

# DSHS Grand Rounds



Presenter:  
Chesley Richards, MD, MPH, Deputy Director for Public Health Scientific  
Services, Centers for Disease Control and Prevention

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<https://tx.train.org>

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1. webinar: <http://extra.dshs.state.tx.us/grandrounds/webinar-noCE.htm>
2. live audience: sign in at the door

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## Logistics (cont.)

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## Disclosure to the Learner

### Requirement of Learner

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### Commercial Support

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## Introductions



David Lakey, MD  
DSHS Commissioner  
is pleased to introduce today's  
DSHS Grand Rounds speakers

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## Health Data and Transforming Our Approaches to Improving Population Health



Chesley Richards, MD, MPH  
Deputy Director, Public Health Scientific Services  
Director, Office of Public Health Scientific Services  
Centers for Disease Control and Prevention

# **Health Data and Transforming our Approaches to Improving Population Health**

**Chesley Richards, MD, MPH**

Deputy Director for Public Health Scientific Services

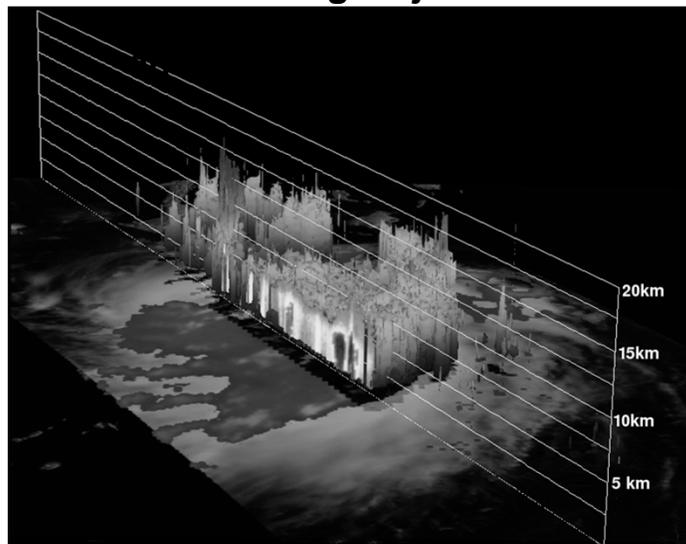
DSHS Grand Rounds – Austin, Texas  
November 20, 2013

Centers for Disease Control and Prevention  
Office of Public Health Scientific Services

## **Learning Objectives**

- Examine the current state of health data and its use in public health
- Improve understanding of CDC data systems and tools available to aid policy makers in public health decision making
- Encourage use of innovation in data access, visualization, and participant engagement to promote health

## Learning Objective:



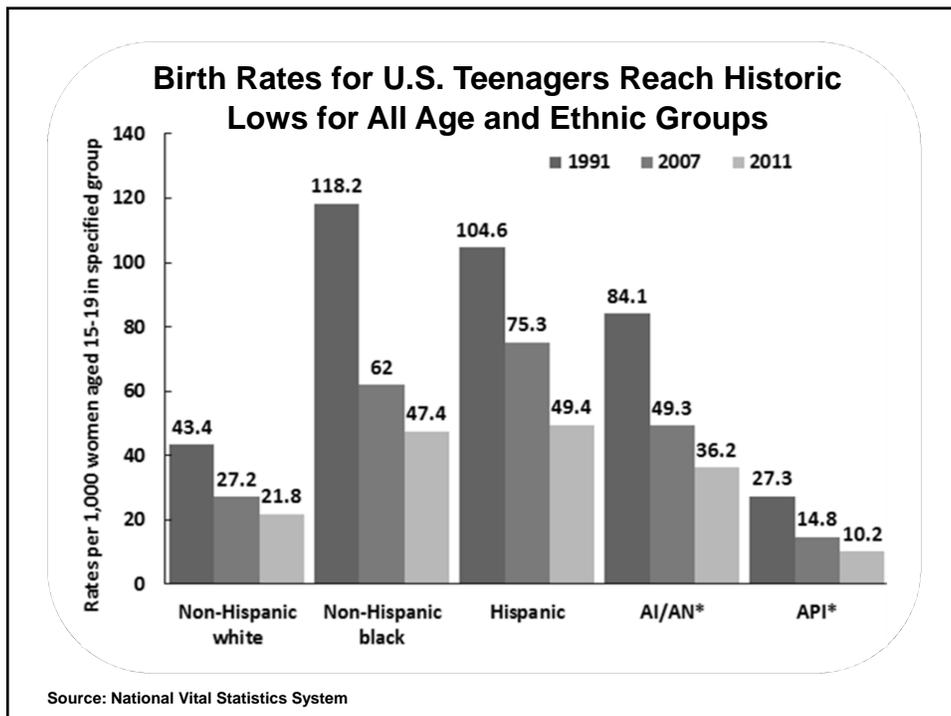
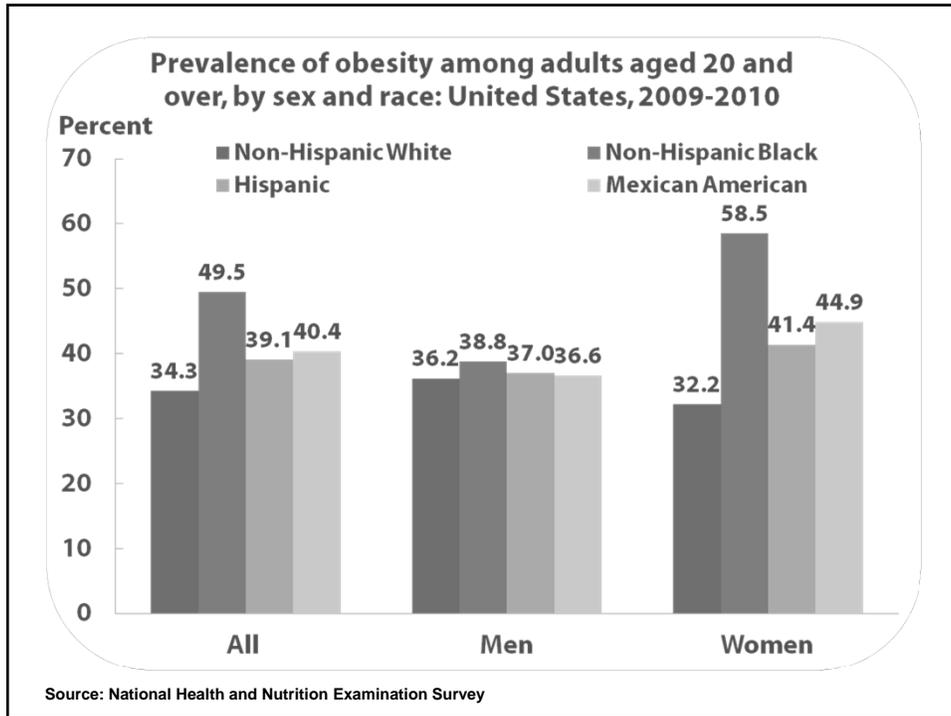
## Health, United States

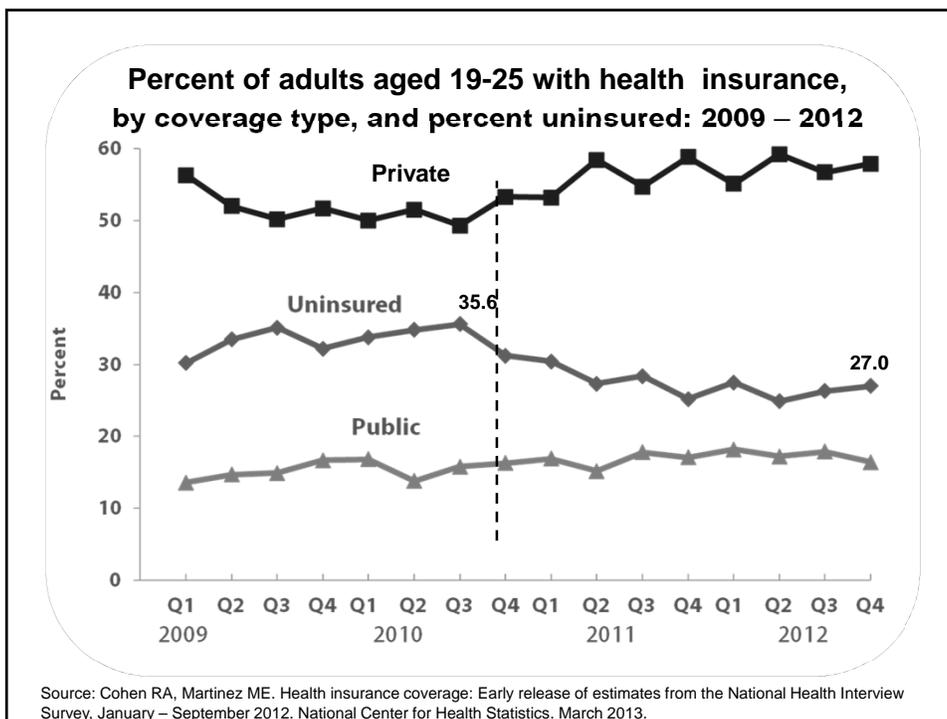
<http://www.cdc.gov/nchs/hus.htm>

**Annual report presents national trends in health statistics on such topics as:**

- birth and death rates
- infant mortality
- morbidity and health status
- risk factors
- use of ambulatory and inpatient care
- health personnel and facilities
- financing of health care
- health insurance and managed care

