

**Centers for Disease Control and Prevention  
Coordinating Center for Infectious Diseases**

**National Center for Preparedness, Detection,  
and Control of Infectious Diseases**

**Rima Khabbaz, M.D.  
Director**



**Centers for Disease Control  
and Prevention**  
*Coordinating Center for  
Infectious Diseases*

**NCPDCID**

**National Center for  
Preparedness, Detection, and Control  
of Infectious Diseases**



**NCPDCID**

*Controlling Infectious Diseases*

## Major Focus Areas

- Strengthening Epidemiology and Laboratory Capacity Nationally and Globally
- Preventing U.S. Introduction and Spread of Infectious Diseases
- Improving the Quality and Safety of the Healthcare System
- Improving Emergency Response
- Improving Laboratory Quality, Management, and Systems

# Center Activities

## Emerging Infections and Surveillance Services

Arctic Investigations  
Epidemiology and Laboratory Capacity  
Emerging Infections Programs  
International Emerging Infections Programs  
Global Cooperative Agreements  
Training and Fellowships  
Integrated Disease Surveillance and Response  
*Emerging Infections Journal*

## Bioterrorism Preparedness and Response

Laboratory Response Network  
Early Aberration Reporting System  
All Threats Agent Content System  
Operational Support for Public Health Emergencies

## Healthcare Quality Promotion

Preventing Healthcare-associated Infections  
Adverse Drug Events  
Antimicrobial Resistance  
Blood, Organ, and Other Tissue Safety  
Infection Control Guidelines  
Healthcare Preparedness  
\*Immunization Safety

## Laboratory Systems

Domestic and International Laboratory Capability  
Quality Assessment  
Standards Guidance and Development  
CLIAC Management  
Quality Management Systems  
National Laboratory System

## Global Migration and Quarantine

Quarantine System  
Immigrant, Refugee, and Migrant Health  
Animal Importation  
Traveler's Health  
GeoSentinel  
Situational Pandemic Flu Preparedness  
Regulatory Responsibilities

## Scientific Resources

Research  
Specimen management  
Select Agent Distribution  
CDC Reference Reagent Repository  
CDC Drug Service  
Animal Research Models  
CLIA Oversight



