OAE Overview

- OAE conducts research to:
  - Develop population health measures;
  - Integrate data, including linkage of surveys and administrative data (such as Medicaid and the National Death Index, NDI);
  - Develop tools to facilitate access to, and dissemination of, statistical data;
  - Examine methodological questions, such as survey reliability; and
  - Address health, health policy and health care delivery issues.

- OAE initiates, develops, maintains, and disseminates cross-cutting analysis and analytic tools for NCHS, CDC, the Department and other executive branch agencies, policymakers, and the research community.

- OAE work analyzes multiple data systems to address topics of national public health interest.
OAE Principal Program Activities

✓ Monitoring the health of the nation

✓ Providing data and analytic support to HHS and the public health community
  • Expanding the analytic utility of NCHS data systems
  • Developing data systems and analytic tools for research
  • Disseminating data electronically through interactive and informational websites
  • Participating in interagency and international data development collaborations
  • Cross-cutting research on public health and statistical methods
Through OAE, NCHS conducts and supports national health monitoring efforts such as

- *Health, United States*, a congressionally mandated, annual report on trends in health.

- Analysis and statistical expertise for *HealthyPeople 2020*, an HHS initiative to guide national health promotion and disease prevention.
Health, United States

Congressionally-mandated report

- Integrates and analyzes trend data from 50 different sources.

- Focus on health status and determinants, health care utilization, health care resources and health care expenditures.

- Includes 134 trend tables, highlights, 19 graphs on key health indicators, a special feature on an important public health topic and a companion product, Health, United States In Brief.

- Published annually in print and on the NCHS website
Morbidity
Heart Disease Prevalence


Heart disease is the leading cause of death in the United States for both men and women, accounting for approximately 307,000 deaths for men and 290,000 deaths for women in 2010 (Table 22). During 2000–2001 through 2010–2011, the prevalence of lifetime respondent-reported heart disease among adults aged 18–54 was similar for men and women. Among adults aged 55 and over, heart disease prevalence was higher for men than for women. In 2010–2011, nearly one-half (45%) of men aged 75 and over reported having ever been told by a physician they had heart disease, compared with nearly one-third (31%) of women in the same age group.

Figure 6. Respondent-reported lifetime heart disease prevalence among adults aged 18 and over, by sex and age: United States, average annual, 2000–2001 through 2010–2011

SOURCE: CDC/NCHS, Health, United States, 2012, Table 44. Data from the National Health Interview Survey (NHIS).

Excel and PowerPoint: http://www.cdc.gov/nchs/hus/contents2012.htm#fig06
Top Five *Health, US* Web Views in 2012

- **Health, US 2010**
  - [http://www.cdc.gov/nchs/data/hus/hus10.pdf](http://www.cdc.gov/nchs/data/hus/hus10.pdf)
- **Health US 2011***
  - [http://www.cdc.gov/nchs/data/hus/hus11.pdf](http://www.cdc.gov/nchs/data/hus/hus11.pdf)
- HUS 2010 Table 61 – Use of Selected Substances in Past Month
- HUS 2011 Table 64 – Use of Selected Substances in Past Month
- **Health, US 2009**
  - [http://www.cdc.gov/nchs/data/hus/hus09.pdf](http://www.cdc.gov/nchs/data/hus/hus09.pdf)

*Release date for Health, US 2011: May 16th, 2012*
# Evolution of Healthy People

<table>
<thead>
<tr>
<th>Target Year</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
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<tr>
<td><strong>Overarching Goals</strong></td>
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<tr>
<td>• Decrease mortality: infants–adults</td>
<td>• Increase span of healthy life</td>
<td>• Increase quality and years of healthy life</td>
<td>• Attain high-quality, longer lives free of preventable disease</td>
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<tr>
<td>• Increase independence among older adults</td>
<td>• Reduce health disparities</td>
<td>• Eliminate health disparities</td>
<td>• Achieve health equity; eliminate disparities</td>
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<tr>
<td>• Achieve access to preventive services for all</td>
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<td>• Create social and physical environments that promote good health</td>
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<tr>
<td></td>
<td></td>
<td>• Promote quality of life, healthy development, healthy behaviors across life stages</td>
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<tr>
<td><strong># Topic Areas</strong></td>
<td>15</td>
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<td><strong># Objectives</strong></td>
<td>226</td>
<td>319</td>
<td>969</td>
<td>1,225</td>
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</table>

975 measurable
250 developmental
Healthy People Data Sources

- Healthy People 2020 objectives measured and tracked using over 200 unique data sources
- Data suppliers include federal and non-governmental, health and non-health agencies
  - NCHS surveys used to measure ~ 40% objectives
  - Add’l federal examples: HHS, EPA, HUD, DOJ, FBI, ED
  - Non-federal examples: Association of American Medical Colleges, Association of Public Health Laboratories
- Managing HP2020 data involves significant data coordination and integration challenges
Healthy People 2020 Data

Other HHS Initiatives

DATA 2020

HEALTH INDICATORS WAREHOUSE
OAE Principal Program Activities

• Monitoring the health of the nation

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• Participating in interagency and international data development collaborations

• Cross-cutting research on public health and statistical methods
NCHS Data Linkage

Linked data enable broader analyses of factors that influence health and health outcomes.

