2013 Arkansas Dental Sealant Plan, approximately 60% of students enrolled in public schools are eligible for free or reduced priced meals, an indicator of poverty. In Arkansas, nearly one of every five residents (18%) lives in poverty, compared to 14% nationally. People living in low-income families bear a disproportionate burden from oral diseases and conditions. In addition, Arkansas is predominately rural. People living in rural areas often have a higher disease burden because of difficulties in accessing preventive, treatment services, and education. The Kaiser Family Foundation ranks Arkansas 50th among the states in ratio of dentists per 10,000 civilian populations. Another challenge is that Arkansas does not meet or exceed any of the Healthy People 2020 oral health indicators.

Community water fluoridation is an ideal public health intervention because it is effective, eminently safe, and inexpensive. Community water fluoridation requires no behavior change by individuals and does not depend on access or availability of professional services. Water fluoridation is equally effective in preventing dental caries among different socioeconomic, racial, and ethnic groups. Fluoridation helps to lower the costs of dental care and helps residents retain their teeth throughout life. Therefore it is and was the ideal project on which to focus state resources and public health efforts.

Inputs, Activities, Outputs and Outcomes of the Practice:

For over 40 years, organized dentistry in Arkansas had attempted to promote water fluoridation to Arkansas citizens. However, with the hiring of Dr. Lynn Mouden in the year 2000 as Director of the Office of Oral Health, Arkansas Department of Health, a ten year concentrated effort began to achieve fluoridation of all community water systems in the state. By the year 2010, Arkansas reported 65% of its population receiving the benefits of fluoridated water. However, Dr. Mouden's goal was 85%. Numerous bills for statewide fluoridation were presented to the legislature during that ten year time frame only to be defeated by either the house or the senate. A bill was presented to the legislature several times during that time frame only to be defeated by either the house, or the senate.

With the change in composition of the legislature that came with the 2010 elections, oral health stakeholders in Arkansas realized passage of a fluoridation bill now looked promising. In 2010, the Arkansas Oral Health Coalition had conducted a "Policy Tool Workshop" sponsored by the Children's Dental Health Project in cooperation with the CDC Division of Oral Health. The conference held in Little Rock, Arkansas, on August 31, 2010, provided a great opportunity to bring together oral health advocates to discuss Arkansas' political and oral health issues, and to facilitate critical thinking about the state's ongoing oral health policy. Twenty-six individuals attended the half-day workshop, representing public health, community health centers, Medicaid, advocacy groups, the state dental board, and the state dental and dental hygiene associations. The group included three dentists, three dental hygienists, three physicians and one registered nurse. A state senator also participated in the workshop. The group worked in an open discussion format to determine the potential opportunities for policy change or systems development. Statewide community water fluoridation was determined to be the number one policy change that was quantifiable, would reach the intended population, and met advocates' perceived sense of urgency.

Having determined that community water fluoridation was on the top of the list of the recommendations from all oral health stakeholders, collaboration efforts began. The senator who attended the workshop became the legislative oral health champion, carrying the bill to the senate and finding the right person to carry it to the House. Lobbying efforts were led by the Arkansas State Dental Association, the Arkansas Oral Health Coalition, and the PEW Foundation. The Arkansas Department of Health, led by Dr. Mouden, strongly backed the bill, educating the legislators on the scientifically proven benefits of the intervention. One of the key elements of the bill was the commitment made by the Delta Dental Foundation to the initiative. The Foundation pledged to support the initiative by funding the purchasing and installation costs of the fluoridation equipment required by the 35 water systems affected by the bill. Therefore, the law represented no increased financial burden to either the individual water systems or the state of Arkansas. By convincing the legislators that community water fluoridation is indeed a public health initiative similar to vaccination requirements and The Clean Water Act, ACT 197 was passed by both the House and the Senate and signed into law by the Governor.

Finally, in 2011, a statewide mandated community water fluoridation bill passed both the House and Senate. This goal was accomplished through hard work, careful planning, and dedication to the cause.