\*Proposed move from CDC OD to NCPDCID DHQP



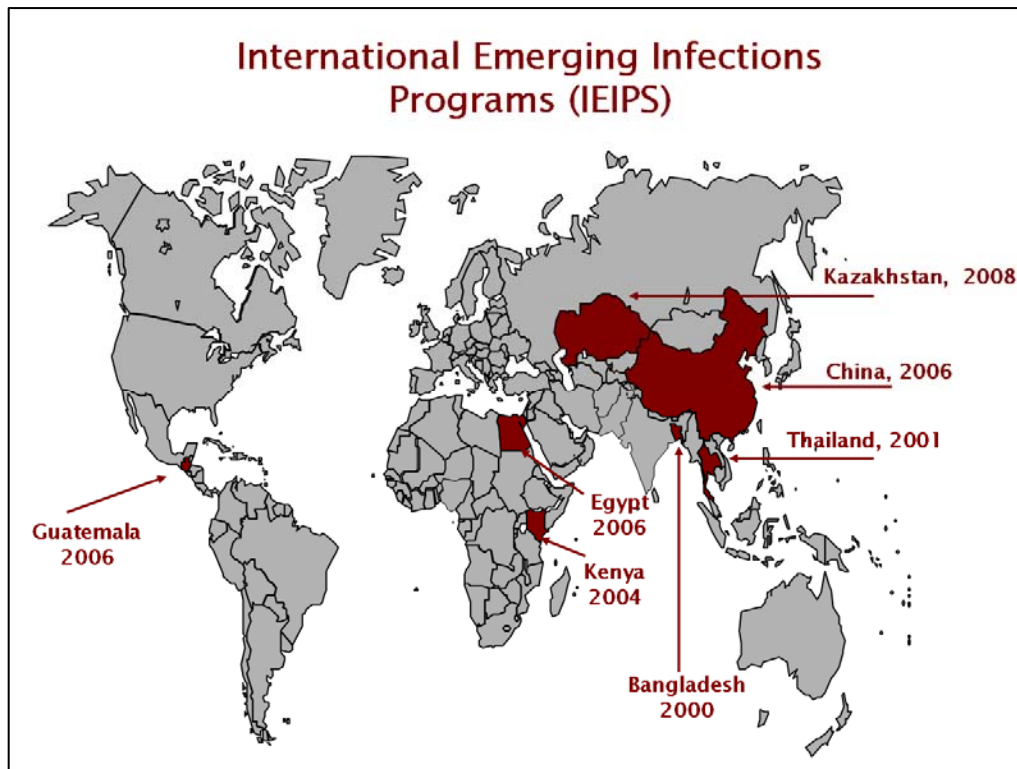
## Current Center Priorities

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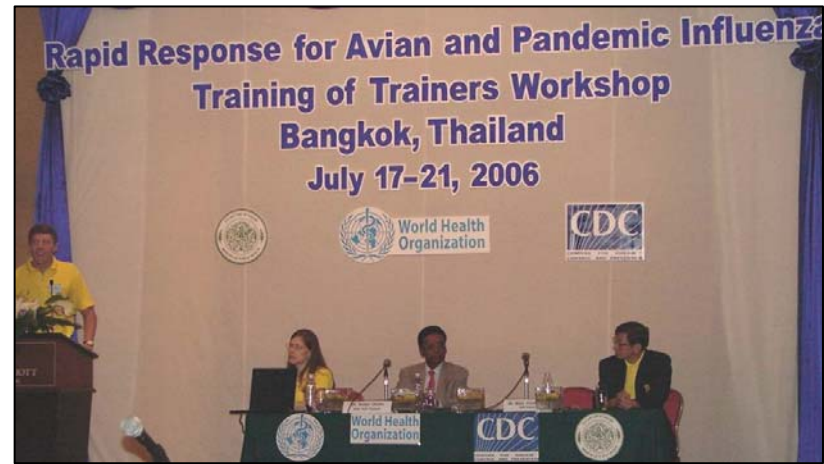
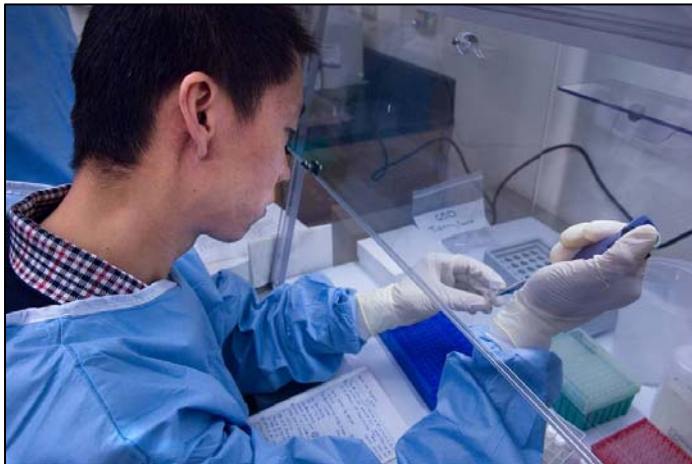
- Improve global health capacity for infectious diseases
- Strengthen capacity for prevention, detection, and control of infectious disease and for responding to other public health emergencies
- Improve the quality and safety of the healthcare system



# Improve Global Health Capacity for Infectious Diseases



- Partnerships between CDC and Ministries of Health focusing on emerging pathogens of local, regional, and global importance
- Broad collaborative platform; centers of excellence for
  - Disease surveillance
  - Outbreak support
  - Research
  - Training and capacity building



# Global Health Capacity for Infectious Diseases



World Health Organization

عربي | 中文 | English | Français

All WHO

Home | About WHO | Countries | Health topics | Publications | Data and statistics | Programmes and projects | **WHO 60th anniversary** | Guidebook

**WHO 60th anniversary**

[WHO > Programmes and projects](#)

**WHO 60th anniversary: our health, our future**

This year marks the 60th anniversary of WHO. This special occasion presents WHO with an opportunity to celebrate achievements in global public health over the last 60 years, demonstrate the impact of WHO's work and address challenges for the future.

WHO's 60th anniversary celebrations (2000-2001) consist of a variety of activities and events that will continue to unfold throughout the year, covering a range of health issues and particularly emphasizing issues linked to WHO's six-agenda.

60 years

World Health Organization | Our health Our future

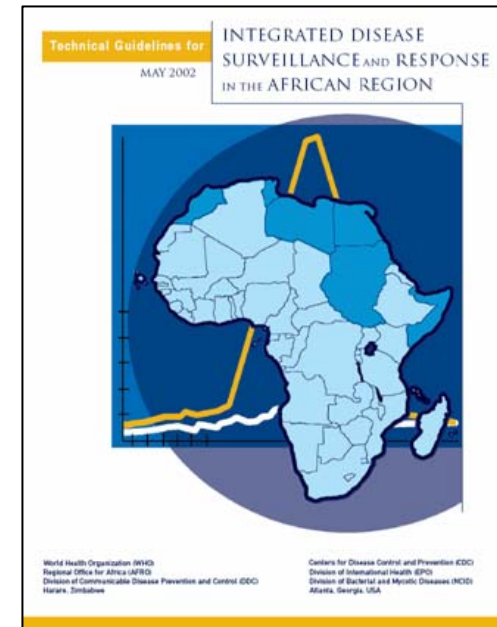


## GeoSentinel

The Global Surveillance Network  
of the ISTM and CDC

worldwide communications & data collection  
network of travel/tropical medicine clinics

## World Health Organization Regional Office for Africa





# Strengthen capacity for prevention, detection, and control of infectious disease and for responding to other public health emergencies

## State Health Departments:

California Department of Health Services

Colorado Dept. of Public Health & Environment

Connecticut Department of Public Health

Georgia Department of Human Resources

Maryland Dept. of Mental Health and Hygiene

Minnesota Department of Health

New Mexico Department of Health

New York State Department of Health

Oregon Department of Human Services

Tennessee Department of Health

## Academic Institutions:

University of California, Berkeley  
University of California, San Francisco

University of Colorado Health Sciences Ctr.

