

First 5 LA

ORAL HEALTH COMMUNITY DEVELOPMENT PROJECT

SEPTEMBER 2007

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COMMUNITY WATER FLUORIDATION: A PUBLIC HEALTH MEASURE

The prenatal stage through age 5 is a critical period of tooth formation and development. Oral health, as well as other areas of development, begins in the prenatal stage. The best tooth decay protection is achieved if fluoride is consumed from birth; moreover, 85% of the maximum protection against tooth decay will occur if fluoride consumption starts between ages three and four.¹ Widespread use of fluoride has been a major factor in the decline in the prevalence and severity of tooth decay in the United States.

Fluoride is an element that occurs naturally in most drinking water. Community water fluoridation is a public health intervention that adjusts the fluoride concentration found in drinking water to optimal levels in order to provide the most beneficial effect for dental health as prescribed by the California Department of Health Services. Fluoridation of low fluoride-containing water supplies helps maintain optimal dental tissue development and dental enamel resistance during the entire life span. Water fluoridation has proven to be a cost effective public health measure for the prevention of dental decay, demonstrating benefits to people of all ages. This is primarily due to the universal reach of water supplies to all communities.

California law (AB 733, signed into law in 1995) requires all public water systems with 10,000 or more service connections to fluoridate their systems, provided that funding for the project costs are by a source other than the water system's own usual funding sources. AB 733 was proposed as part of the U.S. Public Health Service's national campaign to "increase the proportion of the U.S. population served by community water systems with optimally fluoridated water" to a target of 75% by the turn of the century.² AB 733 also mandates fluoridation of California's public water systems with an ultimate goal to decrease dental caries which will create a potential cost-savings to taxpayers of approximately \$80 million annually.³ Compared to other states, California ranked in the bottom 25% in providing fluoridated water to its residents. Currently, the Center for Disease Control and Prevention estimates that only 27.7% of California's population receives optimally fluoridated water. More recently, the Dental Health Foundation, with support from First 5 California, released a report titled "Mommy, It Hurts to Chew." This 2006 report includes key survey findings as well as recommendations for an approach to reduce the impact of dental disease on children, families and public systems in California. One of its key recommendations for actions to be taken is to "increase financial support for capital, operations and maintenance costs of community water fluoridation."⁴ This report contributes to the Commission's growing interest in investing in activities to improve the oral health of children from the prenatal stage through age 5.

BACKGROUND

The Commission considers oral health a critical part of the overall healthy growth and development of a child. Given timely new data and legislation, the Commission is building on its

¹ Ripa LA. A Half-Century of Community Water Fluoridation in the United States: Review and Commentary. *J Public Health Dent* 1993; 53(1): 17-44.

² Subsequently, the Center for Disease Control and Prevention (CDC) promulgated Healthy People 2010. Under the Oral Health component of Healthy People 2010, one of the 17 objectives was to increase the proportion of the U.S. Population served by community water systems with optimally fluoridated water from the 1992 baseline of 62% to a target of 75%.

³ Senate Committee Staff Analysis of the background of the bill as amended on June 14, 1995: projected cost savings to tax payers is approximately \$80 million with cumulative effects of \$160 million annually.

⁴ "Mommy, It Hurts to Chew: The California Survey and an Oral Health Assessment of California's Kindergarten and 3rd Grade Children" by the Dental Health Foundation, February 2006.

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investments in this area as well as working with other partners on various emerging strategic leveraging and sustainability opportunities. In 2006, the board recognized these opportunities and approved a \$10 million allocation for the Oral Health and Nutrition Expansion and Enhancement Project, which expanded on earlier investments, initiatives, and special projects such as Home Visitation, Healthy Kids, School Readiness, Healthy Births, and Community Developed Initiatives.

In early 2007, the board requested information on key dental disease prevention methods, specifically community water fluoridation, to be presented at the May 2007 board meeting. At the May 2007 board meeting, experts in the field of oral health and water fluoridation spoke to the benefits of water fluoridation.

At the June 2007 board meeting, staff presented a report to the board which included information on the history of water fluoridation as a local and national public health measure, legislative mandates, models of water fluoridation throughout California, current activities in LA County, and the pressing need for additional methods of prevention of dental caries. The report also included a range of considerations including water fluoridation as the most effective public health measure to prevent tooth decay and improve oral health over a lifetime for people of all ages. Additionally, as identified in the June 2007 Board Report, various strategies exist to fund community water fluoridation such as infrastructure equipment, operations and maintenance, public education, and data collection.

Subsequently, the First 5 LA Board of Commissioners directed staff at the June 2007 board meeting to develop a project and establish an allocation that would include recommendations for the Commission to further invest in preventive early childhood oral health measures through community water fluoridation infrastructure and related public education activities. During the June 2007 board meeting, the board also affirmed the need for additional staffing resources to implement a potential water fluoridation investment. In line with the Commission's desire to maximize its investments by working with other partners on strategic leveraging opportunities, the Oral Health Community Development (OHCD) Project will optimize concurrent fluoridation efforts by Metropolitan Water District (MWD) to further increase the supply of optimally fluoridated water in LA County. The current available leveraging opportunities are a driving force behind the OHCD Project.

