Overview of NCHS Data Products and Services

A presentation to the National Committee on Vital and Health Statistics (NCVHS)

Working Group on HHS Data Access and Use

James M. Craver
September 21, 2012
Outline

• Types of data sources
• Reasons for integrating multiple data sources
• Tools and examples
Types of NCHS data sources

www.cdc.gov/nchs/data/factsheets/factsheet_summary.htm

• National Vital Statistics System
  – Births and deaths

• Surveys of people
  – National Health Interview Survey
  – National Health and Nutrition Examination Survey
  – National Survey of Family Growth

• National Health Care Surveys
  – Component surveys
Reasons for using multiple sources

• Monitor health and health care broadly

• Assess a specific public health issue from multiple perspectives

• Conduct methodologic studies

• Enhance the usefulness of a survey through linkage with additional data
Tools for finding statistics from multiple data sources

- **Health Indicators Warehouse**
  www.healthindicators.gov

- **Health, United State**
  www.cdc.gov/nchs/hdi.htm

- **Healthy People 2010 / 2020**
  www.cdc.gov/nchs/healthy_people.htm

- **Health Data Interactive**
  www.cdc.gov/nchs/hdi.htm

- **FastStats**
  www.cdc.gov/nchs/fastats
National Youth Fitness Survey
The National Youth Fitness Survey (NYFS) is being conducted along with the National Health and Nutrition Examination Survey in response to the need for data on physical activity and fitness in children and teens.

Learn More ▶
U.S. Decennial Life Tables for 1999–2001: State Life Tables
NVSR Volume 60 No. 9, September 2012

Health E-Stat, September 2012

Health E-Stat, September 2012

Health E-Stat, September 2012

Health E-Stat, September 2012

Wait Time for Treatment in Hospital Emergency Departments: 2009
NCHS Data Brief No. 102, August 2012

Births: Final Data for 2010
NVSR Volume 61 No. 1, August 2012

Fetal and Perinatal Mortality, United States, 2006
NVSR Volume 60 No. 8, August 2012

NCHS Data Brief No. 104, August 2012

SURVEYS AND DATA COLLECTION SYSTEMS

National Health and Nutrition Examination Survey (NHANES)
National Health Care Surveys
National Health Interview Survey (NHIS)
National Immunization Survey (NIS)
National Survey of Family Growth (NSFG)
National Vital Statistics System (NVSS)
Longitudinal Studies of Aging (LSOA)
State and Local Area Integrated Telephone Survey (SLAITS)

DATA ACCESS

Data Linkage
Health Data Interactive
Health Indicators Warehouse
National Death Index
Public-use Data Files
Research Data Center
VitalStats

ADDITIONAL RESOURCES

Fact Sheets
Growth Charts
Health, United States
Healthy People 2010/2020
Injury Data and Resources

SAVE the DATE
Mark your calendars for the 2012 Research Conference on the National Survey of Family Growth (NSFG)
LEARN MORE

VIEW ALL EVENTS

NCHS for You!
- Children and Adolescents
- Librarians
- Older Americans
- Researchers
- Survey Participants

NCHS Press Room
2012 Release Schedule
TV/Video Gallery
1. Health Indicators Warehouse (HIW)
www.healthindicators.com

- National, state, and local level indicators
- Graph and map indicators (if data permit)
- Link from indicators to evidence-based interventions
- Includes most indicators from
  - Healthy People 2020
  - County Health Rankings
  - Community Health Status Indicators
  - New community level Medicare utilization and quality indicators
HIW: Current Version

• Approximately 1,100 unique indicators
• More than 160 data sources
  – Federal: Census data, HHS, ED, Agriculture and other federal Surveys, Surveillance Data, Medicare Administrative Data, EPA modeled data
  – State: BRFSS, Surveillance System Data
  – Trade Associations: AMA, AHA, other health professions data
  – NGOs: ASTHO, NACCHO, other member surveys
Welcome to the Health Indicators Warehouse (HIW)

Indicators in the HIW are categorized by topic, geography, and initiative.
Select your starting point for exploring indicators in the HIW.

**by Topic**
Each indicator in the HIW is associated with one or more topic areas, such as disease, condition, age group or sociodemographic characteristics.