With 32 of the 35 water systems affected by the bill on line with Community Water Fluoridation, 71% of Arkansans are now receiving the benefits of Fluoridated water. Within the next 3 years, Arkansas expects to see over 80% of citizens with access to Fluoridated water.

Budget Estimates and Formulas of the Practice:

Passing ACT 197 was a ten year effort with the educational funding needed for radio ads, educational brochures, posters, and fluoridation booklets coming from two consecutive five year CDC grants supporting the Arkansas Oral Disease Prevention Program.

The PEW Foundation contributed both personnel and monies to the effort. However, the Office of Oral Health was not privy to their budget expenses. As an active member of the Arkansas Oral Health Coalition, the Arkansas State Dental Association also donated personnel time and organizational monies to the passage of the bill.

However, the financial commitment made by the Delta Dental Foundation of Arkansas to the citizens of Arkansas made passage of ACT 197 possible. Delta Dental agreed to fund equipment, installation,

and building costs for the 35 water systems affected by ACT 197. The estimated financial commitment made by the Delta Dental Foundation is projected to be over seven million dollars.

Lessons Learned and/or Plans for Improvement:

ACT 197 has worked well for Arkansas. Many water systems were anxious to fluoridate their water and were only limited by lack of funding. However, several large water systems opposed ACT 197 and had voted down water fluoridation on the local level for many years. In light of this opposition and personal prejudices of community leaders, it would have been beneficial to include an *enforcement piece* in ACT 197.

Although Arkansas' ACT 197 was passed in 2011, the anti-fluoride population does not take "no" for answer. During the 2013 legislative session, a stiff battle was fought by the Arkansas Oral Health Coalition, Arkansas Health Department and other stakeholders to retain the law. The most successful challenge was a "Freedom of Choice" bill, which would allow each water system to make an individual choice as to whether they desired to fluoridate or not. All attempts to repeal the law met with defeat. However, there is no doubt that ACT 197 will be challenged again during the next legislative session.

The Office of Oral Health is committed to long term sustainability of ACT 197 and community water fluoridation. When writing grants, monies for sub-grants to water systems attempting to upgrade and maintain costly fluoridation equipment are now included when possible.

Available Information Resources:

Children's Dental Health Project, *A Policy Consensus Tool*, <https://www.cdhp.org/resources/315-policy-consensus-tool>

Community Water Fluoridation, a Position Paper (2008), Arkansas Department of Health. <http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/WaterFluoridation.aspx>

Fluoridation Facts (2005), American Dental Association

Fluoridation Fact Sheet (2010), Arkansas Department of Health. <http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/WaterFluoridation.aspx>

The Science of Fluoride (2010), Arkansas Department of Health, Arkansas Children's Hospital, <http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/WaterFluoridation.aspx>

SECTION III: PRACTICE EVALUATION INFORMATION

Impact/Effectiveness

How has the practice demonstrated impact, applicability, and benefits to the oral health care and well-being of certain populations or communities (i.e., reference scientific evidence, outcomes of the practice and/or evaluation results)?

For more than 65 years, community water fluoridation has been a safe and healthy way to effectively prevent tooth decay in people of all races, ethnic groups, ages, and socio-economic status. The CDC has recognized water fluoridation as one of 10 great public health achievements of the 20th century. The National HP2020 goal for water fluoridation efforts is 79.6% of a state's population having access to the benefits for fluoridated water. When ACT 197 is completely enacted, Arkansas will have over 85% of its citizens enjoying fluoridated water.

Efficiency

How has the practice demonstrated cost and resource efficiency where expenses are appropriate to benefits? How has the practice demonstrated realistic and reasonable staffing and time requirements? Provide unit cost analysis or cost-benefit analysis if appropriate.