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Staff conducted extensive literature review; local and national research; interviews with public and private funders of community water fluoridation projects, including other First 5 Commissions; and discussions with local, state, and national experts from foundations, research institutions, universities, community-based organizations, and county departments who specialize in oral health and community water fluoridation efforts. Staff also reviewed and considered First 5 LA's previous commitments to oral health to ensure that the OHCD Project activities maximize the Commission's investments.

The primary focus of the OHCD Project is to fund the water fluoridation infrastructure equipment construction and related public education activities in order to improve the oral health of children from the prenatal stage through age 5. The OHCD Project also includes internal implementation support activities which are noted later in this document. The evaluation design will be specific to each activity using performance measures. As stated in the Revised Evaluation and Accountability Framework, these performance measures will

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be the same measures used for program improvement evaluation and will also be guided by the Commission adopted strategies.

The OHCD Project activities are one-time costs and will be implemented annually on a competitive, first-come-first-serve basis over the course of three years. The incremental funding cycles enable water agencies time to strengthen their level of readiness to apply for funding. In general, water agencies who want to invest in construction of water fluoridation systems must assess feasibility and receive formal support from the municipalities receiving the optimally fluoridated water. Water agencies may also find the need to build their level of readiness through a number of other activities such as implementing a community building process to establish support across a range of stakeholders and institutions.

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The estimated number of contracts, period of funding, funding allocation, and next steps associated with each activity of the Project are illustrated below. The projections are estimates that ultimately depend on the water agencies interested in applying for funding, number of applicants, and availability of funds.

Infrastructure Projects

WATER FLUORIDATION INFRASTRUCTURE EQUIPMENT

The OHCD Project provides funding to eligible water agencies in LA County with 10,000 or more service connections to build the equipment necessary to deliver optimally fluoridated water. Increased priority will be provided to water agencies proposing to provide optimally fluoridated water to areas identified as “Priority” areas in *First 5 LA’s Next Five Strategic Plan: Revised Fiscal and Programmatic Policies*. Increased priority will also be provided to water agencies blending water with MWD water.⁵ An important component of the OHCD Project is the ability of each eligible water agency to successfully implement leveraging activities to support a First 5 LA investment in water fluoridation. For example, eligible water agencies receiving First 5 LA funding must commit to ongoing operating and maintenance costs and public education costs to further support the Project.

The number of contracts, period of funding, and total amount allocated for the Infrastructure Projects follows:

- Estimated Number of Contracts: approximately 17
- Period of Funding: 2-3 years
- Estimated Amount for Infrastructure Projects: \$16,800,000

Next Steps:

- (1) Determine eligibility criteria for funding Infrastructure Projects;
- (2) Develop and release Request for Proposals (RFP) for Infrastructure Projects;
- (3) Conduct information sessions regarding the application process as appropriate;
- (4) Develop an evaluation plan in accordance with First 5 LA Accountability Framework;
- (5) Review proposals submitted by interested water agencies.

⁵ MWD is the largest water wholesaler in southern California and will begin fluoridating its water at the end of 2007. First 5 LA’s investment in water fluoridation will enable eligible water agencies receiving water from diverse sources, including MWD, to optimize MWD water fluoridation efforts; thus, enabling more young children to receive optimally fluoridated water.

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- (6) Award funding and negotiate contracts with successful candidate water agencies for infrastructure construction;
- (7) Monitor contracted water agencies' construction of water fluoridation infrastructure through a process which may include site visits and basic technical assistance as appropriate.

PRELIMINARY COST ESTIMATE REPORTS

A Preliminary Cost Estimate Report by a water agency includes a comprehensive implementation plan to build community water fluoridation infrastructure.⁶ Some water agencies interested in developing and implementing a community water fluoridation program may have recently completed a Preliminary Cost Estimate Report but are unable to fully implement a fluoridation program because they lack the necessary financial resources. Applicant water agencies will be required to present a Preliminary Cost Estimate Report as part of the infrastructure application process as this is a critical step in assessing a water agency's capacity to successfully build a water fluoridation infrastructure project. Eligible water agencies will be reimbursed for costs to prepare a Preliminary Cost Estimate Report.⁷

The number of contracts, period of funding, and total amount allocated for the Preliminary Cost Estimate Report follows:

- Estimated Number of Contracts: approximately 17
- Period of Funding: 3 months
- Amount: \$612,500

Next Steps:

- (1) Determine eligibility criteria for funding Preliminary Cost Estimate Reports;
- (2) Release funding notice for agencies needing financial assistance to complete a community water fluoridation Preliminary Cost Estimate Report;
- (3) Identify and partner with eligible water agencies to successfully complete the Preliminary Cost Estimate Report.

Public Education

Agencies fluoridating water are required by law to inform their consumers and local health professionals about its water fluoridation efforts. Water agencies who receive First 5 LA funding to optimally fluoridate water will be required to comply with this law as well as provide information regarding fluoride's role in effective prevention of tooth decay, particularly in young children.

