

# Dental Public Health Activity Descriptive Report

**Practice Number:** 99003  
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<b>SECTION I: PRACTICE OVERVIEW</b>		
<b>Name of the Dental Public Health Activity:</b> <b>Healthy Teeth, Happy Babies</b>		
<b>Public Health Functions:</b> Assurance – Population-based Interventions Assurance – Oral Health Communications		
<b>Healthy People 2020 Objectives:</b> OH-1 Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth OH-7 Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year OH-8 Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year		
<b>State:</b> Colorado	<b>Federal Region:</b> Region VIII	<b>Key Words for Searches:</b> perinatal oral health, infant oral health, social marketing
<p><b>Abstract:</b>            Early childhood dental disease is the most chronic childhood disease in the U.S. and is evident in high numbers in Colorado, yet this disease is nearly always preventable. In Colorado:</p> <ul style="list-style-type: none"> <li>• 1/3 of Colorado’s children live in low-income households (less than 200% of federal poverty level).</li> <li>• 14% of one year olds have untreated decay.</li> <li>• 32% of Head Start kids aged two to five have untreated dental decay.</li> <li>• 46% of kindergarteners have had cavities and/or fillings.</li> <li>• 57% of third grade children have had cavities and/or fillings.</li> <li>• 80% of dental disease occurs in 20% of the population with disproportionate incidence in low-income kids.</li> <li>• An estimated 7.8 million school hours are lost in Colorado due to oral health pain and infections.</li> <li>• Few low-income children have regular access to a dentist—only 11% of dentists in Colorado take Medicaid, and lower reimbursement rates are likely to make that number decrease further. **</li> </ul> <p>The Healthy Teeth, Happy Babies public education campaign’s goals are to educate new and expecting parents in metro Denver about the connection between parent/baby dental health and motivate preventive behavior change, especially in high-risk (low-income/Hispanic) populations.</p> <p>Over four years, the campaign has effectively used a series of social marketing tactics:</p> <ul style="list-style-type: none"> <li>• Annual research to establish a baseline, identify obstacles, and measure progress</li> <li>• Partnerships with community/state organizations, medical, dental, other healthcare providers</li> <li>• Print, broadcast, and outdoor advertising</li> <li>• Patient education/community outreach</li> <li>• Media/social-media relations</li> </ul> <p>In 2009, 612 new or expecting mothers in metro Denver were surveyed. The results from 2006-2009 show significant progress:</p> <ul style="list-style-type: none"> <li>• Respondents’ awareness that tooth-decay can be passed from mother to infant increased from 26% to 78%.</li> <li>• The biggest increases in behavior change and awareness were made among younger,</li> </ul>		

- Hispanic, lower-income, less-educated respondents.
- Among Hispanic mothers who heard the messaging, 58% reported stopping sharing utensils and 43% reported taking their child to a dentist.

The awareness gains (26% to 78%) have been remarkable. The challenge is maintaining awareness while continuing behavior change in high-risk populations. The campaign addressed this by revising brand image with focus on Spanish translation to ensure culturally-relevant messages and strategies.

*\*\* (Source: Colorado Dept. of Public Health and Environment (CDPHE) studies in 2004 and 2007, and Impact on Oral Disease on the Health of Coloradans, CDPHE 2005)*

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## **SECTION II: PRACTICE DESCRIPTION**

### **History of the Practice:**

Since 2006, this critical public health campaign has been working to reduce oral disease in infants and pregnant women in Colorado. Healthy Teeth Happy Babies and the Delta Dental of Colorado Foundation run bilingual advertising throughout the Denver area to raise awareness about the link between mother and baby oral health while providing information to prevent the spread of dental disease. The campaign also works with dentists, pediatricians, OBGYNs, health clinics, hospitals and community organizations such as Salud Family Health Centers, Tri-County Health, WIC Clinics and Nurse-Family Partnership to educate new mothers and pregnant women directly and to encourage them to see a dentist regularly.

In 2006, the Delta Dental Foundation commissioned an in depth study by an independent third party research firm to get a baseline understanding of perceptions about the importance of good oral health for infants and pregnant mothers and how to raise awareness about these issues.