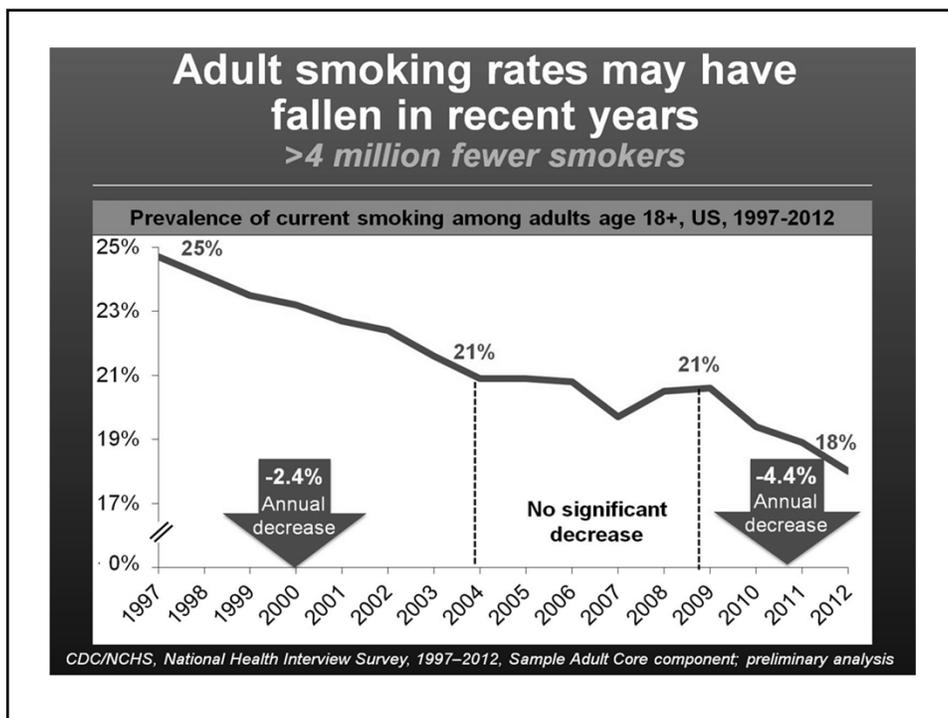
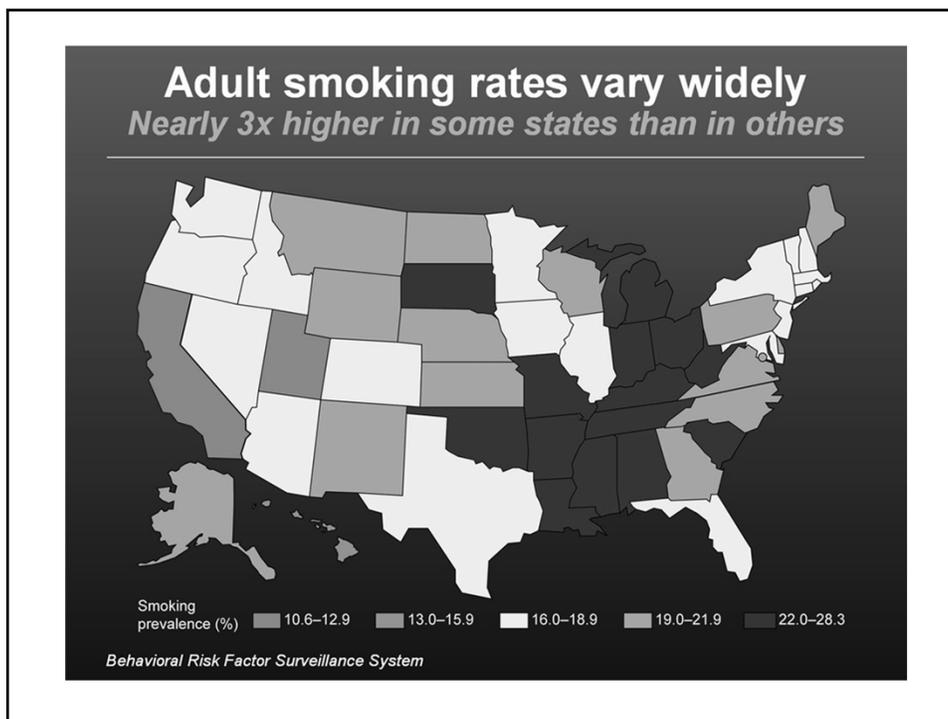


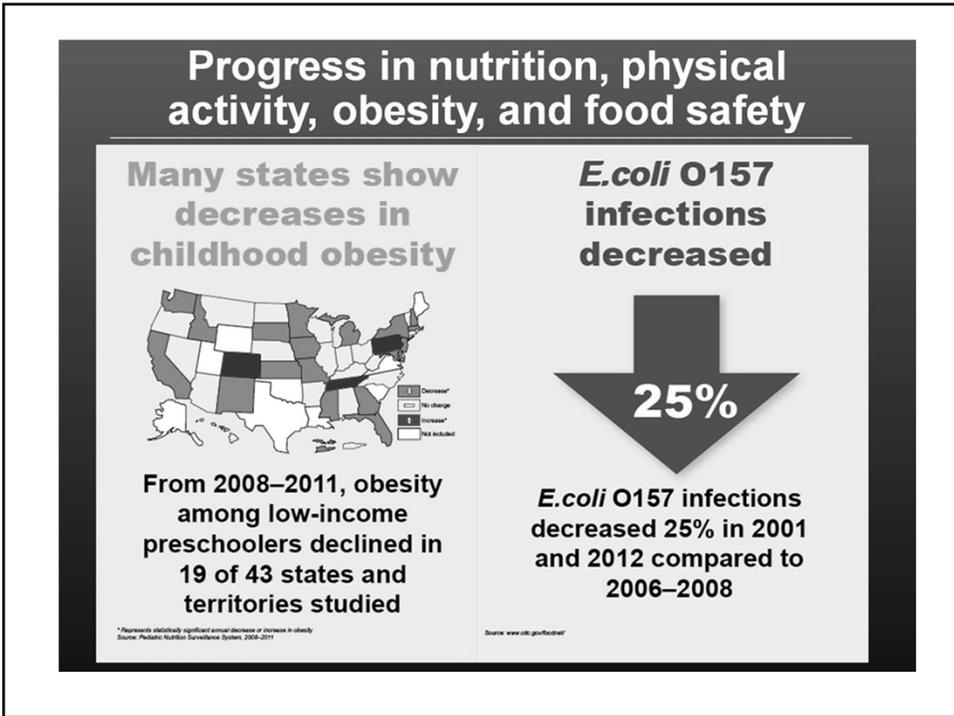
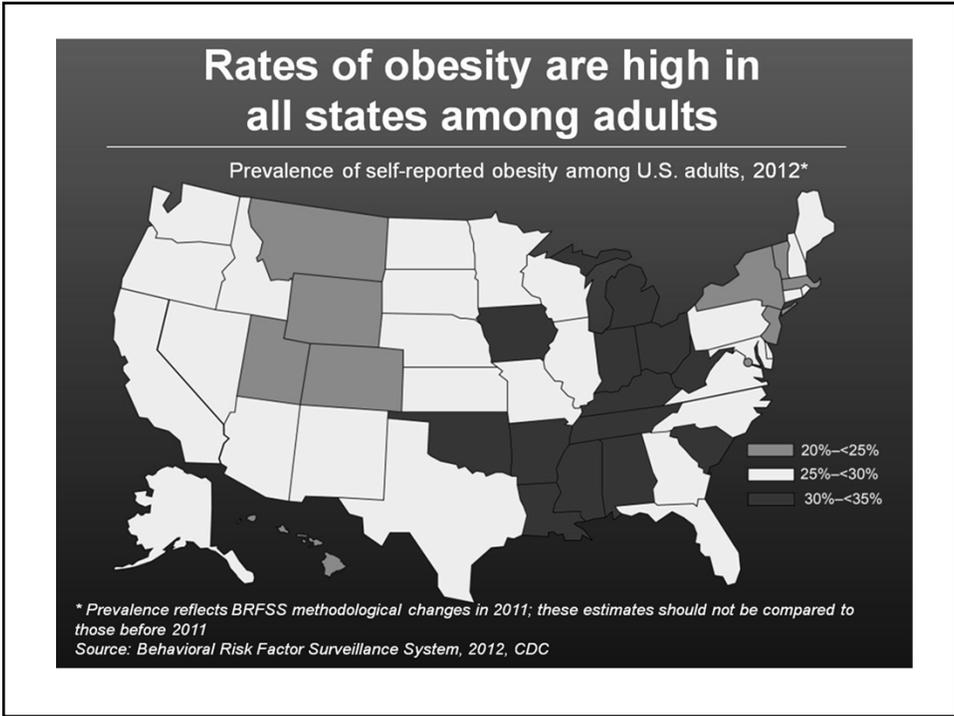


