

DSHS Grand Rounds

Nov. 20

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



Presenter:

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

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

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

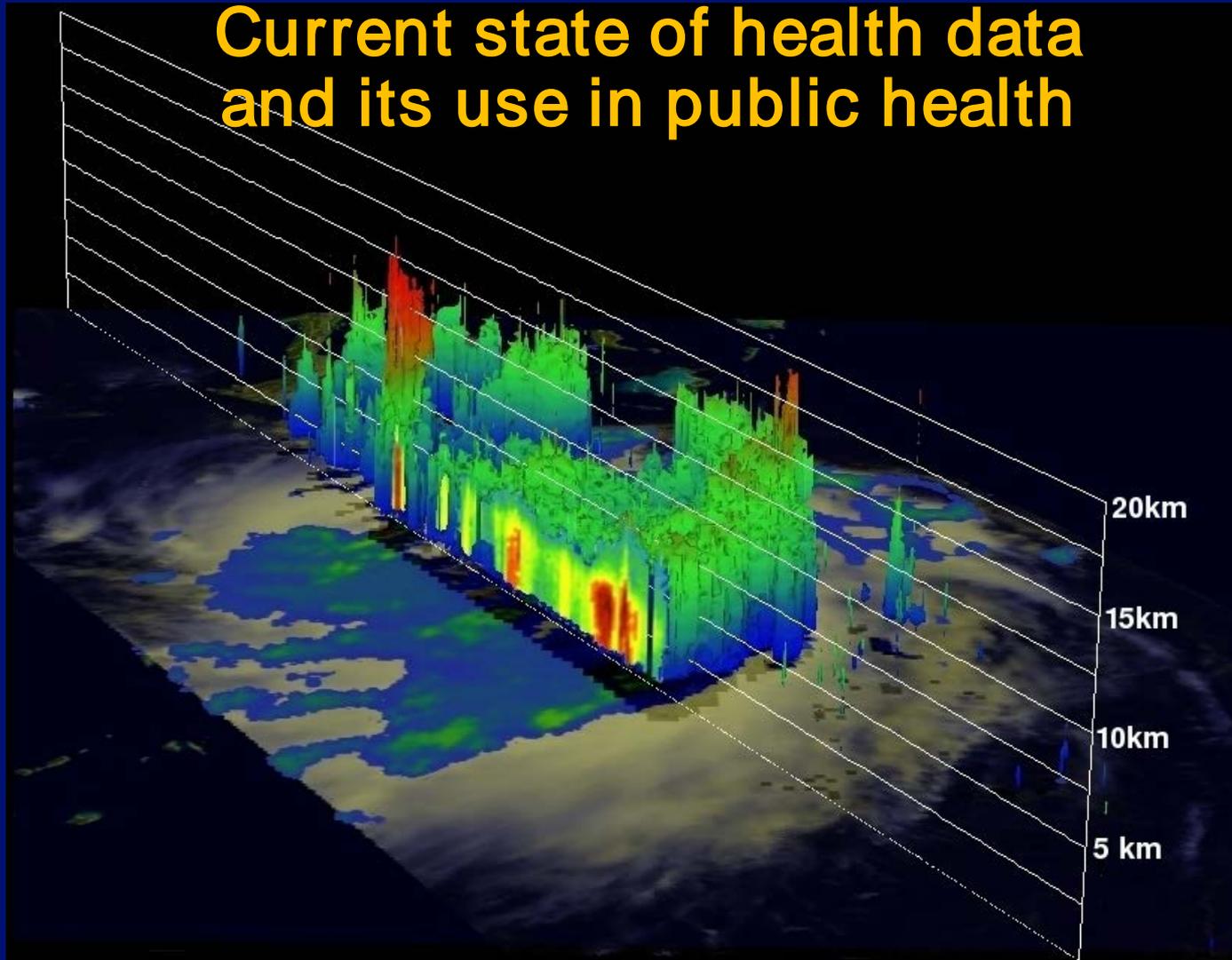


Centers for Disease Control and Prevention
Office of Public Health Scientific Services

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:
**Current state of health data
and its use in public health**

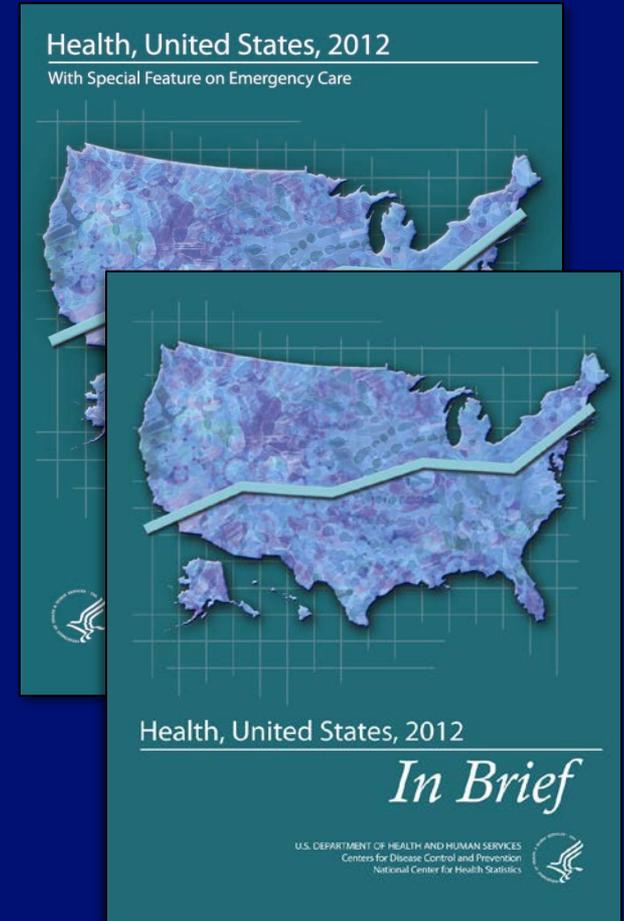


Health, United States

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

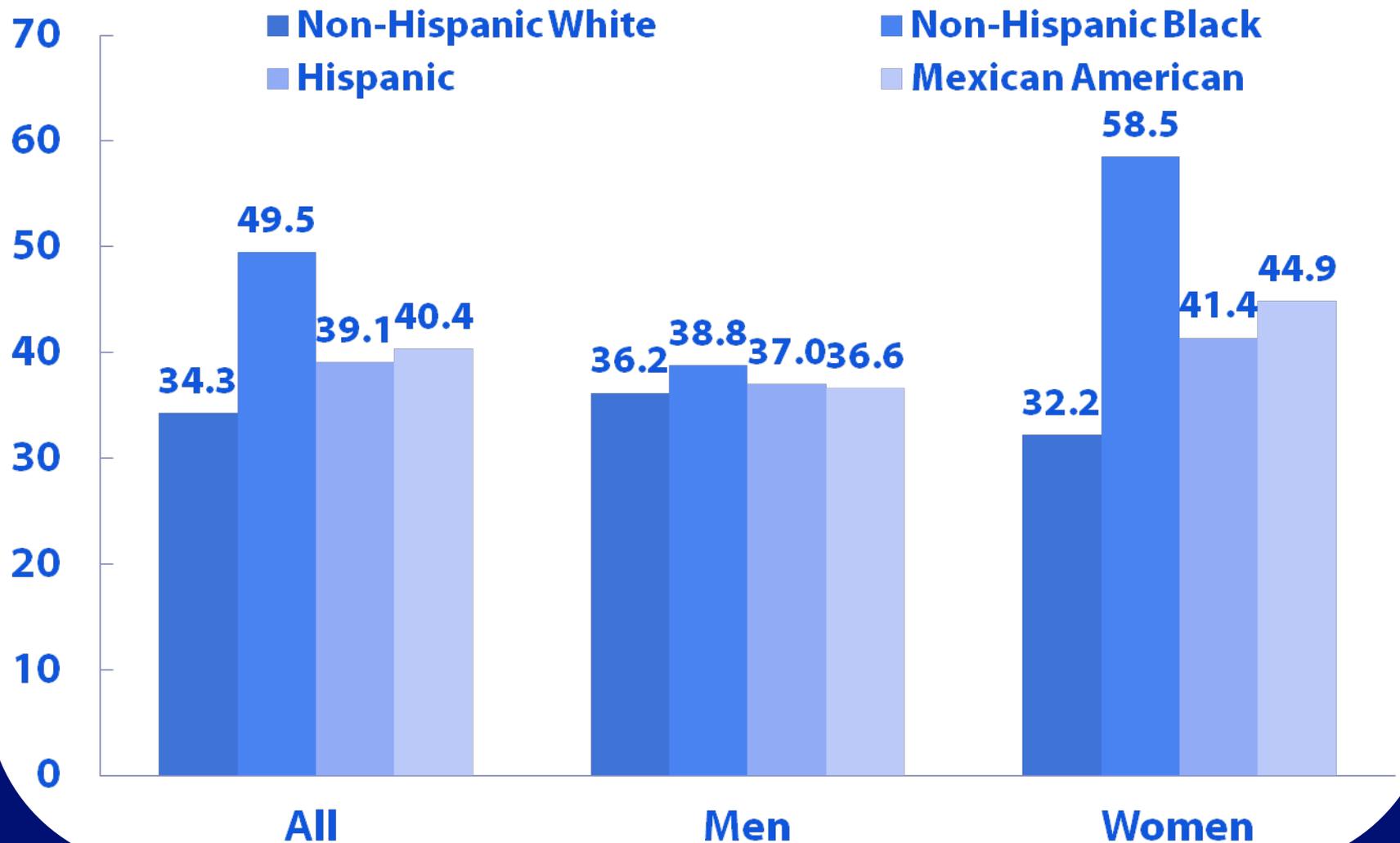
Annual report presents national trends in health statistics on such topics as:

