Preface


The first oral health report of the Surgeon General states that low-income and minority children suffer a greater burden of dental disease and continue to be the most vulnerable to further oral health problems. Due to environmental and other social conditions in which these children and their families live, many face a myriad of problems that create obstacles to care and subsequently impact their ability to realize and sustain oral health. As a result, many experience disproportionate levels of disease, endure untreated oral infections, and often go to bed suffering from dental pain.

Head Start (HS) and Early Head Start (EHS) children are a subset of children who are among the nation’s most vulnerable children. Head Start and Early Head Start children come from low-income families and range in age from 0 to 5 years. These children and their families generally lack resources and have limited dental insurance, which prohibits access to dental care.

Head Start and Early Head Start are comprehensive child development programs. In 2001, two federal agencies, the Administration for Children and Families (ACF), Head Start Bureau (HSB) and the Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), partnered to establish an Intra-Agency Agreement to prioritize oral health for Head Start children across America. Under this initiative, the two long established federal Health and Human Service agencies have integrated their systems in an effort to advance the health and development of Head Start children. The overall goal of this initiative is to help each Head Start child to attain and maintain oral health by ensuring that he or she receive the early periodic, screening, diagnostic, preventive and treatment services (EPSDT) as defined by each state Medicaid office.
Introduction

In early 2002, the Association of State and Territorial Dental Directors provided grant funds for states to hold oral health forums to assess the needs of Head Start children; and to explore strategies for oral health promotion and increased access to services for these young children and their families. In the fall of 2002, Massachusetts key stakeholders joined forces to establish the Massachusetts Head Start Oral Health Initiative. This group, coordinated by the Massachusetts Department of Public Health, Office of Oral Health, in collaboration with representatives from the Massachusetts Head Start Association, Massachusetts Head Start State Collaborative Office, Region I ACF Head Start Office, Head Start parent groups, MassHealth, Dental Service of Massachusetts, Boston University Dental School, Tufts Dental Facilities Community Outreach Program, Commonwealth Mobile Adolescent Oral Health Services Program, Massachusetts Dental Society and the Massachusetts Dental Hygienists’ Association held two state forums during which the need for a statewide Head Start oral health survey was determined. Recognizing that Head Start programs are required under federal law to collect oral health data and submit a Program Information Report (PIR) yearly, the group concluded that an open mouth statewide survey with calibrated screeners could potentially benefit Head Start programs by providing comparable information within the state, and with other programs nationally. It was further believed that this data could be used in conjunction with Head Start PIR data by program administrators and policy makers.

The Massachusetts Head Start Oral Health Initiative implemented the open-mouth oral health survey of Head Start children from December 2003 to May 2004. Using a slightly modified version of the Basic Screening Survey protocol used in the 2003 Give Kids A Smile Oral Health Survey of Third Grade School Children in Massachusetts, 1,673 children from 12 of the 31 Head Start Programs were screened. This statewide sample represents approximately 13.9% of the 12,007 pre-school aged children enrolled in Massachusetts Head Start programs in the 2003-2004 school year. Of those children who received an oral screening, 1,627 provided information on dental insurance and access to a dental home.

Oral Epidemiologist Kathy Phipps, PhD, whose services were supported by the Association of State and Territorial Dental Directors (ASTDD) and the Maternal and Child Health Bureau assisted with the survey design and provided the methodology and statistical analysis noted in the following sections. A systematic random sampling procedure was used to select the
representative sample, adjusting for school population. Data collected included history of dental disease, untreated disease, treatment urgency, decalcification (white spot lesions) and Early Childhood Caries. Access to care data, provided by parents included dental insurance information and whether or not the child has a dentist.

**Methodology**

A modified version of the Basic Screening Survey (BSS) methodology was used to conduct the 2004 Massachusetts Head Start Oral Health Survey. In 1999, the Association of State and Territorial Dental Directors (ASTDD), in collaboration with the Ohio Department of Health and the Centers for Disease Control and Prevention established guidelines for the collection of oral health survey data. The purpose of the guidelines was to assure that oral health information was being collected in a similar fashion throughout the United States. 2004 Massachusetts Head Start Oral Health Survey followed the ASTDD guidelines in terms of sample selection, diagnostic criteria, data collection, and analysis. Additional information was gathered on decalcified areas otherwise known as white spot lesions.