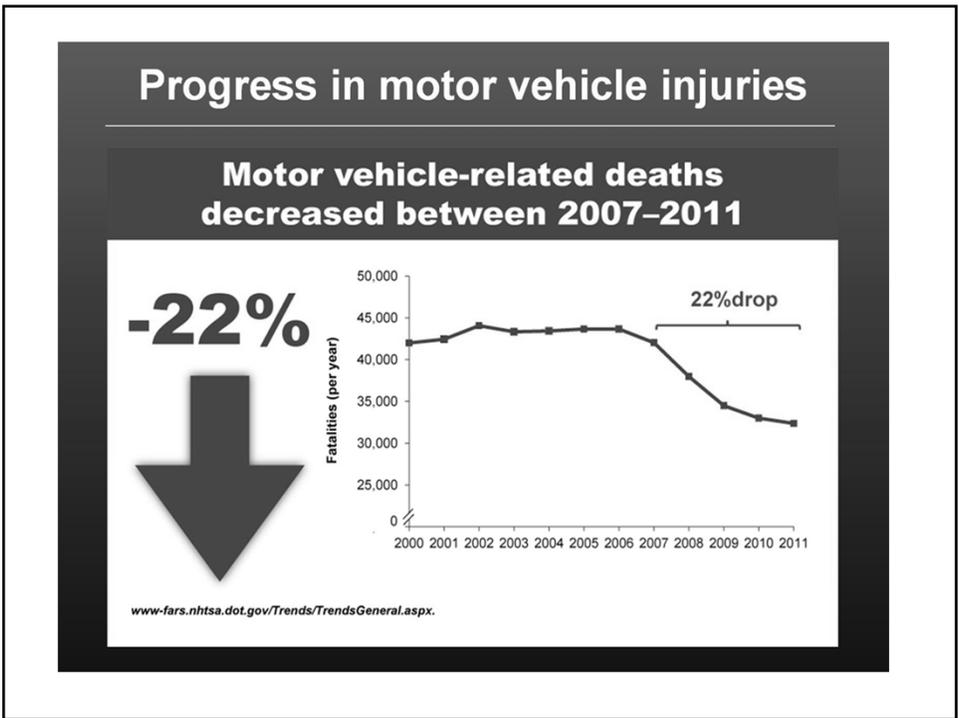
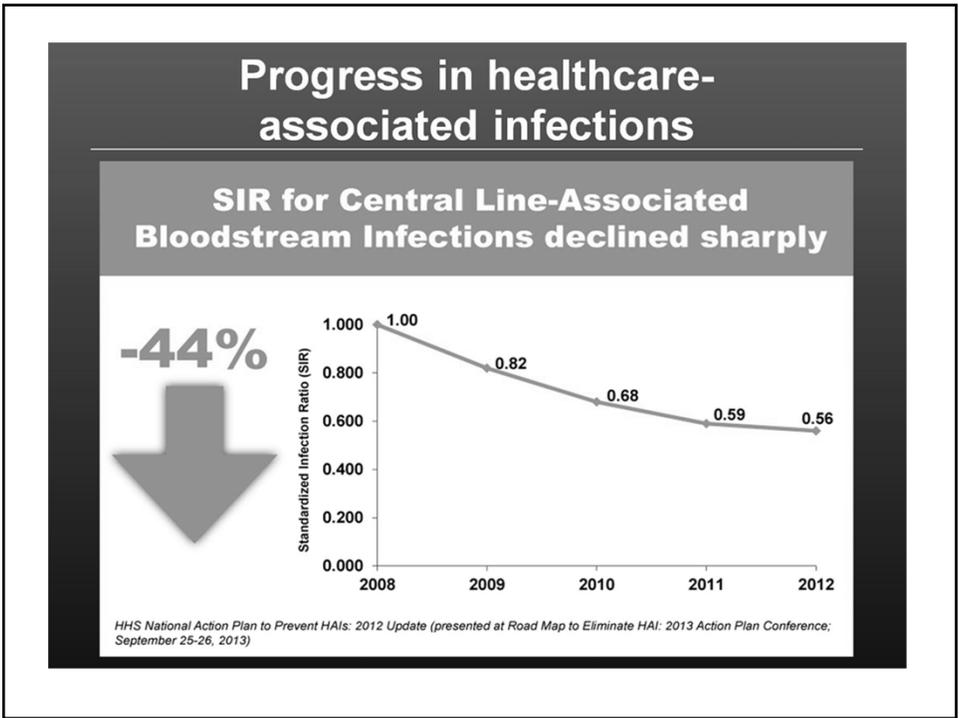


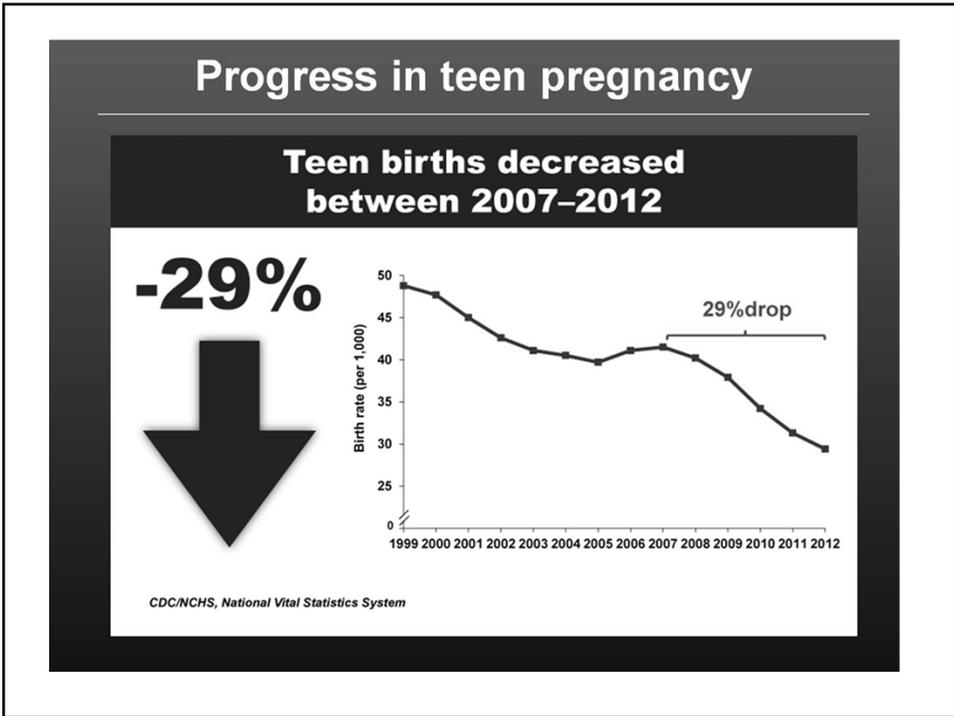
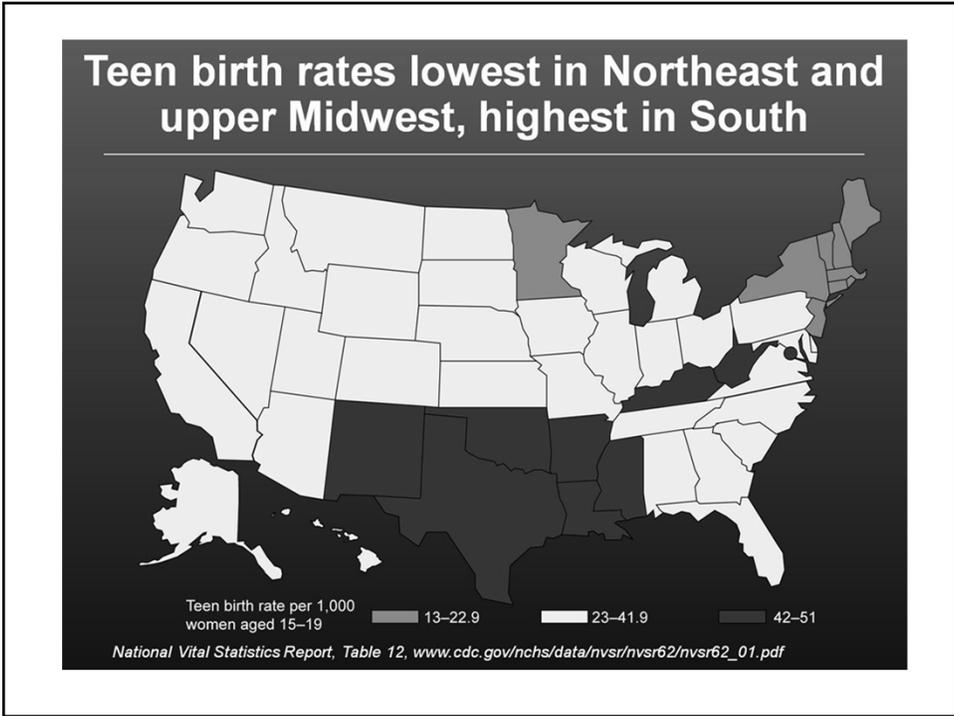
## Key winnable public health battles for the United States: Progress update

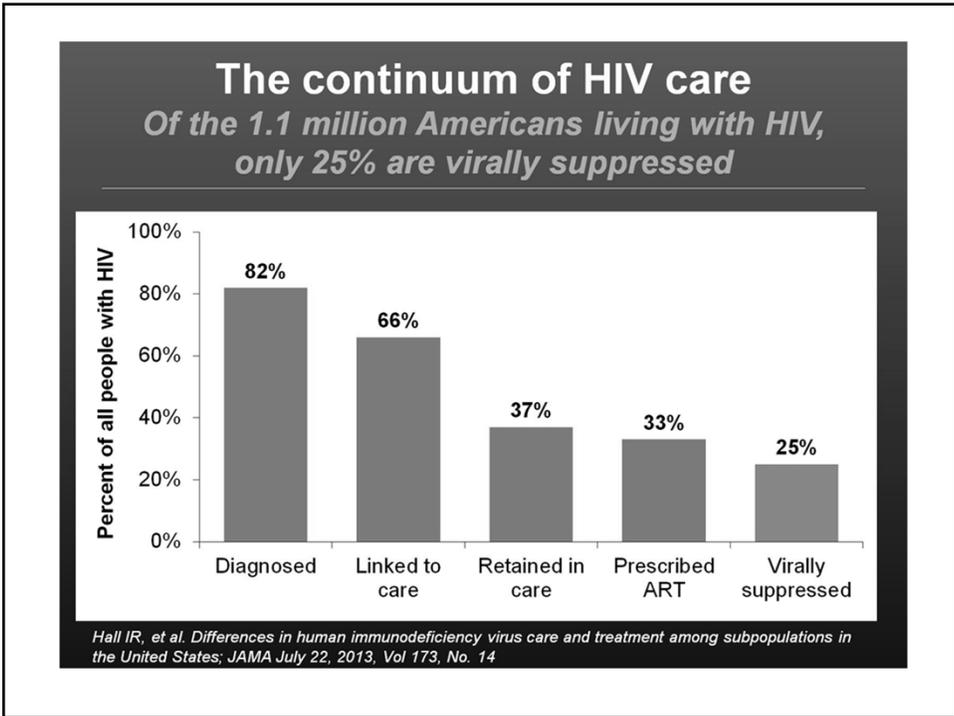
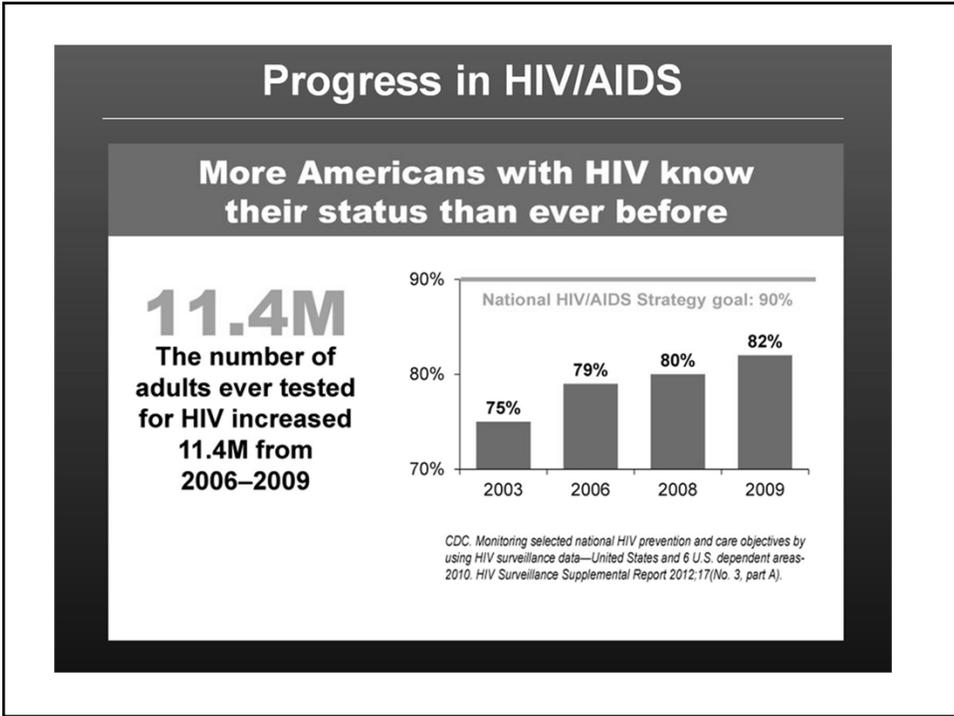
● Tobacco			Nutrition, Physical Activity, Obesity and Food Safety ●
● Healthcare-Associated Infections			Motor Vehicle Injuries ●
● Teen Pregnancy			HIV ●



