

# ORAL HEALTH OF GEORGIA'S CHILDREN

## *Results from the 2006 Georgia Head Start Oral Health Survey*



### Introduction

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Oral health is an essential component of health throughout life. Poor oral health and untreated oral infections, such as tooth decay, can have a significant impact on a child's overall health, quality of life and self-esteem.<sup>1</sup> Regular dental visits are important for diagnosing, preventing, and treating oral diseases, as well as assessing the child's oral hygiene practices.<sup>2</sup> Studies indicate that preventive dental services are cost-effective and save children from pain and lost days of school:

- The National Institutes of Dental and Craniofacial Research and the National Education Association cite research showing that American children miss 52 million hours of school each year due to oral health problems.<sup>3</sup> In addition to lost days of school due to dental treatment and pain, dental problems distract children from learning.
- Preventive dental services reduce costly dental problems. Sedation in a hospital setting is often needed to treat young children with severe tooth decay. Studies of Medicaid dental expenditures in this age group indicate that hospital care is ten times more expensive (\$6,498) than preventive treatment (\$660).<sup>4</sup>
- The Centers for Disease Control and Prevention reports that nationally, more than one-in-four (over 40 million) pre-school children have experienced tooth decay. Tooth decay in the primary teeth predicts future dental decay in the permanent teeth. Early identification of children at greatest risk for caries and initiation of comprehensive care including "age- one dental visits" and early establishment of the "dental home " are essential to the prevention of early childhood caries.<sup>5</sup>

The purpose of this oral health report is to highlight the status of the oral health of Head Start enrolled<sup>6</sup> children in Georgia who participated in the 2006/7 Georgia Head Start Oral Health Survey. This Basic Screening Survey<sup>7</sup> provides a valuable addition to oral health status information gathered in the 2005 Georgia Third Grade Oral Health Survey<sup>8</sup> and the 1989 Georgia Dental Disease Prevalence survey.<sup>9</sup>

### Key findings\*

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- 40% of Georgia Head Start Non-Hispanic children surveyed had early childhood caries. Among Hispanic children who were surveyed, over 51% had experienced early childhood caries.
- 25% of surveyed Non-Hispanic children and 27% of surveyed Hispanic children had untreated dental decay. Approximately 28% of both Hispanic and Non-Hispanic children surveyed required referral for immediate dental care.
- Among Non-Hispanic children surveyed, 1 in 10 had rampant decay (more than 7 affected teeth). The percentage of Hispanic children surveyed (14%) with rampant decay was even higher.
- White Spot Lesions (WSL) are the earliest signs of tooth decay on the front teeth. WSL were present in about 20% of both Hispanic and non-Hispanic children surveyed. However, 27% of Hispanic children were observed to have Severe Early Childhood Caries or decay (S-ECC) as compared to non-Hispanic children (22% with S-ECC).

\*Refer to the Definitions and Methods section for a complete description of the terminology and survey process.

### Conclusions

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- Poor oral health is a significant public health problem among young children in Georgia. The prevalence of tooth decay among 2-5 year old children nationally is 28% (National Health and Nutrition Examination Survey, 1999-2004). Georgia's Head Start children have a significantly higher rate of tooth decay.
- Among Head Start children, the percentages with early childhood caries and untreated dental decay do not meet Healthy People 2010 objectives.
- Hispanic children had significantly higher percentages of tooth decay and more severe tooth decay than non-Hispanic children.

### Actions to Improve the Oral Health of Georgia's Children

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Historically, oral health program development in Georgia has been both a public and a private collaborative effort.

