# 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

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September 21, 2012

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

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# 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**

# Centers for Disease Control and Prevention
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SEARCH

A-Z Index  **A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #**

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

## 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 ▶**

1  2  3  4  5

**National Youth Fitness Survey**

### FEATURED TOPICS

**Inside NCHS: Data Linkage**

NCHS's record linkage program is designed to maximize the scientific value of the Center's population-based surveys. Linked data files enable researchers to take the "long view" and examine the factors that influence disability, chronic disease, health care utilization, morbidity, and mortality.

**NEXT TOPIC ▶**

### QuickStat of the WEEK



From 1999 to 2010, a total of 7,415 deaths in the United States, an average of 618 per year, were associated with exposure to excessive natural heat. The highest yearly total of heat-related deaths (1,050) was in 1999 and the lowest (295) in 2004. Approximately 68% of heat-related deaths were among males.

**VIEW FULL ARTICLE ▶**

### New RELEASES

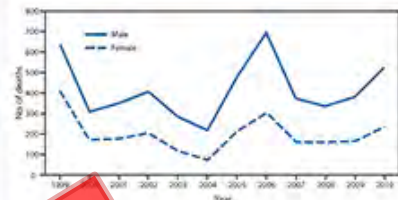**Generalist and Specialty Physicians: Supply and Access, 2009–2010**
NCHS Data Brief No. 105, September 2012

**U.S. Decennial Life Tables for 1999–2001:**

### FastStats: STATISTICS BY TOPIC

FastStats provides quick access to statistics on topics of public health importance, including: diseases and conditions, injuries, life stages and populations, and health care and insurance.

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

Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1960–1962 Through 2009–2010
Health E-Stat, September 2012

Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963-1965 Through 2009-2010
Health E-Stat, September 2012

Prevalence of Underweight Among Adults Aged 20 Years and Over: United States, 1960–1962 Through 2007–2010
Health E-Stat, September 2012

Prevalence of Underweight Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2007–2010
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

Oral Health Disparities as Determined by Selected Healthy People 2020 Oral Health Objectives for the United States, 2009–2010
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    NSFG

**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**

Share ▾

# 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.

Select a topic ▾

## 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.

Select a state ▾

## by Initiative

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

Select an initiative ▾

## 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)
Stroke death rate

Overview | Data
                                                   ⓘ Data Source and Additional Information

**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 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                                    84
National Vital Statistics System-Morta...
NVSS-M
TIA
cardiovascular

**Indicator Information**

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

**Initiative**
CHSI2008

HP2020

**Geographic Levels**
State and County

**Data Years**
2001, 2002, 2003, 2004, 2005, 2006, 2007

**Dimensions**

# HIW: Stroke death rates map
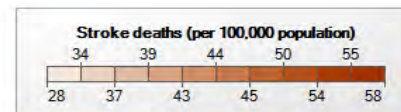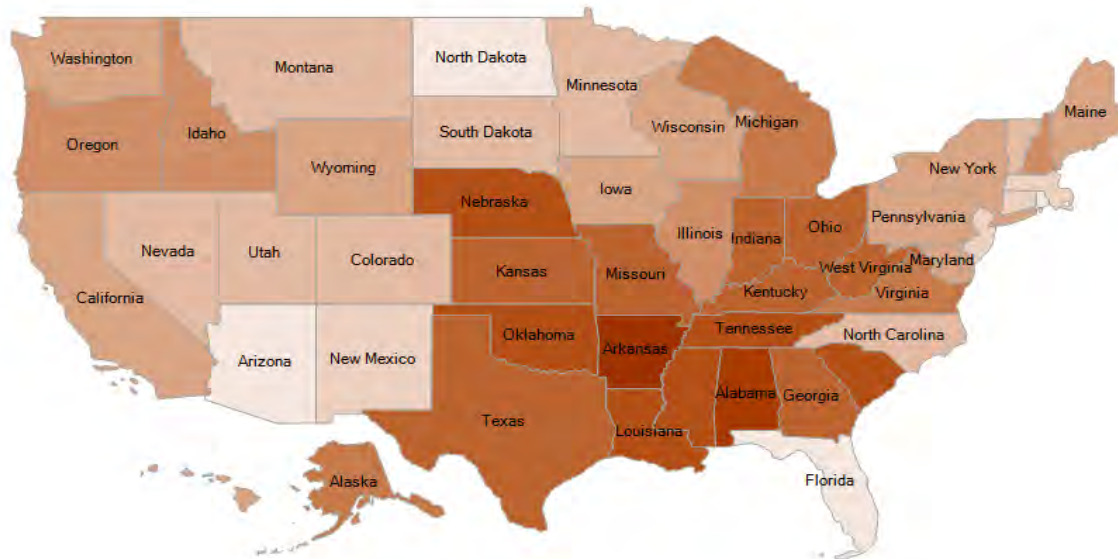
# 2. Health United States