- 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

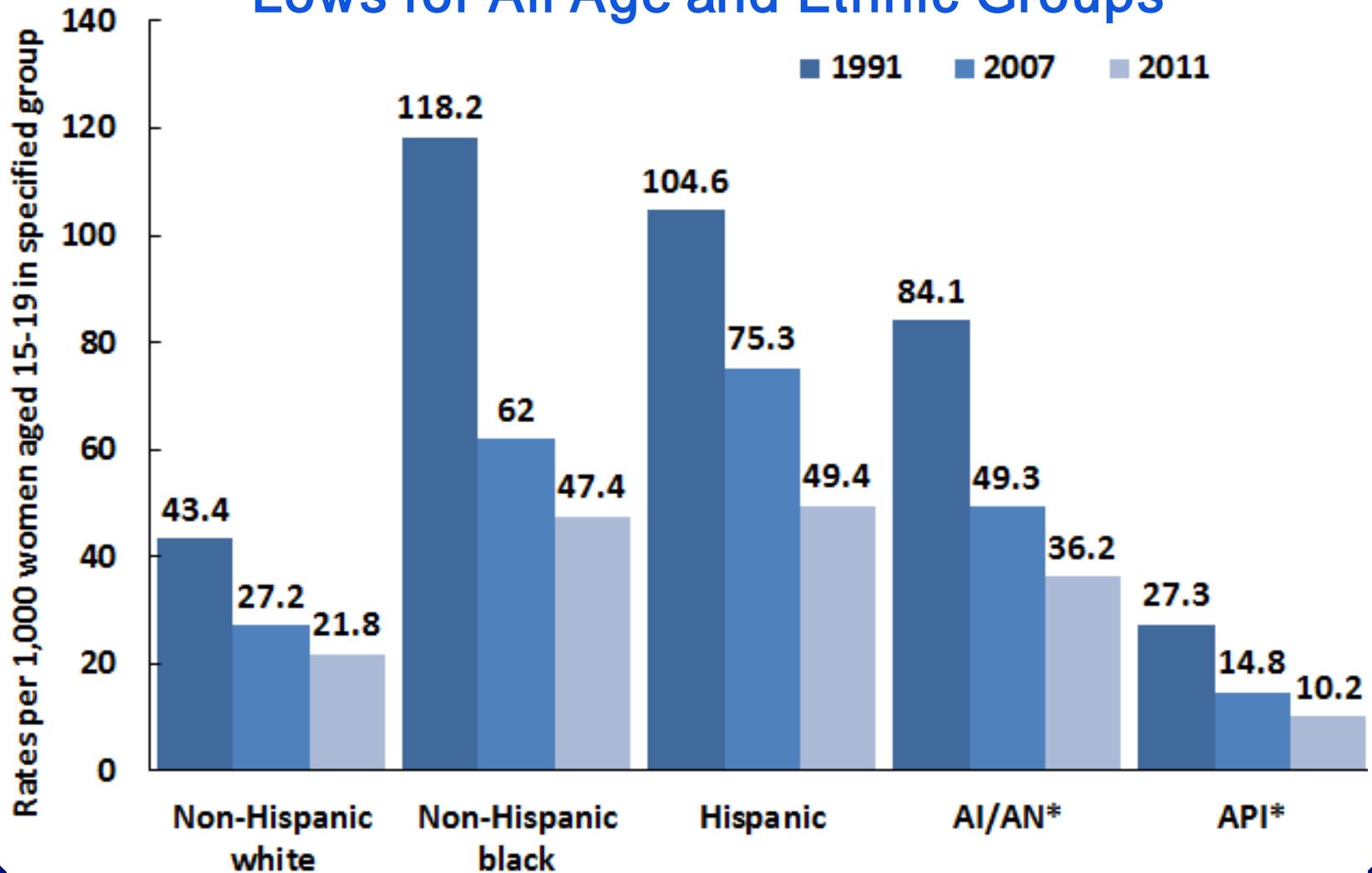


Prevalence of obesity among adults aged 20 and over, by sex and race: United States, 2009-2010

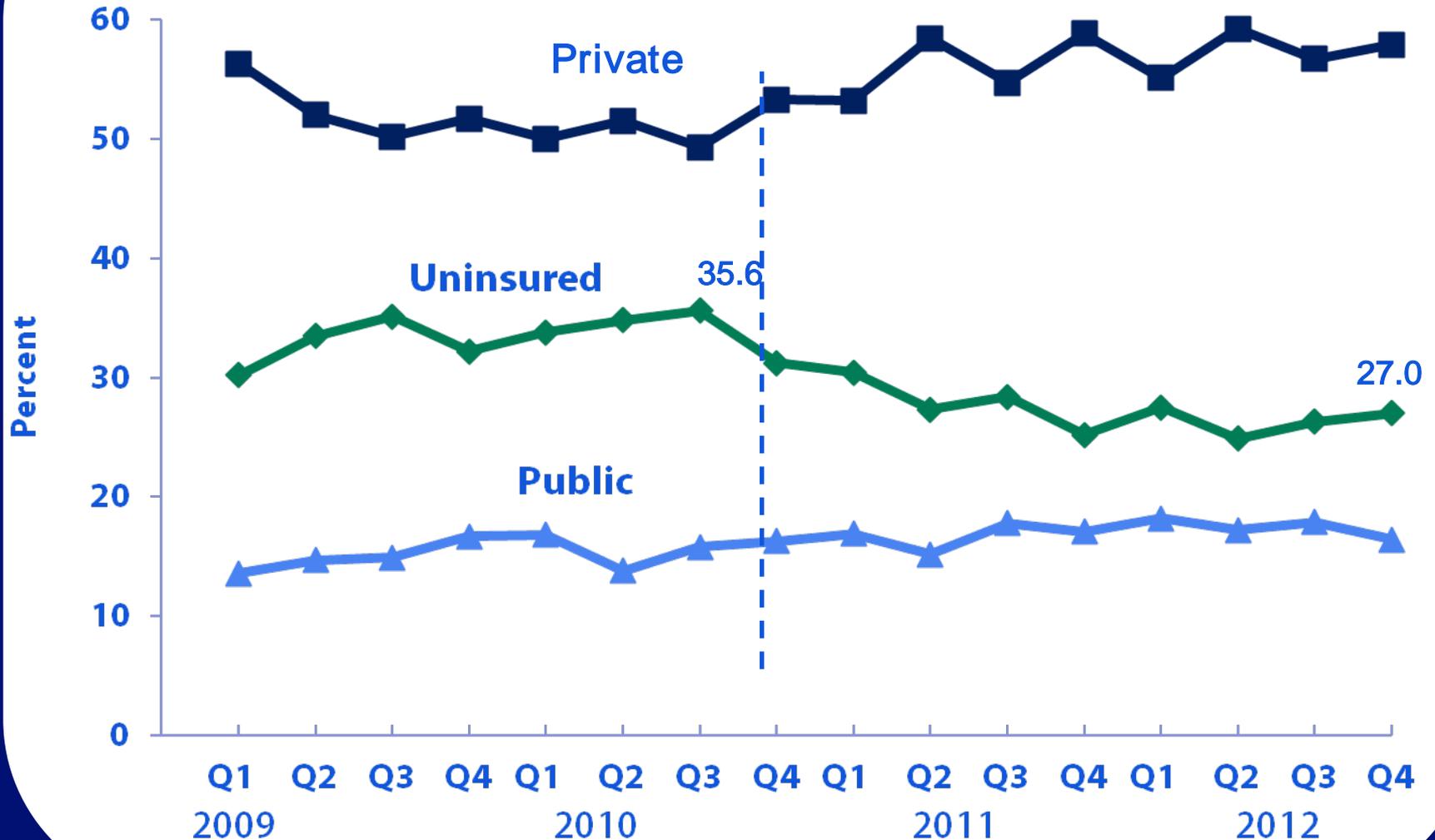
Percent



Birth Rates for U.S. Teenagers Reach Historic Lows for All Age and Ethnic Groups



Percent of adults aged 19-25 with health insurance, by coverage type, and percent uninsured: 2009 – 2012