With the Delta Dental Foundation's pledge to fund the purchase and installation of fluoridation equipment for community water systems, the costs and resource efficiency becomes more than appropriate to the benefits provided. For every dollar spent on community water fluoridation, up to \$38 is saved in treatment costs for tooth decay. Time, money and personnel preparation were commodities heavily consumed during the legislative session. However, the Department of Health, the Arkansas Oral Health Coalition, our sponsoring senator, and the PEW foundation all felt the benefits worth the staffing and time requirements.

Demonstrated Sustainability

How has the practice showed sustainable benefits and/or how has the practice been sustainable within populations/communities and between states/territories? What mechanisms have been built into the practice to assure sustainability?

ACT 197 assures the sustainability of community water fluoridation in Arkansas. The Arkansas Department of Health is strongly behind maintaining the goal of 85% of Arkansas Citizens receiving fluoridated water and has organized an in-house group led by the Office of Oral Health to assure its continued success: The Fluoride Implementation Team (FIT). This team, made up of leaders in the health department from local public health unit directors to engineers, was organized during the 2011 legislative session to discuss strategies needed to assure passage of the bill. During the last legislative session, three bills were presented that threatened the integrity and sustainability of ACT 197. Once again FIT met frequently to discuss strategies needed to insure ACT 197 maintained its viability. The Arkansas Oral Health Coalition as well as strong supporters of community water fluoridation in both the House and the Senate (recognized oral health champions) also came together to insure ACT 197 remained on the books. One of the three bills never came up for consideration, the other two never made it out of committee.

Collaboration/Integration

How has the practice built effective partnerships/collaborations among various organizations and integrated oral health with other health projects and issues? What are the traditional, non-traditional, public and private partnerships/collaborations established by the practice for integration, effectiveness, efficiency and sustainability?

In 2010, the Arkansas Department of Health included "Securing Community Water Fluoridation" as a priority in the list of its strategic goals. As such, the over 5,000 employees of the health department became aware of oral health and its far-reaching effects on general overall health. The Fluoride Action Team (FAT) (later changed to the Fluoride Implementation Team after passage of the ACT 197) was established and composed of department leaders from all branches. Leaders from the engineering department, County Health Units, Chronic Disease Branch, Legal and Legislative department and more met every two weeks to discuss the progress of the bill and the strategies needed to insure its passage. The attention and emphasis brought to oral health by this department-wide effort to pass the community water fluoridation bill has solidified the Office of Oral Health's position within the Arkansas Health Department and has brought department-wide awareness of oral health's role in overall health.

In addition, community water fluoridation was the goal and purpose that originally united the various members of the Arkansas Oral Health Coalition. With over 35 members, the coalition played a big role in securing passage of the community water fluoridation bill. With a common purpose, stakeholders (Partners for Inclusive Communities, Arkansas State Dental Association, Arkansas State Dental Hygienists' Association, Arkansas Advocates for Children and Families, Arkansas Children's Hospital, to name a few) concerned with the oral health status of Arkansans joined together to forge a strong, closely knit coalition, integrating and solidifying the recognition of the role oral health plays in general overall health. Through its diverse membership and adoption of the common goal of fluoridation of Arkansas's drinking water, the coalition has demonstrated that collaborations established through an effort of this kind are solidly integrated and are highly effective, efficient and sustainable.

Objectives/Rationale

How has the practice addressed HP 2020 objectives, met the National Call to Action to Promote Oral Health, and/or built basic infrastructure and capacity for state/territorial/community oral health programs?

Community Water Fluoridation is addressed in the Healthy People 2020 objectives: Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water systems. The national target is 79.6%. When fully implemented, the engineering department of the Arkansas Health Department predicts that 85% of Arkansans will have access to the benefits of fluoridated water.

The collaborative network established to secure passage of the community water fluoridation bill has been solidified by their mutual dedication to the cause. Additionally, the Office of Oral Health is now recognized as an important and integral part of the Arkansas Department of Health. Passage of the community water fluoridation bill has built infrastructure and capacity within Arkansas's state oral health program.