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**
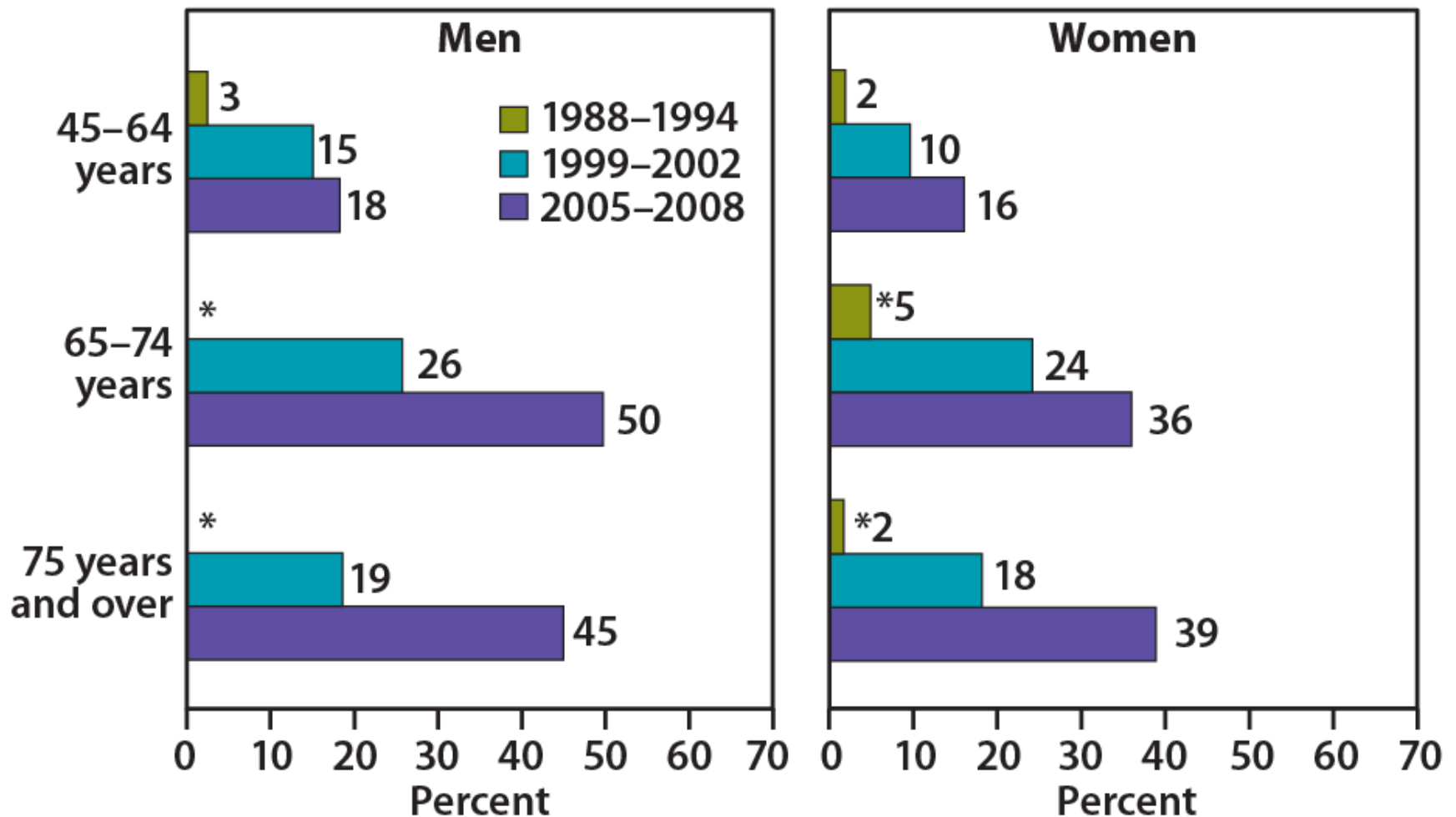
- **Prescription drugs – NHANES**

