



## Dental Public Health Activities & Practices

**Practice Number:** 51002  
**Submitted By:** Oral Health Services, Vermont Department of Health  
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<b>SECTION I: PRACTICE OVERVIEW</b>		
<b>Name of the Practice:</b> Baby Bottle Tooth Decay (BBTD) Program		
<b>Public Health Functions:</b> Assurance – Access to Care and Health System Interventions Assurance – Oral Health Communications Assurance – Building Community Capacity for Interventions Assurance – Building Linkages and Partnership for Intervention Assurance – Population-based Intervention		
<b>HP 2010 Objectives:</b> 21-2 Reduce untreated dental decay in children and adults. 21-1 Reduce dental caries experience in children. 21-9 Increase persons on public water receiving fluoridated water. 21-10 Increase utilization of oral health system. 21-12 Increase preventive dental services for low-income children and adolescents. 21-14 Increase number of community health centers/local health departments with oral health component.		
<b>State:</b> Vermont	<b>Region:</b> Northeast Region I	<b>Key Words:</b> Baby bottle tooth decay, BBTD, early childhood caries, ECC, dental care, access to care, dental providers, dental education, prevention, dental referrals, fluoride testing
<b>Abstract:</b> The Vermont Department of Health, Dental Health Services administers the Baby Bottle Tooth Decay (BBTD) Program. The BBTD Program aims to provide prevention and intervention of early childhood caries through the health care system, targeting children age four years and younger. The program raises awareness and educates providers and parents on the oral health of young children, promotes preventive care (such as fluoride supplement), and facilitates early visits to the dentist. Initial funding to begin the program (approximately \$11,000) was given to the Health Department from the following partners: Delta Dental, Vermont's Dental Society, EDS, Insurance Company Blue First, and the Vermont Laboratories. The program: (1) Recruits the support of pediatricians to provide dental health education, fluoride supplements and dental referrals for early prevention; (2) Works with WIC clinics to detect BBTD and make referrals; (3) Offers water fluoride testing of private water sources to assess the need and appropriate dosage of fluoride supplements; (4) Provides a referral list of dentists recruited by the program to accept and treat young children in their practices. The program has recruited 110 dentists to treat children referred by the program, worked with all WIC clinics to assess BBTD, and provided resources and updates to all pediatrician's offices through periodic mailings made three times per year.		
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## SECTION II: PRACTICE DESCRIPTION

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

In 1993, baby bottle tooth decay (BBTD) or early childhood caries (ECC) was recognized and identified as a public health problem in Vermont. During 1994-1995, the Vermont Health Department, Dental Health Services collected data on children treated in the hospital setting for needs assessment and analysis of early childhood caries. In 1996, a coalition (representing the pediatric and family practice physicians, WIC clinic providers, dentists, the Vermont Health Department Dental Services, Public Affairs, Community Public Health, Nurse Practitioners and the Vermont Laboratory Technicians) was formed to plan a BBTD Initiative. In 1997, the Dental Health Services began to implement the initiative and the BBTD Program was established.

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

Partnering with physicians is needed for timely prevention and detection of early childhood caries. Children routinely see a physician at an early age. Yet, many children do not visit a dentist early for preventive care, although the American Academy of Pediatric Dentistry recommends the first dental examination by age one. This problem is compounded when a very young child requires treatment for tooth decay (e.g., fillings, temporary crowns or extractions). Sedation or general anesthesia in a hospital setting is often needed to manage the child for dental treatment. Hospital discharged data from one primary hospital in Vermont showed that in 1999, 246 children were hospitalized for BBTD/ECC. Of these 246 children, approximately 65% were children enrolled in the Medicaid program.

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

The Vermont Department of Health, Dental Health Services administers a BBTD Program. The BBTD Program aims to provide prevention and intervention of early childhood caries by raising awareness and educating providers and parents on oral health issues, promoting preventive care (such as fluoride supplement), and facilitating referrals for early visits to the dentist. The program targets children age four years and younger. The program relies on the support of providers (including dentists, pediatricians and WIC personnel) to educate the parents and refer the young children to a dentist for preventive care and needed treatment.

For initial funding to begin the program, money was given to the Health Department from the following partners: Delta Dental, Vermont's Dental Society, EDS, Insurance Company Blue First, and the Vermont Laboratories. The approximate total was \$11,000.

The program:

- Recruits the support of pediatricians through periodic mailings to pediatricians' offices, promoting dental health education, BBTD assessment, fluoride supplements and dental referrals for early prevention
- Works with all WIC clinics to promote dental health education, detect BBTD, and make dental referrals.
- Offers water testing for fluoride levels in private water sources to assess the need and appropriate dosage for fluoride supplements.
- Provides a list of dentists for referrals who have been recruited by the program to accept and treat young children in their practices

The program enlists the support of the pediatricians to talk to parents about baby bottle use and oral hygiene during early well child visits. In addition, pediatricians are encouraged to continually assess risk for BBTD through visual exams and review of the child's history. Three mailings per year are made to all pediatrician offices to provide updates and resources including a newsletter.