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**



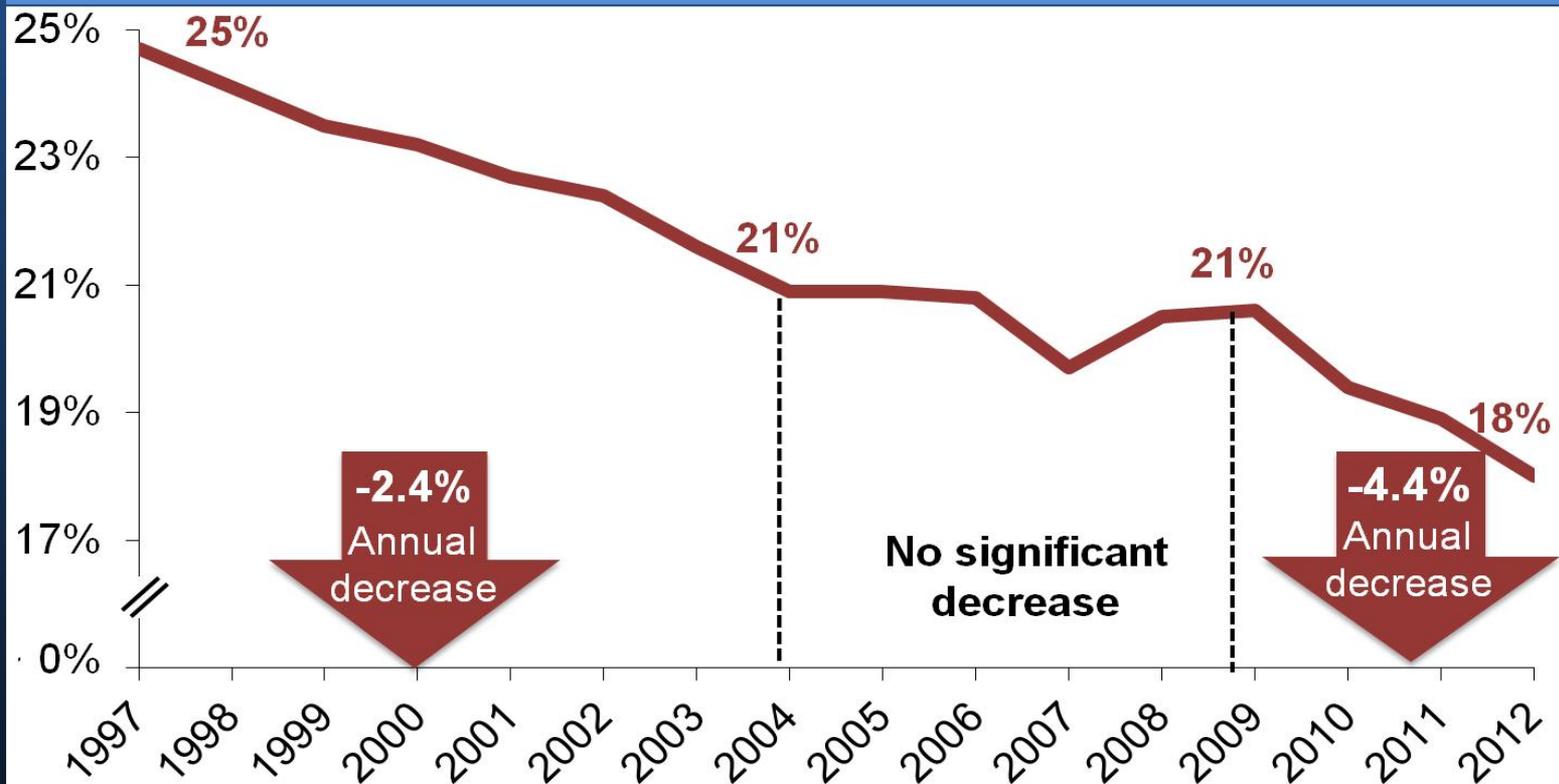
HIV



Adult smoking rates may have fallen in recent years

>4 million fewer smokers

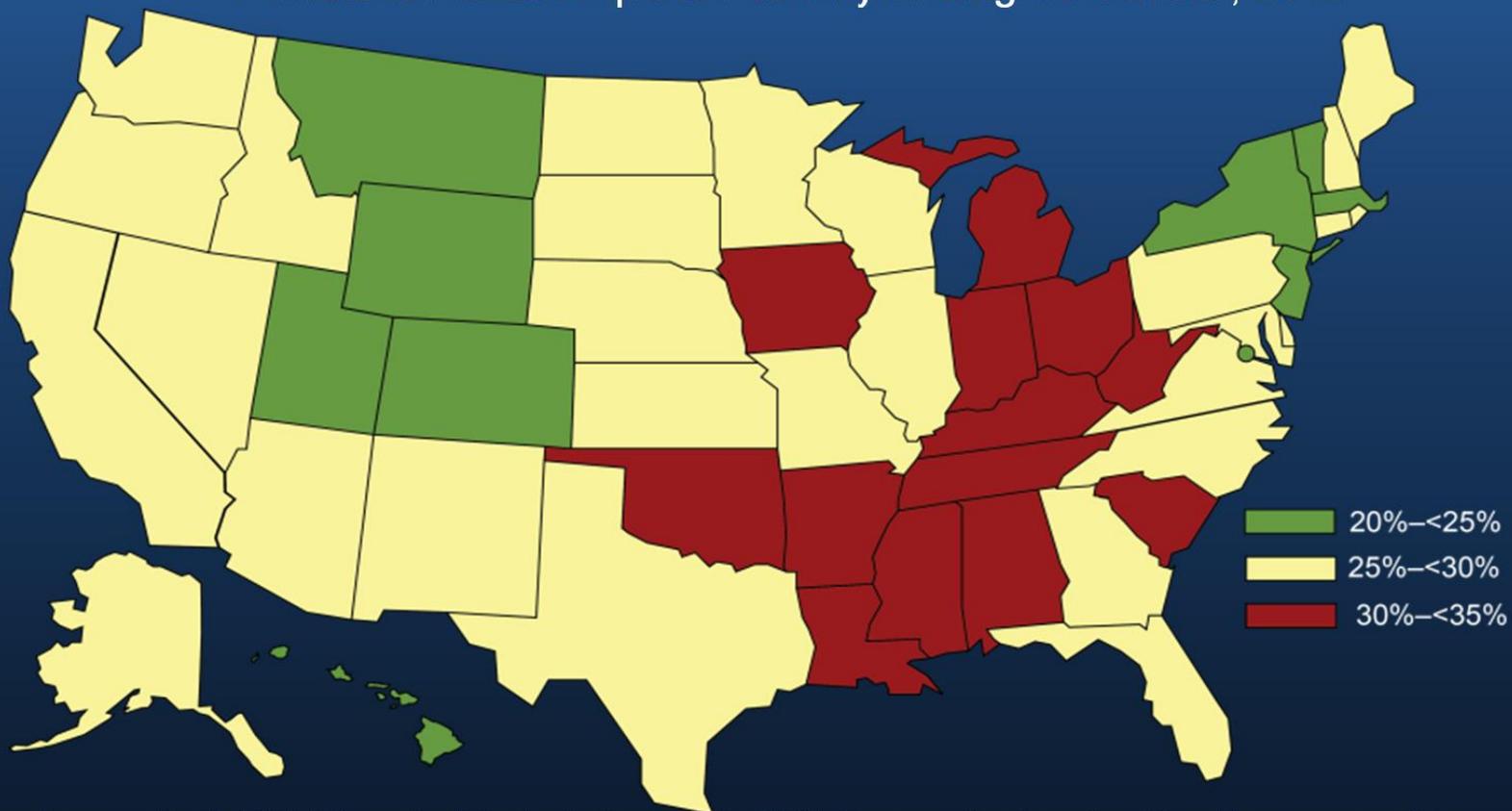
Prevalence of current smoking among adults age 18+, US, 1997-2012



CDC/NCHS, National Health Interview Survey, 1997-2012, Sample Adult Core component; preliminary analysis

Rates of obesity are high in all states among adults

Prevalence of self-reported obesity among U.S. adults, 2012*

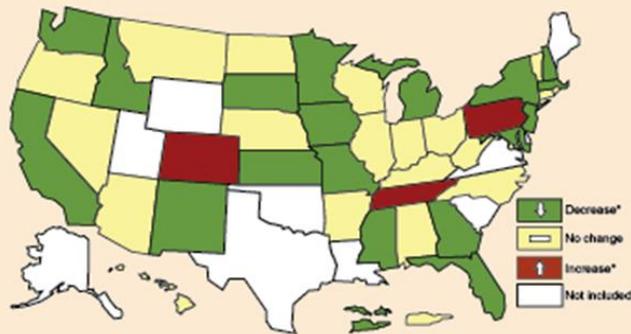


* Prevalence reflects BRFSS methodological changes in 2011; these estimates should not be compared to those before 2011

Source: Behavioral Risk Factor Surveillance System, 2012, CDC

Progress in nutrition, physical activity, obesity, and food safety

Many states show decreases in childhood obesity



From 2008–2011, obesity among low-income preschoolers declined in 19 of 43 states and territories studied

* Represents statistically significant annual decrease or increase in obesity
Source: Pediatric Nutrition Surveillance System, 2008–2011

E.coli O157 infections decreased



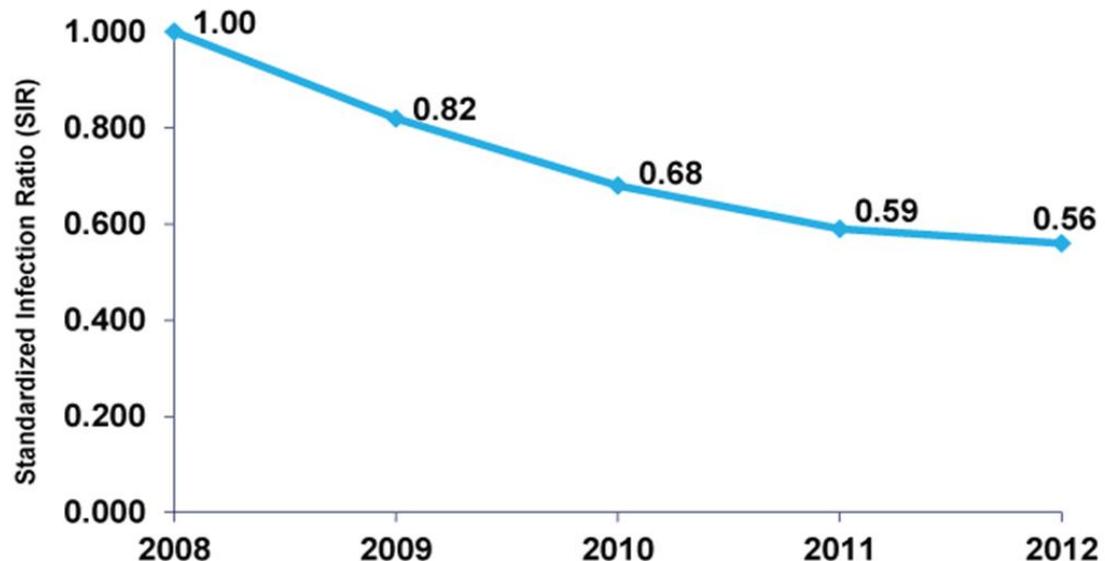
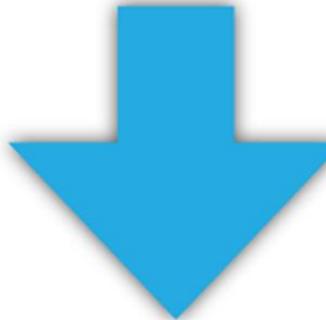
E.coli O157 infections decreased 25% in 2001 and 2012 compared to 2006–2008