Yale University  
University of Connecticut

Emory University  
University of Georgia

Johns Hopkins University  
University of Maryland

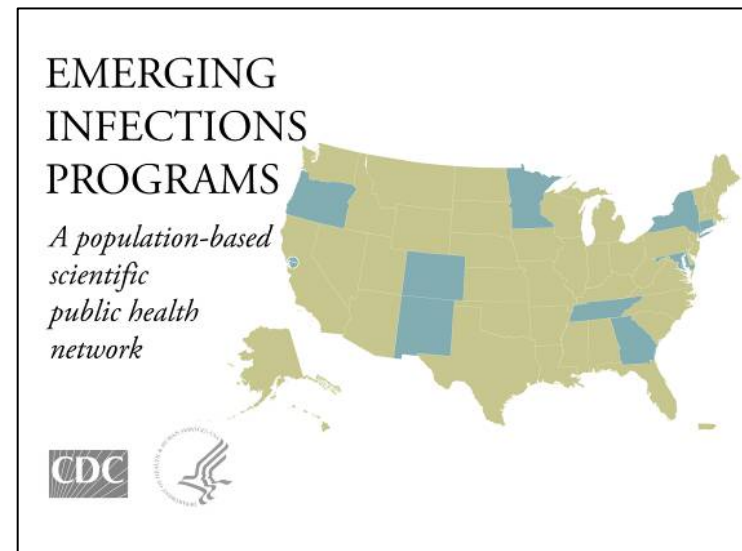
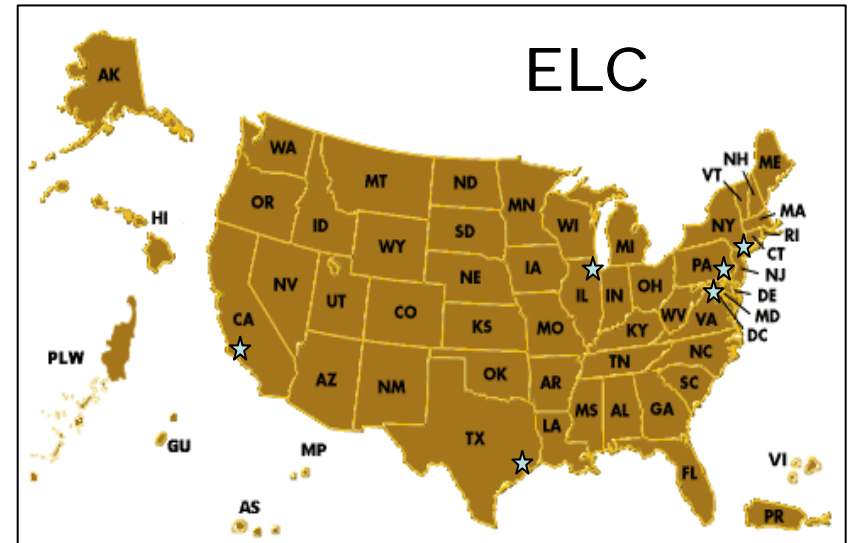
University of Minnesota

University of New Mexico

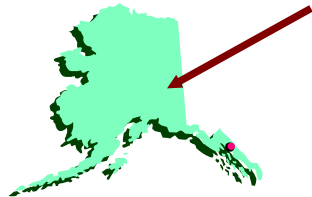
University of Rochester

Oregon Health Sciences University

Vanderbilt University



AK: Developed capacity to detect *Norovirus* and increased efficiency and completeness of outbreak investigations



IA: Responded to statewide mumps outbreak in 2006.

WI: Used PulseNet to identify *E. coli* outbreak in spinach in 2006

PA: Implemented PA-NEDSS, incorporating online laboratory, hospital, and clinician reporting.

DE: Increased number of sentinel physicians and number of influenza specimens tested each year

VA: Used DPDx to rapidly identify and confirm *Cryptosporidium*, *Cyclospora*, and *Plasmodium*

PR: Enhanced response to outbreaks by supplying specimen collection materials to the 8 health regions around the island



CA: Enhanced binational laboratory and surveillance capacity for WNV, ILI, and acute hepatitis in counties that border Mexico

WY: Explored potential zoonotic transmission of CWD to humans and worked with healthcare providers to improve surveillance of human prion diseases

OK: Customized CDC "Get Smart" campaign materials and distributed to physicians throughout the state

AR: Strengthened mosquito testing programs, and mounted a highly effective risk communication program for WNV



ELC





# EIP work

## Early, Present, Future

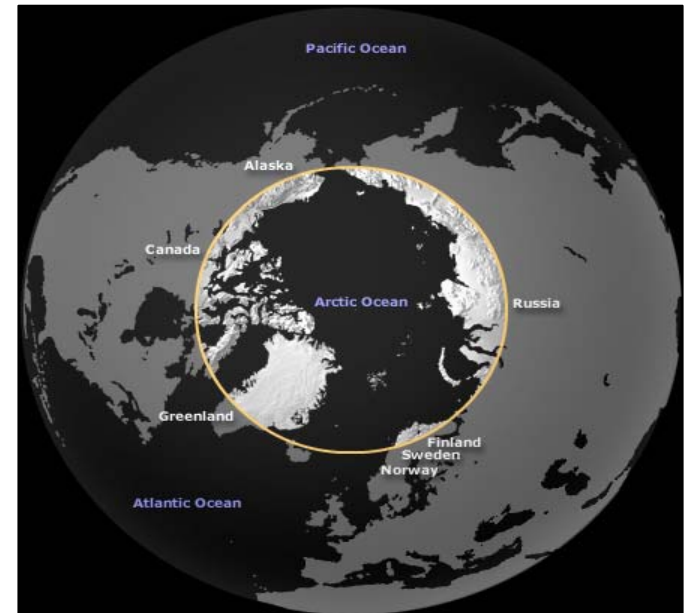
- **Early**
  - Pneumococcus—conjugate vaccine impact
  - Group B Strep—revised CDC guidelines
  - FoodNet
- **Present**
  - MRSA surveillance
  - Flu—hospitalizations and special studies
- **Future**
  - *C-difficile* surveillance
  - HPV Vaccine Evaluation



# Arctic Investigations Program

To prevent infectious disease morbidity and mortality in people of the Arctic and Subarctic

Special emphasis on diseases of high incidence and concern among indigenous people