328 phone surveys were completed with mothers of children birth to 2 years old in the seven county Denver metro area:

- The maximum margin of sampling error was +/- 5.4 percentage points at the 95% level of confidence
- The response rate was 41%, well above average for phone surveys

This comprehensive study looked at awareness, behaviors, and practices including:

- At what age do mothers take their children to the dentist? Why?
- How much do mothers of young children know about infant oral health? Where do they learn this information? From medical providers? The Web? Other sources?
- Do at home behaviors change?
- Dental habits, and more

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

Early childhood dental disease is the most chronic childhood disease in the U.S. and is evident in high numbers in Colorado, yet this disease is nearly always preventable. In Colorado:

- 1/3 of Colorado's children live in low-income households (less than 200% of federal poverty level).
- 14% of one year olds have untreated decay.
- 32% of Head Start kids aged two to five have untreated dental decay.
- 46% of kindergarteners have had cavities and/or fillings.
- 57% of third grade children have had cavities and/or fillings.
- 80% of dental disease occurs in 20% of the population with disproportionate incidence in low-income kids.

- An estimated 7.8 million school hours are lost in Colorado due to oral health pain and infections.
- Few low-income children have regular access to a dentist—only 11% of dentists in Colorado take Medicaid, and lower reimbursement rates are likely to make that number decrease further. \*\*

Key findings from the Delta Dental Foundation survey mentioned above revealed that:

- Pregnant women and new moms are particularly open to learning more about the importance of their oral health and their infants’
- The most influential determinant to recognizing the importance of infant oral health is the advice of the medical professional
- Few mothers know that medical guidance recommends dental visits by age one
- Few dentists and doctors recommend visits by age one, despite professional guidelines to the contrary

Using a dynamic combination of community-based social marketing (CBSM) principles, the campaign developed a strategy and plan to:

- Frame the issue based on audience research
- Raise awareness through a combination of targeted traditional marketing and grassroots efforts
- Engage the provider community across disciplines including obstetrics, pediatrics, dentistry, community service providers and child care centers
- Reinforce messaging publicly and in provider offices for sustained behavior change

*\*\* (Source: Colorado Dept. of Public Health and Environment (CDPHE) studies in 2004 and 2007, and Impact on Oral Disease on the Health of Coloradans, CDPHE 2005)*

### **Inputs, Activities, Outputs and Outcomes of the Practice:**

The Healthy Teeth Happy Babies campaign has used a dynamic combination of community-based social marketing (CBSM) principles to educate the target population and empower them to improve their family’s dental health. The CBSM concept has been applied through the following methods:

- Annual research to establish a baseline, identify obstacles, and measure progress
- Partnerships with community/state organizations, clinics, dental, and other healthcare providers
- Print, broadcast, and transit advertising
- Patient education
- Community outreach
- Media/social media relations

The campaign has been an evolution of grassroots community-based social marketing practices that have been adjusted and enhanced based on research and experience. The campaign conducts interviews with key stakeholders and peers at the beginning of each campaign year and at key milestones.

### **Budget Estimates and Formulas of the Practice:**

The annual Healthy Teeth Happy Babies budget averages \$250,000. Of that amount, an average of \$100,000 is allocated towards advertising, \$30,000 for research and the remainder is used for program implementation and hard costs (such as patient education materials). Given the public education focus of this campaign, it is not possible to determine a cost per client.

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

#### Assets

The Delta Dental of Colorado Foundation’s commitment to improving infant dental health was key to securing funding for this initiative, as well as several other programs that focus on the Foundation’s mission to Eradicate Tooth Decay in Colorado’s Children.

#### Challenges

The population of new and expecting parents is constantly renewing, so efforts must be sustainable to maintain awareness and change behavior as more new and expecting parents cycle into the

target population. Also, the high-risk (low-income/Hispanic) population can be difficult to reach due to a variety of factors including language and immigration documentation barriers.

#### Overcoming Challenges

The challenge of maintaining awareness while continuing to implement preventive behavior change in high-risk populations was addressed by the campaign in 2010. The Healthy Teeth Happy Babies brand image was developed with a special focus on Spanish translations to ensure all messages and strategies were culturally-relevant and appropriate for the target audience. In fact, the name 'Healthy Teeth Happy Babies' was originally created in Spanish as 'Dientes Sanos Niños Felices' and was then translated back to English.

#### Lessons Learned

Over the past five years, the campaign's strategy has constantly evolved to maximize effectiveness. If the campaign was to be recreated, the most significant change would be to place a greater emphasis on direct parent interaction from the beginning, in addition to communicating with parents through their trusted healthcare providers.

#### Next Steps:

Still under development, but elements under discussion are:

- Continue the strategy and tactics that have been successful over the past four years
- Increased direct outreach to dental providers
- Increase awareness and acceptance of AAP and AAPD guidelines for the age one dental visit
  - More peer-to-peer communication
  - Develop more dental expert content for use in clinical articles,
- Newsletter placements, and online posts
- Increase advertising spend from 2010

#### **Available Information Resources:**

Numerous resources have been developed as a result of the Healthy Teeth Happy Babies campaign, including patient education materials, dental kits, countless articles and videos and several online tools. The campaign website is the most comprehensive source for information and resources about the initiative, including an online order form for educational materials, a blog, access to care information and separate sections for Providers, Parents and Spanish Speakers. Other online tools include a campaign YouTube channel, Facebook page and Twitter account, all of which can be accessed from the website.