Source: www.cdc.gov/foodnet/

Progress in healthcare-associated infections

SIR for Central Line-Associated Bloodstream Infections declined sharply

-44%

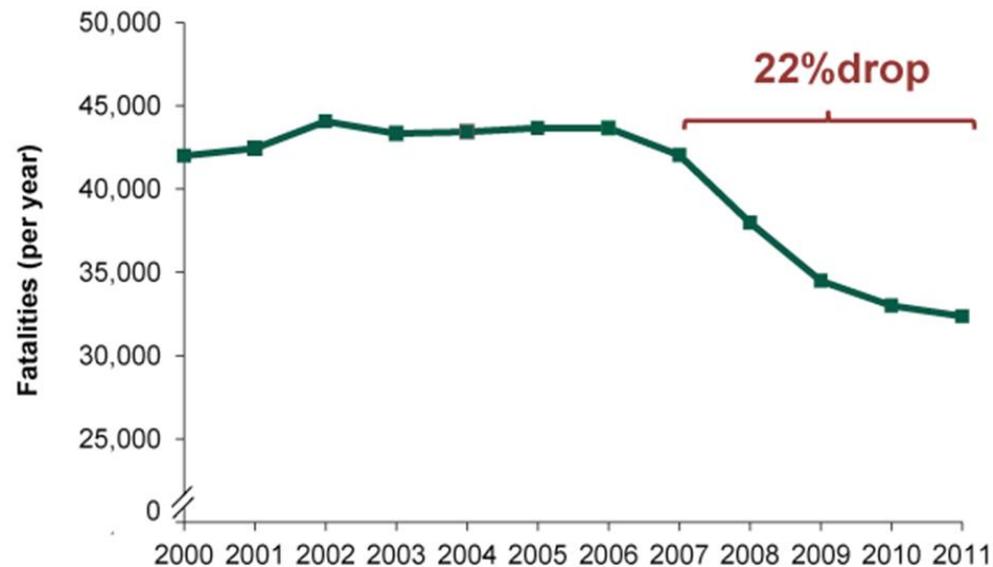
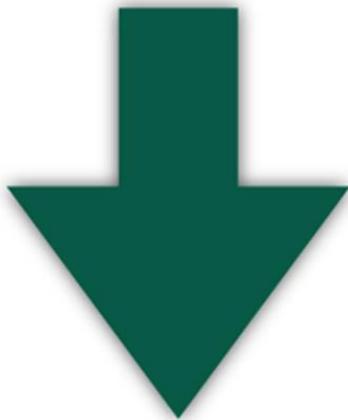


HHS National Action Plan to Prevent HAIs: 2012 Update (presented at Road Map to Eliminate HAI: 2013 Action Plan Conference; September 25-26, 2013)

Progress in motor vehicle injuries

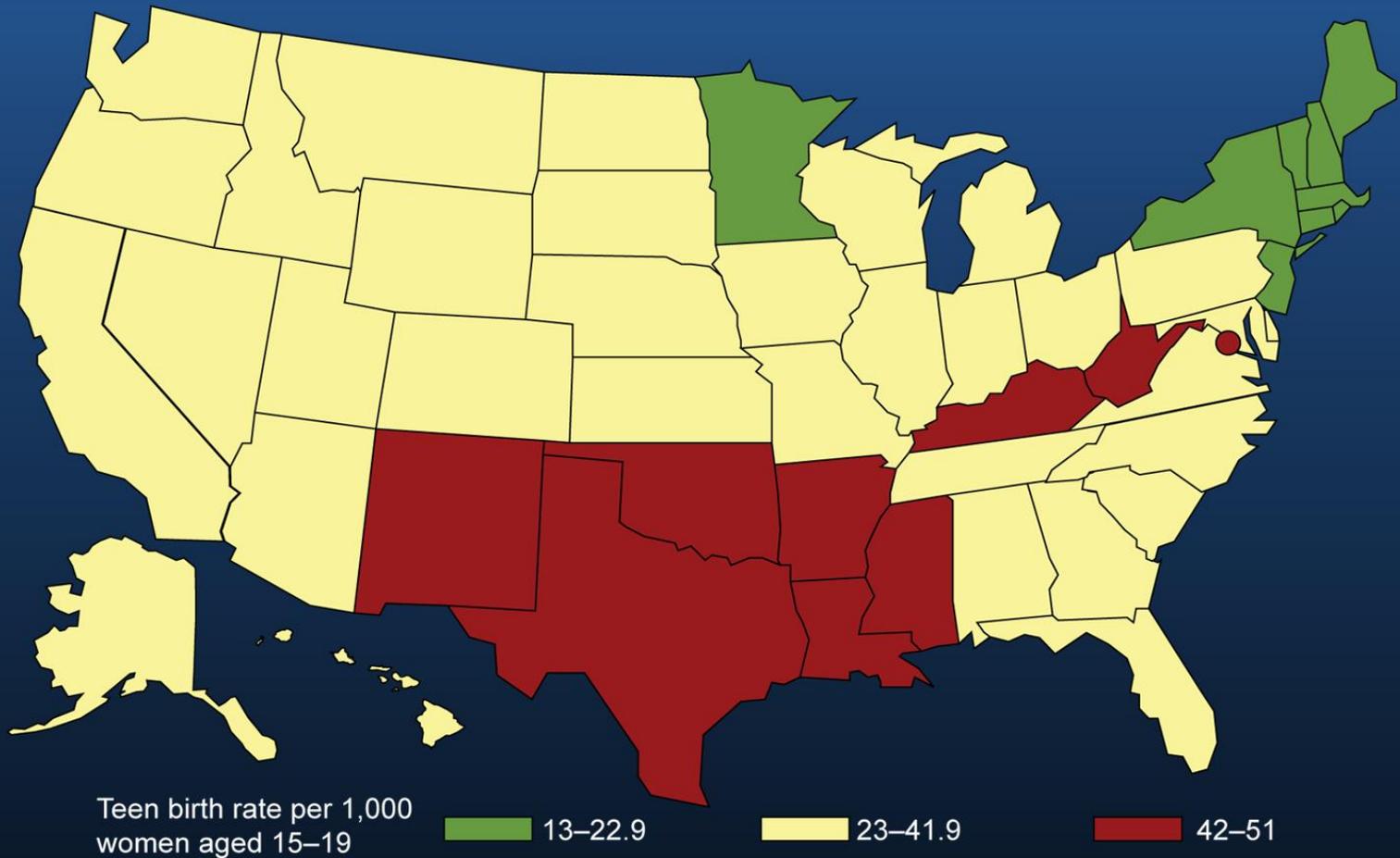
Motor vehicle-related deaths decreased between 2007–2011

-22%



www.fars.nhtsa.dot.gov/Trends/TrendsGeneral.aspx

Teen birth rates lowest in Northeast and upper Midwest, highest in South

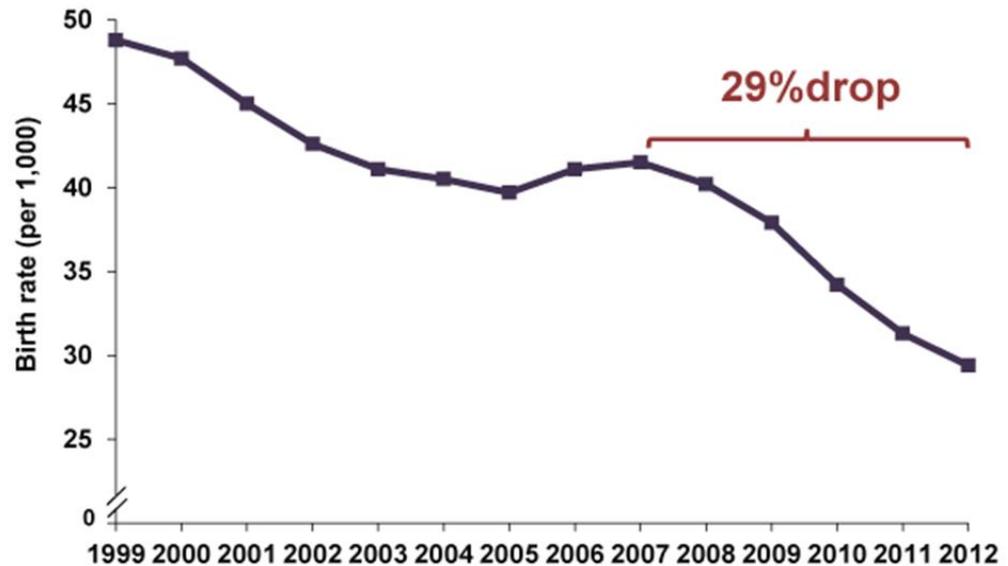
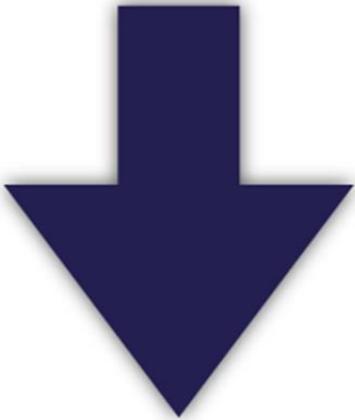


National Vital Statistics Report, Table 12, www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_01.pdf

Progress in teen pregnancy

Teen births decreased between 2007–2012

-29%



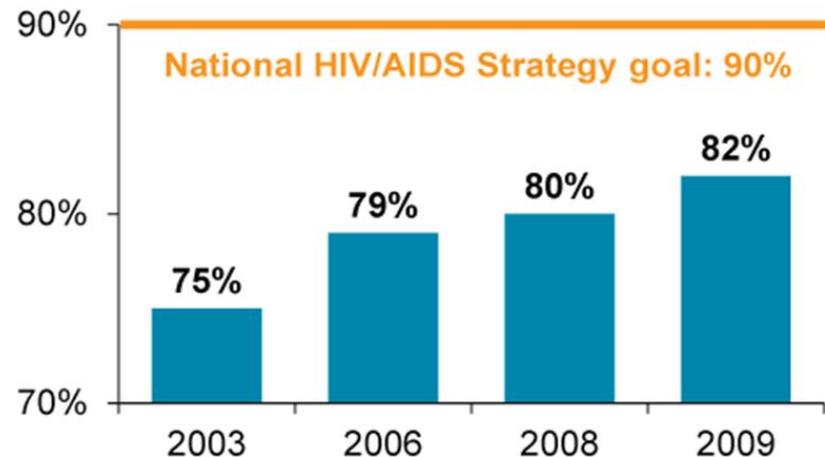
CDC/NCHS, National Vital Statistics System

