

**Division of Health and  
Nutrition Examination Surveys  
(DHANES):  
An Overview for the NCHS  
Board of Scientific Counselors**

**Clifford Johnson, Director**



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Disease Control and Prevention  
National Center for Health Statistics

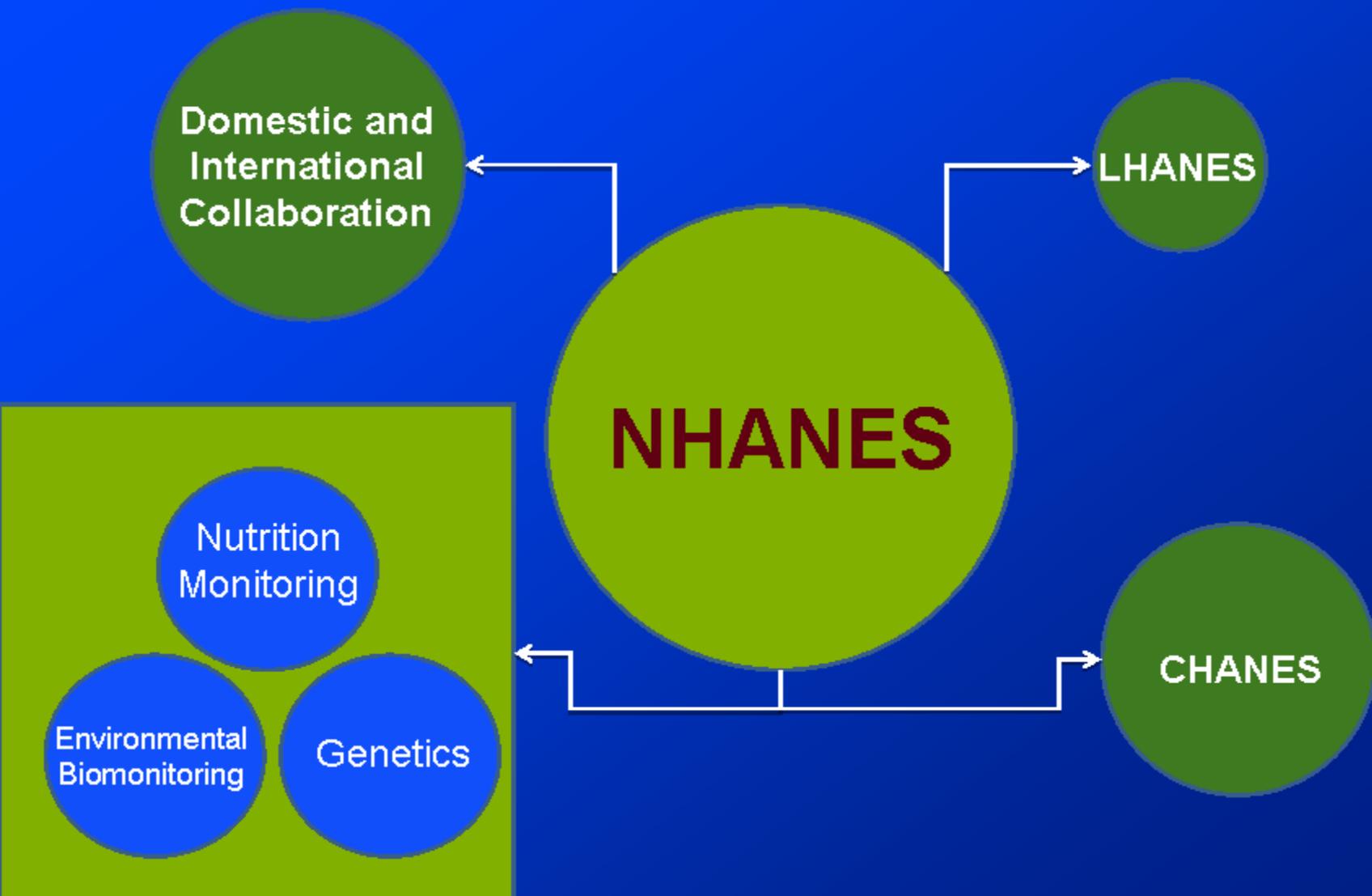


# Objectives

- **DHANES and NHANES overview**
- **Survey operations and data collection**
- **Challenges and opportunities**
- **Summary thoughts**