In the WIC clinics, children are evaluated for BBTD by the nutritionist on staff. The information is then forwarded to the physician's office for follow-up.

Water testing is recommended for areas that are on well or spring water to help evaluate the need for fluoride supplement and appropriate dosage. The pediatrician provides a water testing form to the parent to mail to the state laboratory. A testing kit is sent to the parent with instructions for collecting a water sample and mailing it back to the laboratory. Test results are mailed to the parent, pediatricians and the Dental Health Services. The Vermont Department of Health

Laboratories provides the water testing services free of charge for children under four years old in the BBTD Program. Approximately 400 tests are conducted each year.

The Dental Health Services developed a referral list of participating dentists for the program. Dental offices were contacted and asked if their dentists would treat children age four and under at risk of BBTD. A total of 110 dentists have been recruited to see BBTD patients referred by the program. The program encourages that any child under the age of four who presents with at least one of the following BBTD risk factors be referred to a participating dentist: bottle feeding in bed; bottle feeding after the age one; sibling history of early childhood caries; mother with active/untreated tooth decay; high risk medical disorders; decalcification of the tooth surfaces; and/or tooth decay. The referral list of dentists is distributed to the doctor's offices, dental offices and WIC clinics. With a referral from a pediatrician, the participating dentists agreed to schedule them regardless of the method of payment.

A Dental Health Educator devotes approximately 40% of her time in distributing information, periodic mailings, and updating the referral list of dentists, and coordinating with Vermont Department of Health Laboratories for water testing. The Dental Health Educator also works with the Vermont District Offices to encourage the offices to include dental services in their goals for prevention and better health.

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

Annual budget 2001 for the BBTD Program:

- Laboratory water testing for fluoride - \$4000 (\$10 per testing kit; approximately 400 tests per year)
- Material and supplies for mailings - \$500

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

Getting the pediatricians and their office staff to participate in the program is a challenge. There is a need to continuously follow up with the offices through phone calls, meetings, table clinics, newsletters and program updates, in order to keep the pediatricians and front office staff involved with the program and to provide a better understanding of how the program works.

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

- BBTD Program pamphlets, videotape, postcards and posters on stages of BBTD
- Fluoride booklet
- Referral forms for water testing
- Map of Vermont with listing of Health Department District Offices

## 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)?*

The program's impact and effectiveness is in mobilizing partners in the community to prevent BBTD/ECC. The town of Middlebury demonstrates well the benefits of the BBTD Program. The nutritionist in the Middlebury WIC clinic works closely with the program in assessing BBTD, making referrals to the pediatric office for follow-up and working with parents to facilitate care. The program has enlisted Middlebury Pediatrics, with five pediatricians, to educate parents on BBTD and make dental referrals. The pediatricians will refer the family and child to a dentist for needed treatment, guide the parents in requesting water testing through the BBTD Program, and prescribe fluoride supplements as needed. The program has recruited two dental offices in the community, with four dentists, to treat the children referred by the pediatricians.

### **Efficiency**

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

Early prevention, detection and treatment of tooth decay is more cost effective than extensive restorative treatment as a result of neglect. Preventing BBTD/ECC through education, fluoride supplements, and early dental visits would be more economical than having young children hospitalized to receive dental treatment under general anesthesia or sedation. The program links services through partnerships by having providers support the educational, referral and treatment needs in order to prevent BBTD. For example, the WIC nutritionists assess BBTD and makes referrals to the pediatricians.

### **Demonstrated Sustainability**

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

The program began in 1997 and continues to this date. Funding in the past has been granted and supported locally and through the state when needed. It is a low maintenance program to sustain. Partnerships with the pediatricians, dentists, WIC personnel and the state lab have been stable, which sustain the benefits of the program.

### **Collaboration/Integration**

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

Pediatricians, dentists, WIC Clinics, the State Department Laboratories and the Department of Health support the BBTD initiative. For initial funding to begin the program, money was granted to the Health Department from the following sources: Delta Dental, Vermont's Dental Society, EDS, Insurance Company Blue First, and the Vermont Laboratories. The Vermont Department of Health Laboratories donates their water testing services. The Vermont Department of Health, Dental Health Services provides resource materials.

### **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?*

The program aims to prevent early childhood caries. This goal addresses Healthy People 2010 oral health objectives in reducing dental caries experience in children, reducing untreated dental decay, and increasing preventive dental services for low-income children. The program also addresses disparities in the Surgeon General's Report on Oral Health.

## **Extent of Use Among States**

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

For 1999-2000, the ASTDD State Synopsis reported that 40 states and 4 territories have Early Childhood Caries/BBTD programs. The states are: AL, AK, AZ, AR, CA, CO, CT, DE, FL, GA, HI, ID, IL, IN, IA, KS, ME, MD, MA, MI, MO, MT, NB, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, SD, TX, VT, VA, WA, WV, and WI. The territories are American Samoa, N. Mariana Islands, Puerto Rico and Republic of Palau.