Background

The Surveillance, Research and Evaluation Sub-committee originally was charged with:

- Identification of sources of obesity data for Alabama that are representative of the state, public health districts, and counties;

- assessment of gaps in the overall state obesity surveillance system; and

- development and implementation of a plan to address the gaps in the current system.
Gaps

- Sources of representative data were found for all life stages except:
  - Preschool data
  - School-aged children
    - Self-report of high school students only
Toddlers and Preschoolers

- **Best Data Source:** PEDNSS Data

- **Collected**=Public Health Department Offices (Ongoing)

- **Population**= 2-4 year old children participating in the Alabama WIC program

- **Strengths**=actual height, weight and age taken with standardized protocol

- **Limitation**=population limited to income eligible WIC participants
National Data

• NHANES 2009-2010
  • Prevalence of obesity among 2-5 year olds (all incomes)
    • 12.1%
  • Highest rates among minority groups
    • Non-Hispanic Blacks---18.9%
    • Hispanics----16.2%
Obesity Rates: Low Income Children 2-4 Years Old; 2008-2011

Prevalence of Obesity, Low Income Children, 2-4 years old; 2011

School-age Children

- **Best Data Source:** Oral Health Screening Data
- **Collected:** ADPH Oral Health Screening Program (every 5 years)
- **Population:** Kindergarten and 3rd grade students
- **Strengths:** Actual height and weight taken with standardized protocol; age estimated
- **Limitation:**
  - 2006-7: Convenience sample
  - 2011-12: Random Sample of Schools by Dental District and Stratified by income
School-age Children

- 2011-2012 data
  - Sample includes:
    - 4362 kindergarteners
    - 3952 third graders
  - Random sample of schools within each dental district was selected
    - Sample stratified by income
  - All kindergarteners and third graders present on the date measures were taken were included in the initial sample
  - Sample sizes within districts range from 380 to 789
    - Exceptions:
      - Dental District 4 (South East corner of the state—high poverty counties) (38 K, and 46 3rd graders) and
      - Dental District 9 (Mid-state and West of Montgomery) (172 K, 261 3rd graders)
  - Exclusions:
    - Height or weight was entered in error (biologically impossible)
    - Height, weight or birthday was not taken
    - Not appropriate age for school year
# Sample Characteristics; 2012-13 Oral Health Screening

<table>
<thead>
<tr>
<th></th>
<th>Kindergarten Number (%)</th>
<th>3rd grade Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2471 (51.4%)</td>
<td>2010 (50.5%)</td>
</tr>
<tr>
<td>Female</td>
<td>2334 (48.6%)</td>
<td>1969 (49.5%)</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>2752 (57.9%)</td>
<td>2212 (56.5%)</td>
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<tr>
<td>Black</td>
<td>1523 (32.1%)</td>
<td>1392 (35.6%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>294 (6.2%)</td>
<td>306 (5.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>180 (3.8%)</td>
<td>107 (2.7%)</td>
</tr>
<tr>
<td><strong>Sample with Valid Heights and Weights</strong></td>
<td>4362</td>
<td>3952</td>
</tr>
</tbody>
</table>
Overweight and Obesity Rates, Alabama 3rd Grade Students; 2006-7 and 2011-12

Caution: One should not compare the years because sampling designs differed.
Overweight and Obesity: Alabama Kindergarten and 3rd Grade; 2011-12

- Obesity rates in Kindergarteners slightly higher than low income 2-4 year olds (14.1%)

- Rates of obesity increase with age in US children

- National obesity rate for 6-11 year olds in 2009-2010 was 18.6%
Comparisons: Alabama Oral Health Data; 2011-12

Kindergarten

Overweight
- Boys: 13.8
- Girls: 14.7

Obesity
- Boys: 14.9
- Girls: 15.3

3rd Grade

Overweight
- Boys: 16.2
- Girls: 17.0

Obese
- Boys: 21.4
- Girls: 22.0

P=0.63

P=0.64
Comparisons: Alabama Oral Health Data; 2011-12

Kindergarten

- **Overweight**
  - White: 13.8
  - Black: 15.7
  - Hispanic: 13.9

- **Obese**
  - White: 12.9
  - Black: 17.1
  - Hispanic: 25.0

3rd Grade

- **Overweight**
  - White: 16.4
  - Black: 16.7
  - Hispanic: 21.5

- **Obese**
  - White: 19.0
  - Black: 28.8
  - Hispanic: 28.8

P<0.001
Alabama Oral Health Data: Kindergarten Sample by Gender and Race; 2011-12

Boys

<table>
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<tr>
<th>Race</th>
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<th>Obese</th>
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<tbody>
<tr>
<td>White</td>
<td>12.7</td>
<td>16.6</td>
</tr>
<tr>
<td>Black</td>
<td>13.1</td>
<td>13.2</td>
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<tr>
<td>Hispanic</td>
<td>27.6</td>
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</table>

Girls

<table>
<thead>
<tr>
<th>Race</th>
<th>Overweight</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>15.0</td>
<td>14.9</td>
</tr>
<tr>
<td>Black</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>18.5</td>
<td></td>
</tr>
</tbody>
</table>

P=0.0002

P=0.015
Alabama Oral Health Data: 3rd Grade Sample by Gender and Race; 2011-12

Boys
- White: 16.4, 23.5, 29.4
- Black: 19.4, 22.5
- Hispanic: 22.5

Girls
- White: 18.6, 26.8, 27.9
- Black: 17.0, 18.6
- Hispanic: 19.4

P-values:
- Boys: 0.014
- Girls: 0.002
Conclusions

• Analysis of PEDNSS data and ADPH Oral Health Data fill a gap in our understanding of obesity rates in Alabama children

• Obesity rates in low income Alabama preschoolers have stayed the same between the years 2008-2011

• Obesity rates in Alabama school-age children are higher than the national average

• Obesity rates are higher among minority children with the highest rates found in Hispanic children
Next Steps

- Data Release for the AOTF webpage
  - Handout that highlights the data presented today

- GIS Maps
  - Map the data by dental district
Thank You

- Sherry Goode
- Krishona Lee
- Mim Gaines
- Carrie Shepherd
- Stuart Lockwood
- Sub-committee members
  - Richard Sinsky
  - Kim Blake