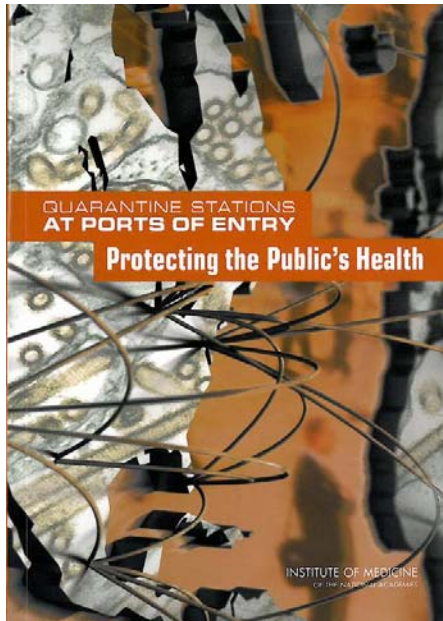


## The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives

Thomas W. Hennessey, MD, MPH, Troy Ritter, REHS, MPH, Robert C. Holman, MS, Dana L. Bruden, MS, Krista L. Yorita, MP, James E. Cheek, MD, MPH, Rosalyn J. Singleton, MD, MPH, and Jeff Smith, MS, RS



# Preventing U.S. Introduction and Spread of Infectious Diseases



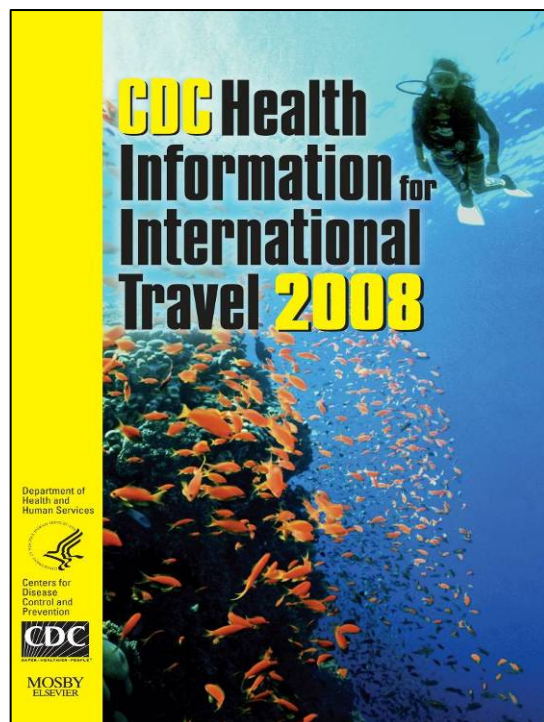
## TB focus of international travel inquiry.

SAN JOSE, Calif., Dec. 27 (UPI) -- Health officials are investigating a woman infected with a possible drug-resistant strain of tuberculosis (TB) who traveled from a refugee camp in a developing country.



- Currently, 20 domestic quarantine stations
  - Need for fully staffing
- Plans for 5 international migration quarantine stations, which will allow for initial health screening and preventive services for immigrants and refugees before US arrival





Department of Health and Human Services  
Centers for Disease Control and Prevention

CDC en Español

Search:

## Travelers' Health

**Topics**

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- > [Travel Notices](#)
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- > [Safe Food and Water](#)
- > [Illness and Injury Abroad](#)
- > [Travel Medicine Clinics](#)
- > [Yellow Book](#)
- > [Avian Flu and Travel](#)
- > [Yellow Fever Vaccinations Clinics](#)
- > [References and Resources](#)

**Information for Specific Groups**

- > [Traveling with Children](#)
- > [Cruise Ship and Air Travel](#)
- > [Special Needs Travel](#)
- > [Traveling with Pets](#)

Travelers' Health Home > [Destinations](#) > Ecuador

### Health Information for Travelers to Ecuador

[Email this page](#)  
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**On This Page**

- > [Travel Notices in Effect](#)
- > [Vaccines for Your Protection: Ecuador](#)
- > [Diseases found in countries in Tropical South America, including Ecuador](#)
- > [Other Health Risks](#)
- > [What You Need To Bring With You](#)
- > [Staying Healthy During Your Trip](#)
- > [After You Return Home](#)
- > [For More Information](#)

**Travel Notices in Effect**

- > [Denque, Tropical and Subtropical Regions](#) Updated: 4/13/2007

# The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

JANUARY 12, 2006

VOL. 354 NO. 2

## Spectrum of Disease and Relation to Place of Exposure among Ill Returned Travelers

David O. Freedman, M.D., Leisa H. Weld, Ph.D., Phyllis E. Kozarsky, M.D., Tamara Fisk, M.D.,\* Rachel Robins, M.D., Frank von Sonnenburg, M.D., Jay S. Keystone, M.D., Prativa Pandey, M.D., and Martin S. Cetron, M.D., for the GeoSentinel Surveillance Network†

## Health & Fitness

TUESDAY, OCTOBER 10, 2000

The New York Times

### Deadly Infection Re-emerges As People Get Adventurous

By ALICIA AULT

After falling out of her raft on a white-water expedition this spring in the Costa Rican rain forest, Dr. Nicole McLaren was so grateful she was alive that it did not occur to her that her near-drowning might lead to something else — a potentially fatal bacterial infection called leptospirosis.

But four days after returning to Park City, Utah, Dr. McLaren, 37, developed the first signs of infection: a fever that soared to 103.5 degrees and drenching sweats that alternated with chills so severe they felt almost like a seizure. Dr. McLaren, a veterinary ophthalmologist, had a splitting headache, and her eyes and muscles ached. In the emergency room, her kidney and liver were found to be inflamed.

