

Dental Public Health Activity Descriptive Report

Practice Number: 20001
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SECTION I: PRACTICE OVERVIEW		
Name of the Dental Public Health Activity: Fluoridation Surveillance		
Public Health Functions: Assurance – Population-based Interventions		
Healthy People 2020 Objectives: OH-13 Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water		
State: Kentucky	Federal Region: Southeast Region V	Key Words for Searches: Fluoridation, water fluoridation, community water fluoridation, surveillance, enforcement, mandated fluoridation, legislation, fluoridation law, fluoridation staff
Abstract: <p>In 1977, the Commonwealth of Kentucky mandated that all public water supplies that serve more than 1,500 individuals be fluoridated. The statute also establishes surveillance and enforcement provisions as well as penalties for non-compliance. Ninety percent of Kentucky’s citizens (~4.2 million) are benefiting from optimally fluoridated water. Surveillance activities involves split, bi-monthly water samples sent from each water company and tested by state-certified laboratories chosen by the water company and/or the state laboratory for verification. The fluoridation compliance team (3.5 FTEs stationed in various regions of the state) enter the laboratory data into mobile computers, communicate with water company operators concerning unacceptable fluoride levels of finished water, perform on-site visits at least once each year, and make technical assistance calls as needed In addition, each fluoride staff member closely monitors the 2elementary schools that have their water supply fluoridated to assure that schoolchildren are receiving fluoridated water at levels recommended by the CDC and check equipment on at least a quarterly basis. Fluoride staff are competent in plumbing, electrical repair and maintenance as well as water works operations.</p> <p>Additionally, each fluoride staff member closely monitors two elementary schools that have their water supply fluoridated on-site to assure that schoolchildren are receiving fluoridated water at levels recommended by the CDC and check equipment on at least a quarterly basis. Fluoride staff are competent in plumbing, electrical repair and maintenance as well as water works operations. Each staff member is supplied with a vehicle, spare parts, tools and chemicals to perform their duties of surveillance and enforcement. Funds to support the fluoridation surveillance and enforcement system are derived from the state general fund as required by statute. The total cost of surveillance, excluding the cost of the water companies, is about \$350,000 per year or about ten cents per citizen per year. Compliance rates by water companies average 99 percent due to effective and consistent monitoring by the fluoridation compliance team.</p>		

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SECTION II: PRACTICE DESCRIPTION**History of the Practice:**

In 1977, the legislature of the Commonwealth of Kentucky passed KRS 211.190, which mandated that all public water supplies that served more than 1500 individuals be fluoridated. From 1977 to 1994, the provisions of the statute were enforced by the Kentucky Cabinet for Natural Resources. In 1994, the Dental Program Administrator began the fluoridation surveillance and enforcement program. This program remains in place today.

Justification of the Practice:

KRS 211.190 also establishes surveillance and enforcement provisions as well as penalties for non-compliance.

Inputs, Activities, Outputs and Outcomes of the Practice:

The Oral Health Program provides surveillance and enforcement services using a staff of 3.5 FTE fluoridation compliance team, who monitor bi-monthly water company samples from private laboratories as well as confirming results from the state laboratory. Staff has varied from 2.0 FTE to

4.5 FTE, due to fluctuating funding. There has been some savings in staffing as a result of smaller systems purchasing water from larger, already regulated water providers. The data are entered into a computerized database that can be downloaded to the Centers for Disease Control and Prevention (CDC) Water Fluoridation Surveillance System. Fluoride staff is required to make at least an annual on-site visit to each water company in their responsible region and to make trouble calls and other visits as needed.

In addition, each fluoride staff member closely monitors the two elementary schools (down from 18 in 2002) that have their water supply fluoridated to assure that schoolchildren are provided fluoridated water as recommended by the CDC. School fluoridation has been reduced as more public water lines have been expanded in the hollows of Kentucky. Fluoride staff is competent in plumbing, electrical repair and maintenance as well as water works operations. Each staff member is supplied with a vehicle, spare parts, tools and chemicals to perform their duties of surveillance and enforcement.