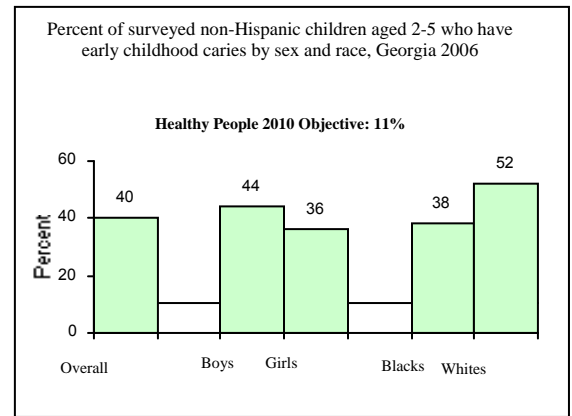
- Provide documentation of local level needs through reporting of public health, community and school oral health data.
- Continue statewide needs assessments and funding to build oral health infrastructure that increases access to care.
- Increase the proportion of eligible low-income Head Start children who establish a dental home, receive dental treatment, and are free of oral-related pain and active oral disease.
- Continue concerted public health collaborations with private dental professionals, organizations and the Department of Community Health (Medicaid/PeachCare) that will result in improved oral health status for all of Georgia's children.

# Oral Health by Sex, Race, and Ethnicity

**Early Childhood Caries** Early Childhood Caries (ECC) is defined as the presence of one or more decayed teeth in a child younger than 6 years old. For this age group, ECC is the same as “caries experience.” Dental caries is the most common chronic disease in children and is five times more common than asthma.<sup>1, 12</sup> Effective measures for prevention and treatment of childhood caries include community water fluoridation; appropriate use of fluoridated toothpaste; dental sealants; topical fluorides, including varnishes; and proper feeding of infants.<sup>1</sup>

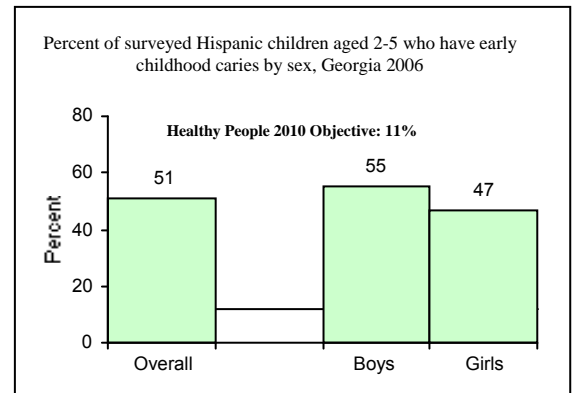
## Non-Hispanic Children

- Among Non-Hispanic children in Georgia Head Start who were surveyed:
  - Non-Hispanic boys were more likely to have caries experience (44%) than non-Hispanic girls (36%).
  - Non-Hispanic white children were more likely to have caries experience (52%) than Non-Hispanic Black children (38%).
  - All sex and race groups did not meet the Healthy People 2010 objective for caries experience (11%).



## Hispanic Children

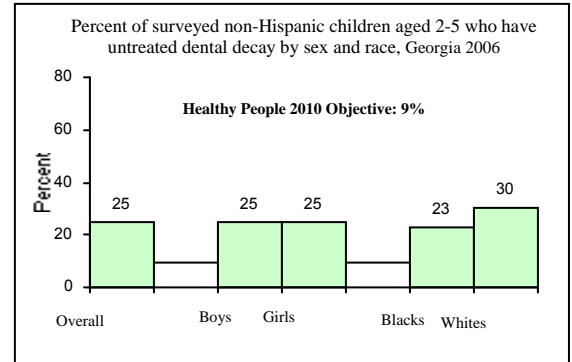
- Among Hispanic children in Georgia Head Start who were surveyed:
  - Hispanic boys were more likely to have caries experience (55%) than Hispanic girls (47%).
  - Both sex groups did not meet the Healthy People 2010 objective for caries experience (11%).