**by Geography**
Most of the indicators in the HIW have national level data. Many indicators also have data available by state, county, and hospital referral regions.

**by Initiative**
The HIW contains indicators derived from and in support of several state and federal health indicator initiatives.

**What's New**
4 OCT
Release of Version 1.4.5.1
We are pleased to announce that on October 4th, 2011 the latest version of the Health Indicators Warehouse was released. This release includes new indicator definitions and associated data for 2009 County-Level Bridged Race data by sociodemographic characteristics, 2009 SAIPE Income and Poverty data, and several additional years of data and stratifications by age, sex and race/ethnicity for mortality data from the National Vital Statistics System (NVSS-M). Also, data from CMS was refreshed and updates were made to selected Healthy People 2020 indicators. For the HIW system itself, various minor system and interface bugs were addressed. (more)

**For Developers**
The HIW provides access to the underlying data through the use of an Application Programming Interface (API) which is designed to present information to systems with disparate architectures and underlying technologies.

More information for developers >
HIW: Methods for stroke death rates

Stroke deaths (per 100,000 population)

<table>
<thead>
<tr>
<th>Overview</th>
<th>Data Source and Additional Information</th>
</tr>
</thead>
</table>

**Numerator**
Number of stroke deaths (ICD-10 codes I60-I69)

**Population**
Number of persons

**Methodology**
Death due to cerebrovascular diseases, ICD-9 codes: 430-438, ICD-10 codes: I60-I69.

Single-year rates are calculated based on the resident population of the data year involved. For census years, April 1 census counts are used (e.g., 2000). For postcensal years, July 1 estimates from the postcensal Vintage that matches the data year are used (e.g., July 1, 2004 resident population estimates from Vintage 2004 are used to calculate rates for 2004). For intercensal years, intercensal population estimates are used in rate calculations (e.g., 1991-1999). Population estimates for 1991 and later have bridged-race categories.

Multiple-year rates are calculated based on the sum of the resident populations for each of the data years involved (e.g., the denominator of a rate for 2004-2006 combined involves population estimates for 2004, 2005, and 2006). For census years, April 1 census counts are used (e.g., 2000). For postcensal years, July 1 estimates from the postcensal Vintage that matches the data year are used (e.g., July 1, 2004 resident population estimates from Vintage 2004). For intercensal years, intercensal population estimates are used in rate calculations (e.g., 1991-1999). Population estimates for 1991 and later have bridged-race categories.

**Related Keywords**
- death
- mortality
- National Vital Statistics System-Mortality
- NVSS-M
- TIA
- cardiovascular

**Indicator Information**

**Data Source**
NVSS-M (CDC, NCHS)

**Initiative**
CHSI2008
HP2020

**Geographic Levels**
State and County

**Data Years**

**Dimensions**
HIW: Stroke death rates map
2. Health United States
www.cdc.gov/nchs/hus.htm

• **Annual report (since 1975) on national trends in statistics**
  • Health status and determinants
  • Use of health care
  • Health resources
  • Health care costs and financing

• **Includes data from 55 sources**
Ex.: How might you start to describe selected trends in health care use?

• Preventive services – NHIS
• Prescription drugs – NHANES
• Inpatient surgery – NHDS
Respondent-reported colorectal tests and procedures

NOTE: Colorectal tests and procedures include reports of home fecal occult blood test (FOBT) in the past year, sigmoidoscopy procedure in the past 5 years with FOBT in the past 3 years, or colonoscopy in the past 10 years.

SOURCE: CDC/NCHS, *Health, United States, 2010*, Figure 9. Data from the National Health Interview Survey.
Statin drug use in the past 30 days

Men

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45–64 years</td>
<td>3</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>65–74 years</td>
<td>*</td>
<td>26</td>
<td>50</td>
</tr>
<tr>
<td>75 years and over</td>
<td>*</td>
<td>19</td>
<td>45</td>
</tr>
</tbody>
</table>

Women

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45–64 years</td>
<td>2</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>65–74 years</td>
<td>*5</td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td>75 years and over</td>
<td>*2</td>
<td>18</td>
<td>39</td>
</tr>
</tbody>
</table>

*Estimates are considered unreliable. Data preceded by an asterisk have a relative standard error (RSE) of 20%–30%. Data not shown have an RSE of greater than 30%.