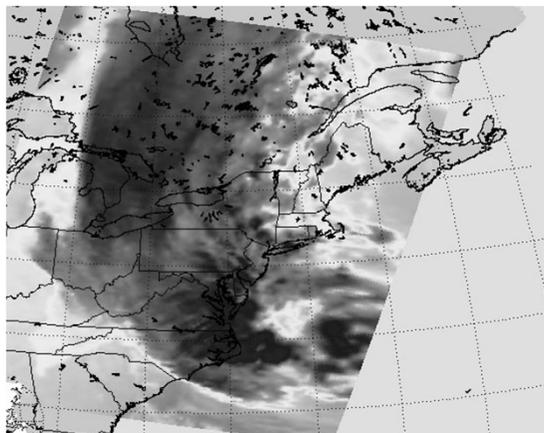








**Learning Objective:  
 CDC data systems and tools available to aid policy  
 makers in public health decision making**



OPHSS Mission: To lead, promote, and facilitate science, standards and policies to reduce the burden of diseases in the United States and globally.  
November, 2013

# Data and Statistics

CDC Home  
 Centers for Disease Control and Prevention  
 CDC 24/7: Saving Lives. Protecting People.™

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](#) #

### Data & Statistics

**Drowsy Driving**  
Asleep at the Wheel  
[Learn More >](#)

**Data & Statistics by Topic**

- Aging
- Alcohol
- Arthritis
- Asthma
- Autism (ASD)
- Birth Defects
- Births
- Blood Disorders
- Breastfeeding
- Cancer
- Cancer Registries
- Chronic Diseases
- Deaths
- Diabetes
- Disease Classification
- Foodborne Illness
- Genomics
- Growth Charts
- Healthy Water
- Heart Disease
- HIV/AIDS
- Immunizations
- Injuries & Violence
- Life Expectancy
- Lyme Disease
- MRSA
- Notifiable Diseases
- Oral Health
- Overweight & Obesity
- Physical Inactivity
- Reproductive Health
- Smoking & Tobacco
- STDs
- Tuberculosis (TB)
- Viral Hepatitis
- Vital Signs
- Workplace

**Tools & Resources**

- CDC Free Materials & Resources
- Data & Statistics Features
- Data.CDC.gov
- Disability and Health Data System
- Growth Charts
- Health Data Interactive
- Health Indicators Warehouse #
- Healthy People 2010 Data
- Interactive Database Tools
- National Center for Health Statistics
- NCHS/STP Atlas
- Sortable Risk Factors and Health Indicators
- State and Territorial Data
- State, Tribal, Local & Territorial Gateway
- State, Tribal, Local & Territorial Publications and Resources
- State, Tribal, Local & Territorial Surveillance
- Surveillance Resource Center
- Surveys and Data Collection Systems
- VitalStats

**Related Pages**

- Tools & Resources
- Publications

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**Marketplace plans cover free preventive care.**

**CDC 24/7**  
Saving Lives. Protecting People.™  
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**Contact Us:**  
Centers for Disease Control and Prevention  
1600 Clifton Rd  
Atlanta, GA 30333  
800-CDC-INFO# (800-232-4636)  
TTY: (888) 232-4348  
[Contact CDC-INFO](#)

# Surveys and Data Collection Systems

CDC Home  
 Centers for Disease Control and Prevention  
 CDC 24/7: Saving Lives. Protecting People.™

# NCHS  
 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](#) #

### Surveys and Data Collection Systems

- National Health and Nutrition Examination Survey
- National Health Care Surveys
- National Health Interview Survey
- National Immunization Survey
- National Survey of Family Growth
- National Vital Statistics System
- Longitudinal Studies of Aging
- State and Local Area Integrated Telephone Survey

**Surveys and Data Collection Systems**

Some NCHS data systems and surveys are ongoing annual systems while others are conducted periodically. There are four major data collection programs at NCHS:

**The National Health and Nutrition Examination Survey (NHANES)** is NCHS' most in-depth and logistically complex survey, operating out of mobile examination centers that travel to randomly selected sites throughout the country to assess the health and nutritional status of Americans. This survey combines personal interviews with standardized physical examinations, diagnostic procedures, and laboratory tests to obtain information about diagnosed and undiagnosed conditions; growth and development; including overweight and obesity; diet and nutrition; risk factors; and environmental exposures.

**The National Health Care Surveys** provide information about the organizations and providers that supply health care, the services they render, and the patients they serve. Provider sites surveyed include physician offices, community health centers, ambulatory surgery centers, hospital outpatient and emergency departments, inpatient hospital units, residential care facilities, nursing homes, home health care agencies, and hospice organizations. The National Health Care Surveys are used to study resource use, including staffing; quality of care, including patient safety; clinical management of specific conditions; disparities in the use and quality of care; and diffusion of health care technologies, including drugs, surgical procedures, and information technologies.

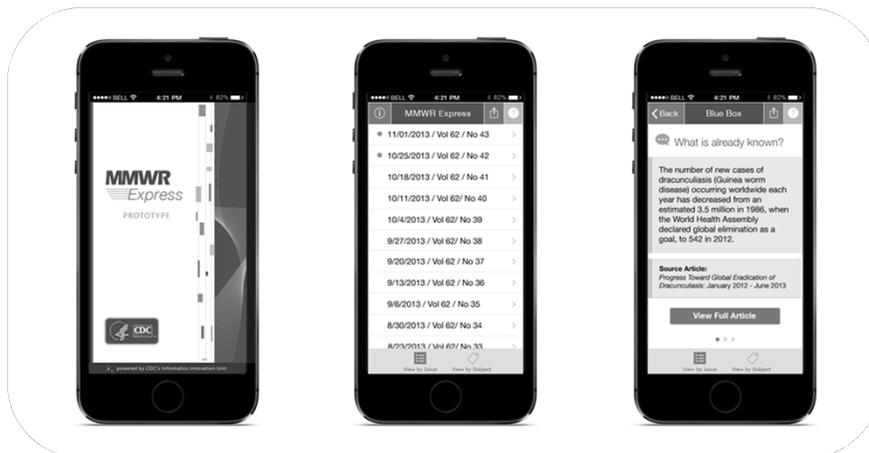
**The National Health Interview Survey (NHIS)** provides information on the health status of the U.S. civilian noninstitutionalized population through confidential interviews conducted in households by Census Bureau interviewers. NHIS is the nation's largest in-person household health survey, providing data on health status, access to and use of health services, health insurance coverage, immunizations, risk factors, and health-related behaviors.

**The National Vital Statistics System (NVSS)** provides the Nation's official vital statistics data based on the collection and registration of birth and death events at the state and local levels. NCHS works in partnership with the vital registration systems in each jurisdiction to produce critical information on such topics as teenage births and birth rates, prenatal care and birth weight, risk factors for adverse pregnancy outcomes, infant mortality rates, leading causes of death, and life expectancy.