# **DHANES and NHANES Overview**

# DHANES Major Activities



# **NHANES**

## **Objective**

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

# 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

| <i>Survey</i> | <i>Dates</i> | <i>Ages</i>    |
|---------------|--------------|----------------|
| NHES I        | 1959–62      | 18–79 years    |
| NHES II       | 1963–65      | 6–11 years     |
| NHES III      | 1966–70      | 12–17 years    |
| NHANES I      | 1971–75      | 1–74 years     |
| NHANES II     | 1976–80      | 6 mo.–74 years |
| HHANES        | 1982–84      | 6 mo.–74 years |
| NHANES III    | 1988–94      | 2 mo. +        |

# National Health and Nutrition Examination Surveys

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| <i>Survey</i> | <i>Dates</i> | <i>Ages</i> |
|---------------|--------------|-------------|
| NHANES        | 1999–2000    | All ages    |
| NHANES        | 2001–2002    | All ages    |
| NHANES        | 2003–2004    | All ages    |
| NHANES        | 2005–2006    | All ages    |
| NHANES        | 2007–2008    | All ages    |
| NHANES        | 2009–2010    | All ages    |
| NHANES        | 2011–2012    | All ages    |

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# NHANES Data Central to Health Policy and Practice

- No other source of actual measurement data
- Ability to integrate findings from each interview and exam component
- High quality of data collection, processing and analysis
- Responsive and relevant to current and future data needs

# NHANES Topics

- Cardiovascular disease
- Diabetes
- Bone status, osteoporosis
- Oral health
- Vision and eye diseases
- Hearing and balance
- Fitness and strength
- Allergies

## NHANES Topics (cont'd)

- Nutrition
- Anthropometry
- Mental health
- Risk behaviors
- Reproductive health
- Environmental exposures
- Infectious diseases
- Spirometry

# Collaborators

- CDC (5 Centers)
- NIH (7 Institutes)
- USDA (3 Agencies)
- EPA
- FDA

# Sample

- Civilian, non-institutionalized household population
- Residents of all states and the District of Columbia
- All ages
- 5,000 individuals each year