Potential costs associated with public education efforts exist, some of which could pose as a barrier to water agencies successfully implementing First 5 LA public water fluoridation education campaign requirements. As needed, eligible water agencies will receive financial support to implement a successful public education campaign.

In order to support the water agencies' public education efforts, funding from the OHCD Project allocation will also be used by First 5 LA to develop water fluoridation public education materials and templates for use by water agencies. First 5 LA will also maximize leveraging opportunities and develop partnerships regarding public education campaign strategies and

⁶ A comprehensive Preliminary Cost Estimate Report for water fluoridation infrastructure typically includes activities ranging from engineering design plans to financing details to permit requirements to timelines.

⁷ Due to the current timeline, no funding for preliminary cost estimate reports will be available during the first funding cycle.

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support. For example, First 5 LA can potentially partner with and build on MWD's existing public education campaign regarding the safety and effectiveness of fluoridated community water. In addition, water agencies receiving funding are required by law to maintain ongoing public education through annual Consumer Confidence Reports.

The number of contracts, period of funding, and total amount of funding to support Public Education activities follows:

- Estimated Number of Contracts: approximately 17
- Anticipated Implementation Period: Duration of the Infrastructure Project
- Estimated Total Amount for Public Education: \$200,000
 - Eligible water agencies: \$175,000
 - First 5 LA: \$25,000

Next Steps:

- (1) Develop public education requirements, aligned with existing legislation (AB733);
- (2) Determine eligibility criteria for public education support;
- (3) Incorporate and issue public education requirements along with the OHCD Infrastructure Project RFP.

Implementation Support

WATER DESIGN EXPERT

To ensure each selected water agency uses funds received appropriately and most efficiently, First 5 LA will need to retain a water design expert to support staff in reviewing proposals; assessing the appropriateness of design plans, costs estimates, and expenses; monitoring infrastructure construction; and consulting on various other related issues. Once all funding has been allocated to contracting water agencies, the expert consultant's role and time on the Project will be reduced to monitoring the status of water agencies' construction projects, compliance milestones, and expenses.

The period of funding and total amount for the water design expert follows:

- Period of Funding: Annual (with option to renew for approximately 5 years)
- Total Amount: \$1 million (over a course of 5 years)

Next Steps:

- (1) Develop and release Request for Qualification (RFQ) to elicit a water design expert consultant;
- (2) Identify and retain appropriate water design expert consultant.

STRATEGIC IMPLEMENTATION WORKGROUP AND STAFF RESOURCES

Staff will convene a Strategic Implementation Workgroup, representing various fields of expertise, to be a resource to the Commission and staff. Potential Workgroup members will have expertise and/or experience in at least one of the following areas: water delivery infrastructure design, management of water fluoridation equipment construction, funding water fluoridation projects, managing water fluoridation public affairs, related science/academic fields, pediatric oral health, and county-wide public health efforts. A public recruitment process for approximately 7-10 members of the Strategic Implementation Workgroup will be conducted at the beginning of this Project in order to provide the Commission and staff the expertise and supplemental resources needed to support the implementation of this water fluoridation investment. There will be costs associated with convening the Workgroup, such as travel costs for members who reside outside of LA County and general meeting costs.

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Overall successful implementation of the Project requires additional staffing resources. The OHCD Project activities will be managed internally by staff who will release appropriate RFPs and RFQs; implement and manage the funding mechanisms; develop leveraging and funding partnerships; award and negotiate contracts; monitor contract milestones and contract compliance; and conduct evaluation activities.

The period of funding, and total amounts for a Strategic Implementation Workgroup and staff resources follow:

- Total funding amount:
 - Strategic Implementation Workgroup – \$75,000, approximately 5 years
 - Staff Resources – \$210,000 plus fringe benefits, annually (3 positions will be hired only for the duration of this Project)

Next Steps:

- (1) Develop and release public notification to elicit Workgroup members from various fields of expertise;
- (2) Identify and retain appropriate Workgroup members;
- (3) Hire staff.

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Appendix A:
Objectives Added to First 5 LA's Next Strategic Plan (FY 2004-2009)

First 5 LA Next Five Strategic Plan (FY 2004-2009) Outcome

By June 30, 2009, improve the oral health status of children and families participating in First 5 LA programs.

Objectives:

1. Increase from baseline* the percent of children 0 through 5 years of age who have access to oral health care resources
2. Increase from baseline* the percent of children 0 through 5 years of age who receive preventive dental services
3. Increase from baseline* the percent of children 0 through 5 years of age who receive therapeutic dental services
4. Increase percentage of providers who are trained to conduct preventive screening, assessment and therapeutic dental services to children 0-5 years of age
5. Increase the percentage of parents/families' knowledge of early childhood oral health needs & milestones

Proposed Additional Objectives to First 5 LA's Next Five Strategic Plan (FY 2004-2009):

6. Increase from baseline* the percent of children prenatal through 5 years of age who have access to community water sources that are optimally fluoridated.
7. Increase from baseline* the percent of children prenatal through 5 years of age who consume water that is optimally fluoridated in Los Angeles County.

* Following the development of a baseline report for this goal area, the Commission will work with the appropriate First 5 LA funded partner(s) to determine specific measurable targets for this objective.