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Email page link  
Print page

**Contact Us:**  
National Center for Health Statistics  
3311 Toledo Rd  
Hyattsville, MD 20782  
1 (800) 232-4636#  
[Contact CDC-INFO](#)

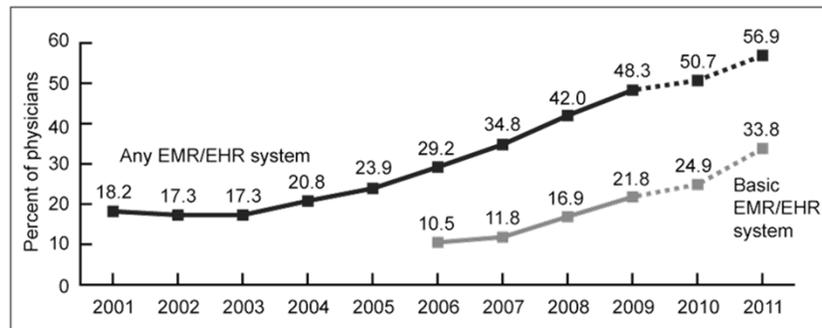
**Learning Objective:**  
**Encourage use of innovation in data access,  
 visualization, and participant engagement to promote  
 health**



## **Electronic Health Records: Implications**

- **Clinicians work at EHR, not phone, fax, email**
- **Monitor their own practice populations**
- **Automate many surveillance and reporting tasks**
- **Exchange or compile patient information using Health Information Exchange**
- **PH reporting increasingly from EHR using national standards**
- **Rules for EHRs start to define how public health exchanges information with providers**

Figure 1. Percentage of office-based physicians with EMR/EHR systems: United States, 2001–2009, and preliminary 2010–2011



NOTES: EMR/EHR is electronic medical record/electronic health record. "Any EMR/EHR system" is a medical or health record system that is all or partially electronic (excluding systems solely for billing). Data for 2001–2007 are from the in-person National Ambulatory Medical Care Survey (NAMCS). Data for 2008–2009 are from combined files (in-person NAMCS and mail survey). Data for 2010–2011 are preliminary estimates (dashed lines) based on the mail survey only. Estimates through 2009 include additional physicians sampled from community health centers. Estimates of basic systems prior to 2006 could not be computed because some items were not collected in the survey. Data include nonfederal, office-based physicians and exclude radiologists, anesthesiologists, and pathologists.

SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey.

## Meaningful Use

### CMS established Medicare and Medicaid electronic health record (EHR) program

- Provides incentives for eligible professionals (EP), eligible hospitals (EH), and critical access hospitals (CAH) to become meaningful users of EHR
- Maximum cash incentives of up to \$63,750 for EPs and several million dollars for hospitals
- Non-participating Medicare EPs will receive lower fee-for-service payments beginning in 2015

## Meaningful Use Priorities

**Meaningful use is using certified electronic health record (EHR) technology to:**

- Improve quality, safety, efficiency, and reduce health disparities
- Engage patients and family
- Improve care coordination
- Maintain privacy and security of patient health information
- Improve population and public health

Source: <http://www.healthit.gov/providers-professionals/meaningful-use-definition-objectives>

## Meaningful Use

**WHO sets EHR rules?**

- Office of Nat'l Coordinator for Health Info Tech (**ONC** at HHS)

**HOW are rules 'enforced'?**

- The Medicare and Medicaid **incentive** program

**WHO qualifies for incentives?**

- Most clinicians and hospitals paid by Medicare &/or Medicaid

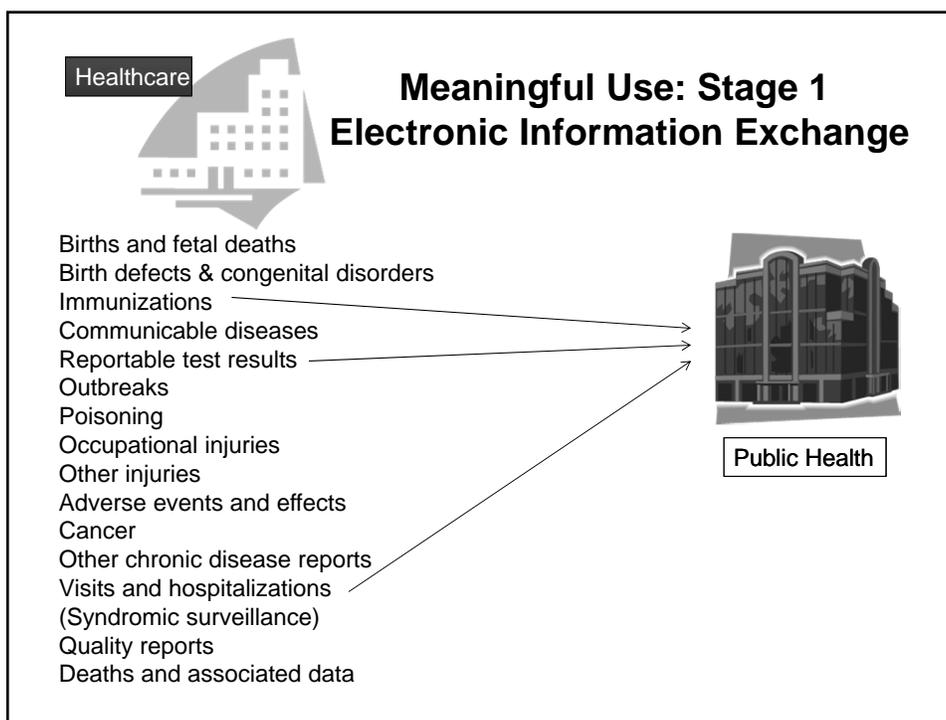
**WHAT qualifies?**

- Implement a **certified** EHR
- "Meaningfully use" for objectives to improve care and population health, including (in Stage 1) *one* of:
  - Submit Electronic Lab Reports for reportable conditions to PH
  - Submit Syndromic Surveillance reports to PH
  - Submit Immunization reports to Immunization Registries
  - ALSO: Quality measures, registries, clinical decision support

**WHEN? Now!**

## More About WHEN... 3 Stages

- **3 stages of Meaningful Use**
- **Escalating objectives**
- **Stage 1: Oct 2010-Dec 2013\***
- **Stage 2: begins Oct. 2013\***
- **Stage 3: Likely begins Oct. 2015**
- **Yearly attestation (hospitals: FFY, providers: calendar)**
- **Medicare incentives favor early participation**
- **Penalties start ?2015**

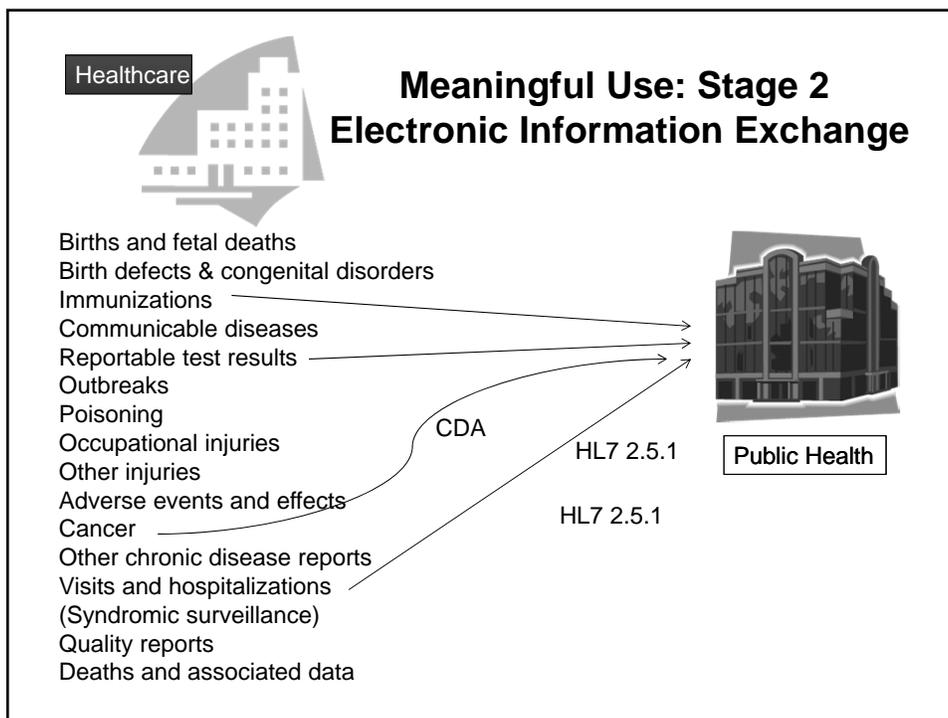


## Meaningful Use: Stage 2

Stage 2 objectives began October, 2013

More healthcare providers...

- ...sending more electronic data...
- ...to more public health programs...
- ...by higher standards...
- ...for higher stakes.



## What PHAs need to do for Stage 2?

- ❑ **Make a realistic plan for each reporting period of Stage 2**
  - Which types of exchange will be offered, and how?
  - Will you designate a Health Information Exchange organization as a suitable replacement for direct reporting?
  - Plan how to use computers to help staff manage growing data flows
- ❑ **Create a written state-wide summary of these options by the beginning of each reporting period**
  - This should include LOCAL as well as STATE options
- ❑ **Register healthcare providers in an orderly way**
- ❑ **Document your requests of providers and their failure to comply in writing**
- ❑ **Work closely with HIT Coordinator and MA Director in your state or territory**
- ❑ **Stay tuned to [www.cdc.gov/ehrmeaningfuluse](http://www.cdc.gov/ehrmeaningfuluse), CDC listserv and monthly teleconferences.**
- ❑ **Send questions to: [meaningfuluse@cdc.gov](mailto:meaningfuluse@cdc.gov)**