The BSS is cross sectional in design, and is used to survey a specific population at a given point in time. The data provides descriptive estimates of the measures observed for the given population. The BSS tool utilizes a direct observation dental screening methodology to assess oral health status and access to a dental home. The oral health data collected in the 2004 Massachusetts Head Start Oral Health Survey using the BSS included: 1) history of disease; 2) untreated disease; 3) Early Childhood Caries; 4) treatment urgency; and 5) decalcification. In addition, a parental questionnaire was used to assess dental insurance and access to dental treatment services.

The sampling frame for the 2004 Massachusetts Head Start Oral Health Survey was pulled from the 31 Massachusetts Head Start grantees. Of these, 13 grantees were selected for inclusion. One grantee elected not to participate. It was determined that a sample size of 1,200 children out of the 8,187 enrolled in these grantee sites would be necessary to provide the statistical power for the survey analysis. All Head Start children enrolled in the selected programs were invited to participate. Only those children whose parents provided consent were eligible for participation. Parental consent was obtained for 1,887. The actual number of
Head Start students screened was 1,673 or approximately 20%. This number represents approximately 13.9% of the total enrolled in Massachusetts Head Start Programs in 2003-2004.

The Massachusetts Department of Public Health, Office of Oral Health coordinated the Head Start screenings in conjunction with Head Start administrators and the Massachusetts College of Pharmacy and Health Sciences, Dental Hygiene Program. Dental screenings took place between December 2003 and May 2004 in each of the Head Start sites, in a location designated by the Health Manager. Volunteer dental hygienists and dental hygiene students trained in the use of the BSS tool, performed the dental screenings. Mouth mirrors and lighting was used to assure ample visibility. Infection control measures, as outlined in the BSS guidelines, were utilized.

In addition to the clinical dental observations, the survey protocol included a parental consent form and questionnaire. Parents whose children participated in the survey were asked to provide information about their child’s age, gender, whether or not their child had a dentist, and type of dental insurance, if any. This data was incorporated into the survey analysis and the following summary highlights the results and key findings.

**Results**

Results from the 2004 Massachusetts Head Start Oral Health Survey reveals that of the 1,673 Head Start children screened, 37% have experienced dental disease. Among this group, 29% had observable untreated disease, and 8% had urgent dental needs requiring immediate care due to large cavities and infection. The survey also revealed that approximately 38% of the children screened had white spot lesions or areas of decalcification that represent early decay that could be arrested with access to dental treatment.
Key Findings
2004 Statewide Oral Health Survey of Head Start Children in Massachusetts

Key Finding #1: For young children in Head Start, tooth decay remains a significant childhood health problem in Massachusetts.

More than one third of Massachusetts Head Start children have experienced tooth decay before the age of 5. Twenty-nine percent of the children screened were in need of dental care including eight percent of the children who needed immediate care because of large cavities and/or infections.
Key Finding #2: Massachusetts’ Head Start children experience dental decay at an early age and the prevalence of decay increases with age.

Dental decay starts at an early age for Massachusetts’ Head Start children. Dental decay is an infection. By age 5, forty-one percent of the children had experienced decay in their primary teeth, setting the stage for a lifetime of dental decay as their permanent teeth begin to erupt.
Key Findings
2004 Statewide Oral Health Survey of Head Start Children in Massachusetts

Key Finding #3: The majority of Massachusetts’ Head Start children have limited access to dental care.

Only fifty-three percent of the parents of Massachusetts’ Head Start children report having a dentist for their children. Younger children are less likely to have a dentist. Fifty-two percent of the 3-year old children have a dentist compared to sixty-four percent of the 5 year olds. These percents are much lower than the 2003 survey of Massachusetts’ third grade school children when eighty-five percent of parents reported having a dentist for their children.

*2003 Statewide Survey of Massachusetts 3rd Grade School Children
2004 Massachusetts’ Oral Health Report
Key Findings
2004 Statewide Oral Health Survey of Head Start Children in Massachusetts

Key Finding #4: Most of Massachusetts’ children have some type of insurance coverage for dental care, yet a large proportion of Head Start children do not have insurance coverage for dental care.

