Surveillance for Childhood Obesity: An Overview

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Disclaimer:
The conclusions of this presentation represent those of the speaker and not necessarily those of CDC
Definition of surveillance

“The ongoing systematic collection, analysis, and interpretation of outcome-specific data for use in the planning, implementation, and evaluation of public health practice”

(Thacker 1988)
Comparison of BMI surveillance programs with BMI screening programs*

BMI surveillance programs

- Assess the weight status of population groups (e.g., % of adolescents who are obese in City A)
- Does not need follow-up

BMI screening programs

- Assess the weight status of individuals (e.g., Is John Jones obese?)
- Needs follow-up

*Adapted from Nihiser et. al. J Sch Health 2007
Uses of surveillance to direct public health action

- Identify emerging public health problems
- Identify specific populations for intervention
- Set and monitor progress toward meeting health objectives
- Evaluation
Why monitor childhood obesity?

- Health effects
  - Immediate
  - Long term
- Magnitude of problem
- Potential for intervention
Body mass index

**Definition:**

\[
\text{Weight (kg)} / \text{height (m)}^\star \text{height (m)}
\]

**Considerations**

- Measure of excess weight not adiposity
- Interpretation needs to account for age and sex
Weight status definition for children

Based on comparison of child’s BMI to CDC growth charts for age and sex

Obese $\geq 95^{th}$ percentile

Overweight $85^{th}$ to $95^{th}$ percentile
Where are data obtained?

- **Periodic surveys**
  - Only weight and height
  - Weight, height, and other data
- **Data collected for other purposes**
  - Screening
  - Health care records
  - Administrative records
How are weight and height collected?

- Direct measurement
- Self-report
- Parental report
Considerations in choosing methodology

- Needs of the stakeholders
  - Existing mandates
  - Expectation of funders
  - Data users

- Resources
### Comparison of federal surveillance systems on three characteristics

<table>
<thead>
<tr>
<th>System</th>
<th>Population</th>
<th>BMI Assessment</th>
<th>State or local data</th>
</tr>
</thead>
</table>
| National Health and Nutrition Examination Survey (NHANES)   | • 0 to 20 years of age  
• Non-institutionalized US population | • Measured  
• Mobile exam centers | No                  |
| Pediatric Nutrition Surveillance System (PedNSS)            | • Primarily < 5 years of age  
• Receive services for low income families | • Measured  
• Part of clinic visit | Yes (select)         |
| Youth Risk Behavior Survey (YRBS)                           | • Grades 9 through 12  
• Attend school | • Self report  
• Questionnaire in classroom | Yes (select)         |
| National Survey of Children’s Health (NSCH)                 | • 0 to 17 years of age  
• Non-institutionalized US population | • Parental report  
• Telephone | Yes                  |
Contact information

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