## Meaningful Use: Stage 3 Draft Recommendations

### Healthcare Associated Infection (HAI) Reports:

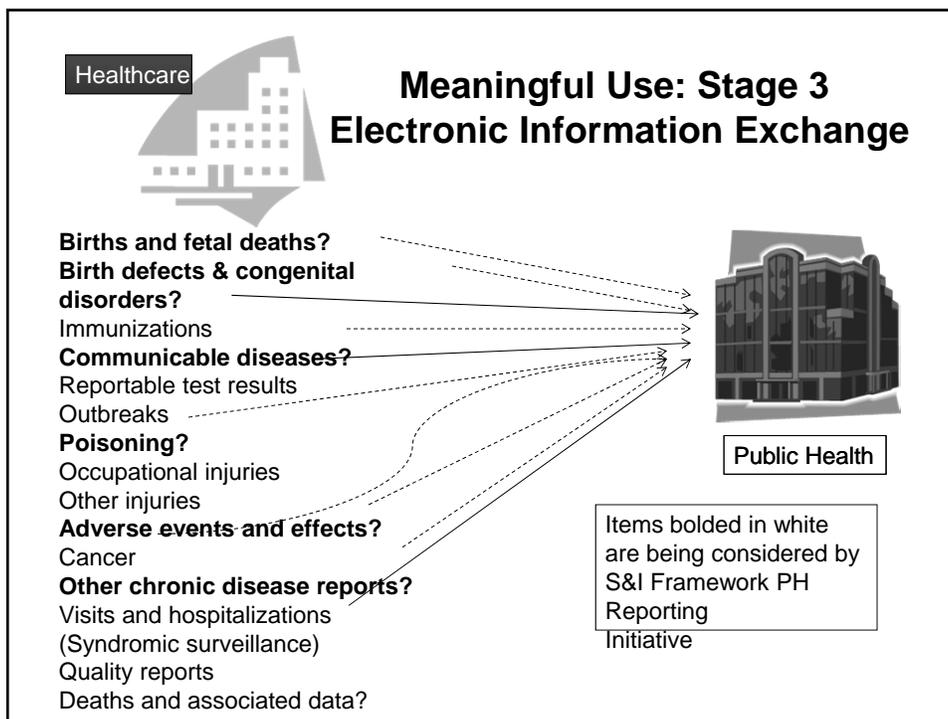
- EH Objective (new): Capability to electronically send standardized HAI reports to the National Healthcare Safety Network (NHSN)

### Jurisdictional Registry Reports:

- EH/EP Objective (New): Capability to electronically send standardized reports to a mandated jurisdictional registry (e.g., cancer)

### Immunization:

- EP/EH Objective (New): Capability to receive immunization history from a registry or information system
- EP/EH Objective (New): Capability to receive, generate or access appropriate age-, gender- and immunization history-based recommendations



- ### Meaningful Use: Stage 3 Key CDC Priorities
- **Bidirectional Immunization Information Systems (IIS)**
  - **Smoking Cessation (automated referral to Quit Line)**
  - **Monitoring patients with hypertension (registry)**

## What Does Meaningful Use Change?

- Providers/hospitals urgently seek to e-report
- Electronic reporters rise from *dozens* to *thousands* per state
- EHRs will use ONC-prescribed standards
- Rising report volumes
- Timeliness and completeness
- Electronically reusable information
- Public health's relationship with clinical care is changing

## Public Health Surveillance

The systematic ongoing collection, analysis, interpretation and dissemination of health-related data for public health action

Image: Laboratory report on mercury poisoning  
 "Public Health Bulletin", No. 234, Fig. 27, 1937

The image shows a historical laboratory report on mercury poisoning. The text is dense and includes various measurements and observations. Key sections include:

- Observations:** Mentions 'Mercury poisoning' and 'Mercury in blood'.
- Measurements:** Lists values for 'Mercury in blood' (e.g., 0.15, 0.20, 0.25) and 'Mercury in urine' (e.g., 0.10, 0.15, 0.20).
- Classification:** States 'Classification - Mercury - 1.5 mg per 100 ml' and 'Present mercury exposure - 3.5 mg per 100 ml'.
- Remarks:** Notes 'No evidence of acute poisoning (Due to presence of urine excretable for patient to absorb this)'.
- Diagnosis:** States 'Diagnosis - Chronic mercurialism'.
- Table 12:** A small table at the bottom right with the caption 'TABLE 12.—Number and percentage of employed for patients reporting a past history of acute illness and physical defects'.

## Uses of Public Health Surveillance

- Estimate magnitude of the problem
- Determine geographic distribution of illness
- Portray the natural history of a disease
- Detect epidemics/define a problem
- Generate hypotheses, stimulate research
- Evaluate control measures
- Monitor changes in infectious agents
- Detect changes in health practices
- Facilitate planning

## Surveillance is information for action

### *Acute public health action (epidemic-/disaster-type)*

- Case management
- Partner/contact services
- Outbreak investigation & management

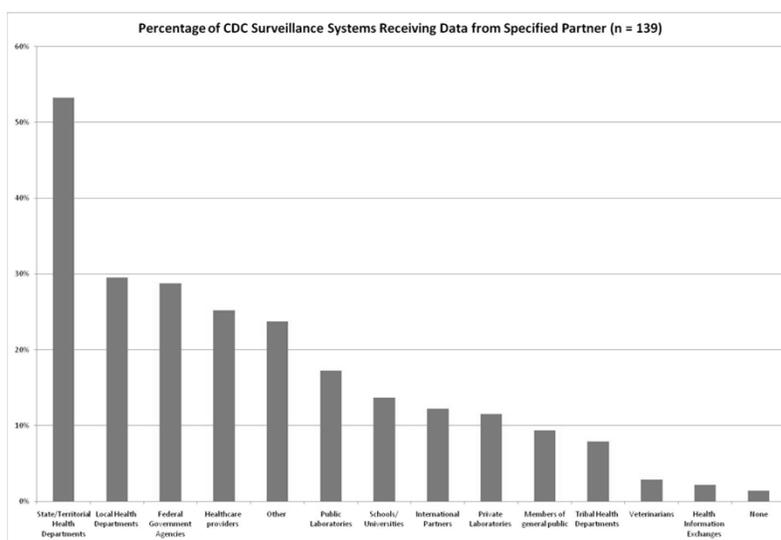
### *Planned public health action (management type)*

- Preparedness
- Feedback & dissemination
- Health education
- Program management & development
- Program planning & priority-setting

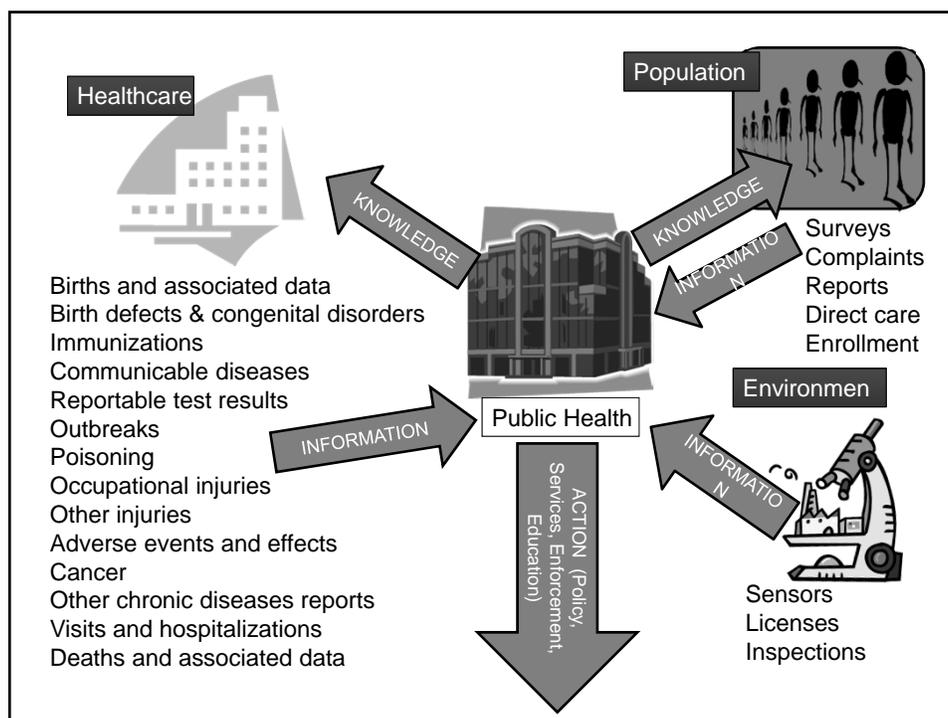
## Selected Surveillance Methods

- Notifiable disease surveillance (providers & laboratories)
- Sentinel surveillance
- Active population-based surveillance in limited areas
- Syndromic surveillance
- Ongoing periodic surveys for public health monitoring and action
- Event-based surveillance
- Health condition-specific registries

## Data sources for CDC Surveillance Systems



Data as of March 22, 2011; NPHSB Registry



## Public Health Surveillance

- **Platforms for surveillance**
  - complex and requires collaboration at multiple levels
  - build upon current capabilities
  - requires data from the health care system
  - Right data, right time, for right users to take public health action

## **Surveillance platforms**

- CDC Platform**
- Community Platform**

## **CDC Platform (CDCP)**



## Business Driver

**CDC Programs need to have reliable, accurate and complete data**

- Current legacy systems are old and expensive to maintain
- Data provisioning is burdensome and labor intensive
- CDC Programs often duplicate data in own environment due to lack of confidence in the quality of the data provided

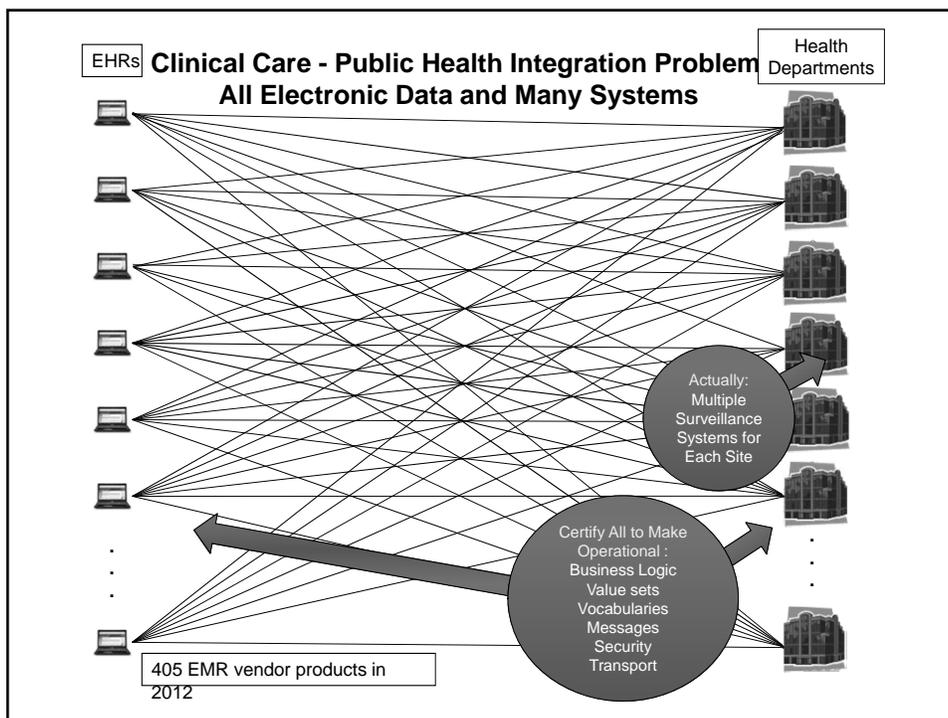
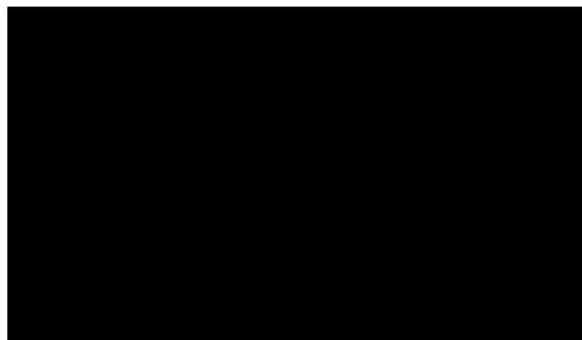
**Data quality and processes for handling of surveillance data between States and CDC need to be improved. Issues include:**