<table>
<thead>
<tr>
<th>Type</th>
<th>Percent of Children with Dental Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>MassHealth</td>
<td>65%</td>
</tr>
<tr>
<td>Private</td>
<td>10%</td>
</tr>
<tr>
<td>None</td>
<td>25%</td>
</tr>
<tr>
<td>MA Average</td>
<td>87%</td>
</tr>
</tbody>
</table>

Percent of Children with Dental Insurance by Type

Twenty-five percent of parents reported that they do not have dental insurance coverage for their child. Sixty-five percent report having MassHealth and ten percent having private insurance.

Children with no dental insurance coverage are less likely to have a dentist. Twenty-two percent of the children without dental insurance listed a dentist compared to sixty-three percent of the children with MassHealth and sixty-five percent of the children with private dental insurance.

* 2003 Statewide Survey of Massachusetts 3rd Grade School Children
May 2004 Massachusetts’ Oral Health Report
2005 ORAL HEALTH SURVEY OF
EARLY HEAD START CHILDREN IN BOSTON

Preface:
Early Childhood Caries (ECC) disproportionately affects poor children from racial/ethnic minority groups. ECC is a serious form of dental caries that affects the primary dentition of young children. Left untreated, this infectious disease can lead to serious illness, infection and pain which in turn can impair weight gain, speech, lead to learning and eating problems, and increase school absenteeism, thus negatively affecting children's and families' quality of life. Treatment of ECC often requires costly interventions such as surgery under general anesthesia and hospitalization.

In 1994, the U.S. Department of Health and Human Services, Administration for Children and Families, Head Start Bureau, created Early Head Start to serve pregnant women and children birth to three years of age. Early Head Start has a triple mission. It promotes healthy prenatal outcomes, enhances the development of infants and toddlers, and promotes healthy family functioning.

The Northeast Center for Research to Evaluate and Eliminate Dental Disparities, housed at the Boston University School of Dental Medicine, conducted oral health assessments in order to document the oral health status of very young children, ages six weeks to three years, enrolled in three Early Head Start Programs in the Boston area.

Methods:
With the assistance of the ABCD Head Start Health Coordinator and the three Health Managers of each site, dental screenings were provided at three out of the four Boston area Early Head Start Centers between November 2004 and March 2005. Using a modified version of the American Association of State and Territorial Dental Directors (ASTDD) Basic Screening Survey, a Registered Dental Hygienist provided dental screenings using non-latex disposable gloves and a penlight. Children were screened for the presence of Untreated Decay, Caries
Experience, and signs of Early Childhood Caries, including the presence of white lesions or areas of decalcification on the upper anterior teeth, indicative of early signs of decay. Treatment Urgency was also recorded.¹

Results

One hundred twenty five children enrolled in three Early Head Start programs were invited to receive oral health screenings. Positive consent was obtained from 95 (76%) children and of those, 83 (66%) were screened. The screened children ranged in age from 8 months to three years and consisted of 8 infants (0-15 months), 68 toddlers (15-33 months), and 7 pre-school children (≥33 months). Of the 83 children screened, a total number of 1,224 teeth were counted. None of the children screened were edentate and the number of teeth per child ranged from two erupted teeth to twenty erupted teeth, or a full primary dentition.

¹ American Association of State and Territorial Dental Directors (AASTDD) Case Definitions

- **Caries Experience (CE):** at least one tooth with an untreated cavity, a filling or a missing permanent molar.
- **Untreated Caries (UC):** at least one permanent or primary tooth with both .5 mm of cavitation and brown to dark brown coloration at the walls of cavitations.
- **Early Childhood Caries (ECC):** at least one upper primary incisor decayed, missing or filled due to dental caries.
- **White Lesions (white spots):** early stages of decay, decalcification, pre-cavitated lesions puts a child at risk to develop early childhood caries when present on upper primary incisors. (This is not an AASTDD definition)

Approximately half of the children screened were male and half female. White lesions and Early Childhood Caries (ECC) were found in 25% and 5% of children, respectively. White lesions were more likely to be found in pre-school children and toddlers; however, only toddlers exhibited ECC. Compared to females, males were nearly twice as likely to have white lesions on their teeth. Twenty-one of the 83 children screened (25%) presented with white lesions, but did not meet the ASTDD definition of decay or Early Childhood Caries; thus, these children were documented as being at risk for the development of ECC.