The effect on the kidney and the discovery that she also had meningitis suggested that she had leptospirosis, but her joint aches made dengue fever, a mosquito-borne illness that causes severe joint pain, a suspect as well. Malaria had been ruled out by a blood test. All three illnesses are found in the Costa Rican rain forest.

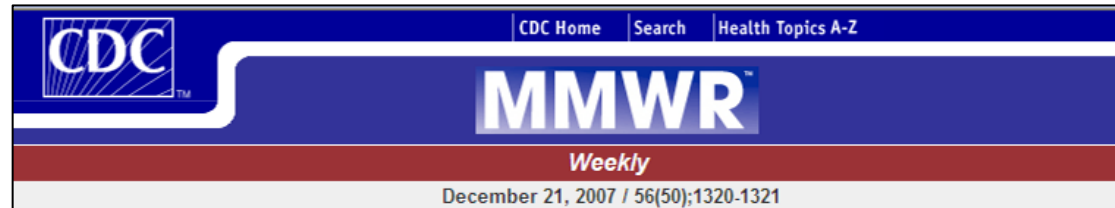
She was treated with intravenous antibiotics on the assumption that she had an

Amateur participants in a race in Malaysian Borneo contracted leptospirosis while swimming in the Segama River.

The Leptospira interrogans, cause of a disease transmitted from animals to humans.

Don Campbell

# Improving Laboratory Quality, Management, and Systems



## Notice to Readers: Potential Exposure to Attenuated Vaccine Strain *Brucella abortus* RB51 During a Laboratory Proficiency Test --- United States, 2007

On November 27, 2007, CDC was notified by New York State Department of Health (NYSDOH) officials of potential *Brucella abortus* RB51 (RB51) exposures to laboratorians at a state laboratory from an isolate used in a recent Laboratory Preparedness Survey (LPS). RB51 is an attenuated vaccine strain of *B. abortus* used to vaccinate cattle against brucellosis; human illness is to have resulted from RB51 vaccine-related exposures (1). The LPS is a voluntary proficiency testing program developed jointly by CDC and the NYSDOH. The LPS is a voluntary proficiency testing program developed jointly by CDC and the NYSDOH. The LPS is a voluntary proficiency testing program developed jointly by CDC and the NYSDOH.

Application of a Quality Management System Model for Laboratory Services; Approved Guideline—Third Edition

GP26-A3  
Vol. 24 No. 36  
November GP26-A2  
Vol. 23 No. 3

This guideline describes the clinical laboratory's path to accreditation. It provides information for laboratory operations that will assist the laboratory in meeting government and accreditation requirements. A guideline for global application developed through the NCCLS.



## External Quality Assessment for AFB Smear Microscopy



**World Health Organization**

Home | Epidemic and Pandemic Alert and Response (EPR)

About WHO | Country activities | Outbreak news | Resources | Media centre

Countries | WHO > Programmes and projects > Epidemic and Pandemic Alert and Response (EPR) > International Health Regulations (2005) > WHO Lyon Office for National Epidemic Preparedness and Response

Health topics | printable version

Publications

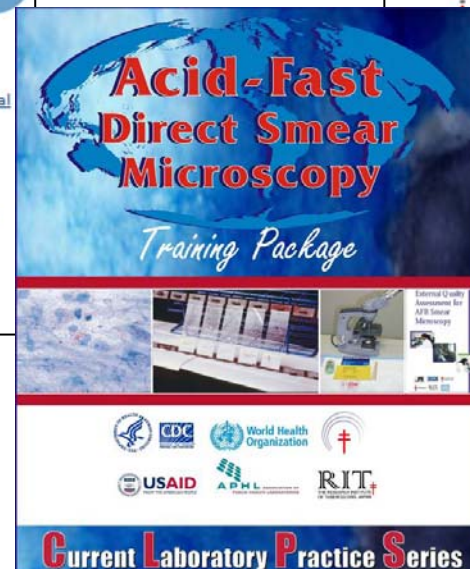
Data and statistics

Programmes and projects

EPR Home

Alert & Response Operations

Joint WHO-CDC International Conference on Health Laboratory Quality Systems  
Lyon, France  
9-11 April 2008

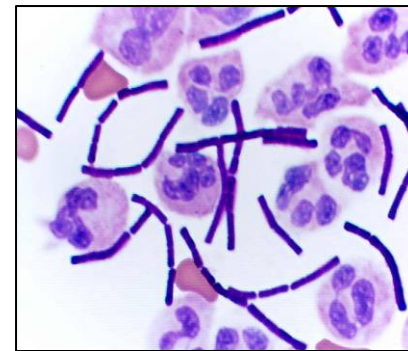
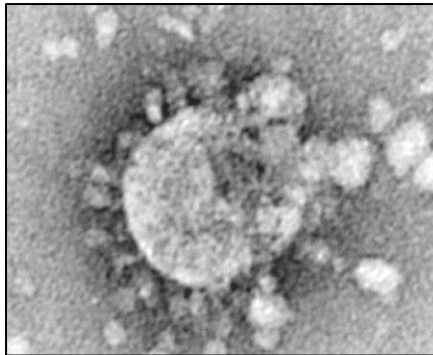
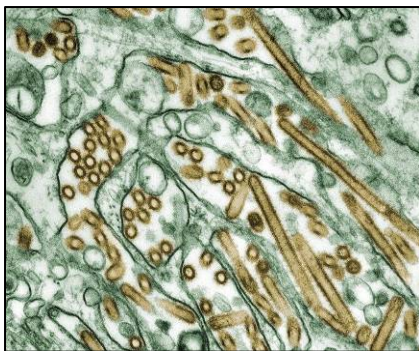
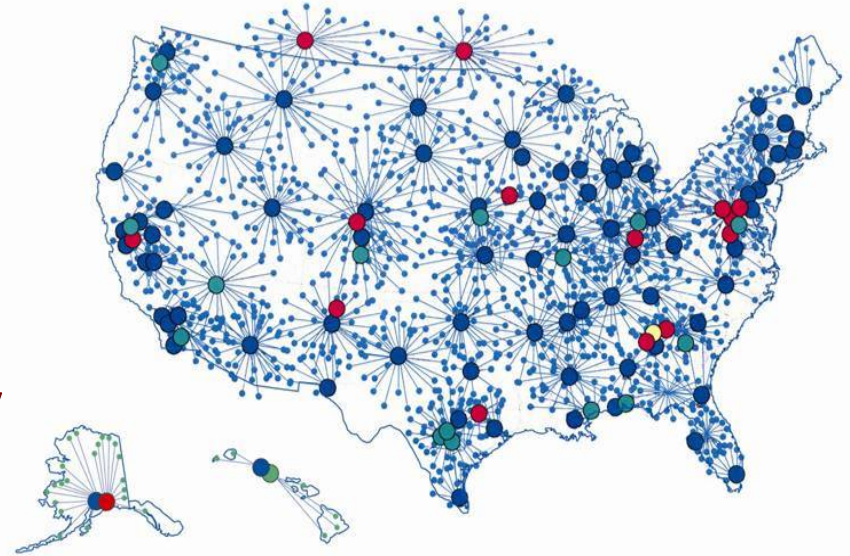