Funds to support the fluoridation surveillance and enforcement system are derived from the state general fund as required by statute. Compliance by water companies is 99% and remains constant.

Budget Estimates and Formulas of the Practice:

Total cost for the program is approximately \$350,000 per year – this includes personnel, vehicles, spare parts, tools, chemicals, state laboratory costs, computers and software. Estimated costs do not include water company costs. On a per individual basis, the cost of fluoridation surveillance and enforcement is about ten cents per citizen per year served by fluoridated public water supplies. Program staff includes 3.5 FTEs, and they are stationed in various regions of the Commonwealth.

Lessons Learned and/or Plans for Improvement:

Kentucky continues to expand public water lines which will result in more and more citizens having access to optimally fluoridated water. This department has no influence on this effort but stands ready to ensure compliance with fluoridation requirements as the more rural areas of the state gain access to public water. The current compliance rate is at a very high level (99%) but the staff

strives to reach 100% each year.

Anti-fluoridation organizations are trying to overturn the statute that mandates fluoridated water supplies but have been unsuccessful to date. We cannot let our guard down with respect to individuals and organizations who vow to overturn the statute as being a mass medication statute. Without continuous monitoring and enforcement, the compliance rate would be considerably less and the citizenry would not benefit from optimally fluoridated water.

Available Information Resources:

Annual report of compliance and proportion of population exposed to optimally fluoridated water. This is currently an internal document; all information is available upon request.

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)?

Fluoridation of public water supplies has been shown to be a highly effective dental caries prevention technology. The CDC has listed water fluoridation as one of the evidence-based and effective prevention methodologies. With 90% of the population (4.2 million citizens) exposed to fluoridated water, this practice can be considered as having high impact, nearly universal applicability, and offers benefits to the oral health of all who are exposed including children, adults, and elders.

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.

The estimated cost of surveillance and enforcement of the mandated fluoridation statute demonstrates resource efficiency in that the cost per person per year for those exposed to fluoridated water is about ten cents. Without the current number of fluoride staff to enforce compliance, the compliance rate would definitely drop from about 99% to a lesser proportion of water supplying companies. Kentucky's past experience indicated that without this level of involvement compliance rates would reduce drastically. Before Oral Health took over the program from the Division of Water, the compliance rate for water plants averaged in the thirtieth percentile. After years of work, training, and relationship building our state now averages 99% compliance rates.

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?

Sustainability and costs are relate, and in the case of fluoridation surveillance and enforcement, if the legislature changes its commitment to the program, a sustainability plan would be implemented. However, the Governor's Office has shown deep commitment to early childhood development and this program has been included as one that must be funded and supported. Should an unforeseen event cause a reduction in state general funds, our office would seek Maternal and Child Health grant funds to sustain the program.

Collaboration/Integration

How has the practice built effective partnerships/collaborations among various organizations and Practice #20001 Fluoridation Surveillance

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?

The Kentucky Oral Health Coalition along with state Universities, local health departments, the Kentucky Department for Public Health, the Kentucky School of Public Health, the state Department for Medicaid Services as well as the Department for Education and others endorse fluoridation as an integral part of an effective, efficient, appropriate, and safe dental caries prevention strategy. Given the most recent statistics on the prevalence of dental caries among infants and schoolchildren (twice the prevalence of national studies) from the 2001 Kentucky Children's Oral Health Survey, most enlightened individuals from academia, public health, health care in general, politicians, and families are committed to maintaining and sustaining mandated fluoridation in the Commonwealth of Kentucky.

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?

Kentucky's surveillance and enforcement of the mandated fluoridation statute supports the Healthy People 2020 objective and call to action by the Surgeon General's Report to increase persons on public water receiving fluoridated water.