

“Bringing early Education, Screening and Treatment”

BEST Oral Health

A Sustainable Oral Health Collaborative

Desired Outcomes

- **Understand community and policy**
 - Steps involved in the creation of this sustainable model
 - Collaborative strategies for change
- **Understand program and clinical elements**
 - Mastering complex communications to build partnerships and a systematic delivery system
 - Opportunities for replication
- **Understand performance challenges, data and results**
 - Preschool oral health-related quality of life.

The Community Picture:

A Sustainable Oral Health Collaborative
BEST Oral Health Partners

<ul style="list-style-type: none"> ▪ Project Team <ul style="list-style-type: none"> • Partners for a Healthier Community • Tufts University SDM Community Dental Program • Oral Health Impact Project • Boston University Goldman School of Dental Medicine • Springfield College School of Social Work 	<ul style="list-style-type: none"> ▪ Key Collaborators <ul style="list-style-type: none"> • Massachusetts DPH Office of Oral Health • Early Education and Care Organizations • Family Based Childcare Provider Network • Community and CHC Oral Health Programs • Local Private Dental Practices
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Community Health Planning

- **Formative Process**
 - Vision
 - Assessment
 - Goals
 - Priority Setting
 - Pilot Best Practices

Implementation Process

- **Guiding Principles**
 - BEST taps into existing social networks
 - Interventions operate at multiple levels simultaneously
 - Complex community interventions (i.e., mini-interventions) are needed
 - Multiple stakeholders are involved in the design, implementation, and evaluation

Implementation Process

- **Preparation**
 - Formative and summative evaluation
 - Springfield College School of Social Work
 - Boston University
- **Promotion**
 - Watch Your Mouth
- **Programs**
 - Comprehensive dental services within center-based community infant, toddler, and preschool programs (i.e., portable dentistry)
 - Case management support to consumers of family-based childcare
 - Oral health education and parenting support for children/families with special risks (infants – 5 yrs)
 - Special initiatives (e.g., case management)
- **Policy**
 - Community-based system for oral health education and care
- **Physical/infrastructure**
 - Expand safety net by adding dental clinic and provider capacity

Policy Objectives
Community System for Oral Health Care

- Families and Children Facing Special Risks**
 - Build a community-wide oral disease prevention program for groups of infants, toddlers, preschoolers and their families facing special risks
 - Use existing programs to case manage and link children to more intensive dental services
 - Embed research-informed oral health education and preventive dental measures within childcare settings
 - Embed comprehensive dental treatment and restorative services for infants, toddlers, preschoolers and their families within childcare settings



The Clinical Picture



A Sustainable Oral Health Collaborative

Partners for a Healthier Community, Inc.



Necessary Ingredients for Sustainability

- Environmental Assessment**
 - There must be need
 - Those who need must utilize the service
 - The remuneration mechanism must be able to neutralize the cost
- Strategic Plan**
 - Business planning
 - Scope of service
 - Infrastructure
 - Operations
 - Systems



Strategic Plan.



Business Plan

- Environmental assessment
- Roadmap for success
- Long and short term productivity goals
- Educating and motivating all clinical providers
- Established protocols for service visits
- Conscious decision based on assessment of what and how much care can be subsidized


Scope of Service

- Based upon need and the environmental assessment
- The scope of service for the program should be predetermined
- Circle of care must be completed
- Treatment plans completed




Infrastructure

- Before the first visit all infrastructure must be in place
- Support staff including schedulers, trainers, coordinators, billing and reconciliation staff
- Clinical teams that are trained and oriented
- Equipment and supplies to meet the plan