- **Inpatient surgery – NHDS**

# Respondent-reported colorectal tests and procedures
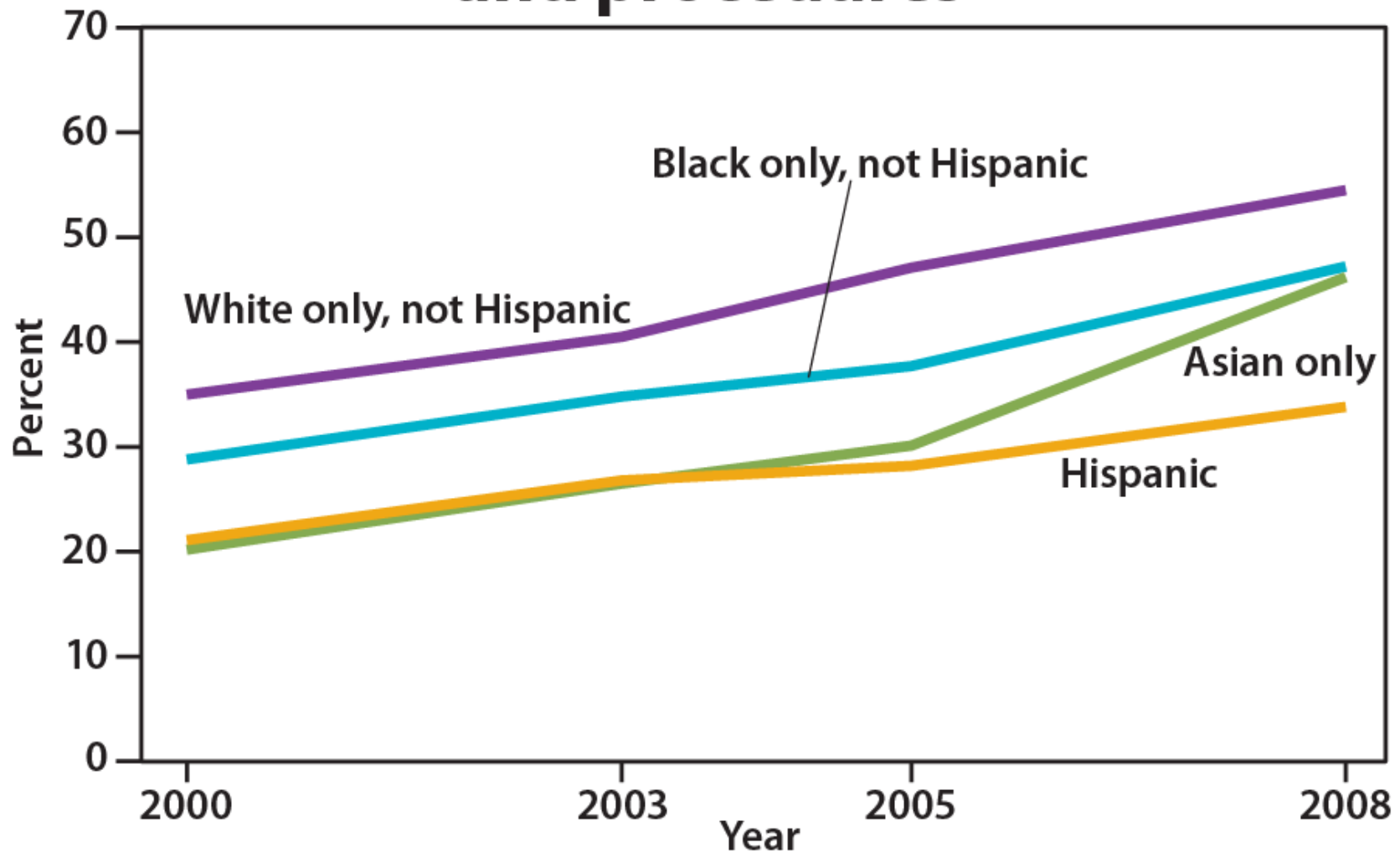


NOTE: Colorectal tests and procedures include reports of home fecal occult blood test (FOBT) in the past year, sigmoidoscopy procedure in the past 5 years with FOBT in the past 3 years, or colonoscopy in the past 10 years.
SOURCE: CDC/NCHS, *Health, United States, 2010*, Figure 9. Data from the National Health Interview Survey.