Surveys are linked with administrative data such as
- The National Death Index;
- Claims data from the Centers from Medicare & Medicaid Services; and
- Supplemental Security Income data from the Social Security Administration

Linked data are accessed through
- Public use files
- the NCHS Research Data Center (for restricted use files)

OAE conducts research on linkage methods, analytic methods for using the data, and on health and health policy issues.
# OAE Record Linkage Program

NCHS surveys* linked to administrative data*  
– Sept 2013

<table>
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<tr>
<th></th>
<th>Mortality (NDI)</th>
<th>CMS (Medicare/Medicaid)</th>
<th>SSA</th>
<th>State* pilot Projects</th>
<th>Supp Nutrition Assist Program</th>
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<td>National Home and Hospice Care Survey</td>
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</tbody>
</table>

*Survey years, administrative data years, and state vary
Other analytic tools for health and health care research

Compressed Mortality File 1968-2010
County level mortality file and county level population file for the nation.
Facilitates basic mortality analyses at sub-national levels and trend analysis

Bridged Race Population Estimates
Many data systems use four race categories specified in 1977 OMB standards
NCHS works with Census to crosswalk the 31 categories in the 2000, 2010 Census,
based on 1997 OMB standards

Urban Rural Classification Scheme
Six level classification scheme for U.S. counties and county equivalents
Differentiates counties within large metropolitan areas
Facilitates analysis of health disparities across the urban-rural continuum
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OAE develops tools for disseminating measures and data such as

The *Health Indicators Warehouse*: source for national, state, and community health indicators and data.

*Health Data Interactive*: interactive national data tables that can be customized to explore different trends and patterns.

*NCHS Survey Measures Catalog*: overview of questions about child and adolescent mental health, and functioning and disability from NCHS surveys.
Health Indicators Warehouse (HIW)  
www.healthindicators.gov

Approximately 1,200 unique indicators; More than 160 data sources

- **NCHS**: National Vital Statistics System; National Health Interview Survey; National Health and Nutrition Examination Survey; National Survey of Family Growth; National Health Care Surveys
- **Other Federal**: Census data, CMS, Other HHS, ED, Agriculture and other Federal Surveys, Surveillance Data, Medicare Administrative Data, EPA modeled data
- **State**: BRFSS, Surveillance System Data
- **Associations**: AMA, AHA, other health professions data
- **NGOs**: ASTHO, NACCHO, other member surveys

Web service — peer-to-peer/business application capability
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✓ Participating in interagency and international data development collaborations

✓ Cross-cutting research on public health and statistical methods
Our research collaborators include

- NCHS offices and data divisions: Thank you!!
- CDC offices and centers
- HHS agencies
- Executive and Legislative branch agencies
- State and local health departments
- International organizations
- Private sector collaborators
- Academic institutions
- Application software developers
International Collaborations on Disability Measurement

UNICEF MNE - Testing new methodology for data collection on child disability
Research related to clinical recommendations

Dietary Supplement Use and Folate Status during Pregnancy in the United States

Excess Screen Time in US Children: Association With Family Rules and Alternative Activities

Morbidity and Mortality Weekly Report (MMWR)
Health Status, Risk Factors, and Medical Conditions Among Persons Enrolled in Medicaid vs Uninsured Low-Income Adults Potentially Eligible for Medicaid Under the Affordable Care Act

Health Insurance Affects Diagnosis and Control of Hypercholesterolemia and Hypertension Among Adults Aged 20–64: United States, 2005–2008

Electronic Medical Record Features and Seven Quality of Care Measures in Physician Offices
Disparities research

Lauren M. Rossen PhD, MS *, Kenneth C. Schoendorf MD, MPH


A reference-invariant health disparity index based on Rényi divergence
Makram Talih
Research using linked files

National Health Statistics Reports
Number 53 ▪ May 3, 2012

Health Characteristics of Medicare Traditional Fee-for-Service and Medicare Advantage Enrollees: 1999–2004 National Health and Nutrition Examination Survey Linked to 2007 Medicare Data

Nachman and Parker Environmental Health 2012, 11:25
http://www.ehjournal.net/content/11/1/25

Exposures to fine particulate air pollution and respiratory outcomes in adults using two national datasets: a cross-sectional study
Keeve E Nachman1* and Jennifer D Parker2
Strategies for Enhancing the Linkage of National Center for Health Statistics’ Surveys with Death Indices for Mortality Followup
Dean Judson*+ and Jennifer D. Parker
National Center for Health Statistics and National Center for Health Statistics
record linkage; linked mortality; national death index

Comparability Between the Rates for All-listed Inpatient Procedures Using National Hospital Discharge Survey and Medicare Claims, 1999 and 2007
by Yelena Gorna, M.S., M.P.H., Office of Analysis and Epidemiology; Maria Owings, Ph.D., Division of Health Care Statistics; Nazik Eshrati, M.S.; and Julie Weeks, Ph.D., Office of Analysis and Epidemiology

Identifying implausible gestational ages in preterm babies with Bayesian mixture models
Guangyu Zhang,*** Nathaniel Schenker,* Jennifer D. Parker* and Dan Liao*

Identifying chronic conditions in Medicare claims data: evaluating the Chronic Condition Data Warehouse algorithm.
Gorna Y, Kramarow FA.
Centers for Disease Control and Prevention, National Center for Health Statistics, Office of Analysis and Epidemiology, 3311 Toledo Road, Room 6332, Hyattsville, MD 20782, USA.
Research collaborations
Going Forward
(The environment)

• Health policy considerations
  • Impact of the ACA
  • Continued interest in reducing cost, improving quality and efficiency

• Budgetary considerations
  • Likely continuing resolution
  • Major or minor modifications to the ACA

• Executive branch considerations
  • Open Government initiative promotes sharing
  • CIPSEA limits access to protected data

• CDC and NCHS considerations
OAE challenges

- Maintaining excellence in scientific work.
- Maintaining innovation in research and dissemination.
- Maintaining relevance of our work and our participation in public health and health policy initiatives.
Applications are currently being accepted.