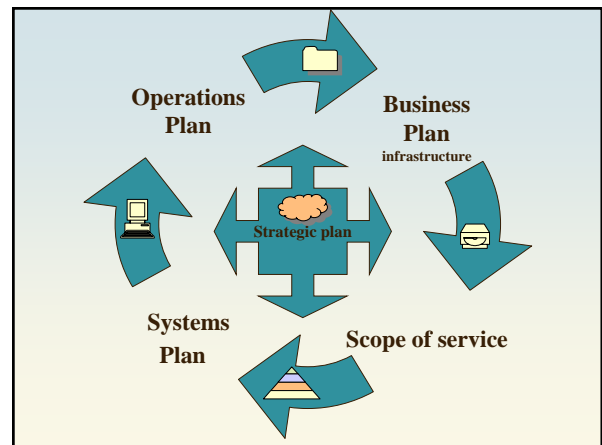
Operational Systems

- Schedules
- Calendar
- Policies and procedures for all aspects
- Referral process
- MOUs, contracts, agreements
- Human resources
- Recruitment and retention process



Systems

- Dental records
- Consents and histories
- Practice management system
- Scheduling system
- Billing system
- Prior approval process
- Reconciliation system
- Payment system

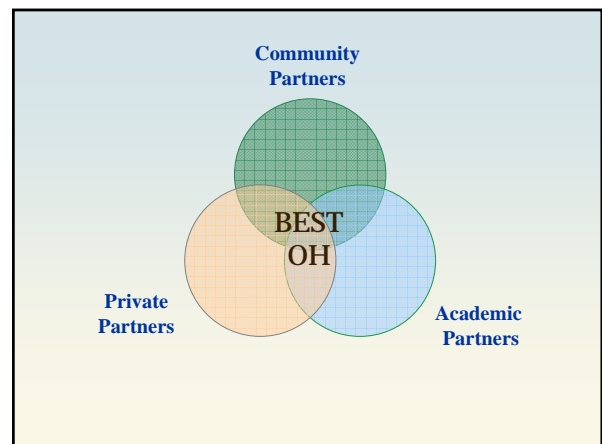


Types of Partners

<ul style="list-style-type: none"> ▪ Administrative Partners <ul style="list-style-type: none"> • Partners for a Healthier Community • The Massachusetts Department of Public Health's Office of Oral Health • Early Childhood Education Centers • Family Based Care Network ▪ Academic Partners <ul style="list-style-type: none"> • Boston University Goldman School of Dental Medicine • Tufts University School of Dental Medicine Community Dental Program • Springfield College School of Social Work 	<ul style="list-style-type: none"> ▪ Private Partners <ul style="list-style-type: none"> • Oral Health Impact Project • Private Dentists • Community Partners • Western Mass Hospital • Springfield Technical Community College School of Health • Holyoke Health Center • Caring Health Center
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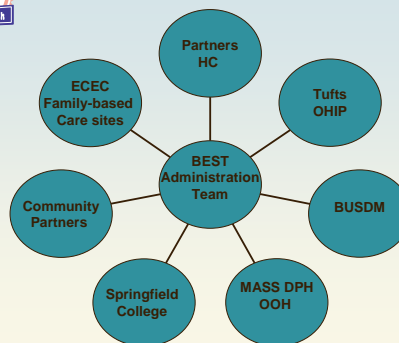



Keys to a Successful Clinical Collaboration

- Each partner in the collaborative has a defined role/scope of service
- All partners in the collaborative must have a defined business plan for sustainability
- All partners are expected to fulfill their responsibilities within the collaborative
- Communication is the essence of success
- The two primary clinical partners who provide clinical services control scheduling together
- Ongoing quality assurance/process and program evaluation is evident and shared



Coordination

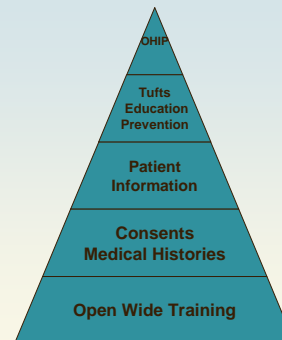


What Makes it Work?