None of the children screened were considered to have urgent dental needs or a recommendation to be seen by a dentist with 24 hours; however, 25 (30%) of the children were in need of early dental care. Five percent of the children screened presented with Caries Experience, 5% with Untreated Decay and 5% with caries experience that met the criteria for Early Childhood Caries (ECC). None of the children screened had restorations or extracted teeth.
Conclusion
This service project demonstrated the prevalence of white lesions in Early Head Start children and the subsequent risk of ECC in this population. Of the 83 Early Head Start children screened, almost one third of the children needed dental treatment because they already had caries, or had areas of white spots that are at high risk for becoming caries without an intervention. None of the children had any dental fillings and all the caries seen was untreated.
Key Findings
2005 Oral Health Survey of Early Head Start Children in Boston

**Key Finding:** Almost one third of the children in Early Head Start who were screened needed early dental treatment.

A large percentage of very young children have already experienced dental disease or show early changes in enamel that place them at high risk for dental decay. Many of the early changes are reversible with dental treatment.

Figure 5. Table 8 (Appendix)
2005 Oral Health Survey of Early Head Start Children in Boston
2003 – 2005 SURVEY OF EARLY CHILDHOOD CARIES IN ONE TO THREE YEAR OLD BOSTON CHILDREN

Preface

Early Childhood Caries (ECC) is a serious form of dental caries that affects the primary dentition of infants and toddlers. Left untreated, this infectious disease can lead to serious illnesses, including abscesses, which could have significant health and financial consequences. The Northeast Center for Research to Evaluate and Eliminate Dental Disparities, located at the Boston University School of Dental Medicine, conducted oral health assessments on children ages 1-3, with the purpose of documenting the oral health status of very young children who were seeing primary care pediatricians at two urban teaching hospitals in Boston.

Methods

The parents/caregivers of 1-3 year old children presenting for well-child visits at each of the two locations were approached by a dental hygienist in the examining or waiting rooms as they awaited the provider visit and were asked to complete a brief questionnaire and a brief non-invasive clinical examination using a penlight was conducted.

Results

Between February 2003 and April 2005, 800 children were recruited of which 51% were male and 49% were female. There were 450 one year olds, 204 two year olds, and 129 three year olds. The distribution for race/ethnicity was 26% White, 66% Black, 7% Asian, and 1% other. Fourteen percent were Hispanic and 86% were Non-Hispanic. The prevalence of ECC was found in 8% of the subjects.

Early Childhood Caries Definition

For this study, ECC is defined as at least one upper primary incisor that is decayed, missing, or filled due to caries. Decay was defined as either a cavitated lesion or a white spot that was due to demineralization. ECC was reported in 67 (8%) of the 800 children. There were 38 males and 29 females; 48 (9%) Black and 11 (5.4%) White; 8 (13.3%) Asian; 7 (6.3%) Hispanic and 60 (8.7%) Non-Hispanic; 28 (6.2%) 1-year olds, 27 (13.2%) 2 year olds, and 12 (9.3%) 3-year olds. Prevalence was greatest in the 2 year olds.
Conclusion

In conclusion, the present study shows that the prevalence of ECC is extremely high. When compared to national data, it is almost double than the national rates of 4.5% represented by NHANES III. Early Childhood Caries is a significant health issue disproportionately affecting economically disadvantaged members of racial and ethnic subgroups in the population.
Key Findings
Early Childhood Caries in One to Three-Year-Old Boston Children

**Key Finding:** The prevalence of early childhood caries is extremely high in the Boston children surveyed.

Nine percent of Boston children surveyed were noted to have evidence of early childhood caries compared to the national average of four and one half percent.* Early childhood caries is a significant health issue disproportionately affecting economically disadvantaged members of racial and ethnic subgroups of the population.

*NHANES III, 1994
Children with MassHealth dental coverage had less dental visits than the general population of Massachusetts’ children.

Although a visit to the dentist is important and necessary for optimal oral health, dramatically fewer children with MassHealth had a dental visit, in the years 2001 to 2004, than the statewide average for children in 1997.*

*BRFSS 1997 at [www.cdc.gov/brfss/](http://www.cdc.gov/brfss/)

Source: Annual EPSDT 416 Participation Report 2001-2004

Figure 7
Children with MassHealth dental coverage had their teeth cleaned in the past year less often than the statewide average.

Although a teeth cleaning visit is important and necessary for optimal oral health, dramatically fewer children with MassHealth had their teeth cleaned, in the years 2001 – 2004, than the statewide average for adults in 2002.

*BRFSS 2002 at www.cdc.gov/brfss/