Progress in HIV/AIDS

More Americans with HIV know their status than ever before

11.4M

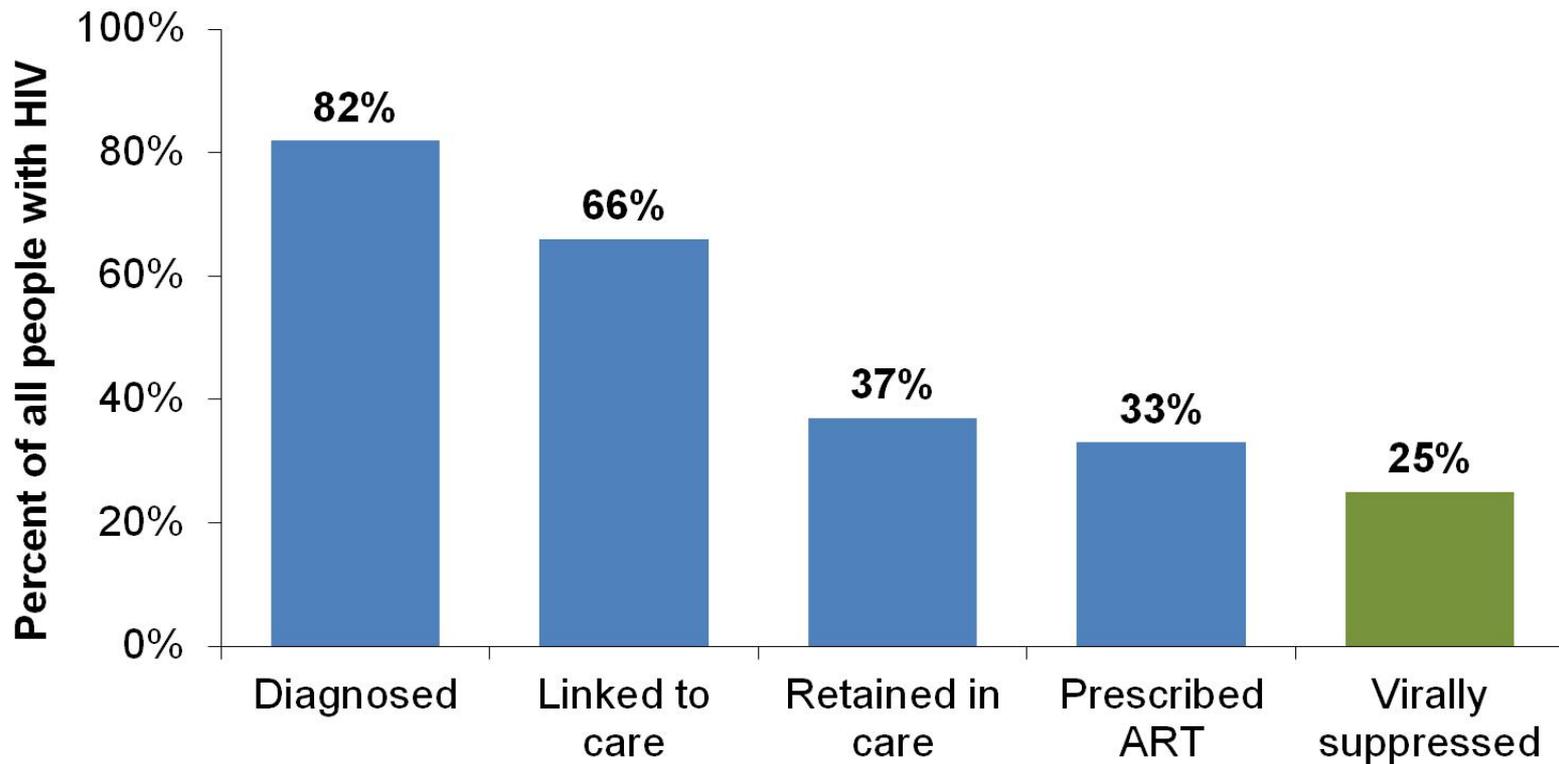
The number of adults ever tested for HIV increased 11.4M from 2006–2009



CDC. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 U.S. dependent areas—2010. HIV Surveillance Supplemental Report 2012;17(No. 3, part A).

The continuum of HIV care

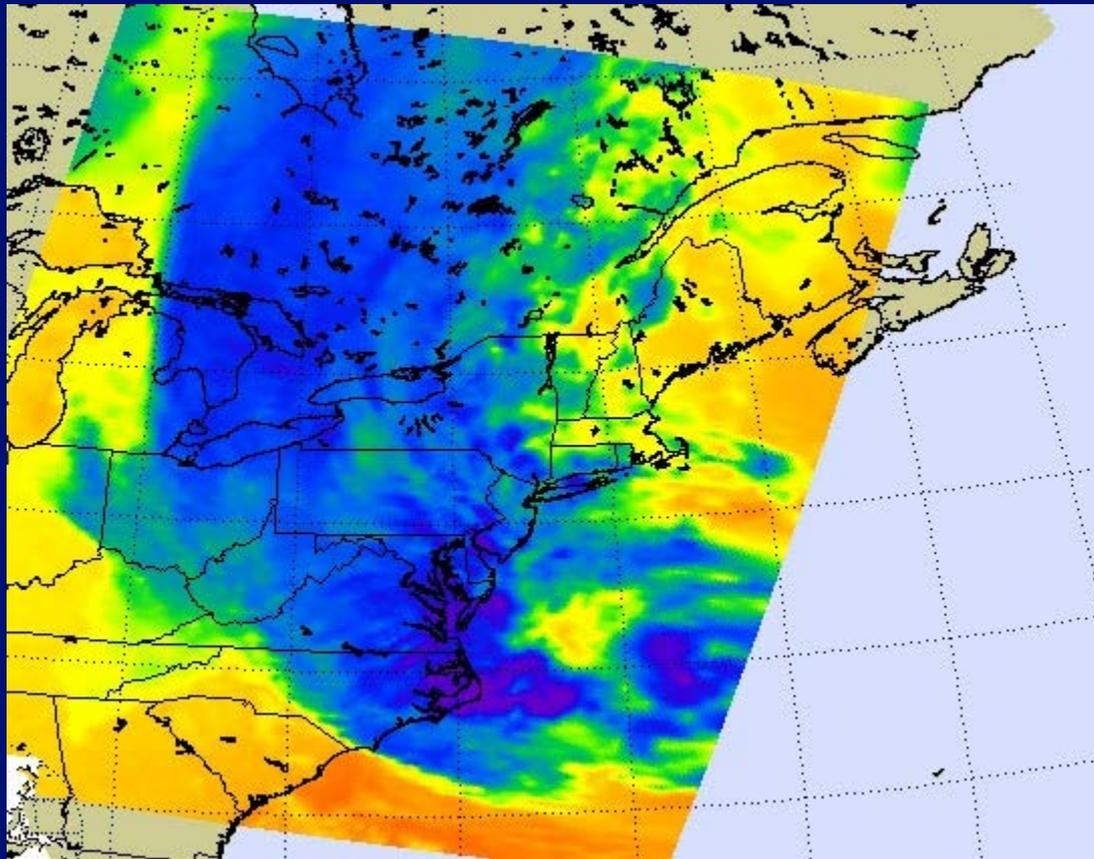
Of the 1.1 million Americans living with HIV, only 25% are virally suppressed



Hall IR, et al. Differences in human immunodeficiency virus care and treatment among subpopulations in the United States; JAMA July 22, 2013, Vol 173, No. 14

Learning Objective:

CDC data systems and tools available to aid policy makers in public health decision making





Office of Public Health Scientific Services

National Center for Health Statistics

Division of Vital Statistics

Division of Health Care Statistics

Division of Health Interview Statistics

Division of Health and Nutrition Examination Surveys

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Epidemiology, Analysis, and Library Services

Division of Health Informatics and Surveillance

Division of Scientific Education and Professional Development

Division of Laboratory Programs, Standards, and Services

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

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Centers for Disease Control and Prevention

CDC 24/7: Saving Lives. Protecting People.™

SEARCH

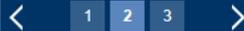
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Data & Statistics

Drowsy Driving

Asleep at the Wheel

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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

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Surveys and Data Collection Systems

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Surveys and Data Collection Systems

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

[NCHS Home](#)

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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.

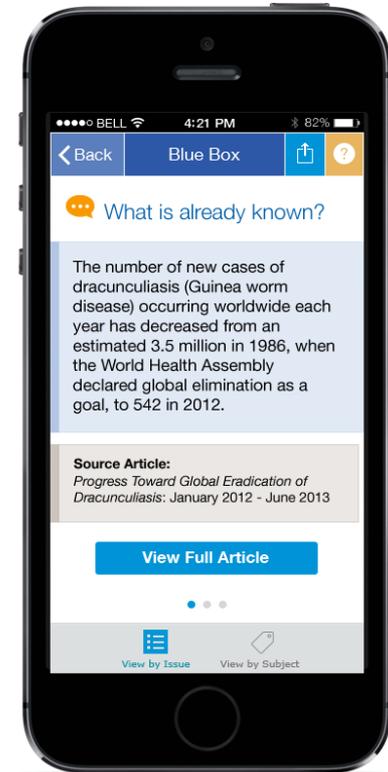
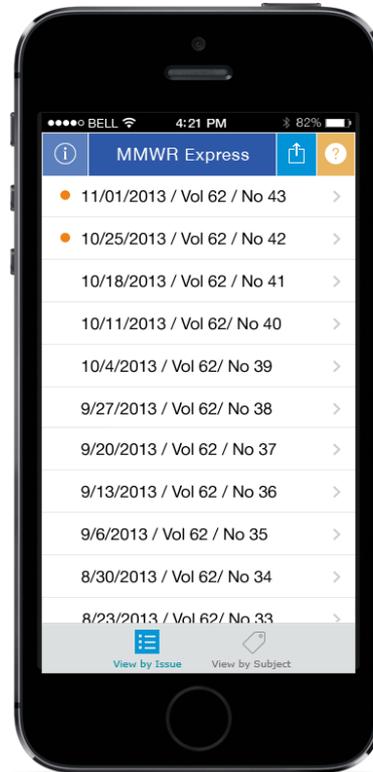


The ***National Vital Statistics System (NVSS)*** provides the Nation's official vital statistics data based on the collection and registration of birth and death events at the state and local levels. NCHS works in partnership with the vital registration systems in each jurisdiction to produce critical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



Learning Objective:

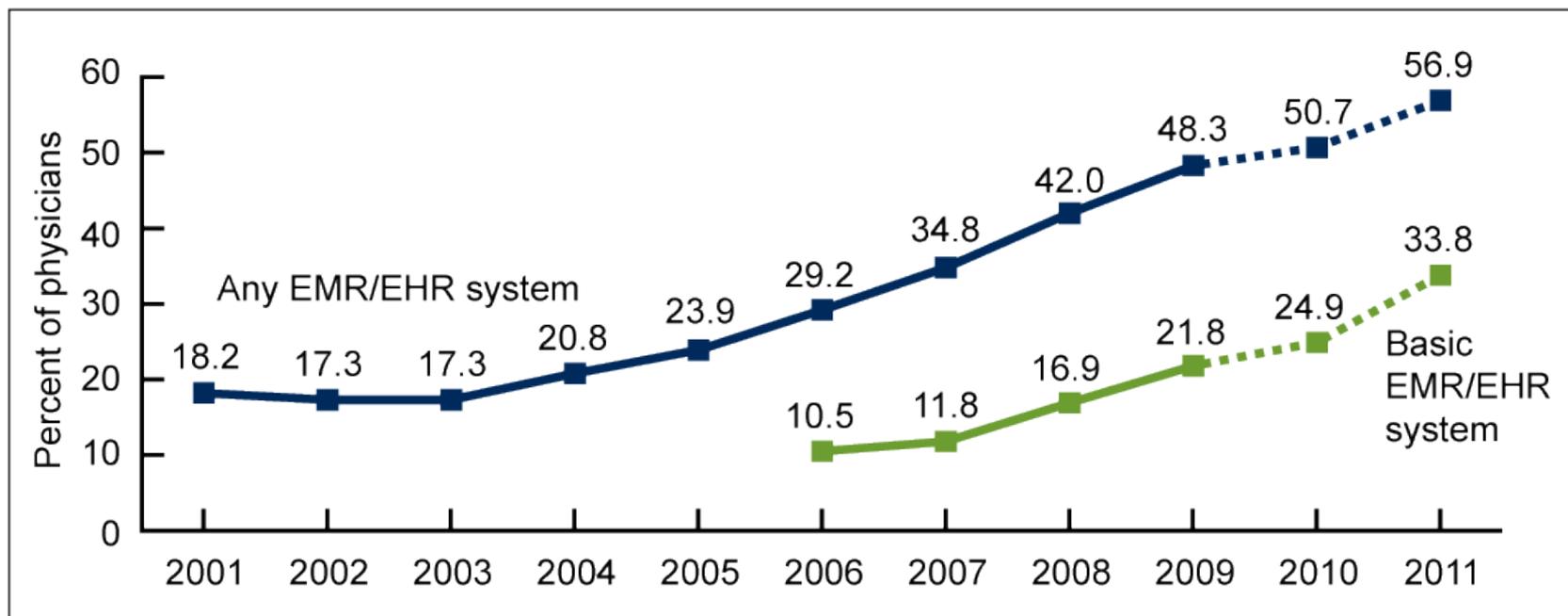
Encourage use of innovation in data access, visualization, and participant engagement to promote health



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

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

Healthcare



Meaningful Use: Stage 1 Electronic Information Exchange

Births and fetal deaths
Birth defects & congenital disorders

Immunizations

Communicable diseases

Reportable test results

Outbreaks

Poisoning

Occupational injuries

Other injuries

Adverse events and effects

Cancer

Other chronic disease reports

Visits and hospitalizations

(Syndromic surveillance)

Quality reports

Deaths and associated data



Public Health



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.

Healthcare



Meaningful Use: Stage 2 Electronic Information Exchange

Births and fetal deaths
Birth defects & congenital disorders

Immunizations

Communicable diseases

Reportable test results

Outbreaks

Poisoning

Occupational injuries

Other injuries

Adverse events and effects

Cancer

Other chronic disease reports

Visits and hospitalizations

(Syndromic surveillance)

Quality reports

Deaths and associated data



Public Health

CDA

HL7 2.5.1

HL7 2.5.1

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, CDC listserv and monthly teleconferences.**
- ❑ **Send questions to: 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

Healthcare



Meaningful Use: Stage 3 Electronic Information Exchange

- Births and fetal deaths?
- Birth defects & congenital disorders?
- Immunizations
- Communicable diseases?
- Reportable test results
- Outbreaks
- Poisoning?
- Occupational injuries
- Other injuries
- Adverse events and effects?
- Cancer
- Other chronic disease reports?
- Visits and hospitalizations
(Syndromic surveillance)
- Quality reports
- Deaths and associated data?



Public Health

Items bolded in white are being considered by S&I Framework PH Reporting Initiative

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

Laboratory

Urine: Single specimen Twenty four hours ✓ Amount

Gross examination Reaction acid Spec. Gr. 1.016
 Color Straw Sugar None Quant. Chlorides 1.06
 Albumin fine trace Hematuria None
 Urobilin None **Negative findings**

Micro. examination Both cells Best.
 Casts type Red blood cells
 Pus cells

Blood: Hb. est. (Dare) 95 White cell count 6800 Color index .45
 Red cell count 4.00 Platelet est. normal.
 Stipples per 100,000 none Reticulocytes 0.4 Per cent.
 Anisocytosis no Polkilocytosis no Achromasia no Nuc. Ebc. no

Differential W. C. C.
 Neutrophils 56.0 Wassermann reaction Negative
 Lymphocytes 36.0 Blood Kahn reaction Negative
 Monocytes 6.0
 Eosinophils 0
 Basophil 0

Chemistry: Blood Blood sugar 95
 Non-protein nitrogen 2.6 Blood calcium 10.3
 Urea nitrogen not tested Chlorides 377
 Creatinine 1.4

Spectroscopic examination of urine for mercury: Amount .64 mg per 1000 cc.

Occupational Summary

Classification - blower 9.4 million particles per cu. ft.
 Occupational dust exposure - 3.2 mg per 10 cubic meters
 Present mercury exposure -

X-Ray of Chest

No evidence of gross pathology (Due to tremor, it was impossible for patient to stand still).

Diagnosis

Severe chronic mercurialism
 FIGURE 27.

TABLE 12.—Number and percentage of employed fur cutters reporting a past history of certain diseases and physical defects

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

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

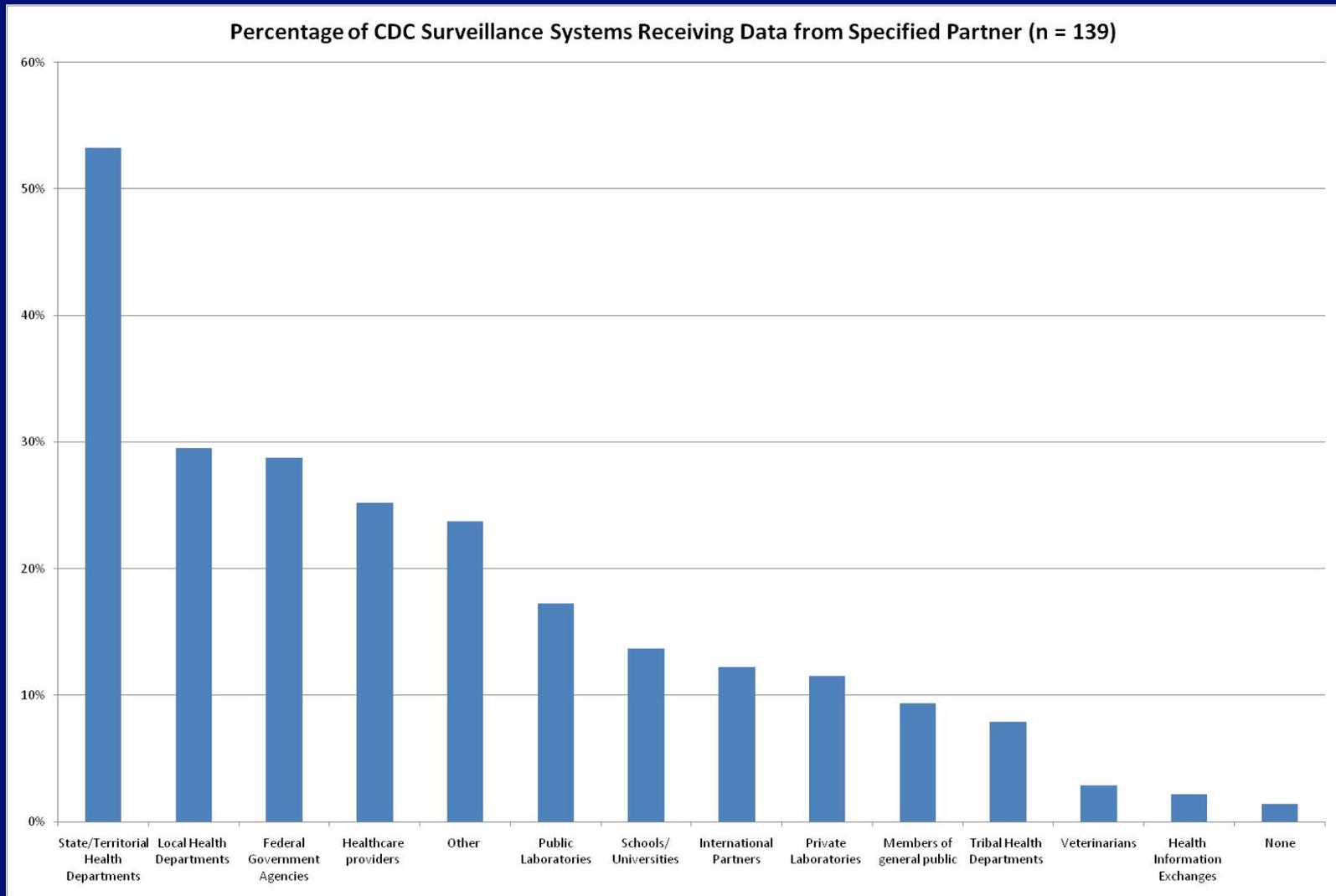
Planned public health action (management type)

- 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

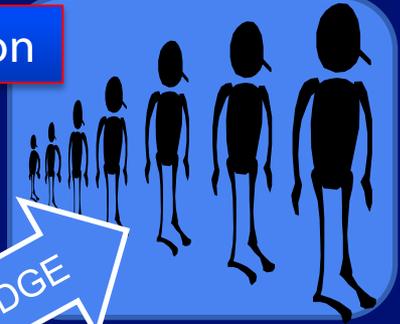
Healthcare



- Births and associated data
- Birth defects & congenital disorders
- Immunizations
- Communicable diseases
- Reportable test results
- Outbreaks
- Poisoning
- Occupational injuries
- Other injuries
- Adverse events and effects
- Cancer
- Other chronic diseases reports
- Visits and hospitalizations
- Deaths and associated data



