



Dental Public Health Activities & Practices

Practice Number: 07003
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SECTION I: PRACTICE OVERVIEW		
Name of the Practice: Fluoridation Engineer in an Oral Health Program		
Public Health Functions: Policy Development – Oral Health Program Organizational Structure and Resources		
HP 2010 Objectives: 21-9 Increase persons on public water receiving fluoridated water.		
State: Colorado	Region: Midwest Region VIII	Key Words: Fluoridation, fluoridation engineer, state oral health program staff, state oral health program structure
Abstract: At Colorado's Department of Public Health and Environment, a fluoridation engineer is a member of the Oral Health Program's staff, rather than the Water Quality Division. This arrangement supports the issue that fluoridation is a public health measure rather than a water quality/environmental issue. It also allows the engineer to become familiar with oral health issues, how he/she "fits" into oral health surveillance and practice, and allows the engineer to link the Oral Health Program with the Water Quality Program by attending their staff meetings. This also has allowed the engineer to take on other public health programs including the school fluoride mouthrinse program.		
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SECTION II: PRACTICE DESCRIPTION

History of the Practice:

As a result of CDC funding in the early 1980's to support fluoridation infrastructure, the dental director in Colorado elected to have the fluoridation engineer of the Dental Health Section at the Colorado Department of Health become a member of their staff. The ultimate result was a fluoridation engineer who understood the oral health aspects and rationale for fluoridation and was able to function independently in community meetings and water plant operator trainings, clearly articulating the tooth decay process, the role of fluoride (demineralization/remineralization), and thoroughly understood the anti-fluoridationist's "adverse health" arguments and the correct responses to these issues. The Dental Director began a serious campaign to increase fluoridation, providing the oral health rationale in tandem with the engineering aspects. Statewide presentations targeted local dental and health professionals as well as community leaders and water plant managers.

In the early 1990's, the Colorado Department of Health administration questioned this organizational structure. An intense cost effectiveness/efficiency study was completed by the internal auditor for the Department, comparing the potential outcomes of locating the engineer in the water quality program as a means of saving Preventive Health Block Grant Funds. The resulting white paper concluded that the fluoridation engineer in the Oral Health Section was the most cost effective and efficient arrangement for the promotion of fluoridation as a dental public health measure. (A copy of the document is available upon request.)

Justification of the Practice:

The location of the fluoridation engineer within the Oral Health Section allows a more "complete" fluoridation program, encompassing both engineering and oral health aspects. The engineer participates in the Technical Services Team for the Water Quality Control Division, and is educating them on the oral health rationale for fluoridation to gain their help in promoting the practice. Yet the engineer is a full member of the Oral Health Program, integrating the Water Fluoridation Reporting System (WFRS) with overall oral health surveillance, providing technical assistance to local public health agencies and county nursing services on fluoridation versus school fluoride mouthrinse/tablet programs, and participating in all discussions/decisions regarding dental public health strategies for the program.

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

The fluoridation engineer is supervised by the Oral Health Director and is a member of the 3.0 FTE Oral Health Program. The position is funded by Preventive Block Grant dollars. The engineer position description does not require a formal engineering degree, but rather a college degree (which may be substituted by water plant experience), and subsequent Basic and Advanced Water Fluoridation and WFRS training through the Centers for Disease Control.

Budget Estimates and Formulas of the Practice:

The fluoridation engineer is 1.0 FTE and is classified as an Engineering/Physical Science Technician with a monthly salary range of \$2757- \$4649 with additional fringe benefits. Entry salary is based on experience.

Lessons Learned and/or Plans for Improvement:

There has been a bit of a struggle to integrate fluoridation with the Water Quality Control Division, so there are pros and cons to locating the engineer in either program. However, by locating the engineer in the Oral Health Program, fluoridation becomes the engineer's full time position and allows diligent maintenance of participating systems throughout the state and promotion in areas with less than optimal fluoride levels. It does take time for a non-dental person to come up-to-speed with oral health terminology and science, but it pays off in the long run when the engineer can attend city council meetings, visit local dental offices and health agencies, and fully represent the Oral Health Program on the issue of fluoridation without the Oral Health Director having to be present. The Oral Health Director is also able to assure, in a more direct manner, the participation in WFRS. The reverse is true as well - the Oral Health Program director is very familiar with feed calculations, response protocols for overfeeds, and the basic pros and cons of different types of feeding systems/chemicals, which provides the health department with additional expertise.

Available Resources - Models, Tools and Guidelines Relevant to the Practice:

- A cost effectiveness/efficiency study was initiated and a white paper produced in the early 1990's.
- The Oral Health Program has developed its own Water Fluoridation training manual with a chapter on oral health aspects.

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)?

Colorado, while touted as having a great deal of naturally occurring fluoride, actually only has 11% of its population served by natural optimal levels. So the additional 69% of the population served by optimal levels is “adjusted” and is the result of the diligent efforts of the fluoridation engineer/oral health program. This results in the monitoring of 63 water systems.

Efficiency

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

Yes, as there is significant cross-training between the fluoridation engineer and the Oral Health Director, and between the Oral Health Program and the Water Quality Control Division. More staff are aware of the specifics of fluoridation, therefore they are more responsive to consumers, water plants, and internal staff.

Demonstrated Sustainability

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

This model has been effective since early 1980's and would certainly be replicable in other states.

Collaboration / Integration

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

This structure fully integrates oral health into fluoridation and vice versa. It allows technical assistance to the Water Quality Control Division, which has also become a two-way street as well. By having the engineer on the “health” side, other programs such as WIC, Child and Adolescent Health, Chronic Disease, etc., have had regular interaction with the fluoridation engineer which has helped to integrate oral health into their programs. Additionally, they have become community advocates for fluoridation when needed.

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?

This structure addresses Healthy People 2010 objectives, the Surgeon General's Report on Oral Health and building infrastructure/capacity for state and territorial oral health programs. The fluoridation engineer supports efforts to achieve HP 2010 Objective 21-9 (increasing persons on public water receiving fluoridated water) and address the Surgeon General's Report regarding promotion of community water fluoridation. The fluoridation engineer has added infrastructure to the oral health program, as this position has also taken on the fluoride mouthrinse program and is assisting with establishing an oral health surveillance system.

Extent of Use Among States

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

Yes, other states have fluoridation specialists, some within the oral health program and others within water quality program. It is felt that fluoridation is more cost effective/efficient with this structure of having the fluoridation engineer in the Oral Health Program.