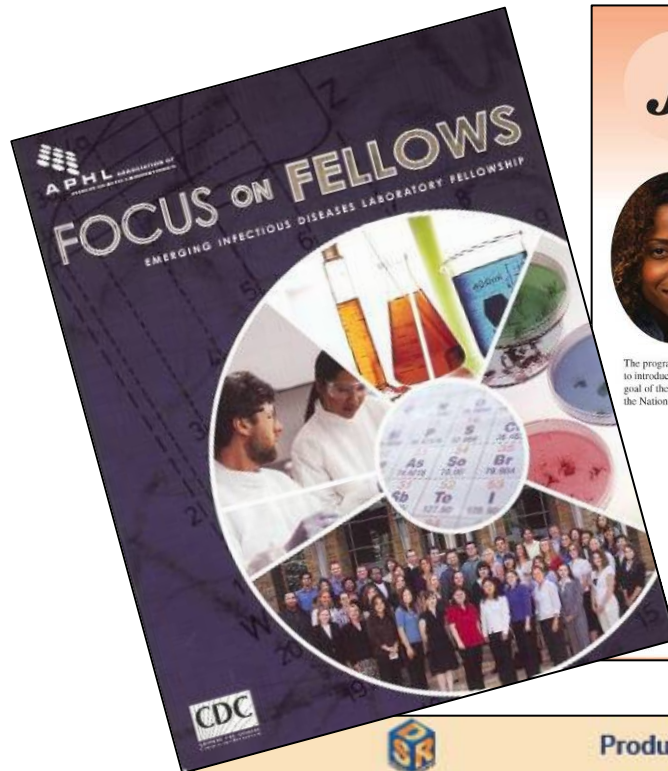
# Improving Emergency Response



*More than 160 public health,  
military, federal, food, veterinary,  
and international laboratories*



# Training and Fellowships



## James A. Ferguson Emerging Infectious Diseases Fellowship for graduate students

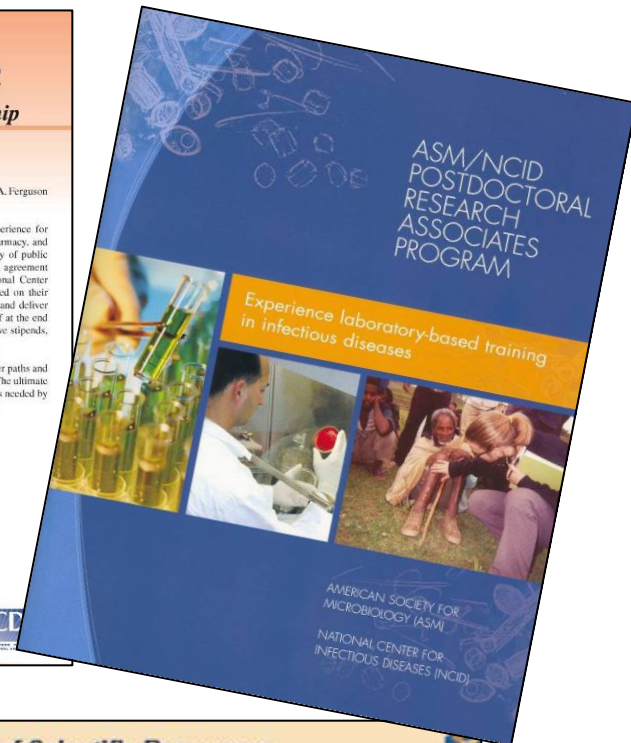
The Centers for Disease Control and Prevention (CDC) announces the James A. Ferguson Emerging Infectious Diseases Fellowship Program, 2005.

This fellowship program is an 8-week professional development experience for racial and ethnic minority students in medical, dental, veterinary, pharmacy, and public health graduate programs. Fellows participate in a broad array of public health activities. The program is administered through a cooperative agreement between the Minority Health Professions Foundation and the National Center for Infectious Diseases, CDC. Fellows are paired with a mentor based on their statement of interests and qualifications. They are required to prepare and deliver a formal scientific presentation on their work to CDC scientists and staff at the end of the program and to submit a formal research paper. The students receive stipends, housing, and transportation to and from Atlanta.