- Good communication
- Well-defined roles
- Sharing of resources
- Playing to each other's strengths
- A complete environmental assessment
- Proper infrastructure to support the service
- A good service and business plan based upon sound systems and operations



Clinical Model



Clinical Flow

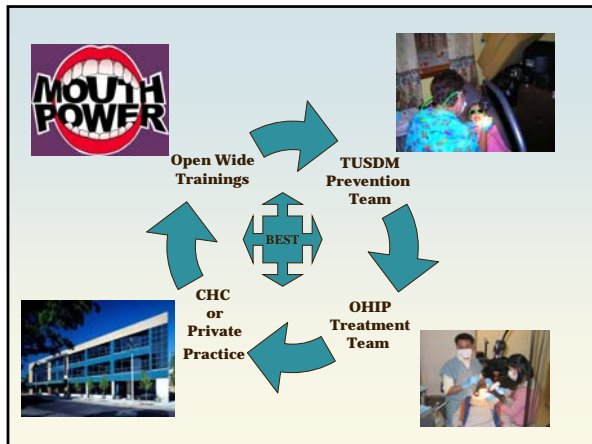
- Open Wide training-dental health curriculum for non-dental health professionals at centers. Pre and post-testing related to dental IQ in prep for dental piece.
- Consents distributed and collected by BEST team
- Patient demographics and information collected by TUSDM team. MassHealth and Ins. Info.
- Patient information loaded into Denticon System



Clinical Flow cont.

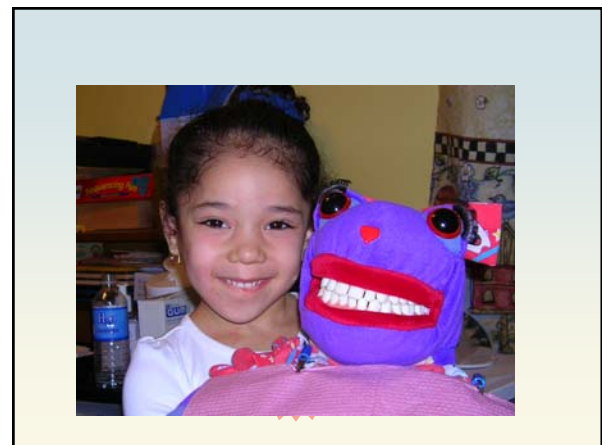
- TUSDM provides screenings, education and prevention including fluoride varnish
- Initial education and TUSDM piece serves as intro to the dentist
- Screening serves to prioritize children for clinical services
- High priority children referred to local private/community practices
- Upon completion of educational piece OHIP provides dental services to complete the circle of care and the elimination of disease





Results

- 10,277 total population of children in active child care programs in Hampden County
- 4,094 preschool-aged children being served by preschool centers and family-based care providers who have received oral health education training through the BEST program
- 1,630 preschool-aged children enrolled in the BEST program for on-site comprehensive dental services
- 1,549 preschool children who have received comprehensive dental services to date (95%)
- 2,903 dental procedures provided
- 2,993 total preventive services in 2007



Measurement and Outcomes

BEST Oral Health

A Sustainable Oral Health Collaborative

Partners for a Healthier Community, Inc.

What will be covered:

- Oral Health problems in Hampden County, Massachusetts
- Evaluation Framework
- Preliminary results

Background

Hampden County, Massachusetts

Population	460,000
Preschool children	10,277
Child poverty rate	47.8%
State child poverty rate	12.4%
National child poverty rate	18.3%

Oral health status indicators among kindergarten children in Hampden County, MA

Hampden County	Massachusetts
• Untreated decay 23%	• Untreated decay 15%
• Pain 9%	• Pain 4%
• Caries Experience 45%	• Caries Experience 28%

White BA, Monopoli MP, Souza BS. Catalyst Institute. The Oral Health of Massachusetts Children January, 2008.