**Untreated Dental Decay** can result in pain and tooth loss.

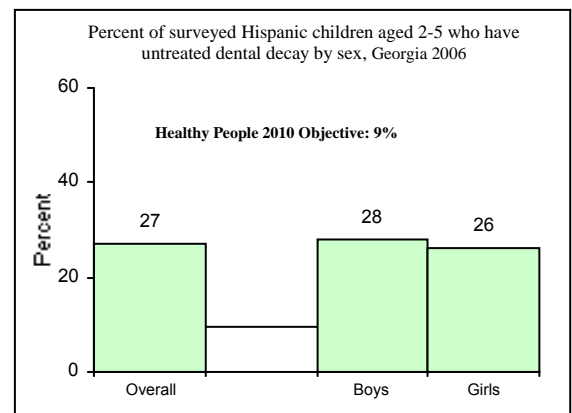
## Non-Hispanic Children

- Among Non-Hispanic children in Georgia Head Start who were surveyed:
  - Non-Hispanic boys (25%) were just as likely to have untreated dental decay as non-Hispanic girls (25%).
  - Non-Hispanic white children (30%) were more likely than Non-Hispanic Black children (23%) to have untreated dental decay.
  - All sex and race groups did not meet the Healthy People 2010 objective for untreated dental decay (9%).



## Hispanic Children

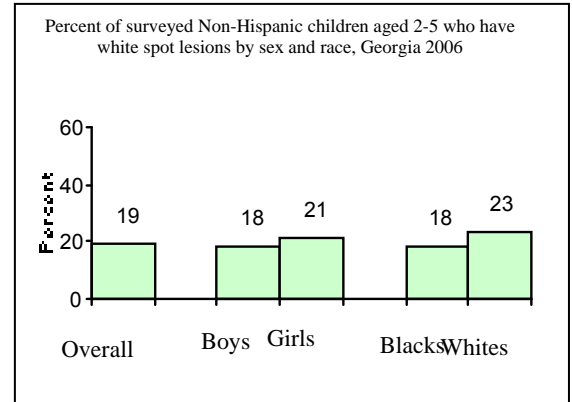
- Among Hispanic children in Georgia Head Start who were surveyed:
  - Hispanic boys (28%) were similarly likely to have untreated dental decay as Hispanic girls (26%).
  - Both sex groups did not meet the Healthy People 2010 objective for untreated dental decay (9%).



**White Spot Lesions (WSL)** WSL are the earliest sign of the caries process on smooth enamel surfaces and indicate that the underlying enamel has become decalcified. Unless steps are taken to reverse this process the lesion will likely advance to cavitation.<sup>13</sup>

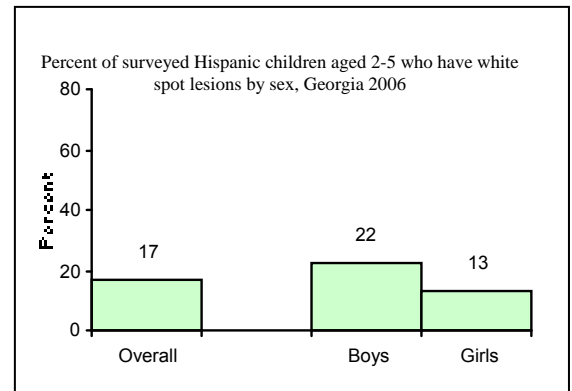
### Non-Hispanic Children

- Among Non-Hispanic children in Georgia Head Start who were surveyed:
  - Non-Hispanic girls (21%) were more likely to have white spot lesions than non-Hispanic boys (18%).
  - Non-Hispanic white children (23%) were more likely to have white spot lesions than non-Hispanic Black children (18%).



### Hispanic Children

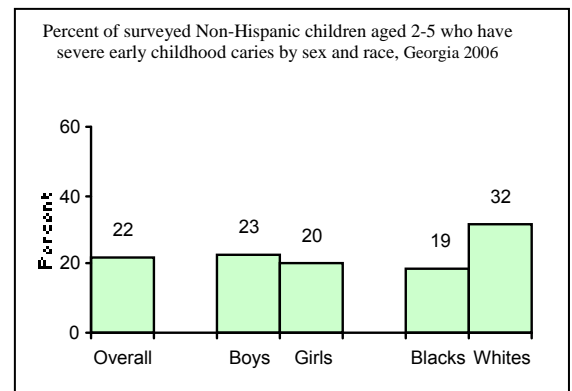
- Among Hispanic children in Georgia Head Start who were surveyed, Hispanic boys (22%) were more likely to have white spot lesions than Hispanic girls (13%).