# Oversample

- African Americans
- Hispanics
- Persons aged 60+
- Low income whites

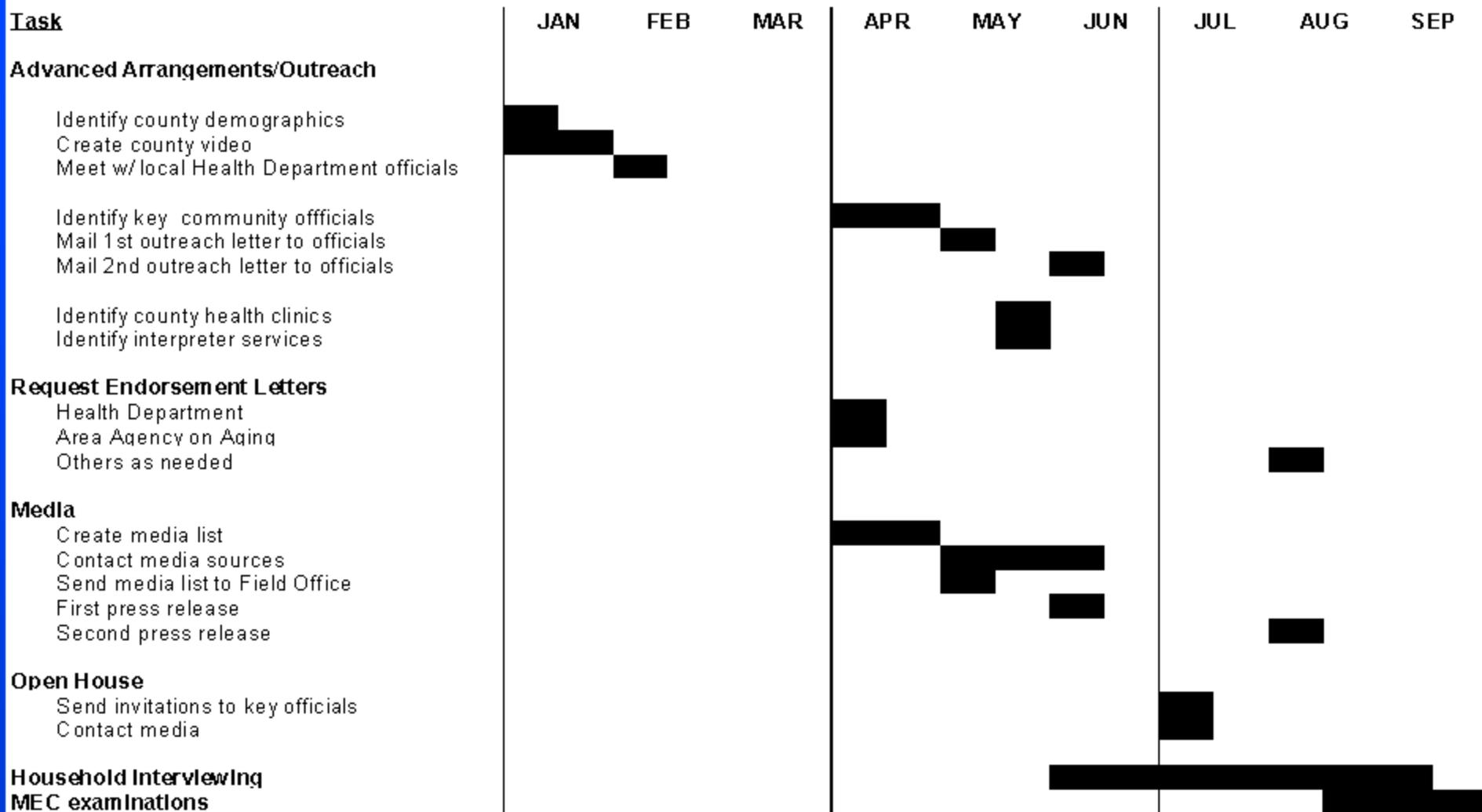
# NHANES Response Rates

*1999–2007*

- Interviewed – 80.8%
- MEC examined – 76.8%

# **Survey Operations and Data Collection**

## Advance Arrangements/Outreach Timeline for Interviews Beginning in June



# Participant Health Interview

- Length of interview varies depending on age
- Self report -16 years and older and emancipated minors
- Proxy report - children under 16

# NHANES Household Interview Topics

- Broad range of health conditions
- Health-related behaviors and exposures
- Health care utilization
- Prescription medications
- Dietary supplements
- Interviewers obtain a sample of tap water

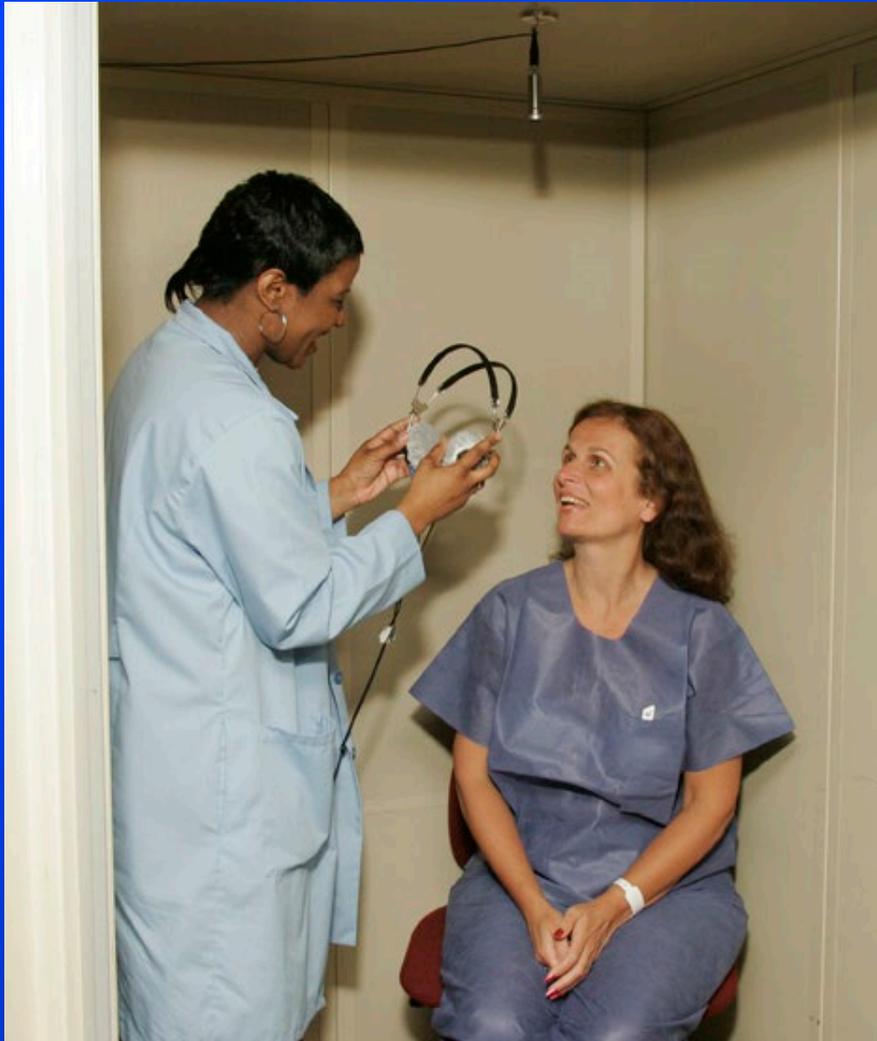
# NHANES Examination

- Standardized physical exam
- Conducted at mobile exam center
  - Medical & dental exams
  - Physiological measurements
  - Laboratory tests
- Administered by trained medical personnel