BEST Oral Health Program

Components of the Program

- Oral Health Education
 - OPENWIDE Training
- Prevention Services
 - Screening
 - Fluoride
 - Sealants
- Comprehensive Dental Care

Evaluation Framework

STANDARDS
Utility
Feasibility
Propriety
Accuracy

— MMWR, 1999
Framework for Program Evaluation in Public Health

Evaluation of the BEST Program

- **Step 1: Engage Stakeholders**
- Step 2: Describe the Program
- Step 3: Focus the Evaluation Design
- Step 4: Gather Credible Evidence
- Step 5: Justify Conclusion
- Step 6: Ensure Use and Share Lessons Learned

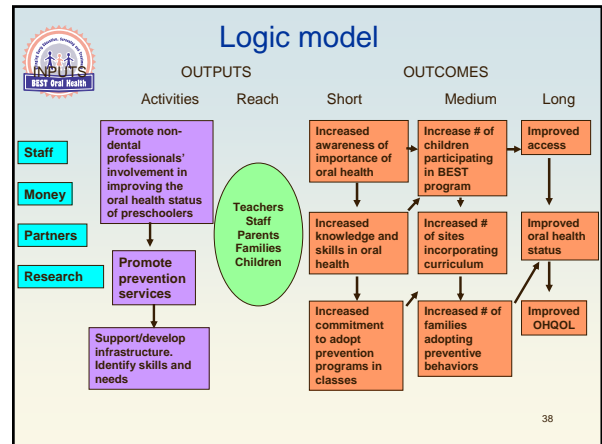
Step 1: Engage Stakeholders

- **Administrative**
 - Partners for a Healthier Community
 - The Massachusetts Department of Public Health's Office of Oral Health
 - Early Childhood Education Centers
 - Family Based Care Network
- **Academic**
 - Boston University School of Dental Medicine
 - Tufts School of Dental Medicine Community Dental Programs
 - Springfield College School of Social Work
- **Private**
 - Oral Health Impact Project
 - Private Dentists
 - Community Partners
 - Western Mass Hospital Oral Health Program
 - Springfield Technical Community College Oral Health Program
 - Holyoke Community Health Center
 - Caring Health Health Center




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Step 3: Focus the Evaluation Design

Process Evaluation Questions

- How many parents signed their child up for the program?
- How many preschool workers have been recruited and trained using OpenWide curriculum?
- How many teachers incorporated the supporting curriculum into their classes?
- Is the program reaching the target population?
- What is the level of satisfaction among those using the program?

Outcome Evaluation Questions

- Did the BEST program improve:
 - Oral health **knowledge** among preschool staff and parents?
 - The oral **health status** of preschool children in Hampden County?
 - Oral **health related quality of life** among those receiving comprehensive dental care?



Did the BEST program improve: oral health knowledge among preschool staff?

OPENWIDE Training


- **Two-hour training**
- **Teaches non-dental providers:**
 - Recognize and understand implications of oral diseases
 - Recognize and address risk factors
 - Provide anticipatory guidance and prevention intervention
 - Make appropriate referrals
- **Study Design**
 - Single group pre test/post test



Did the BEST program improve: oral health status of preschool children?


Oral Health status indicators:

- **Untreated decay**
- **Caries experience**
- **Pain**
- **Treatment urgency:**
 - No obvious problems
 - Some treatment needed
 - Extensive treatment needed
 - Urgent treatment



Did the BEST program improve: oral health related quality or life among preschool children?

- **Pediatric Oral Quality of Life Instrument (POHQOL)**
 - Pre-school version
 - 13-items
 - Parents rate child's daily functioning thought to be affected by oral health
 - Domains
 - Physical functioning
 - Social functioning
 - Psychological functioning
 - Impairment




POHQOL Questions

During the past three months...