**Severe Early Childhood Caries (S-ECC)** S-ECC is used in the Basic Screening Survey to describe tooth decay affecting any of the 6 upper, anterior teeth. It is sometimes referred to as “Baby Bottle Tooth Decay”, but may be due to causes other than the use of a baby bottle. Children’s teeth are susceptible to decay as soon as they begin to erupt. Parents should consult with their dentist as soon as their child’s first tooth erupts.<sup>10</sup>

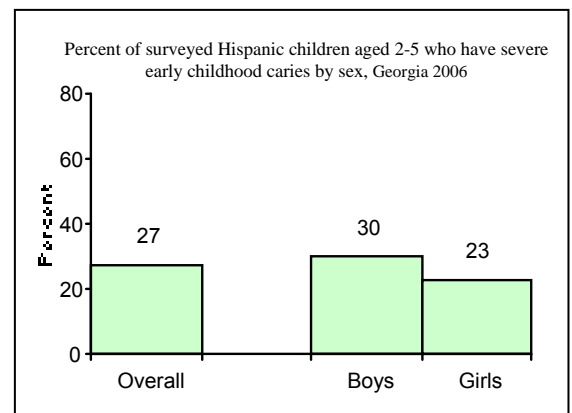
### Non-Hispanic Children

- Among Non-Hispanic children in Georgia Head Start who were surveyed:
  - Non-Hispanic boys (23%) were more likely than non-Hispanic girls (20%) to have severe early childhood caries.
  - Non-Hispanic white children (32%) were more likely than Non-Hispanic Black children (19%) to have severe early childhood caries.



### Hispanic Children

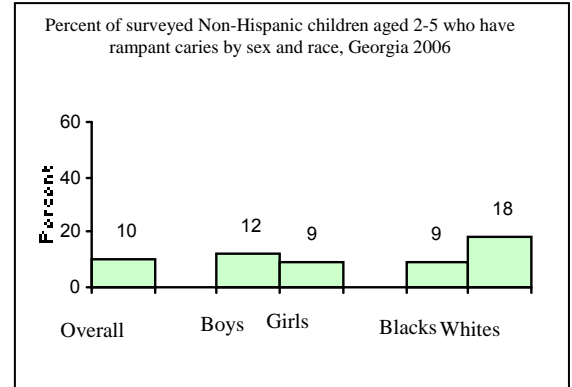
- Among Hispanic children in Georgia Head Start who were surveyed, Hispanic boys (30%) were more likely than Hispanic girls (23%) to have severe early childhood caries.



**Rampant Caries** The term “Rampant Caries” is defined in the Basic Screening Survey as 7 or more teeth affected by dental decay. Bacteria reside in the pits and fissures of the chewing surfaces of teeth and can cause tooth decay. If left untreated, severe dental problems may develop.

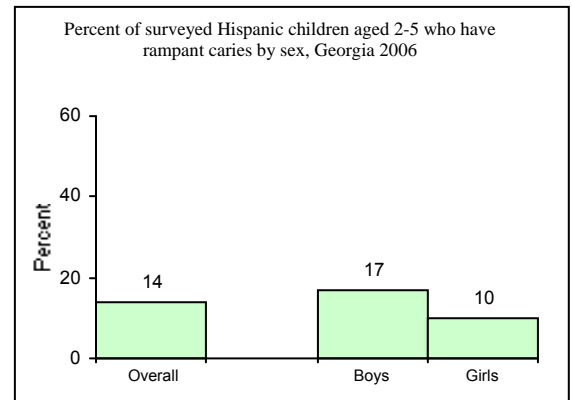
### Non-Hispanic Children

- Among Non-Hispanic children in Georgia Head Start who were surveyed:
  - Non-Hispanic boys were more likely to have rampant caries (12%) than non-Hispanic girls (9%).
  - Non-Hispanic white children were more likely to have rampant caries (18%) than Non-Hispanic Black children (9%).