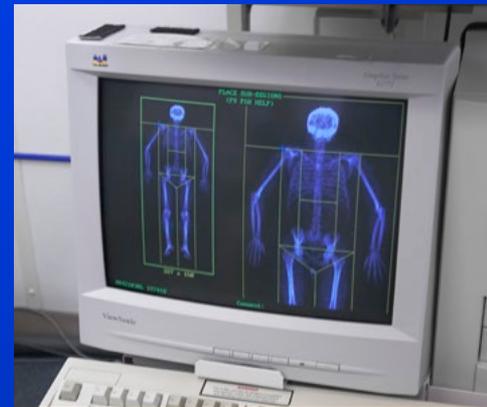
# NHANES Mobile Exam Center (MEC)



# Hearing and Vision



# Anthropometry and Body Composition



# Private Interviews



# Landmark Findings and Public Health Results

- High blood lead levels
  - Lead out of gasoline
- Low folate levels
  - Mandatory food fortification
- Rising levels of obesity
  - Public health action plan
- Racial and ethnic disparities in Hepatitis B
  - Universal vaccination of all infants & children

# 2000 CDC Growth Charts: United States



# NHANES Tutorial on the Web

The screenshot shows the NHANES Web Tutorial page on the CDC website. The page header includes the CDC logo, the text "Department of Health and Human Services Centers for Disease Control and Prevention", and a search bar. Below the header is the text "National Center for Health Statistics...Monitoring the Nation's Health". The main content area is titled "NHANES Web Tutorial" and features a "Tutorial Home" section with four columns of links and descriptions. A "New and Updated Content" section is also present, listing two new tutorials. The page footer includes a section titled "Where should I start the tutorial?" with a paragraph of text.

**CDC** Department of Health and Human Services  
Centers for Disease Control and Prevention

CDC en Español

Search:  GO

National Center for Health Statistics...*Monitoring the Nation's Health*

## NHANES Web Tutorial

- > [NCHS Home](#)
- > [NHANES Home](#)
- > [All Tutorials](#)
- [NHANES Tutorial Home](#)**
- > [Introduction](#)
- > [Jump Start Guide](#)
- > [Tech Tips](#)
- > [Continuing Professional Education](#)
- NHANES Tutorials**
- > [Continuous NHANES](#)
- > [NHANES III](#)
- > [NHANES II](#)
- > [NHANES I](#)
- Additional Resources**
- > [Sample Code](#)
- > [FAQs](#)
- > [Variable Recoding & Definitions](#)
- > [Variable Naming Conventions](#)
- > [Lectures & Presentations](#)
- > [Tech Tips](#)
- > [Links](#)

### Tutorial Home

[Email this page](#)  
[Printer-friendly version](#)

|   |  |   |  |
|---|--|---|--|
| <br><b>Jump Start Guide</b><br>Use this guide to discover key features in the tutorial and optimize your experience.<br><a href="#">Jump Start Guide</a> | <br><b>Need Help?</b><br>Use these troubleshooting tips if you encounter problems while using the tutorial.<br><a href="#">Tech Tips</a> | <br><b>Postcard</b><br>Tell a friend about the NHANES Web Tutorial with an e-postcard.<br><a href="#">Postcard</a> | <br><b>Collaborators</b><br><a href="#">National Center for Health Statistics</a><br><a href="#">National Cancer Institute</a><br><a href="#">Collaborators</a> |
|---|--|---|--|

### New and Updated Content

|         |            |  |
|---------|------------|--|
| 3/28/08 | <b>NEW</b> | The <a href="#">NHANES I Web Tutorial</a> is now available!  |
| 3/28/08 | <b>NEW</b> | The <a href="#">NHANES II Web Tutorial</a> is now available! |

### Where should I start the tutorial?

There are two tutorials covering Continuous NHANES and NHANES III. New users to NHANES data and analyses should start with the Continuous NHANES tutorial as this tutorial is the most complete and covers NHANES Analyses. Analysts who are experienced with NHANES analyses and are interested in NHANES III data can start with the NHANES III tutorial.

