



## Dental Public Health Activities & Practices

**Practice Number:** 20001  
**Submitted By:** Oral Health Program, Kentucky Department of Public Health  
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<b>SECTION I: PRACTICE OVERVIEW</b>		
<b>Name of the Practice:</b> Fluoridation Surveillance		
<b>Public Health Functions:</b> Assurance – Population-based Interventions		
<b>HP 2010 Objectives:</b> 21-9 Increase persons on public water receiving fluoridated water.		
<b>State:</b> Kentucky	<b>Region:</b> Southeast Region V	<b>Key Words:</b> Fluoridation, water fluoridation, community water fluoridation, surveillance, enforcement, mandated fluoridation, legislation, fluoridation law, fluoridation staff
<b>Abstract:</b> <p>In 1977, the Commonwealth of Kentucky mandated that all public water supplies that serve more than 1,500 individuals be fluoridated. Ninety percent of Kentucky's citizens (~3.6 million) are exposed to optimally fluoridated water. Surveillance involves split, bi-monthly water samples sent from each water company and tested by laboratories chosen by the water company and the state laboratory for verification. The fluoridation enforcement staff (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 trouble calls as needed by the water companies. In addition, school sites are closely monitored and equipment is checked on at least a quarterly basis. 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 exceed 99 percent due to effective and consistent monitoring by the fluoridation surveillance 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.

### **Justification of the Practice:**

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

### **Administration, Operations, Services, Personnel, Expertise and Resources of the Practice:**

The Oral Health Program provides surveillance and enforcement services using a staff of 3.5 FTE fluoridation officers who monitor bi-monthly water company samples from private laboratories as well as confirming results from the state laboratory. 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 are 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 must closely monitor the 18 elementary schools that have their water supply fluoridated to assure that schoolchildren are provided exposure to fluoridated water as recommended by the CDC. 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. 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 include 3.5 FTEs, and they are stationed in various regions of the Commonwealth.

### **Lessons Learned and/or Plans for Improvement:**

As water lines continue to be extended to all Kentucky citizens, our goal is to have 100% of Kentucky's citizens exposed to optimally fluoridated water supplies by 2010. Compliance is at a very high level but the staff strives to reach 100% each year. Anti-fluoridationist 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 be exposed to optimally fluoridated water.

### **Available Resources:**

Annual report of compliance and proportion of population exposed to optimally fluoridated water.

## SECTION III: PRACTICE EVALUATION INFORMATION

### **Impact/Effectiveness**

*Does the practice demonstrate impact, applicability, and benefits to the oral health care and well-being of certain populations or communities (i.e., reference scientific evidence and outcomes of the practice)?*

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 (3.6 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**

*Does the practice demonstrate cost and resource efficiency where expenses are appropriate to benefits? Are staffing and time requirements realistic and reasonable?*

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. The sentinel effect of on-site enforcement plus substantial and organizational penalties is pivotal particularly in the wake of increasing anti-fluoridationist activity within the state.

### **Demonstrated Sustainability**

*Does the practice show sustainable benefits and/or is the practice sustainable within populations/communities and between states/territories?*

Sustainability and costs are related – in the case of fluoridation surveillance and enforcement, only if the legislature changes its attitude and commitment will the program not be sustained. 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.

### **Collaboration/Integration**

*Does the practice build effective partnerships/coalitions among various organizations and integrate oral health with other health projects and issues?*

The Kentucky Dental 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**

*Does the practice address HP 2010 objectives, the Surgeon General's Report on Oral Health, and/or build basic infrastructure and capacity for state/territorial oral health programs?*

Yes. Kentucky's surveillance and enforcement of the mandated fluoridation statute supports the Healthy People 2010 objective and call to action by the Surgeon General's Report to increase persons on public water receiving fluoridated water.

### **Extent of Use Among States**

*Is the practice or aspects of the practice used in other states?*

Minnesota, like Kentucky, has greater levels of its population exposed to fluoridated water and also has a commitment to maintaining its fluoridated water status through surveillance.