The program is designed to increase the students' knowledge of public health and public health career paths and to introduce fellows to careers addressing infectious diseases and racial and ethnic health disparities. The ultimate goal of the program is to encourage students to pursue careers in public health and specific disciplines needed by the National Center for Infectious Diseases to strengthen and diversify the workforce.

The deadline for submitting applications for this fellowship is February 28, 2005. For additional information about the program, please contact NCID's Office of Minority and Women's Health at 404-371-5308 or visit our website: [www.cdc.gov/ncidod/omwh/ferguson.htm](http://www.cdc.gov/ncidod/omwh/ferguson.htm).

CDC/NCID/OMWH  
CENTERS FOR DISEASE CONTROL AND PREVENTION  
NATIONAL CENTER FOR INFECTIOUS DISEASES  
OFFICE OF MINORITY AND WOMEN'S HEALTH



## Products and Services of the Division of Scientific Resources

The Division of Scientific Resources (DSR) at Emory University provides a wide range of services to support research and teaching. For more information, visit [www.emory.edu/dsr](http://www.emory.edu/dsr).

### Animal Resources

**Chamblee Research Animal Activity**  
Contact: Dr. Allison Williams, 770.488.4357

**Lawrenceville Research Animal Activity**  
Contact: Dr. Gregory Langham, 770.339.5904

**Royal Research Animal Activity**  
Contact: Dr. Brianna Skinner-Harris, 404.639.1551

**High Containment Animal Activity**  
Contact: Dr. Allison Williams, 404.488.4357

**Preparation and Submission of Animal Protocols**  
Contact: Elizabeth Mothershed, 404.639.4780

### Biologics

Specialized Diagnostic Support  
Hybridoma/monoclonal antibody production  
Custom cell culture media  
Protein purification/isolation/conjugation  
Dispensing/lyophilization/labeling  
Contact: John Hart, 404.639.3358

### Division of Animal Resources

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EMORY UNIVERSITY

Administration | Husbandry | Lab Animal Medicine (Vet) | Vet Pathology

Promoting the health and well-being of people everywhere by providing the finest animal care and support for Emory University Scientists.

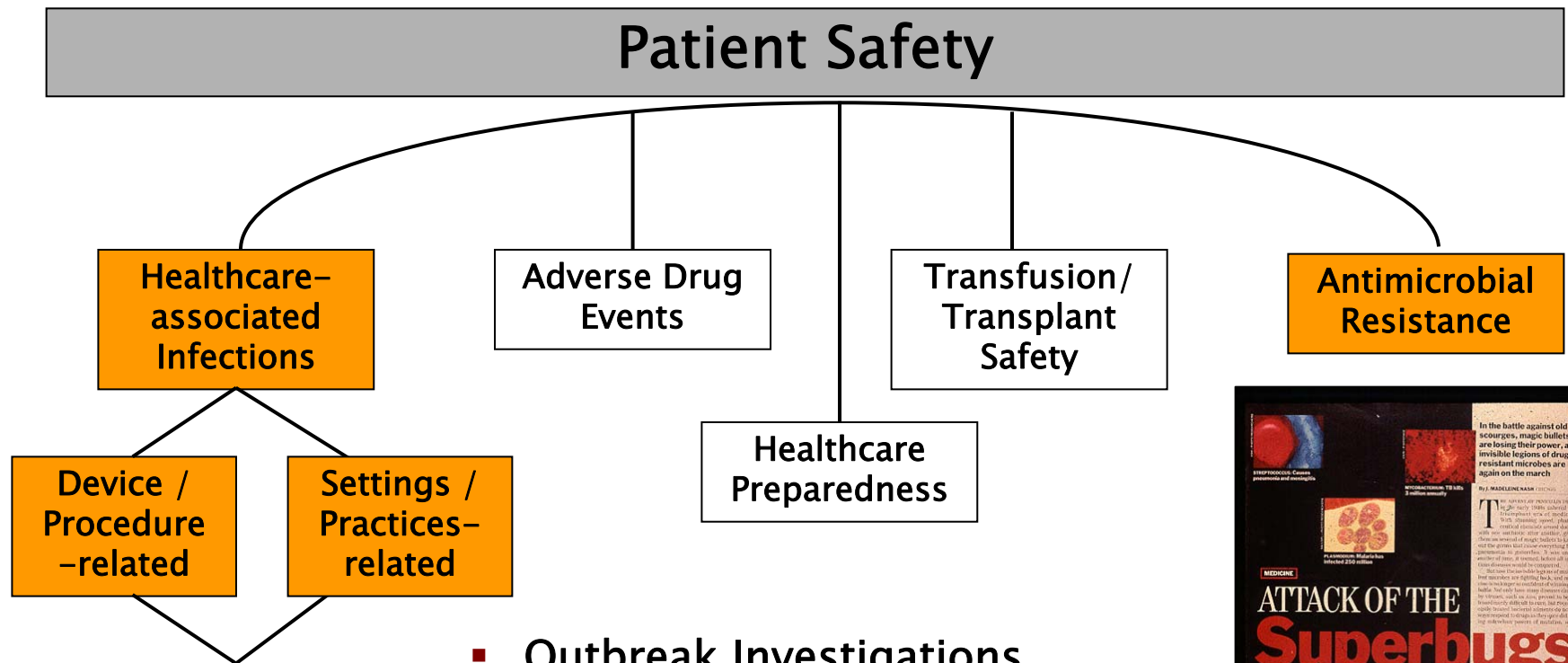
### Lab Animal Medicine Services

DAR LINKS

Gene expression systems  
Custom peptide synthesis, protein sequencing, immunomolecular immunoblotting analysis, mass spectrometry  
Genomic Sequencing Lab  
Large scale primer-walking