# Challenges and Opportunities

# Challenges

- Budget
- Field operations
  - Survey participants
  - Field staff
- Stakeholder relationships

## Challenges (cont'd)

- Legal and legislative requirements
  - ERB
  - Confidentiality
  - Security
  - CPIC/Exhibit 300
- Consultation
- Competition

# DHANES Major Activities



**NHANES**

# NHANES Challenges

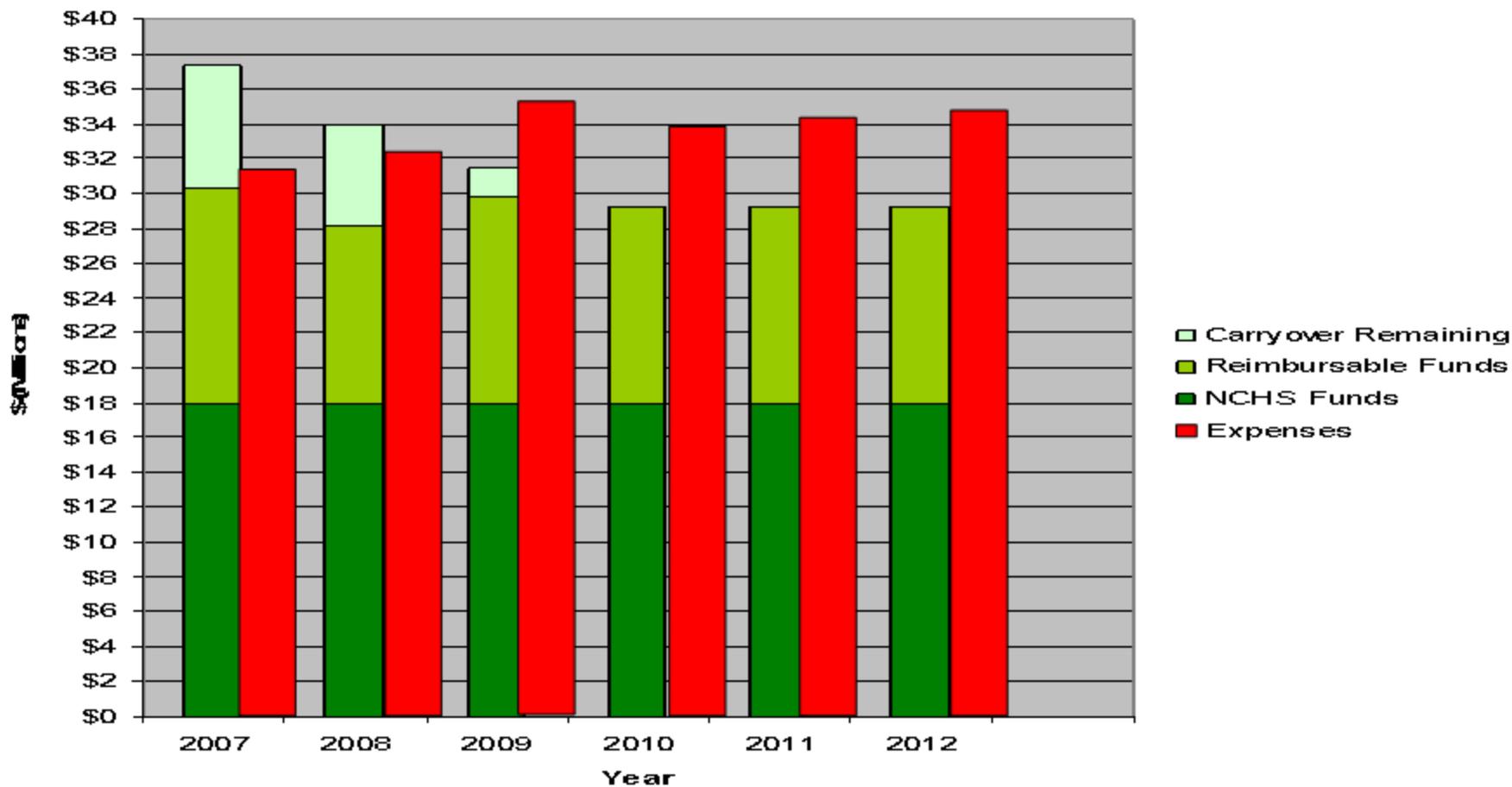
- Budget
- Field operations
- Legal and legislative requirements

