The State of the American Diet and Public Health: Obesity and Physical Activity

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Centers for Disease Control and Prevention
National Center for Health Statistics

Objectives

• Overview of sources of data on diet, nutritional status, and health
• NHANES objectives and history as a source of data
• Selected findings: Overweight and obesity
• Selected findings: Physical activity
• Final comments

Examples of Data Systems (CDC)

• National Health and Nutrition Examination Survey (NHANES)
• National Health Interview Survey (NHIS)
• Behavioral Risk Factor Surveillance System (BRFSS)
• Youth Risk Behavioral Surveillance System (BRFSS)

There are numerous surveys and surveillance systems throughout the Federal government that provide information on the state of the American diet and public health.

NHANES

Objective

To assess the health and nutritional status of adults and children in the United States

NHANES Mobile Exam Center (MEC)
Goals of NHANES
U.S. population-based estimates of:
• Health conditions
• Awareness, treatment and control of selected diseases
• Environmental exposures
• Nutrition status and diet behaviors

National Health and Nutrition Examination Surveys

<table>
<thead>
<tr>
<th>Survey</th>
<th>Dates</th>
<th>Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHES I</td>
<td>1959–62</td>
<td>18.79 years</td>
</tr>
<tr>
<td>NHES II</td>
<td>1963–65</td>
<td>6.11 years</td>
</tr>
<tr>
<td>NHES III</td>
<td>1966–70</td>
<td>12.17 years</td>
</tr>
<tr>
<td>NHANES I</td>
<td>1971–75</td>
<td>1.74 years</td>
</tr>
<tr>
<td>NHANES II</td>
<td>1976–80</td>
<td>6 mo.-74 years</td>
</tr>
<tr>
<td>HHANES</td>
<td>1982–84</td>
<td>6 mo.-74 years</td>
</tr>
<tr>
<td>NHANES III</td>
<td>1988–94</td>
<td>2 mo. +</td>
</tr>
</tbody>
</table>

NHANES is a Major Collaboration Between Federal Agencies
• CDC
• NIH
• USDA
• EPA
• FDA

Survey Integration Responsibilities
• DHHS – sample design and survey operation
• USDA – dietary methodology, data processing, nutrient values of food
• DHHS and USDA – data collection and data quality and jointly release dietary data
NHANES Topics

• Cardiovascular disease
• Diabetes
• Bone status, osteoporosis
• Oral health
• Vision and eye diseases
• Hearing and balance
• Physical activity, CV fitness and strength
• Allergies

NHANES Topics (cont’d)

• Nutrition/Diet
• Anthropometry
• Mental health
• Risk behaviors
• Reproductive health
• Environmental exposures
• Infectious diseases
• Spirometry (lung function)

Nutrition and Overweight

• Diet is associated with
  • heart disease
  • stroke
  • some cancers
  • type 2 diabetes
  • overweight and obesity
  • osteoporosis
• Diet-related conditions contribute to
  • reduced quality of life
  • premature death
  • substantial medical costs
  • lost productivity

Adult Obesity

Trends in Adult Obesity

Child and Adolescent BMI ≥ 95 %
### Physical Activity and Fitness Benefits

- Decreases the risk of obesity and chronic diseases, including osteoporosis
- Better control of body weight, blood pressure, blood glucose, and cholesterol
- Improved mood and feelings of well-being
- Enhances independent living among older adults
- Improves quality of life for people of all ages

### Regular Leisure Time Physical Activity Among Adults

<table>
<thead>
<tr>
<th>Year</th>
<th>Increase Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 Target: 50</td>
<td></td>
</tr>
</tbody>
</table>

#### Likelihood of Selected Health Problems by Leisure Time Physical Activity Level, 2006

![Odds Ratio Chart]

**Note:** Data are for adults 18 years and older. Odds ratios are adjusted for sex, age, education, economic, and poverty status. Data are age specific to the 2000 standard population. To avoid misclassification of leisure physical activity, non-physical activity, leisure activity, and physical activity levels, self-report data were used. Some activity is less than the regular activity. Sedentary is no moderate or vigorous physical activity; some activity is physical activity less than the regular activity; regular activity is a moderate or vigorous activity (moderate activity 30+ minutes/5+ times per week or vigorous activity 20+ minutes/3+ times per week), or both. **Serious psychological distress:** includes negative moods during the past 30 days: sad, nervous, restless, hopeless, feeling everything is an effort, and worthless. I = 95% confidence interval.

**Source:** National Health Interview Survey (NHIS), NCHS, CDC.

### Recommended Levels of Physical Activity

#### 60+ min/5-7 days

<table>
<thead>
<tr>
<th>Gender</th>
<th>6-11 years</th>
<th>12-15 years</th>
<th>16-19 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>20-24 years</th>
<th>25-44 years</th>
<th>45-64 years</th>
<th>65-74 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>75 years +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Adherence: for ages 6–19 years - 60 or more minutes of moderate- or greater-intensity activity on 5 of 7 days; for ages 16 years and older – 30 or more minutes of moderate- or greater-intensity activity on 5 of 7 days, accumulated in 10-min “bouts.” I = 95% confidence interval.


### Methodological Issues

- Time / intensity
- Recall period / accuracy
- Number of questions and order
- “Leisure” / “work” / “incidental”
- Self-report versus measured
- No standard methodology
- Changes in measurement over time
**Final Comments**

- Extensive (and recent) data and publications available on diet, obesity and physical activity
- Much more to come since NHANES 2005-2006 data fairly recently available
- More to be presented today and in future meetings of this committee

[http://www.cdc.gov/nchs/nhanes.htm](http://www.cdc.gov/nchs/nhanes.htm)

Thank You!

Questions?