How often? <ul style="list-style-type: none"> • Never • Once in a while • Some of the time • All of the time 	How bothered was your child? <ul style="list-style-type: none"> • Didn't happen • Never bothered • Bothered a little bit • Somewhat bothered • Very bothered
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1. In general, how would you describe the health of your child's teeth and mouth?
(OH-1)
Excellent, Very good, Good, Fair, Poor
2. Compared to one year ago, how would you rate the health of your child's teeth and mouth?
Much better, Somewhat better, About the same, Somewhat worse, Much worse



POHQOL Scoring

- **5 Outcome measures**
 - Total impact score
 - Product of 'frequency' X 'bothered'
 - Possible range from 0 to 260 (4*5*13)
 - 4 domain scores
 - Physical, social, psychological, impairment
- **We also treated perceived oral health (OH-1) as an outcome**
- **Higher score = worse quality of life**




Step 3: Focus the Evaluation Design

- **Study Design**
 - Quality of life
 - Quasi-experimental research design
 - Children receiving comprehensive care versus children receiving preventive care only



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Step 4: Gather Credible Evidence

Data Sources

	Knowledge/ Awareness	Knowledge Retention	Satisfaction	Systems	QOL	Oral Health Status
Survey A OPENWIDE Pretest and Posttest	X					
Survey B OPENWIDE 6-Month Follow-up	X	X				
Survey C Clinical Data Collection Form						X
Survey D Pediatric Oral Quality of Life Instrument					X	
Survey E Program Implementation				X		
Survey F Quarterly Report			X	X		
Survey G OPENWIDE Evaluation						
Survey H Monthly Report				X		
Survey I Site Evaluation			X	X		
Survey J Trainer Evaluation			X			



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How many Early Education providers were trained using OPENWIDE?

- **473 Early Education and Care providers completed pre/post tests**
 - 42 trainings
 - Delivered by one trainer

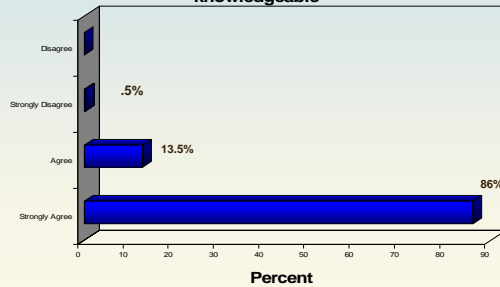
To What Extent did Knowledge Increase Among Early Education providers?

Survey Question (True/False)	Pre-% correct	Post-% correct
1. First Dental Visit	85	85
2. Bacterial disease transmitted from caregiver	61	93
3. Role of primary teeth	70	86
4. Sealants	84	92
5. Breast feeding and caries	95	91
6. Nighttime bottle	95	93
7. Role of fluoride	94	92
8. Amount of juice	75	84
9. What are white spot lesions	90	93
10. Screenings can be done by staff and parents	65	85
Average number of items correct	8.3	9.4
Range	2-10	5-10



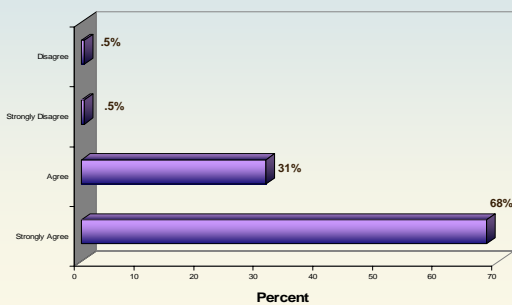
What did Participants say about the training?

99.5% Said Trainer was well-prepared and knowledgeable



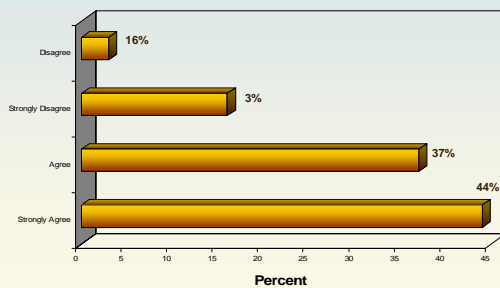
What did Participants say about the training?

99% can use the information on the job



What did Participants say about the training?

81% need more training or assistance to implement





What did Participants say about the training?