# Statin drug use in the past 30 days



**Men**

45–64 years
- 1988–1994: 3
- 1999–2002: 15
- 2005–2008: 18

65–74 years
- 1988–1994: *
- 1999–2002: 26
- 2005–2008: 50

75 years and over
- 1988–1994: *
- 1999–2002: 19
- 2005–2008: 45

**Women**

45–64 years
- 1988–1994: 2
- 1999–2002: 10
- 2005–2008: 16

65–74 years
- 1988–1994: *5
- 1999–2002: 24
- 2005–2008: 36

75 years and over
- 1988–1994: *2
- 1999–2002: 18
- 2005–2008: 39

Legend:
- 1988–1994
- 1999–2002
- 2005–2008

Percent (x-axis: 0, 10, 20, 30, 40, 50, 60, 70)

*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.

# Back and joint procedures
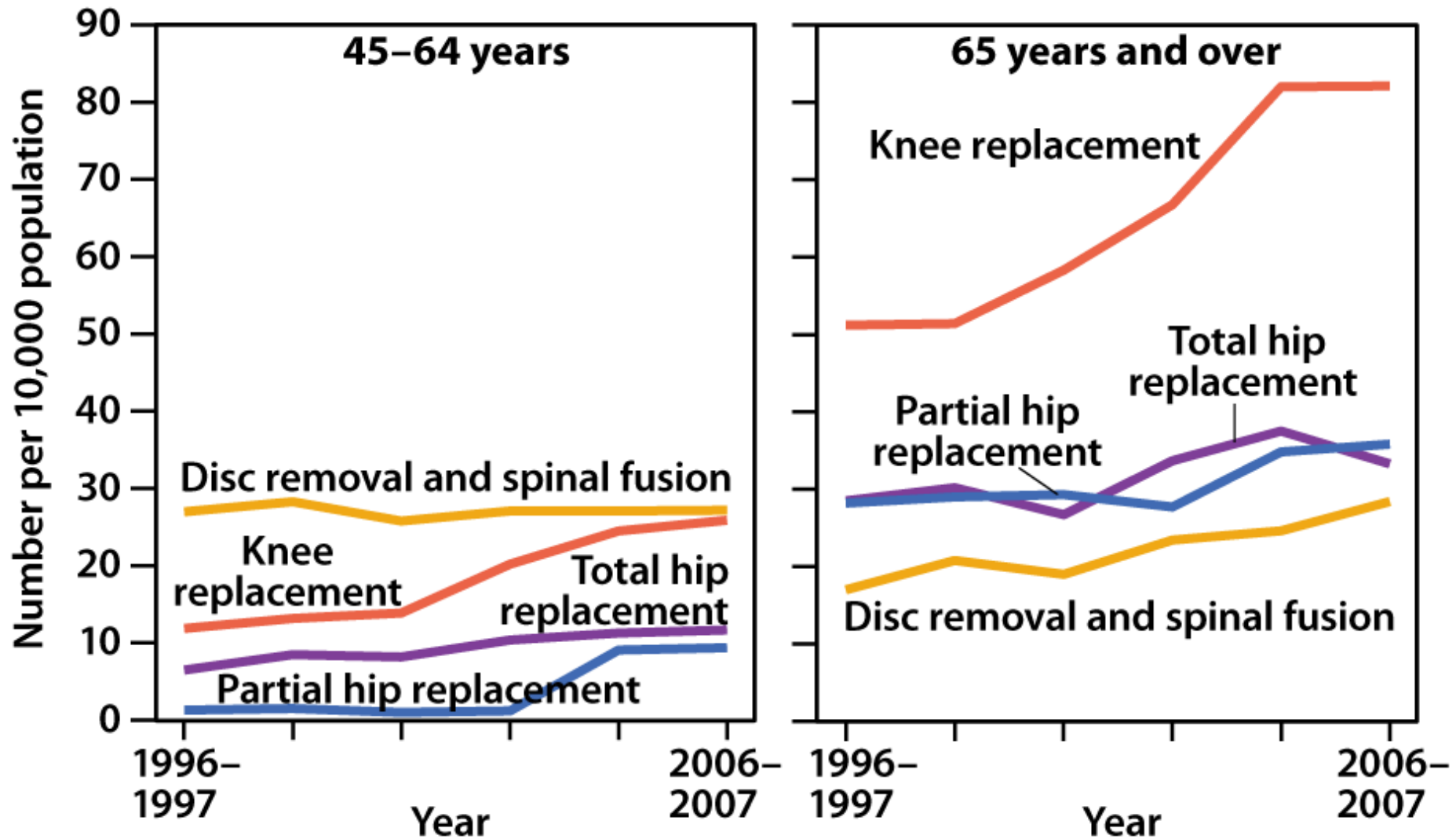


**45–64 years**

Number per 10,000 population

Disc removal and spinal fusion

Knee replacement

Total hip replacement

Partial hip replacement

**65 years and over**

Knee replacement

Total hip replacement

Partial hip replacement

Disc removal and spinal fusion

1996–1997

2006–2007

Year

1996–1997

2006–2007

Year

# 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**

# HP 2010 Final Review

www.cdc.gov/nchs/data/hpdata2010/hp2010_final_review.pdf



Figure 12-1. Progress Toward Target Attainment for Focus Area 12: Heart Disease and Stroke

Legend: Moved away from target[1] | Moved toward target | Met or exceeded target

| | 2010 Target | Baseline (Year) | Final (Year) | Baseline vs. Final | | |
|---|---|---|---|---|---|---|