SOURCE: CDC/NCHS, Health, United States, 2010, Figure 17. Data from the National Health and Nutrition Examination Survey.
The graph shows the number of back and joint procedures per 10,000 population from 1996 to 2007, stratified by age groups: 45–64 years and 65 years and over.

For the 45–64 years age group:
- Disc removal and spinal fusion: relatively stable with a slight increase.
- Knee replacement: steady increase.
- Total hip replacement: slight increase.
- Partial hip replacement: fluctuates but remains relatively low.

For the 65 years and over age group:
- Knee replacement: significant increase.
- Total hip replacement: steady increase.
- Partial hip replacement: fluctuates but generally increases.
- Disc removal and spinal fusion: relatively stable with a slight increase.

The data is from the National Hospital Discharge Survey.
3. Healthy People (HP) 2010 / 2020

www.cdc.gov/nchs/healthy_people.htm

• A nationwide health promotion & disease prevention agenda
• Tracks progress towards targets for health objectives
• HP 2010: >900 objectives in 28 focus areas, using 150 data sources
• HP 2020: 1200 objectives on 42 topics
HP tracking data

• **HP 2010**
  - Final Review: summarizes progress over the decade
  - Data2010: online database with tracking data

• **HP 2020**
  - Baseline data available through HP webpage & Health Indictors Warehouse
Healthy People (HP)
Ex.: Heart disease and stroke

• **HP 2010**
  - 17 objectives tracked
  - Using 5 data sources including NVSS, NHIS, NHDS, NHANES

• **HP 2020**
  - 18 objectives
  - Baseline data from 5 data sources including NVSS, NHIS, NHANES
  - 31 additional developmental objectives
Figure 12-1. Progress Toward Target Attainment for Focus Area 12: Heart Disease and Stroke

<table>
<thead>
<tr>
<th></th>
<th>2010 Target</th>
<th>Baseline (Year)</th>
<th>Final (Year)</th>
<th>Difference²</th>
<th>Statistically Significant</th>
<th>Percent Change¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-1. Coronary heart disease (CHD) deaths (age adjusted, per 100,000 population)</td>
<td>156 (1999)</td>
<td>195</td>
<td>126 (2007)</td>
<td>-69</td>
<td>Yes</td>
<td>-35.4</td>
</tr>
<tr>
<td>12-2. Knowledge of heart attack symptoms and importance of calling 911 (age adjusted, 20+ years)</td>
<td>47% (2001)</td>
<td>42%</td>
<td>37% (2008)</td>
<td>-5</td>
<td>Yes</td>
<td>-11.9%</td>
</tr>
<tr>
<td>12-4. Training in cardiopulmonary resuscitation (CPR) in past year (age adjusted, 20+ years)</td>
<td>12% (2001)</td>
<td>8%</td>
<td>10% (2008)</td>
<td>2</td>
<td>Yes</td>
<td>25.0%</td>
</tr>
<tr>
<td>12-6. Congestive heart failure hospitalizations (per 1,000 population)</td>
<td>6.5</td>
<td>13.2 (1997)</td>
<td>8.5 (2007)</td>
<td>-4.7</td>
<td>Yes</td>
<td>-35.6%</td>
</tr>
<tr>
<td>a. 65–74 years</td>
<td>50.0%</td>
<td>70.1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. 75–84 years</td>
<td></td>
<td>53.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. 85+ years</td>
<td></td>
<td></td>
<td>75.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-7. Stroke deaths (age adjusted, per 100,000 population)</td>
<td>26.5</td>
<td>62.7 (1997)</td>
<td>32.9 (2007)</td>
<td>-19.8</td>
<td>Yes</td>
<td>-37.6%</td>
</tr>
<tr>
<td>12-8. Knowledge of stroke symptoms (age adjusted, 20+ years)</td>
<td>50</td>
<td>60% (2001)</td>
<td>54% (2009)</td>
<td>-6</td>
<td>Yes</td>
<td>-10.0%</td>
</tr>
</tbody>
</table>

Percent of targeted change achieved²

(continued)
Health Data Interactive

www.cdc.gov/nchs/hdi.htm

Data Access

Data Access

NCHS Home > Data Access > Tools

Health Data Interactive

Welcome! Health Data Interactive presents tables with national health statistics for infants, children, adolescents, adults, and older adults. Tables can be customized by age, gender, race/ethnicity, and geographic location to explore different trends and patterns.