### Hispanic Children

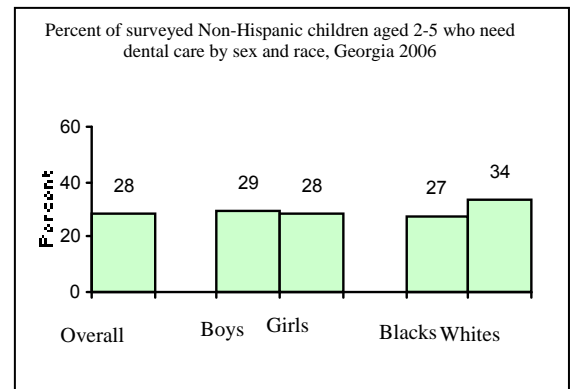
- Among Hispanic children in Georgia Head Start who were surveyed, Hispanic boys were more likely to have rampant caries (17%) than Hispanic girls (10%).



**Need Dental Care** Unmet dental need can compromise children’s ability to grow and to function, including their ability to learn, to develop positive self-esteem, to eat, and to speak.<sup>1</sup>

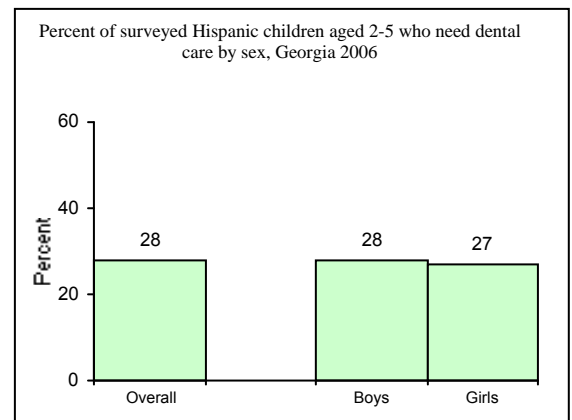
### Non- Hispanic Children

- Among Non-Hispanic children in Georgia Head Start who were surveyed:
  - Non-Hispanic boys (29%) were just as likely as non-Hispanic girls (28%) to require dental care.
  - Non-Hispanic white children (34%) were more likely than non-Hispanic Black children (27%) to require dental care.



### Hispanic Children

- Among Hispanic children in Georgia Head Start who were surveyed, Hispanic boys (28%) were just as likely as Hispanic girls (27%) to require dental care.



## Definitions and Methods

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### Oral health indicator definitions<sup>10,11</sup>:

**Tooth Decay (Caries)** – A biofilm-mediated acid demineralization of enamel or dentin. A cavity/decay is detected when a survey screener can readily observe a loss of at least 1/2 mm of tooth structure (cavitation) at the enamel surface and brown or dark-brown coloration of the walls of the cavity. Brown staining of the walls of the cavity may not be present for cervical caries (at the gum line) or in cavities of a very young child.

**Caries Experience** – Includes untreated decay and the presence of amalgam and/or composite fillings, temporary restorations, crowns, and teeth missing because of decay.

**Untreated Decay** – Includes any visible tooth decay, broken/chipped teeth with visible decay, and retained roots of decayed teeth.

**White Spot Lesions (WSL)** – Considers only the six maxillary anterior (upper front) teeth and is defined as white spots found only at the cervical 1/3 of the tooth, with or without a break in the enamel surface, and with or without brown staining. The presence of WSL identifies a child as being “at risk for Early Childhood Caries (ECC)”

**Early Childhood Caries (ECC)** - The presence of 1 or more decayed (noncavitated or cavitated lesions), missing teeth (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months (6 years) of age or younger. ECC is sometimes referred to as “Baby Bottle Tooth Decay”, but may be due to causes other than the use of a baby bottle.

**Severe Early Childhood Caries (S-ECC)** - In children younger than 3 years of age, any sign of smooth-surface caries is indicative of severe early childhood caries. From ages 3 through 5, 1 or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth; or the involvement of  $\geq 4$  tooth surfaces at age 3;  $\geq 5$  tooth surfaces at age 4; or  $\geq 6$  tooth surfaces at age 5.