| | | | | Difference[2] | Statistically Significant[3] | Percent Change[4] |
| 12-1. Coronary heart disease (CHD) deaths (age adjusted, per 100,000 population) — 176.9% | 156 | 195 (1999) | 126 (2007) | -69 | Yes | -35.4 |
| 12-2. Knowledge of heart attack symptoms and importance of calling 911 (age adjusted, 20+ years) | 47% | 42% (2001) | 37% (2008) | -5 | Yes | -11.9% |
| 12-4. Training in cardiopulmonary resuscitation (CPR) in past year (age adjusted, 20+ years) — 50.0% | 12% | 8% (2001) | 10% (2008) | 2 | Yes | 25.0% |
| 12-6. Congestive heart failure hospitalizations (per 1,000 population) a. 65–74 years — 70.1% | 6.5 | 13.2 (1997) | 8.5 (2007) | -4.7 | Yes | -35.6% |
| b. 75–84 years — 53.0% | 13.5 | 26.7 (1997) | 19.7 (2007) | -7.0 | Yes | -26.2% |
| c. 85+ years — 75.6% | 26.5 | 52.7 (1997) | 32.9 (2007) | -19.8 | Yes | -37.6% |
| 12-7. Stroke deaths (age adjusted, per 100,000 population) — 166.7% | 50 | 62 (1999) | 42 (2007) | -20 | Yes | -32.3% |
| 12-8. Knowledge of stroke symptoms (age adjusted, 20+ years) | 65% | 60% (2001) | 54% (2009) | -6 | Yes | -10.0% |

Percent of targeted change achieved[5]

(continued)

# 4. Health Data Interactive

www.cdc.gov/nchs/hdi.htm

# Health Data Interactive online tables

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

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**Health Data** *Interactive*