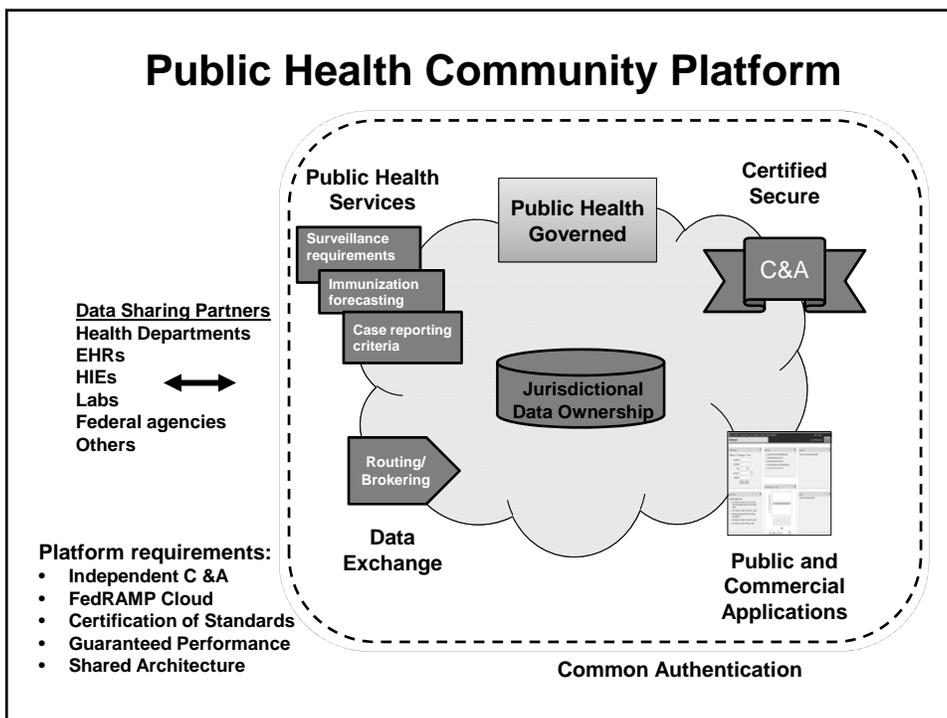
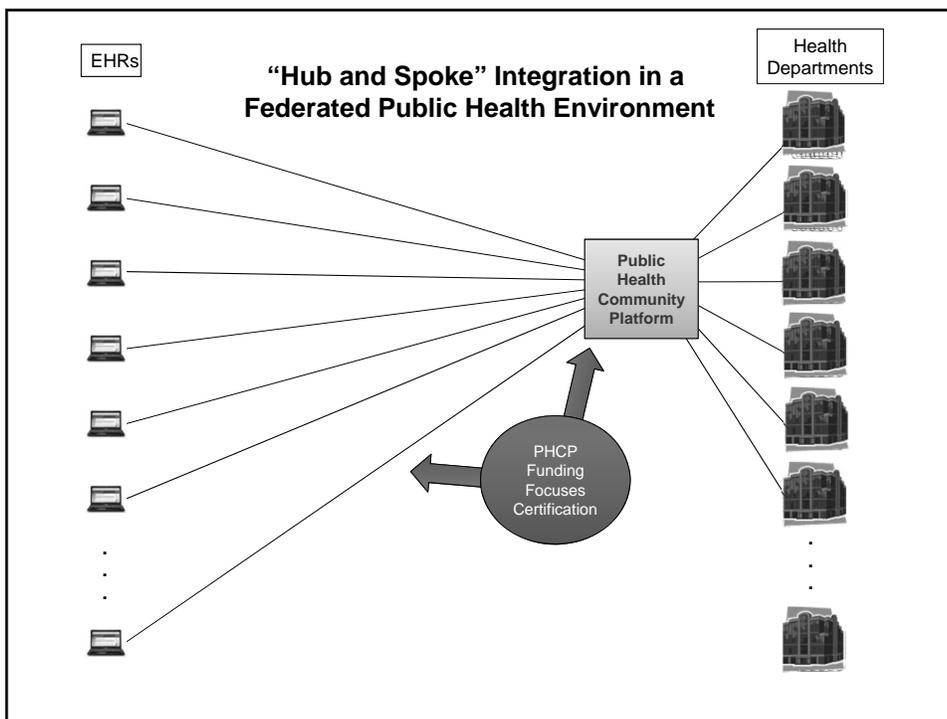
- Inability to effectively manage surveillance data submissions to CDC
- Inability to implement needed changes for emergency response
- Lack of State participation in development of technology solutions to support surveillance data standardization and submission
- Inability to access same data by CDC programs and States; thereby, enabling the data validation and reconciliation at the detail record level rather than at the data aggregate level
- CDC Programs are not all implementing and using uniform coding and messaging standards

## Vision for the CDC Platform

- Support the exchange of health-related data in multiple message formats through various data exchange channels
- Provide data services such as health data transport, validation, standardization, storage, provisioning, and analysis
- Integrate many health data sources, including national notifiable diseases data, syndromic surveillance, electronic laboratory reporting, immunization registries, and social media and unstructured news reports
- Simplify the exchange of health data by bringing together different software applications and services onto a unified platform

# Public Health Community Platform





## **PHCP will address...**

### **Points of Integration:**

- Data stewardship through DUAs and shared infrastructure through jurisdictional multi-tenancy
- Data and transaction brokering to support PHIN MS, DIRECT, Exchange and other protocols
- Hosting applications developed by public health departments, CDC, and vendors
- Common methods and standards of authentication and secure authorization of clinical systems or HIEs to public health systems
- Public health services to support reportable disease case reporting, chronic disease registries and prevention support services
- Data analysis, visualization and mapping services

## **Opportunities for Innovation Within Public Health**

- **Challenge Grants encourage participant engagement**
- **mHealth affects where and how data is used**
- **Social Media provides new channels for sharing**
- **Open Data provides new data access and visualization**

Home
Rules
Toolkit
Judges
FAQs
Contact

## NOW TRENDING

# #HEALTH IN MY COMMUNITY

Join The U.S. Office of the Assistant Secretary for Preparedness and Response (ASPR) in it's newest Challenge competition. Develop and submit a web-based application that tracks Twitter to identify trending illnesses.

**KEEP YOUR COMMUNITY HEALTHY!**

- Leverage open source Twitter data to find illnesses being discussed
- Select a geographic area of interest
- Generate a daily list of top 5 trending illnesses for state and local health departments

Learn more about the complete rules and judging criteria.

Like 75
Tweet 0
Share 54

Registration Opens

March 16, 2012

Submit By

June 1, 2012

Winners Announced

Sept 10, 2012

Today is Nov 18, 2013

Keep up-to-date with the challenge #NowTrending2012

Enter Challenge to win \$21,000\*

\* Plus winners will receive \$1,000 to apply towards travel to attend the winner announcement



**Code & Compete: Leverage Twitter APIs to Promote Health Surveillance**

Studies are showing that trending topics on social media can serve as an early indicator and warning of emerging health issues within a community. This challenge will offer the opportunity for an individual or a team of technology savvy individuals to showcase their skills at the national level while helping to advance the field of health analytics.

**OPEN TO**

- Individuals
- Teams
- Organizations
- Students

**IDEAL FOR**

- Computer Science Majors
- At-Home Coders
- Programmers
- Developers



© 2013 Now Trending Challenge. All Rights Reserved.  
A project by The Office of the Assistant Secretary for Preparedness Response (ASPR)

HOME TERMS & CONDITIONS CONTACT

http://www.nowtrendingchallenge.com

MappyHealth
Trends - by condition - by location -
About - Blog
Follow @MappyHealth
Tweet

### Location Make-Up of Tweets

based on geolocation data

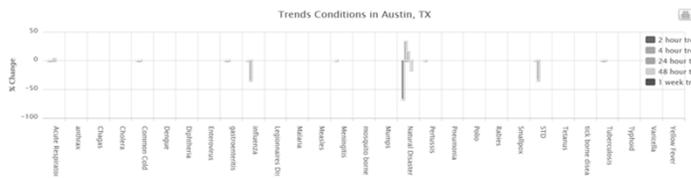
The 150 places with the most volume of tweets are mapped below.