Table Topics

- Health and functional status
- Health care use and expenditures
- Health conditions
- Health insurance and access
- Mortality and life expectancy
- Pregnancy and birth
- Risk factors and disease prevention

Search Tables

Suggested Citation

Centers for Disease Control and Prevention, National Center for Health Statistics. Health Data Interactive. www.cdc.gov/nchs/hdi.htm. [Date of access].
Health Data Interactive online tables

Ex.: Asthma prevalence, health care use, and mortality by age, race, and sex

<table>
<thead>
<tr>
<th>Name</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality by underlying cause, ages 18+: US/State, 1999-2007</td>
<td>NVSS</td>
</tr>
<tr>
<td>Hospital discharges by first-listed diagnosis among children: US, 1990-2007</td>
<td>NHDS</td>
</tr>
<tr>
<td>Hospital discharges by first- and any-listed diagnosis: US, 1990-2007</td>
<td>NHDS</td>
</tr>
<tr>
<td>Asthma and chronic obstructive pulmonary disease: US, 1998-2009</td>
<td>NHIS</td>
</tr>
<tr>
<td>Emergency department visits: US, 1997-2008</td>
<td>NHAMCS</td>
</tr>
<tr>
<td>Mortality by underlying and multiple cause, ages 18+: US, 1981-2007</td>
<td>NVSS</td>
</tr>
</tbody>
</table>

7 Results
Asthma emergency department visits (per 10,000), by age, race/ethnicity: annual average 2006-2008

Source: National Hospital Ambulatory Medical Care Survey
Asthma deaths among adults (per 100,000), by age and race: annual average 2005-2007

Source: National Vital Statistics System
5. FastStats: Statistics by topic
www.cdc.gov/nchs/faststats/default.htm

• Provides quick web access to statistics on topics of public health importance using multiple data sources and publications
• Organized alphabetically
• Links to:
  – Source publications
  – Publications with more data
  – Related web pages
FastStats topics

The FastStats site provides quick access to statistics on topics of public health importance and is organized alphabetically. Links are provided to publications that include the statistics presented, to sources of more data, and to related web pages.

State and Territorial Data

A
Access to Health Care
Accidents/Unintentional Injuries
ADHD
Adoption
Adolescent Health
AIDS/HIV
Alcohol Use
Allergies
Alzheimer’s Disease
Ambulatory Care (Doctor Visits)
American Indian or Alaska Native Health
Anemia
Arthritis
Asian or Pacific Islander Health
Assault/Homicide
Asthma
Attention Deficit Hyperactivity Disorder

I
Immunization
Infant Health
Infant Mortality
Infectious Disease
Infertility
Influenza
Injury
Inpatient Surgery

K
Kidney Disease

L
Leading Causes of Death
Life Expectancy
Liver Disease/Cirrhosis
Lung Diseases Chronic Obstructive

M
Mammography/Breast Cancer
Marriage
Diabetes
(Data are for the U.S.)

Morbidity
- Percent of noninstitutionalized adults 20 years and older with diabetes (physician-diagnosed or undiagnosed): 10.7% (2003-2006)
- Percent of noninstitutionalized adults 20 years and older with physician-diagnosed diabetes: 7.7% (2003-2006)
- Percent of noninstitutionalized adults 20 years and older with undiagnosed diabetes: 3.0% (2003-2006)

Source: Health, United States, 2011, table 50 [PDF - 9.3 MB]

Health care use

Ambulatory care
- Number of ambulatory care visits (to physician offices, hospital outpatient and emergency departments) with diabetes as primary diagnosis: 27.7 million

Source: Ambulatory Medical Care Utilization Estimates for 2007: table 6 [PDF - 797 KB]

Hospital inpatient care
- Number of discharges with diabetes as first-listed diagnosis: 691,000
- Average length of stay: 5.0 days

Source: National Hospital Discharge Survey: 2009 table, Average length of stay and days of care –
Contact for more information

Jim Craver
Co-Acting Associate Director, Office of Analysis and Epidemiology
National Center for Health Statistics
Centers for Disease Control and Prevention
Department of Health and Human Services

jcraver@cdc.gov