Population



- Surveys
- Complaints
- Reports
- Direct care
- Enrollment



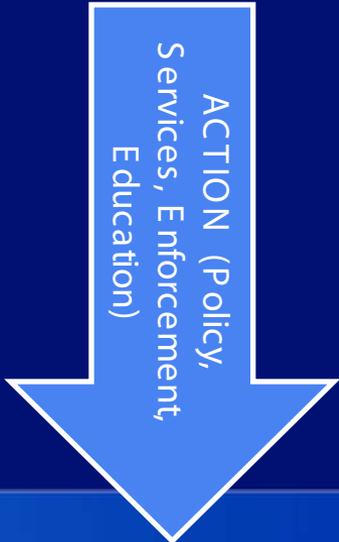
Public Health



Environment



- Sensors
- Licenses
- Inspections



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

EHRs

Clinical Care - Public Health Integration Problem

All Electronic Data and Many Systems

Health
Departments



⋮



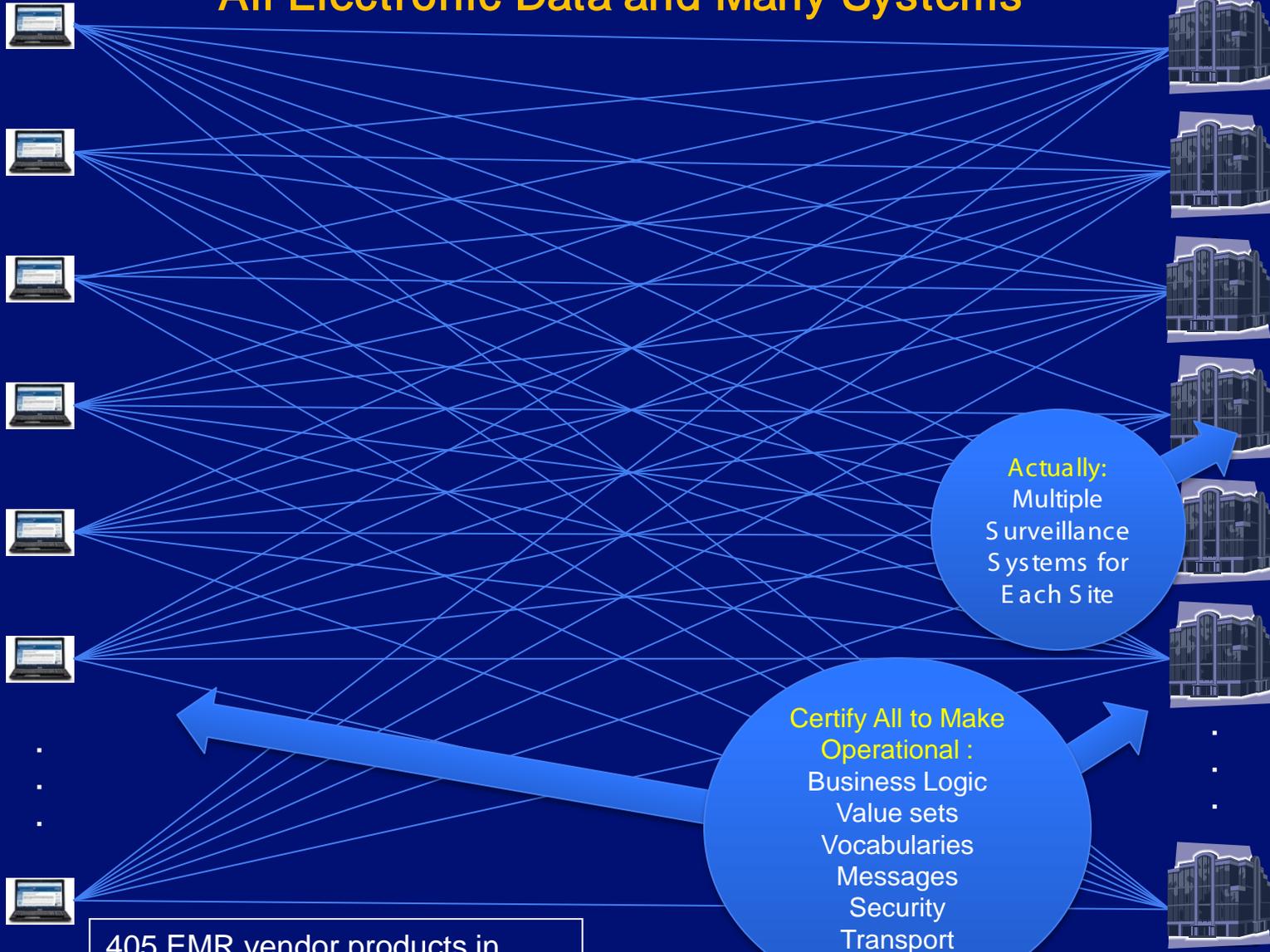
⋮



405 EMR vendor products in
2012

Actually:
Multiple
Surveillance
Systems for
Each Site

Certify All to Make
Operational :
Business Logic
Value sets
Vocabularies
Messages
Security
Transport



EHRs

Health
Departments

“Hub and Spoke” Integration in a Federated Public Health Environment



⋮



⋮

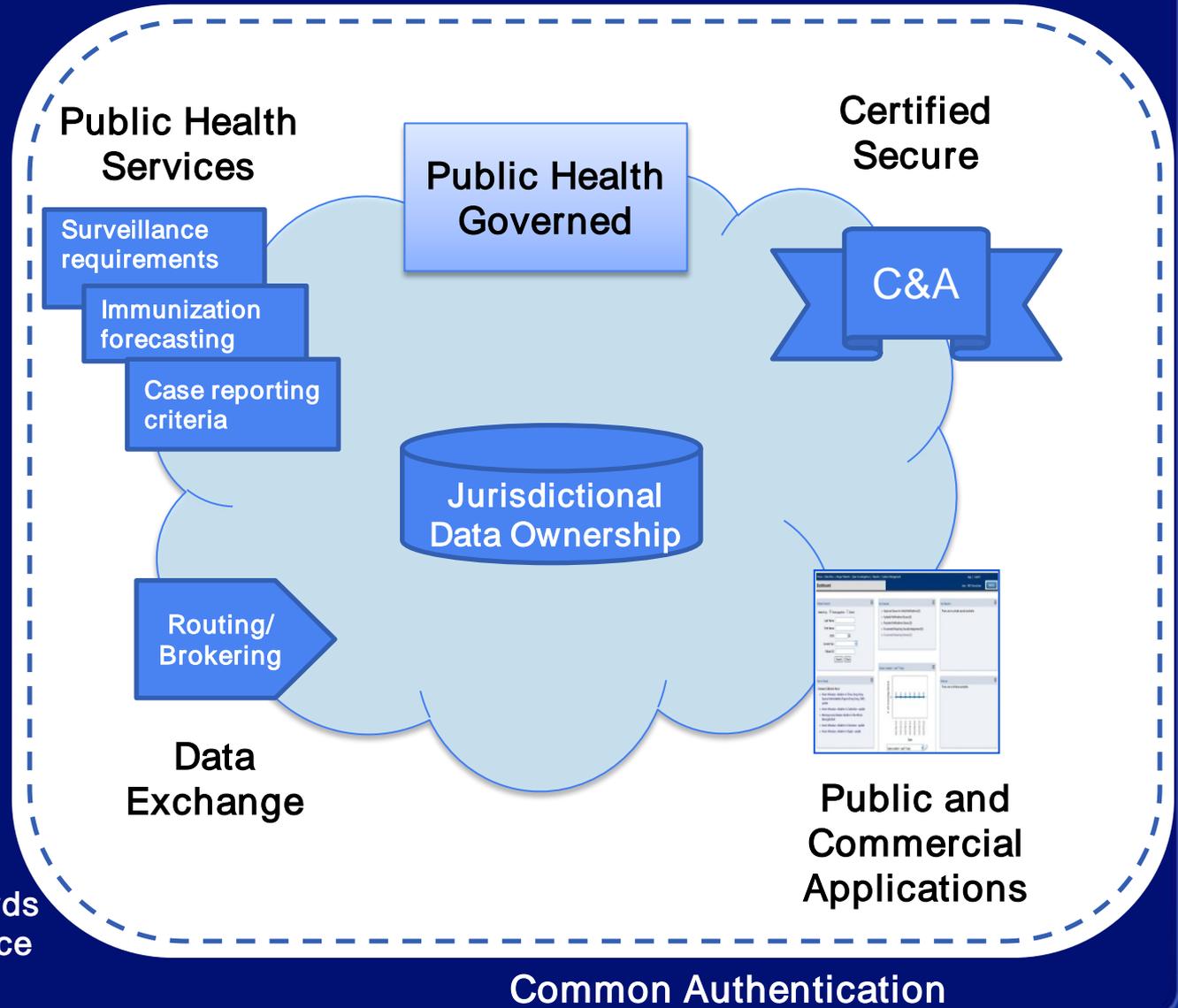


Public
Health
Community
Platform

PHCP
Funding
Focuses
Certification



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

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.



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

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.