# NHANES 2007–2012 Funding

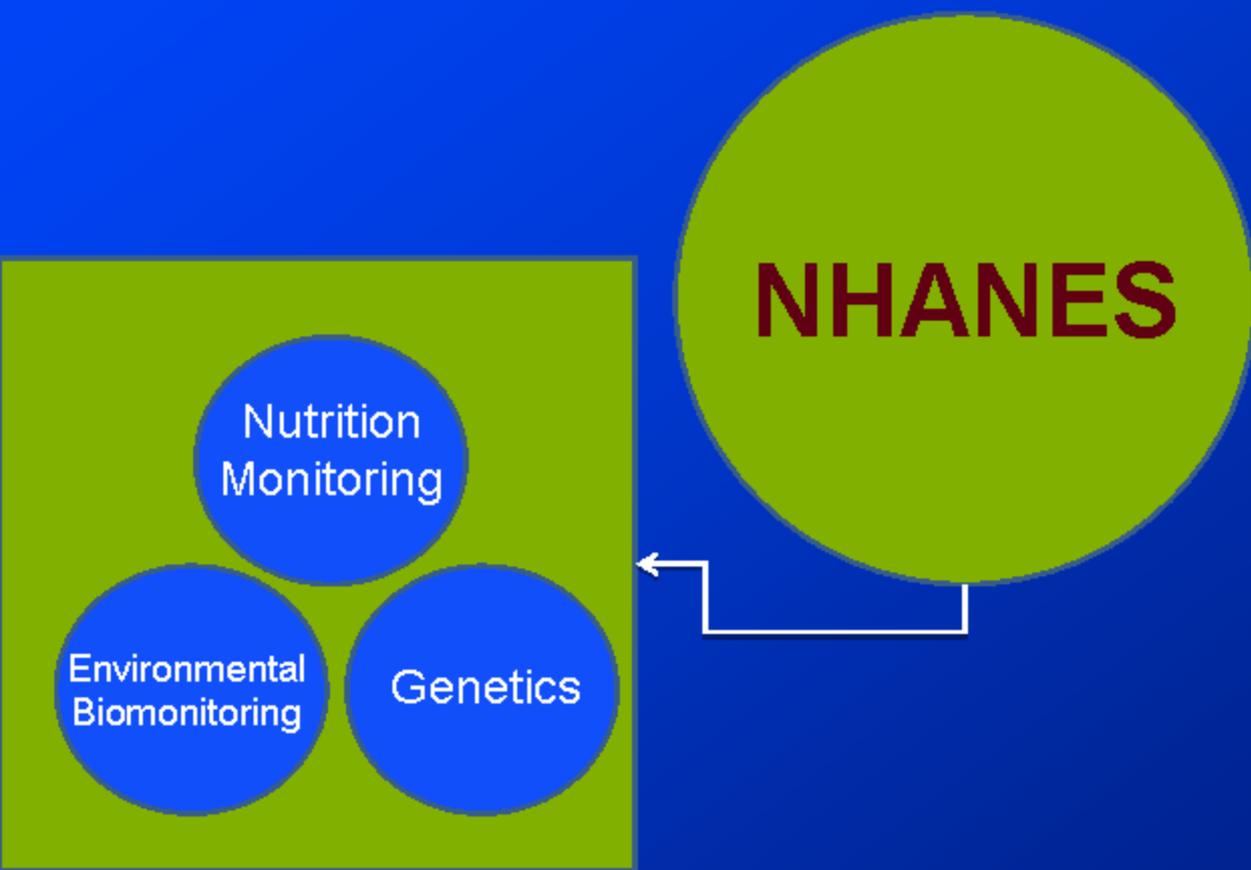
|   | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    |
|---|---------|---------|---------|---------|---------|---------|
| <b>NCHS Funds</b>                               | \$18.00 | \$18.00 | \$18.00 | \$18.00 | \$18.00 | \$18.00 |
| <b>Reimbursable Funds</b>                       | \$12.30 | \$10.10 | \$11.80 | \$11.20 | \$11.20 | \$11.20 |
| <b>Carryover Remaining</b>                      | \$7.10  | \$5.85  | \$1.65  | \$0.00  | \$0.00  | \$0.00  |
| <b>Income</b>                                   | \$37.40 | \$33.95 | \$31.45 | \$29.20 | \$29.20 | \$29.20 |
| <b>Field Costs</b>                              | \$27.80 | \$28.63 | \$29.49 | \$29.98 | \$30.18 | \$30.38 |
| <b>Lab Readings Costs</b>                       | \$1.50  | \$1.70  | \$1.80  | \$1.85  | \$1.91  | \$1.97  |
| <b>Support Contracts</b>                        | \$1.70  | \$1.77  | \$1.82  | \$1.88  | \$1.93  | \$1.99  |
| <b>Trailers</b>                                 | \$0.35  |         | \$0.70  |         |         |         |
| <b>IT Infrastructure Upgrade</b>                |         |         | \$1.00  |         |         |         |
| <b>Division Operations</b>                      | \$0.20  | \$0.20  | \$0.21  | \$0.22  | \$0.22  | \$0.23  |
| <b>Expenses</b>                                 | \$31.55 | \$32.30 | \$35.02 | \$33.92 | \$34.24 | \$34.57 |
| <b>Balance / Deficit</b>                        | \$5.85  | \$1.65  | -\$3.57 | -\$4.72 | -\$5.04 | -\$5.37 |
| <b>Additional Funds to Make Whole</b>           | \$0.00  | \$0.00  | \$3.57  | \$4.72  | \$5.04  | \$5.37  |
| <b>Cumulative Total Additional Funds Needed</b> |         |         | \$3.57  | \$8.30  | \$13.34 | \$18.71 |

