

MISSISSIPPI STATE DEPARTMENT OF HEALTH



# Head Start Dental Survey 2007 – 2008

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# HEAD START DENTAL SURVEY 2007-2008

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## The Oral Health of Mississippi's Children

The Mississippi State Department of Health (MSDH) survey of third grade children in 2004-2005<sup>1</sup> found that:

- 69% of third-grade children had experience with tooth decay
- 39% had **untreated** tooth decay (cavities)
- 26% had preventive dental sealants on permanent molar teeth
- 10% needed **urgent** dental care

## Healthy People 2010 Oral Health Status Objectives

The federal health objectives in Healthy People 2010<sup>2</sup> include oral health status objectives. Specific oral health objectives for children two to four years of age are:

- Reduce the proportion of young children with dental caries experience in their primary teeth to 11%.
- Reduce the proportion of young children with untreated dental decay in their primary teeth to 9%.

## 2007-2008 Head Start Oral Health Survey

MSDH Office of Oral Health performed oral health screenings in Head Start classrooms with the objective of assessing the oral health status of children ages three to five years of age in 2007-2008.

## Methods

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A basic survey screening tool was used to record data from the oral health screenings.<sup>3</sup> An electronic data file of Head Start centers with child enrollment and number of classrooms for 2006 – 2007 was obtained. There were 220 Head Start centers with an enrollment of 23,743 children in 1,260 classrooms. The list of Head Start centers was ordered by health district and Head Start grantee program. The third Head Start center on the list was then selected followed by every 10<sup>th</sup> center; thus, 22 centers were randomly sampled. Parental consent was required for children to participate, and all children were offered the opportunity to participate.

Seven individuals (one dentist and six registered dental hygienist) screened children at Head Start Centers. Each screener's technique was calibrated at a Head Start site with the same age children to ensure standard findings. The screeners used sterile techniques consisting of gloves, pen lights, and mask. Findings of decay were based on visual conclusion. Each screener used a standardized coding system to record findings.

Child characteristics (grade, age, gender, race/ethnicity), oral health status (untreated decay, caries experience, treatment urgency), date, school name, and screeners' initials were recorded.

Response rates varied by center; therefore, the data was adjusted for non-response. The non-response weight included the number of children enrolled divided by the number of children screened (the inverse of the response rate for the selected center).

## Results

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### Sample Characteristics

Of the 2,605 children enrolled at the 22 randomly selected centers, 2,128 were screened for an overall response rate of 81.7%. Children screened had similar race/ethnicity distributions compared with the total Head Start enrollment in Mississippi (Table 1).

**Table 1**  
**Enrollment and Racial Composition for all Mississippi Head Start Centers and Sample Centers**

|                           |           | Child Enrollment | White %           | Black %           | Hispanic % |
|---------------------------|-----------|------------------|-------------------|-------------------|------------|
| <b>Head Start Centers</b> | (n=220)   | 23,743           | 13.8 <sup>1</sup> | 82.2 <sup>1</sup> | 2.2        |
| <b>Children Screened</b>  | (n=2,128) | NA               | 10.8 <sup>2</sup> | 83.2 <sup>2</sup> | 5.1        |

Source: Head Start Program Information Report 2006

<sup>1</sup> White and Black frequencies include Hispanic children

<sup>2</sup> White and black frequencies represent Non-Hispanic white and non-Hispanic black children

## Sample Demographics

The majority of the children screened (99.7%) were 3 to 5 years of age. Half the children were male, 11% were non-Hispanic white, 83% were non-Hispanic black, and 5% were Hispanic (Table 2).

**Table 2**  
**Age, Gender and Race/Ethnicity of Head Start Children Screened**

| <b>Variable</b>       | <b>Number of Children<br/>With Valid Data</b> | <b>Mean or Percent</b> |
|-----------------------|---|------------------------|
| <b>Age: Mean</b>      | 2,127   | 4 years                |
| Unknown               | 1   |                        |
| <b>Age</b>            |   |                        |
| 3 years               | 544   | 25.6%                  |
| 4 years               | 1,122   | 52.7%                  |
| 5 years               | 455   | 21.4%                  |
| 6 years               | 6   | 0.3%                   |
| Unknown               | 1   | 0.0%                   |
| <b>Gender</b>         |   |                        |
| Female                | 1,061   | 50.0%                  |
| Male                  | 1,065   | 49.9%                  |
| Unknown               | 2   | 0.1%                   |
| <b>Race/Ethnicity</b> |   |                        |
| Non-Hispanic white    | 230   | 10.8%                  |
| Non-Hispanic black    | 1,770   | 83.2%                  |
| Hispanic              | 108   | 5.1%                   |
| Other                 | 20  | 0.9%                   |

## Overall Oral Health Status

56% of the children screened had decay experience (untreated decay or fillings) in their primary and/or permanent teeth while 41% had untreated decay at the time of the screening. 41% of the children needed dental treatment including 7% in need of urgent dental care because of pain or infection (Table 3).

**Table 3**  
**Oral Health Status of Mississippi's Head Start Children**

|                                | Percent* | 95% CI*   |
|--------------------------------|----------|-----------|
| <b>Caries experience</b>       | 55.9     | 53.8-58.1 |
| <b>Untreated decay</b>         | 40.9     | 38.8-43.1 |
| <b>Treatment urgency</b>       |          |           |
| Any treatment (early & urgent) | 41.0     | 38.9-43.2 |
| Early                          | 33.8     | 31.8-35.9 |
| Urgent                         | 7.2      | 6.1 - 8.3 |

\*Adjusted for non-response

## Race and Ethnicity

Hispanic children had a higher prevalence of untreated decay and treatment urgency needs compared to non-Hispanic white and non-Hispanic black children. Overall oral health of non-Hispanic white and non-Hispanic black children did not differ (Table 4).