 Keep up-to-date with the challenge [#NowTrending2012](#)



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

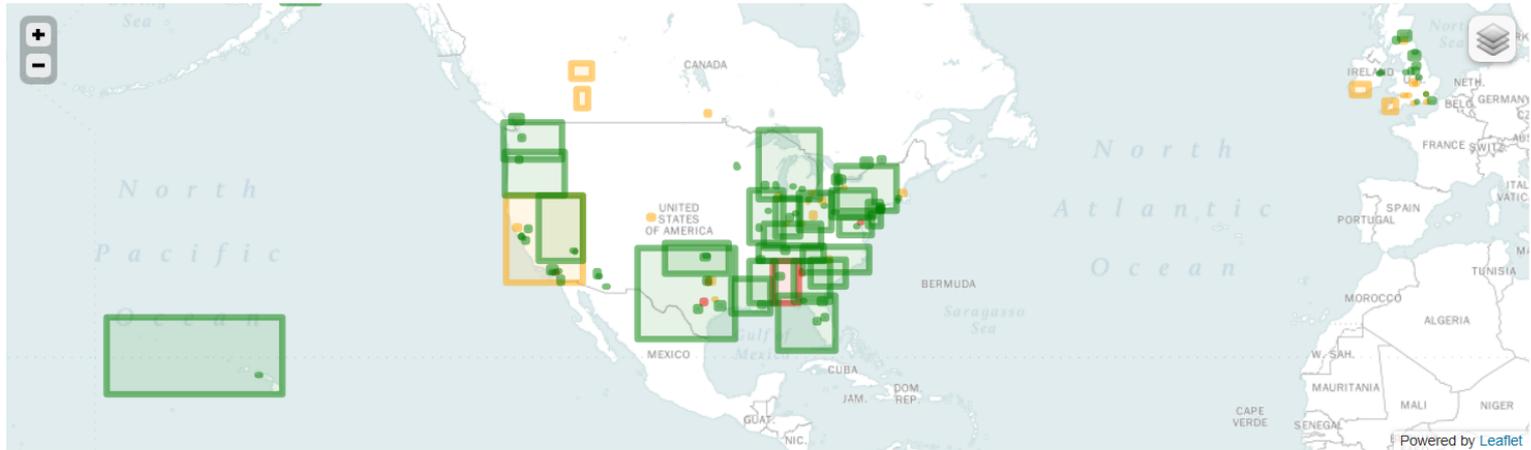
IDEAL FOR

Computer Science Majors
At-Home Coders
Programmers
Developers



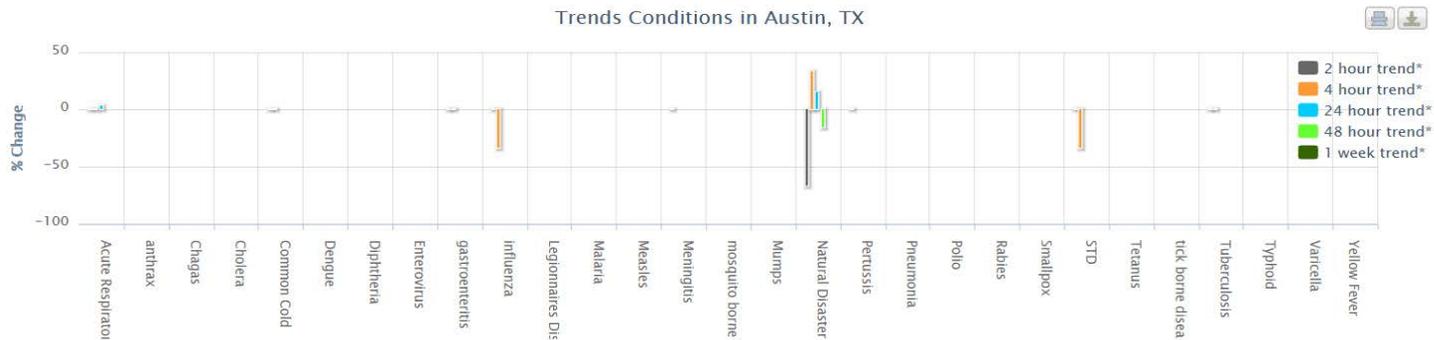
Location Make-Up of Tweets based on geolocation data

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





A tool for the Lab, CDC, & its community partners to test and collaborate on innovative mobile apps

[Disclaimer](#)



iPhone Prototypes



PTT Advisor

Assists clinical providers in their evaluation of patients with an abnormal clinical laboratory blood test, specifically an abnormal PTT (Partial Thromboplastin Time).

[View in iTunes](#)

Graduated to the Apple App Store: 7/6/12



NIOSH Facepiece Respirator Guide

Built in collaboration with The National Institute for Occupational Safety and Health (NIOSH). For quickly exploring the database of NIOSH-approved particulate filtering facepiece respirators.

[View in iTunes](#)

Released: 6/4/12



ATSDR ToxGuide

Quick reference guide provides information such as chemical and physical properties, sources of exposure, minimal risk levels, children's health, and health effects.

[View in iTunes](#)

Released: 6/4/12



STD Guide, Version 1

Early mobile application on the identification of STDs.

[View in iTunes](#)

Early-stage prototype



STD Guide, Version 2

Enhanced prototype for CDC's 2010 STD Treatment Guidelines. A Reference for clinicians on the identification of and treatment regimen for STDs. Version 2 has a more "portal" feel than v1.

[View in iTunes](#)

Early-stage prototype



Mobile Prototype

These limited prototype feature functionality of mobile development tools, we are able to

[View Apps](#)

Tool-testing prototypes



STD Guide, Version 3

The goal of this unique prototype has been to collaborate with CDC's STD team to design mobile apps for the iOS and Android operating systems based on the 2010 STD Treatment Guidelines.

[View in iTunes](#)

Early-stage prototype



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

“Surveillance Data Quality Spectrum”



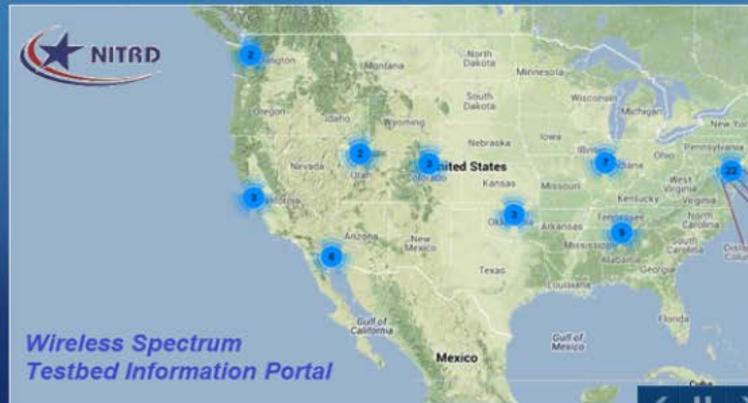
Unstructured
(social
media data)

Traditional Data
(e.g., surveillance
system, survey data)

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



Latest Datasets

- TIGER/Line Shapefile, 2011, Series In...
- Multibeam Collection for EX1304: Nort...
- EX1305: Summer Ecosystem Monitoring S...
- Chile Triple Junction 2012: NE Lau Ba...
- Sub-bottom Profiler Collection for EX...
- Singlebeam Collection for EX1304: Nor...
- Scientific Computing System (SCS) Dat...
- EX1304: Northeast U.S. Canyons Explor...
- Library holdings for Cradle of the Ea...
- Multibeam Collection for EX1304: Nort...

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.

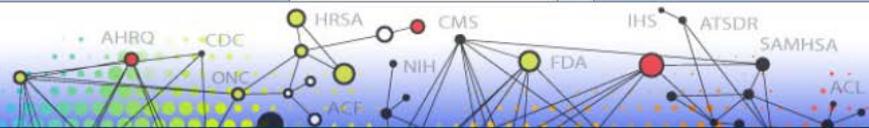
- EDUCATION
- ENERGY
- BUSINESSUSA
- AGRICULTURE

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](#)



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 »](#)

HDI Starter Kit - Learn about all of the HHS data available to you.

[Get the Kit!](#)

Found a great health-related dataset on another site? Tell us about it!

[Suggest a Dataset](#)

Search the Data

Search for

Sub-Agency

Subject Area

[Search](#)

- ### 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 »](#)

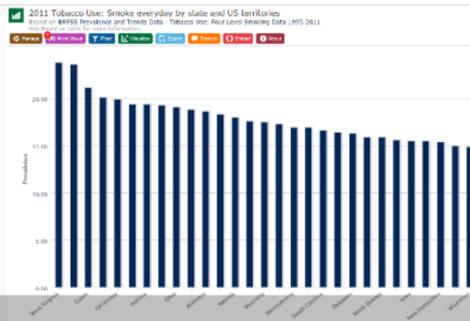
- ### Recent Blog Entries
- Centers for Medicare & Medicaid Services...
 - Putting Health Data to Work in Our States...
 - Public Comments on Approaches to Publish...
 - Health Data Initiative Strategy &...
 - Data Fueling Business Development and Health...
- [View more »](#)

<h3>Medicare</h3> <p>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.</p> <p>Read more »</p>	<h3>Medicaid</h3> <p>General information on eligibility and claims data developed to support research and policy analysis initiatives for Medicaid and other low-income populations</p> <p>Read more »</p>	<h3>Epidemiology</h3> <p>Public health databases and registries regarding births, deaths, disease incidence, health event case reports, demographics, community health</p> <p>Read more »</p>	<h3>Treatments</h3> <p>Information and databases about marketed drugs, including downloadable resource of medication content and labeling, text messaging libraries and</p> <p>Read more »</p>	<h3>Population Statistics</h3> <p>Metrics on community health, health care system, and determinants-of-health performance at national, state or county levels</p> <p>Read more »</p>
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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 IMtech@cdc.gov.



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

Health Care Access/Coverage
 Health Care Access/Coverage for 1995-2010.

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

Search

View Types

- Datasets
- Charts
- Maps
- Calendars
- Filtered Views
- External Datasets
- Files and Documents
- Forms

Categories

- Biomonitoring
- Health Statistics
- Smoking & Tobacco Use
- Vaccinations
- Web Metrics

Topics

- adults
- brfss
- current smokers
- former smoker
- non-smoker

[View All](#)

Search & Browse Datasets and Views Most Relevant

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 stability 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 - http://www.cdc.gov/brfss/annual_data/annual_data.htm . Recommended citation: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance	508 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 stability 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 - http://www.cdc.gov/brfss/annual_data/annual_data.htm . 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 http://www.cdc.gov/metrics/	82 views		
Monthly Page Views to CDC.gov For more information on CDC.gov metrics please see http://www.cdc.gov/metrics/	100 views		



SAFER • HEALTHIER • PEOPLE™

CDC WONDER

What is WONDER?

[Frequently Asked Questions](#)

[Data Use Restrictions](#)

[Data Collections](#)

[Citations](#)

[Republishing WONDER Data](#)

[What's New?](#)

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](#)

▶ Denotes numerical data available to query or download

Reports and References

- [Prevention Guidelines \(Archive\)](#)
- [Scientific Data and Documentation \(Archive\)](#)

Other Query Systems

- ▶ [Healthy People 2010](#)
- ▶ [MMWR Morbidity Tables](#)
- ▶ [MMWR Mortality Tables](#)

This page last reviewed: Wednesday, July 24, 2013

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



Saving Lives.
Protecting People.™

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



Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Phone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov

Web: 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.

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