For the Georgia Head Start Oral Health Survey S-ECC was defined as “at least one of the six maxillary anterior primary teeth is decayed, filled or missing due to caries in a child who is 2-5 years of age.

**Rampant Caries** – Treated (having any dental restoration) or untreated dental caries on 7 or more teeth.

**Need for Dental Care** – Children who are identified with unmet dental treatment needs are referred for care sooner than their next routine checkup. If pain or active oral infection is present, children are referred to a dental provider for immediate or emergency care.

### Methods:

#### Sampling

Data were collected in 2006 from a statewide systematic sample of 30 Head Start Centers, screening 2 classrooms per center, resulting in a sample size of 873 children. In addition, to gather more information about the potentially vulnerable population of Hispanic children, a convenience sample of Hispanic children from classrooms at Gainesville and Lyons centers were screened, increasing the total number of Hispanic children surveyed to 288. The study design was not consistently understood by all of the surveyors, and the data for the convenience sample was irreversibly mixed with the random sample. Since it was not possible to separate the two sets of data, data for Non-Hispanic and Hispanic children are presented separately. While the data on Hispanic children presented in this report provides useful information, it cannot be generalized to all Hispanic children enrolled in Head Start centers statewide. For future surveys data collection forms will be clearly labeled to identify the data sets.

#### Screening Methods

Parental consent for all necessary screenings and examinations obtained upon enrollment into Head Start provided survey consent. Only a few Head Start centers requested separate consent. Public health dentists and dental hygienists attended a training session, which included a hands-on calibration session and a didactic review of the diagnostic screening criteria outlined in the Association of State and Territorial Dental Directors publication *Basic Screening Surveys: An Approach to Monitoring Community Oral Health*.<sup>6</sup> Public health dentists and dental hygienists completed the screenings using gloves, penlights, and disposable mouth mirrors. Calibration was monitored during the screening process to ensure consistency.

#### Participation

873 children aged 2-5 years, 288 Hispanic and 585 Non-Hispanic from 30 Head Start centers in Georgia, were screened during the first and second quarters of the 2006/7 school year.

#### Data Analysis

The screening dataset was the source for estimating the percent of children who have caries experience, untreated dental decay, white spot lesions, early childhood caries, rampant caries, and need for dental care by sex, race, and ethnicity. For measures that corresponded to Healthy People 2010 Objectives (Early Childhood Caries and Untreated Dental Decay), comparisons were made to those objectives.<sup>14</sup> SAS was used to calculate prevalence estimates.

## References

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## Acknowledgements

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This project was a collaborative effort between the Georgia Department of Human Resources, Division of Public Health, Office of Birth Outcomes, Oral Health Section, the Epidemiology Section, and the Association of State and Territorial Dental Directors.

The Oral Health Section extends a special thank you to the District Dental Directors, Dental Hygienists and Dental Assistants who conducted the on site screening survey. We also thank the Georgia Head Start Association and Department of Early Care and Learning for their essential support in this important assessment of Head Start children's oral health status. And finally, a very special thank you to the recently retired State Dental Director/Oral Health Section Director, Thomas E. Duval DDS, MPH for his contributions and commitment to the survey, and the statewide oral health program.

For more information and resources about programs to address oral health in Georgia, please visit the Oral Health Section web pages at <http://health.state.ga.us/programs/oral/> or contact (404) 657-6639, ([gdphinfo@dhr.state.ga.us](mailto:gdphinfo@dhr.state.ga.us)), GA Oral Health Prevention Program 2 Peachtree Street, NW, 11-105 Atlanta, GA 30303-3142.

Suggested citation: Levin E, Koskela L, Horan J, Duval T, Smith J, Lense E. Oral Health of Georgia's Children: Results from the 2006 Georgia Head Start Oral Health Survey. Georgia Department of Human Resources, Division of Public Health, December 2008. Publication Number: DPH08.336HW.