Coloring has been conducted by the number of standard deviations away from the mean the place's tweet count falls (AKA z-score). >1.5=red. >0=orange (between 1.5 std deviations and the mean), otherwise green

### Trend of Tweets from people near Austin, TX

Trends Conditions in Austin, TX

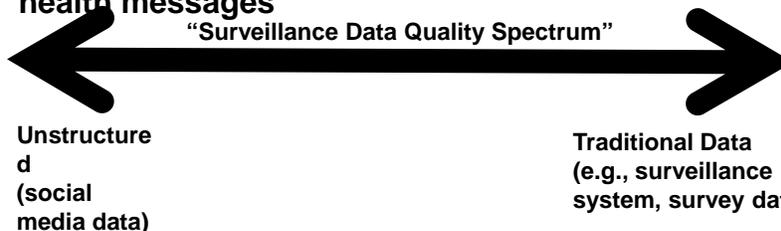


http://mappyhealth.com/by\_tweet\_places/Austin,%20TX



## Rapid Evolution of Social Media

- **Bi-directional unstructured data sharing (Government to Public, Public to Government, Public to Public)**
- **Goal is to achieve timely use of imperfect data to augment existing surveillance systems**
- **@CDCFlu has 274,868 followers for sharing public health messages**



## Public Health Data Sets Shared with Public

### Open Data Initiative (e.g., data.gov)

- Public health sharing formal, structured data sets with the public
- Data access allows novel visualizations
- Machine-readable Application Programming Interface (API) allows Mashups of disparate data sets
- Example: Federal initiative to share data using data.gov
- Example: HHS initiative to share health data using healthdata.gov
- Example: CDC shares its data sets using data.cdc.gov
- Example: CDC shares a data query system using wonder.cdc.gov

The screenshot shows the data.gov website interface. At the top, there is a navigation bar with links for HOME, ABOUT, DATA, METRICS, OPEN GOVERNMENT, BLOGS, and COMMUNITIES. Below the navigation bar, there is a search bar and a "Share" button. The main content area features a map of the United States with a "Wireless Spectrum Testbed Information Portal" overlay. To the right of the map, there is a "Latest Datasets" section listing various data collections. Below the map and datasets, there are three main sections: "DATA AND TOOLS", "COMMUNITIES", and "OPEN GOVERNMENT". Each section contains a brief description and a list of related items or links.

**DATA AND TOOLS**

- 91,101 datasets
- 349 citizen-developed apps
- 137 mobile apps
- 175 agencies and subagencies
- 87 galleries
- 409 Government APIs
- Suggest a dataset

**COMMUNITIES**

Come explore, discuss, meet others in the same field, and develop the data and apps in the community that you care about. Join in the discussions by [going to communities](#), some of which are listed below, that interest you.

**OPEN GOVERNMENT**

View our government at work and find opportunities to participate.

- Open Government Initiative
- Open Government Platform
- Recovery.gov
- USASpending.gov
- We the People

At the bottom of the page, there are buttons for EDUCATION, ENERGY, BUSINESSUSA, and AGRICULTURE. The URL <http://www.data.gov/> is displayed at the bottom left.

**HealthData.gov**

Home Data Blog Q & A Ideas Developers

Search entire site

**HEALTH DATA INITIATIVE**

Health Data Initiative Strategy & Execution Plan Released and Ready for Feedback  
The new Health Data Initiative Strategy & Execution Plan has been released! Check it out as it will guide and measure the open data strategy for the Department. Provide your feedback! [Read more >](#)

**Search the Data**

Search for:

Sub-Agency:

Subject Area:

**Recent Datasets**

- Health IT Catalog
- Physician Referral Patterns
- Readiness for Meaningful Use of Health...
- Health data.ny.gov Catalog
- Health System Measurement Project

[View more >](#)

**Recent Blog Entries**

- Centers for Medicare & Medicaid Services...
- Putting Health Data to Work in Our States...
- Public Comments on Approaches to Publish...
- Health Data Initiative Strategy &...
- Data Fueling Business Development and Health...

[View more >](#)

**Medicare**  
Cost report data from annual reports filed by hospitals, home health agencies, and other facilities: claim-level public use files for all major types of care.  
[Read more >](#)

**Medicaid**  
General information on eligibility and claims data developed to support research and policy analysis initiatives for Medicaid and other low-income populations.  
[Read more >](#)

**Epidemiology**  
Public health databases and inquiries regarding births, deaths, disease incidence, health event case reports, demographics, community health.  
[Read more >](#)

**Treatments**  
Information and databases about marketed drugs, including downloadable resource of medication content and labeling, text messaging libraries and.  
[Read more >](#)

**Population Statistics**  
Metrics on community health, health care system, and determinants-of-health performance at national, state or county levels.  
[Read more >](#)

<http://healthdata.gov/>

**CDC** Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives. Protecting People.

Contact Us Data.CDC.gov Home Developers Help  
Sign Up Sign In

Data.CDC.gov

**Welcome to Data.CDC.gov!**

Browse a sample of CDC's popular data sets and create your own visualizations. This chart to the right is a customized view of the prevalence of tobacco users who smoke every day for survey year 2011. The data is from CDC's Behavioral Risk Factor Surveillance System (BRFSS). Using Data.CDC.gov, you can create your own views and embed them on your site. When the data changes here, those updates will appear in your visualizations, as well. For more information on how to get started, please email us at [dt@cdc.gov](mailto:dt@cdc.gov).

**Current Smokers**  
Map of prevalence of adults who are current smokers for 2011.

**Health Care Access/Coverage**  
Line chart of health care access/coverage for 1995-2010.

**Tobacco Use**  
Smoking status by those who smoke everyday or smoke some days for 2011.

**Search & Browse Datasets and Views**

Name	Popularity	Type	RSS
BRFSS Prevalence and Trends Data: Tobacco Use - Four Level Smoking Data for 1995-2010 Percentages are weighted to population characteristics. Data are not available if it did not meet BRFSS quality requirements. For more information on these requirements, as well as risk factors and calculated variables, see the Technical Documents and Survey Data for a specific year - <a href="http://www.cdc.gov/brfss/annual_data/annual_data.htm">http://www.cdc.gov/brfss/annual_data/annual_data.htm</a> . Recommended citation: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance	500 views		
BRFSS Prevalence And Trends Data: Tobacco Use - Adults Who Are Current Smokers for 1995-2010 Percentages are weighted to population characteristics. Data are not available if it did not meet BRFSS quality requirements. For more information on these requirements, as well as risk factors and calculated variables, see the Technical Documents and Survey Data for a specific year - <a href="http://www.cdc.gov/brfss/annual_data/annual_data.htm">http://www.cdc.gov/brfss/annual_data/annual_data.htm</a> . Recommended citation: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance	215 views		
Column chart of monthly page views to CDC.gov For more information on CDC.gov metrics please see <a href="http://www.cdc.gov/metrics/">http://www.cdc.gov/metrics/</a>	82 views		
Monthly Page Views to CDC.gov For more information on CDC.gov metrics please see <a href="http://www.cdc.gov/metrics/">http://www.cdc.gov/metrics/</a>	100 views		

<https://data.cdc.gov/>

[CDC Home](#) | [Search](#) | [Health Topics A-Z](#)  
**CDC WONDER**  
[WONDER Home](#) | [FAQ](#) | [Help](#) | [Contact Us](#) | [Search](#)

WONDER online databases utilize a rich ad-hoc query system for the analysis of public health data. Reports and other query systems are also available.

[WONDER Systems](#) | [Topics](#) | [A-Z Index](#)

**WONDER Online Databases**  
 ▶ [AIDS Public Use Data](#)  
 ▶ [Births](#)  
 ▶ [Cancer Statistics](#)  
**Environment**  
 ▶ [Daily Air Temperatures & Heat Index](#)  
 ▶ [Daily Land Surface Temperatures](#)  
 ▶ [Daily Fine Particulate Matter](#)  
 ▶ [Daily Sunlight](#)  
 ▶ [Daily Precipitation](#)  
**Mortality**  
 Underlying Cause of Death  
 ▶ [Detailed Mortality](#)  
 ▶ [Compressed Mortality](#)  
 ▶ [Multiple cause of death \(Detailed Mortality\)](#)  
 ▶ [Infant Deaths \(Linked Birth/Infant Death Records\)](#)  
 ▶ [Online Tuberculosis Information System](#)  
**Population**  
 ▶ [Bridged-Race Population \(from NCHS\)](#)  
 ▶ [Population \(from Census\)](#)  
 ▶ [Sexually Transmitted Disease Morbidity](#)  
 ▶ [Vaccine Adverse Event Reporting](#)

**Reports and References**  
[Prevention Guidelines \(Archive\)](#)  
[Scientific Data and Documentation \(Archive\)](#)

**Other Query Systems**  
 ▶ [Healthy People 2010](#)  
 ▶ [MMWR Morbidity Tables](#)  
 ▶ [MMWR Mortality Tables](#)

▶ Denotes numerical data available to query or download

This page last reviewed: Wednesday, July 24, 2013

<http://wonder.cdc.gov/>

## Final Thoughts

- **Public Health data is crucial to assess the scope, burden, and trends of public health problems**
- **CDC, working with our state and local health agency partners, collects a broad range of data for public health action**
- **Emerging tools will present challenges but also tremendous opportunities to improve the timeliness, burden and quality of public health data**
- **The ultimate challenge is to link the improved data to improved public health action**



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Protecting People.™

**LEARN MORE ABOUT HOW  
CDC WORKS FOR YOU.**



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E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov) Web: [www.cdc.gov](http://www.cdc.gov)

## Questions and Answers



**Ed House, Chief  
Operating Officer, DSHS**

Remote sites can send in questions by typing in the *GoToWebinar* chat box or email [GrandRounds@dshs.state.tx.us](mailto:GrandRounds@dshs.state.tx.us).

For those in the auditorium, please come to the microphone to ask your question.

## **DSHS Grand Rounds Spring Semester**



**Wednesday, April 2, 2014**  
**Wednesday, April 9, 2014**  
**Wednesday, April 16, 2014**  
**Wednesday, April 23, 2014**  
**Wednesday, April 30, 2014**  
**Wednesday, May 7, 2014**  
**Wednesday, May 14, 2014**  
**Wednesday, May 21, 2014**