- “The class was very good. I’m very encouraged to start brushing and using the OPENWIDE health training to teach parents and children the importance of oral health.”
- “I was very impressed with the presentation and learned a lot”
- “More information on how to actually implement ‘the logistics’ we have one sink for 54 children-how can we run that smoothly?”

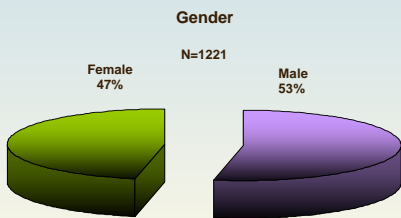


Preliminary Results

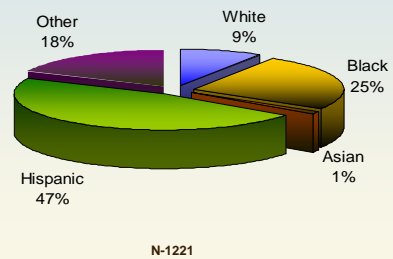
- Oral Health Education
- Oral Health Status of children
- Oral Health Related Quality of Life



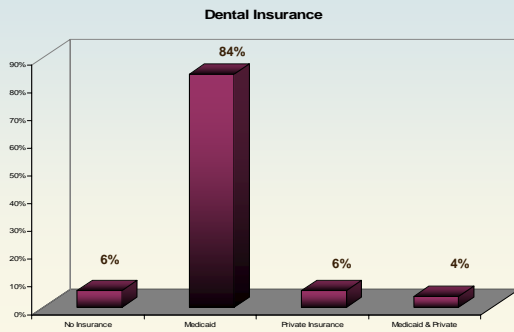
What are the characteristics of the children enrolled in the program?



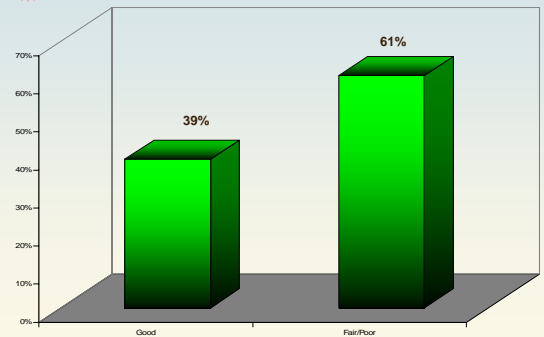
What are the characteristics of the children enrolled in the program?

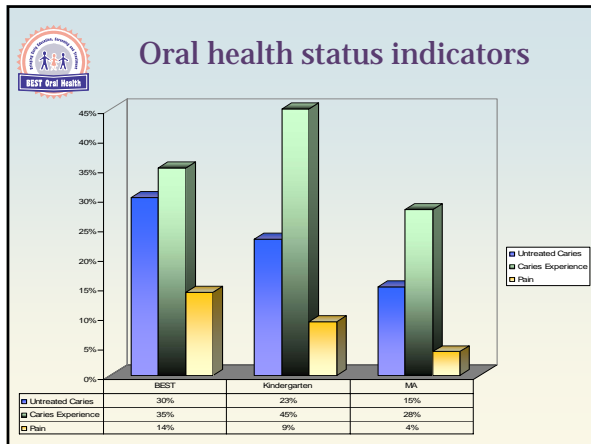


Most of the children have Medicaid dental insurance



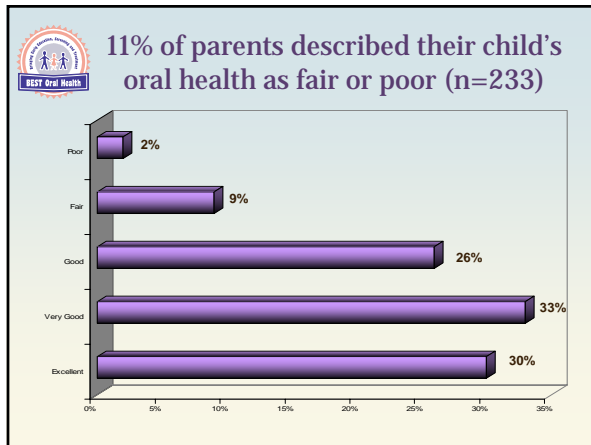
61% of the children had fair or poor oral hygiene