**Table 4**  
**Oral Health Status of Mississippi's Head Start Children Stratified by Race**

| Variable                       | Non-Hispanic White<br>(n=230) |           | Non-Hispanic Black<br>(n=1,770) |           | Hispanic<br>(n=108) |           |
|--------------------------------|-------------------------------|-----------|---------------------------------|-----------|---------------------|-----------|
|                                | Percent*                      | 95% CI*   | Percent*                        | 95% CI*   | Percent*            | 95% CI*   |
| <b>Caries experience</b>       | 56.5                          | 50.1-63.0 | 55.4                            | 53.1-57.8 | 63.1                | 53.8-72.3 |
| <b>Untreated decay</b>         | 37.5                          | 31.1-43.9 | 40.7                            | 38.4-43.0 | 53.6                | 44.0-63.2 |
| <b>Treatment urgency</b>       |                               |           |                                 |           |                     |           |
| Any treatment (early & urgent) | 36.2                          | 29.9-42.4 | 41.0                            | 38.7-43.3 | 53.1                | 43.5-62.8 |
| Early                          | 28.7                          | 22.8-34.6 | 34.2                            | 32.0-36.5 | 39.7                | 30.2-49.2 |
| Urgent                         | 7.5                           | 4.0 -10.9 | 6.8                             | 5.6 - 8.0 | 13.5                | 6.8 -20.1 |

\*Adjusted for non-response

## Age

Children 4 and 5 years of age have a higher prevalence of caries experience compared to children 3 years old; children 4 years of age have a higher prevalence of untreated decay compared to children 3 years old (Table 5).

**Table 5**  
**Oral Health of Mississippi Head Start Children Stratified by Age**

| Variable                          | 3 years old<br>(n=544) |           | 4 years old<br>(n=1,122) |           | 5 years old<br>(n=455) |           |
|-----------------------------------|------------------------|-----------|--------------------------|-----------|------------------------|-----------|
|                                   | Percent*               | 95% CI*   | Percent*                 | 95% CI*   | Percent*               | 95% CI*   |
| <b>Caries experience</b>          | 48.7                   | 44.4-53.0 | 57.5                     | 54.6-60.5 | 60.5                   | 56.0-65.1 |
| <b>Untreated decay</b>            | 36.0                   | 31.9-40.1 | 43.3                     | 40.4-46.3 | 41.4                   | 36.8-46.1 |
| <b>Treatment urgency</b>          |                        |           |                          |           |                        |           |
| Any treatment<br>(early & urgent) | 35.5                   | 31.4-39.6 | 43.8                     | 40.8-46.7 | 41.4                   | 36.8-46.0 |
| Early                             | 30.2                   | 26.3-34.2 | 35.6                     | 32.8-38.5 | 34.0                   | 29.6-38.5 |
| Urgent                            | 5.2                    | 3.4 - 7.1 | 8.1                      | 6.5 - 9.8 | 7.4                    | 4.9 - 9.9 |

\*Adjusted for non-response

## Sex

Girls and boys did not differ (Table 6).

**Table 6**  
**Oral Health Status of Mississippi's Head Start Children Stratified by Gender**

| Variable                          | Female<br>(n = 1,061) |           | Male<br>(n = 1,065) |           |
|-----------------------------------|-----------------------|-----------|---------------------|-----------|
|                                   | Percent*              | 95% CI*   | Percent*            | 95% CI*   |
| <b>Caries experience</b>          | 56.9                  | 53.9-60.0 | 54.9                | 51.8-57.9 |
| <b>Untreated decay</b>            | 42.1                  | 39.1-45.1 | 39.8                | 36.8-42.8 |
| <b>Treatment urgency</b>          |                       |           |                     |           |
| Any treatment<br>(early & urgent) | 41.7                  | 38.7-44.7 | 40.4                | 37.4-43.4 |
| Early                             | 35.0                  | 32.1-38.0 | 32.7                | 29.8-35.6 |
| Urgent                            | 6.6                   | 5.1 - 8.2 | 7.7                 | 6.1 - 9.3 |

\*Adjusted for non-response

## Summary

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During the 2007-2008 school year, children ages 3-6 years in 22 randomly selected Head Start centers in Mississippi received an oral health screening by one of seven trained screeners. Of the 2,605 children enrolled at the 22 centers, a total of 2,128 children were screened.

## Key Findings

Dental decay is a significant health problem for Mississippi's Head Start children.

- 56 percent of children had cavities and/or fillings (caries experience)
- 41 percent had untreated cavities (dental decay)
- 7 percent of children need urgent treatment due to pain or discomfort, swollen tissue or inability to eat

## Conclusion

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An overall prevalence of 56% of caries experience in children ages 3 to 5 indicates that over 13,440 children in Head Start across the state have dental disease. For an estimated annual Head Start enrollment of 24,000 children, about 1,728 of those children have an urgent need for care due to pain or discomfort, swollen tissue or inability to eat.

In order to improve oral health outcomes, parents should:

- Establish a dental home for your child by visiting a dentist by age one.
- Brush two times a day with Fluoride toothpaste.
- Reduce snacking and have a healthy balanced diet.
- Drink fluoridated tap water.
- Schedule your own dental exam at least once a year.
- Educate yourself and your loved ones about oral health.



## References

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- 1 Mississippi State Department of Health (MSDH) Survey of Third-Grade Children, 2005
- 2 HP 2010-Mississippi State Department of Health
- 3 Basic Screening Survey Tool, Association of State and Territorial Dental Directors, December 2008

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