NOTE: All figures in millions; \* NHANES field operations end in 2012 by current contract terms

# DHANES Budget 2007-2012



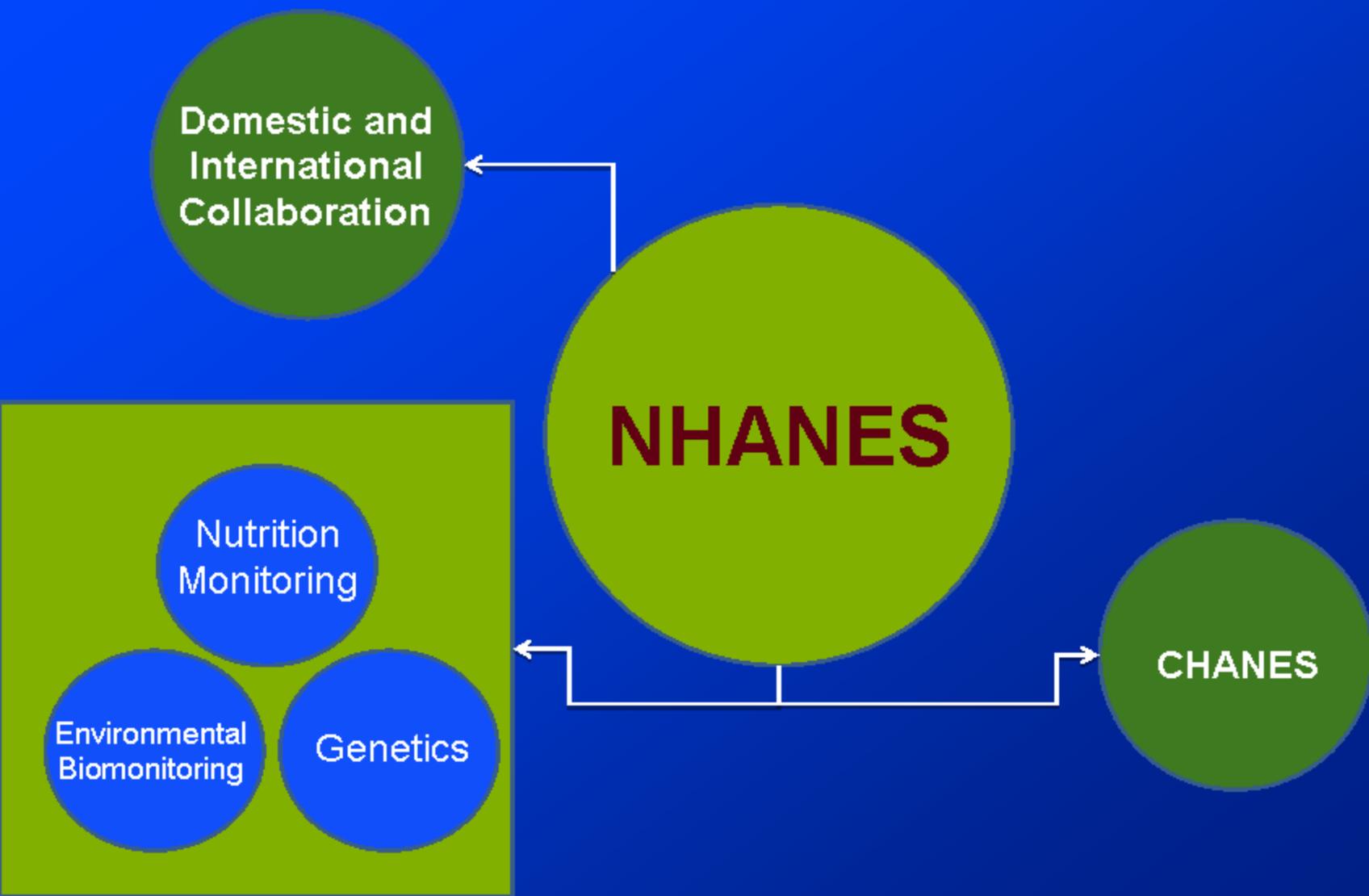
# DHANES Major Activities



# NHANES Challenges

- Budget
- Field operations
- Legal and legislative requirements

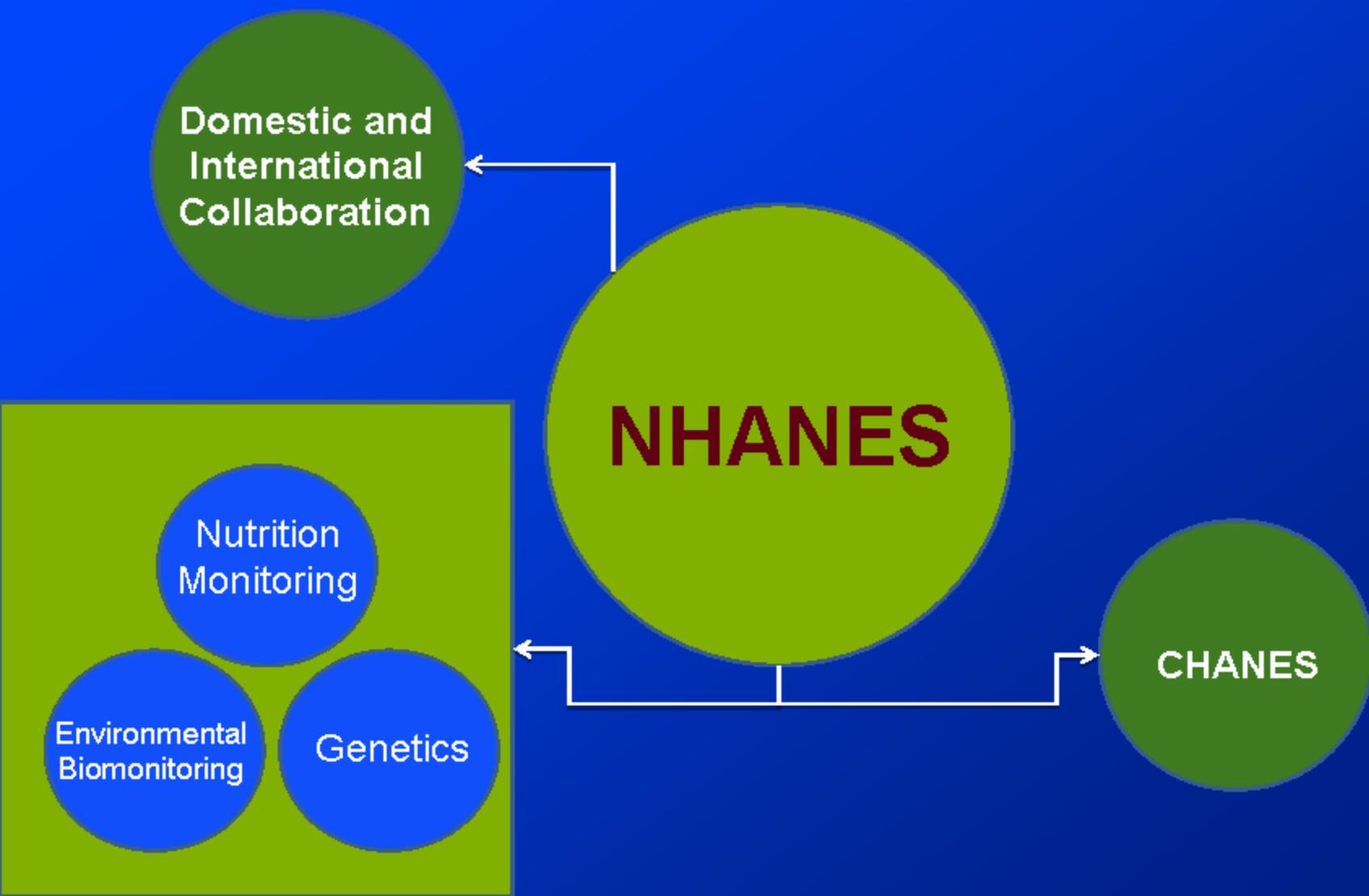
# DHANES Major Activities



# Things We Have Done That We Would Like to Expand

- CHANES and other consultations
- Genetics
- Methodological studies
- Stakeholder relationships

# DHANES Major Activities



# Things We Would Like to do That We Have not

- Longitudinal follow-up
- Survey information technology re-engineering
- Real strategic planning

# Summary Thoughts

# Where Do We Go From Here?