**Reports**

asthma    | Search |

**Search results for 'asthma' in 'Public reports'**    | Show all reports |

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

7 Results

# Asthma emergency department visits (per 10,000), by age, race/ ethnicity: annual average 2006-2008
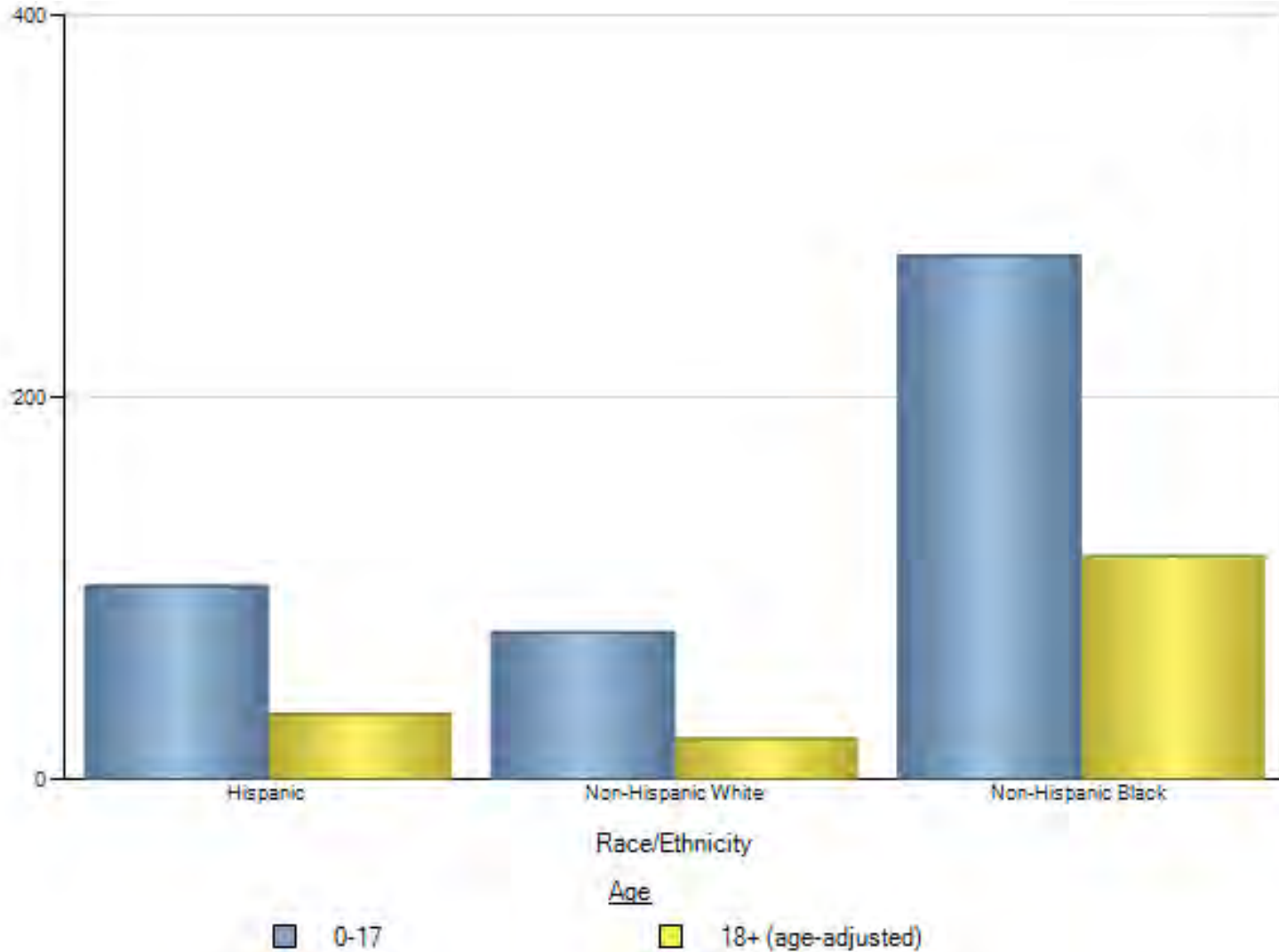
# Asthma deaths among adults (per 100,000), by age and race: annual average 2005-2007
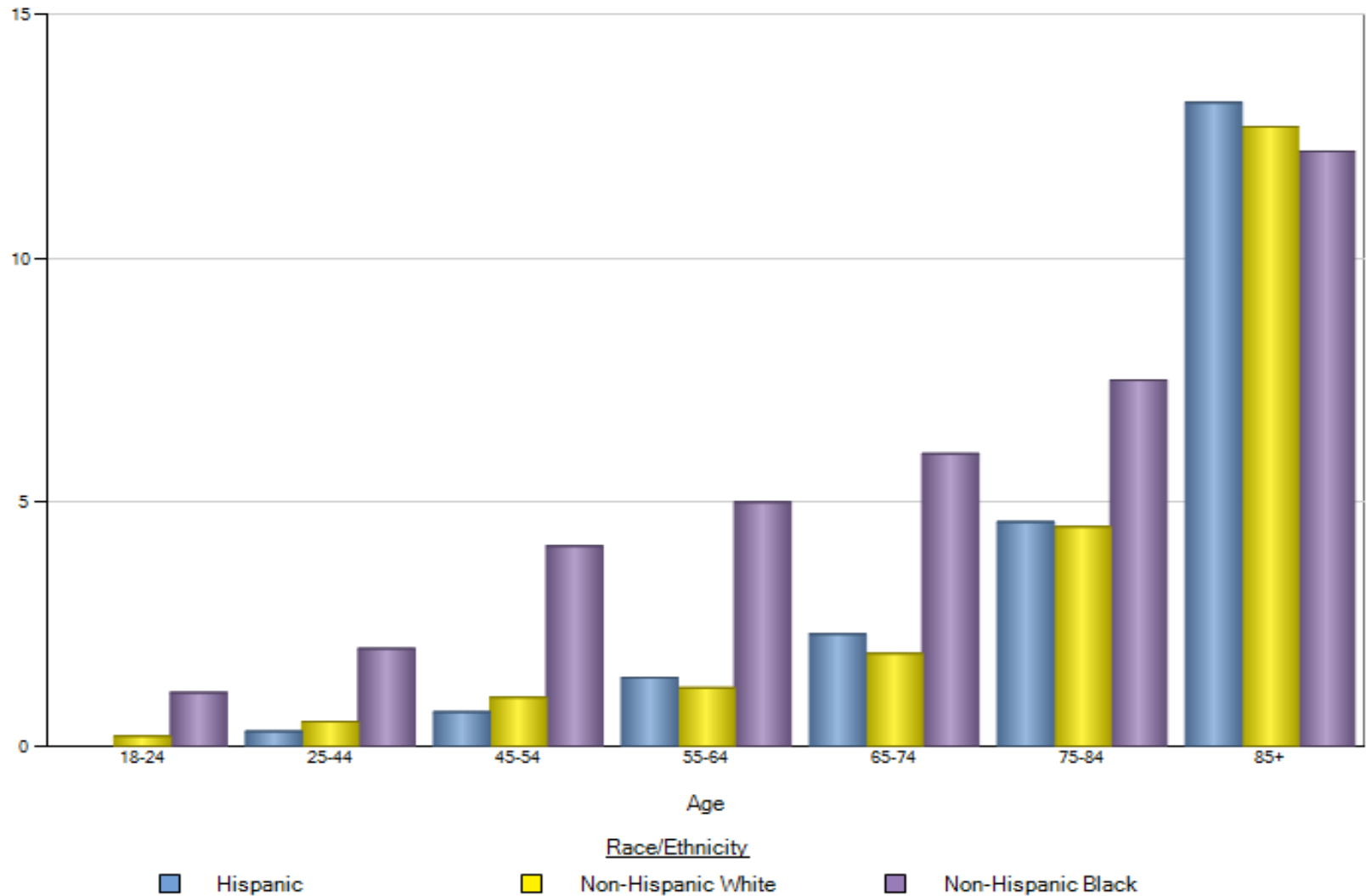


**Source: National Vital Statistics System**

# 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

## FastStats

**FastStats Homepage**
State and Territorial Data

**Related Links**
Accessibility

**Recommend** 13   **Tweet** 5   **Share**

## FastStats A to Z

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

### B

Birth Defects (Congenital Anomalies)
Births/Natality
Births-Method of Delivery

### 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

**Email page link**
**Print page**
**Get email updates**

**Contact Us:**

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Hyattsville, MD 20782
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cdcinfo@cdc.gov

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# FastStats

**FastStats Homepage**

State and Territorial Data

**Related Links**

Accessibility

NCHS Home > FastStats Home

Recommend 16   Tweet 1   Share

## Diabetes

**(Data are for the U.S.)**

✉ Email page link
🖨 Print page

**Contact Us:**

National Center for
Health Statistics
3311 Toledo Rd
Hyattsville, MD 20782

☎ 1 (800) 232-4636
✉ cdcinfo@cdc.gov

## 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 - 9.8 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

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