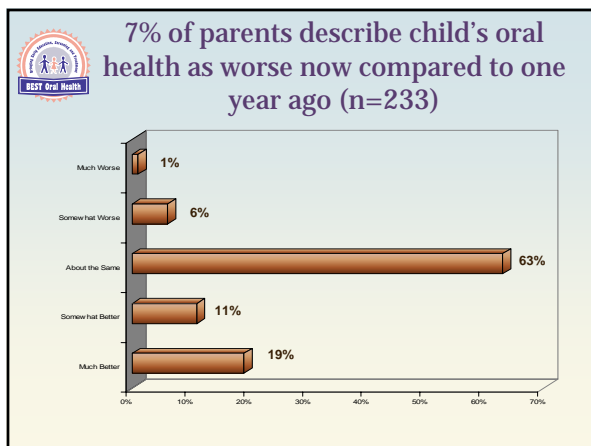
Interim Results

- Oral Health Education
- Oral Health Status of children
- Oral Health Related Quality of Life




Children described as having fair or poor OH had worse OHQOL than children with good OH

	Mean	SD	Mean E/V/G/G	Mean F/P	P-value
Age	3.4	2.1	3.2	4.6	0.05
Pain	0.48	1.5	0.32	1.6	0.03
Worry	0.29	1.2	0.13		
Impairments	1.5	4.8	0.94	4.3	0.05
Total Impact	3.3	9.8	2.2	7.8	0.04
Total # Problems	0.92	2.0	0.70	2.0	0.01




Children described as having worse OH now compared to last year had worse OHQOL than children with same/better OH

	Mean	SD	Mean Better/Same	Mean Worse	P-value
Age	3.4	2.2	3.0	5.1	0.1
Pain	0.48	1.5	0.38	1.8	0.03
Psychological	1.2	4.9	0.68	2.7	0.05
Impairments	1.5	4.8	1.2	4.3	0.03
Total Impact	3.3	9.8	2.6	7.4	0.05
Total # Problems	0.92	2.0	0.75	2.3	0.004




Untreated caries and OHQOL


Untreated Caries	Yes	No	P-Value
Mean Number Problems	1.2	.76	0.2
Mean Total Impact	4.3	2.3	0.3





Treatment urgency and OHQOL

Treatment Urgency	Yes	No	P-Value
Mean Number Problems	2.0	.80	0.1
Mean Total Impact	5.6	2.9	0.3

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 - **Step 6: Ensure Use and Share Lessons Learned**

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- ### Step 6: Ensure Use and Share Lessons Learned
- The BEST Program is on target to meet its process and outcome goals and objectives.
 - Program serves a diverse mix of children
 - Infants, toddlers, preschool-age
 - Almost half are Hispanic
 - On site dental services have been provided to almost 95% of enrolled children
 - Children were referred to mobile dental clinics or community providers for more extensive services

- 
- ### Step 6: Ensure Use and Share Lessons Learned
- **Implementation Successes and Challenges**
 - Sites report significant progress in implementing program
 - Staff discuss three types of implementation successes:
 - On site preventive dental services for children
 - Expanded oral health education for staff and children
 - Partnership building
 - **Challenges**
 - Difficulty engaging parents

- 
- ### Next Steps
- Continue to report about participants, services, treatment.
 - Report data on oral health education for parents and retained (6-month) knowledge for Early Education Centers teachers and staff.
 - Report on follow-up OHQOL information
 - In-depth interviews with sites to identify promising practices
 - Final report will include analysis of all data collected
 - Highlight implementation lessons
 - Discuss promising practices
 - Potential for replication



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