All campaign resources are available at: [www.healthyteethhappybabies.com](http://www.healthyteethhappybabies.com).

### **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)?*

In 2006, the campaign commissioned random sample phone survey research with mothers of children (age 0-2) in the seven-county Denver metro area to get a baseline understanding of perceptions about the importance of good oral health for infants and pregnant mothers and how to raise awareness about these issues. Similar research was then collected following each year to track the campaign's effectiveness on awareness and adoption of behavior changes within the target population. In addition, data from Delta Dental of Colorado insurance claims for infants (age 0-3) were analyzed. The campaign also tracked the amount of patient education materials requested by medical, dental and other healthcare providers throughout Colorado.

Results among 2010 phone survey respondents showed improvements in awareness and behavior change:

- Awareness that cavity-causing germs can be passed from mother to infant has increased from 26% to 79%.
- Of those who heard the message, more than half changed their behavior: 91% stopped sharing items; 86% brushed or flossed; 79% stopped cleaning pacifier with their mouth; 77% stopped putting sweet liquids in the bottle.

- Respondents in the target audience are much more likely to change behavior as a result of hearing campaign message: 60% of Latina respondents reported changing behaviors; 66% of respondents with high-school education or less reported changing behaviors; 58% of respondents with income less than \$30,000 reported changing behaviors.

Delta Dental of Colorado claims analysis show from 2007 to 2010, infants (age 0-3) accessing dental care in metro Denver increased from 26.7% to 30.2%. In the same period, average annual restorative dental charges per visit decreased in metro Denver for infants (age 0-3) while preventative charges increased. Additionally, during the first four years of the campaign, over 700 partners requested a total of more than 450,000 patient education cards.

### **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.*

As a not-for-profit campaign with a relatively small annual budget, Healthy Teeth Happy Babies relies on many cost saving and resource efficiency techniques to manage expenses and maximize its effectiveness. For example, in 2011 the campaign partnered with a Denver radio station and Chick-fil-A to implement a Halloween candy exchange. A three week multi-media oral health advertising effort ran in conjunction with the candy exchange at *no cost* to the campaign, including 108 radio spots, news segments, online advertising and social media posts. The promotion was part of a “value-added” package generated from the campaign’s advertising, with an estimated value of \$10,000. All of the nearly 100 pounds of candy from the event was donated to U.S. military troops stationed abroad through Operation Gratitude.

Additionally, as a not-for-profit effort, the campaign frequently obtains free or reduced cost exhibition space at professional association conferences (e.g. Colorado chapters of the American Academy of Pediatricians, American Academy of Physician Assistants, etc.), health fairs and community events. To further reduce costs for conducting public and provider outreach at these events, the campaign regularly partners with volunteer dentists and hygienists from local public health clinics to staff event exhibits.

### **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?*

The issue of prenatal and infant oral health has become a movement in Colorado that has gained a remarkable amount of momentum over the past five years; because of this, the initiative will undoubtedly continue on multiple levels. Additionally, the Delta Dental of Colorado Foundation’s commitment to improving infant dental health was key to securing funding over the past five years.

### **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?*

The campaign has hundreds of partners in the medical, dental and other healthcare provider fields. The campaign also partners with initiatives that share the same goal of improving the oral health of Colorado’s children, such as Cavity Free at Three (CF3), Kids In Need of Dentistry (KIND), The Children’s Hospital Dental Clinic, Salud Family Health Centers and many more.

### **Objectives/Rationale**

*How has the practice addressed HP 2010 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?*

The Colorado Department of Public Health and Environment (CDPHE) recently named oral health one of the state’s 10 Winnable Battles and Governor John Hickenlooper is focusing his leadership on improving oral health in the state. Healthy Teeth Happy Babies, along with many foundations,

nonprofits and individual dentists, have committed resources to this effort to improve the oral health of Colorado.

**Extent of Use Among States**

*Describe the extent of the practice or aspects of the practice used in other states?*

During the summer of 2011, the Delaware Division of Public Health (DPH), Bureau of Oral Health and Dental Services began to replicate components of the Healthy Teeth Happy Babies social marketing framework. Our communications team continues to work with the DPH to tailor the program for its specific populations and to facilitate implementation of a similar effort in the state of Delaware.