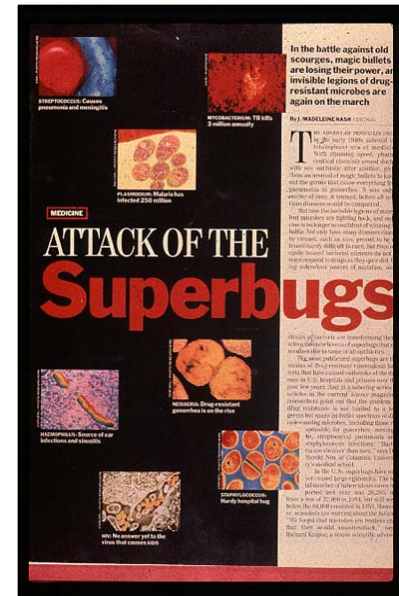


# Improving the Quality and Safety of the Healthcare System



MRSA  
*C. Difficile*  
*Acinetobacter*  
 Hepatitis  
 HIV

- Outbreak Investigations
- Surveillance
- Prevention Recommendations
- Intervention Implementation
- Extramural Research
- Laboratory Research and Support




# Burden of Healthcare–Associated Infections in the United States

- 1.7 million infections in hospitals (2002)
- 99,000 deaths associated with infections (2002)
- \$20.0 billion dollars in excess healthcare costs each year
  - *Staph* bloodstream infections costs alone exceeded \$2.5 billion in Medicare (2005)



# High Profile Issues, High Program Expectations



**Testimony**  
Before the House Oversight and  
Government Reform Committee  
United States House of Representatives

**“Methicillin-Resistant *Staphylococcus aureus* Infections in the Community: Consequences for Public Health”**

*Statement of*  
**Julie Louise Gerberding, M.D., M.P.H.**  
*Director, Centers for Disease Control and Prevention*  
*Administrator, Agency for Toxic Substances and Disease Registry*  
*U.S. Department of Health and Human Services*

**GAO**


United States Government Accountability Office  
Testimony  
Before the Committee on Oversight and  
Government Reform, House of  
Representatives

For Release on Delivery  
Expected at 11:00 a.m. EDT  
Wednesday, April 16, 2008

**HEALTH-CARE-  
ASSOCIATED INFECTIONS  
IN HOSPITALS**

Leadership Needed from  
HHS to Prioritize  
Prevention Practices and  
Improve Data on These  
Infections

Statement of Cynthia A. Bascetta  
Director, Health Care



CDC Home Search Health Topics A-Z

**MMWR**  
Weekly  
May 26, 2006 / 55(20):564-566

**Brief Report: Investigation into Recalled Human Tissue for Transplantation --- United States, 2005--2006**

On September 29, 2005, a human tissue-processing company discovered inaccuracies in donor records forwarded from a tissue-recovery firm and notified the Food and Drug Administration (FDA). An FDA investigation determined that the recovery firm, Biomedical Tissue Services, Ltd. (BTS) (Fort Lee, New Jersey), recovered tissues from human donors who might not have met donor eligibility requirements and who were not screened properly for certain infectious diseases. In October 2005, BTS and the five processors\* that had received the tissues, working with FDA, issued a recall for all tissues recovered by BTS. The continuing FDA investigation determined that information for some donors (e.g., cause, place, or time of death) was not consistent with death certificate data obtained from the states where the deaths occurred. The investigation also determined that BTS had failed to recover tissues in a manner that would prevent contamination or cross-contamination and failed to control

## Invasive Methicillin-Resistant *Staphylococcus aureus* Infections in the United States

**JAMA**  
The Journal of the American Medical Association

R. Monina Klevens, DDS, MPH  
Melissa A. Morrison, MPH  
Joelle Nadle, MPH  
Susan Petit, MPH  
Ken Gershman, MD, MPH  
Susan Ray, MD  
Lee H. Harrison, MD  
Ruth Lynfield, MD  
Chinwa Dumyati, MD  
John M. Townes, MD  
Allen S. Craig, MD  
Elizabeth R. Zell, MSTAT  
Gregory E. Fosheim, MPH  
Linda K. McDougal, MS  
Robert B. Carey, PhD  
Scott K. Fridkin, MD  
for the Active Bacterial Core  
surveillance (ABCs) MRSA  
Investigators

**Context** As the epidemiology of infections with methicillin-resistant *Staphylococcus aureus* (MRSA) changes, accurate information on the scope and magnitude of MRSA infections in the US population is needed.

**Objectives** To describe the incidence and distribution of invasive MRSA disease in 9 US communities and to estimate the burden of invasive MRSA infections in the United States in 2005.

**Design and Setting** Active, population-based surveillance for invasive MRSA in 9 sites participating in the Active Bacterial Core surveillance (ABCs)/Emerging Infections Program Network from July 2004 through December 2005. Reports of MRSA were investigated and classified as either health care-associated (either hospital-onset or community-onset) or community-associated (patients without established health care risk factors for MRSA).

**Main Outcome Measures** Incidence rates and estimated number of invasive MRSA infections and in-hospital deaths among patients with MRSA in the United States in 2005; interval estimates of incidence excluding 1 site that appeared to be an outlier with the highest incidence; molecular characterization of infecting strains.

**Results** There were 8987 observed cases of invasive MRSA reported during the surveillance period. Most MRSA infections were health care-associated: 5250 (58.4%) were community-onset infections, 2389 (26.6%) were hospital-onset infections; 1234 (13.7%) were community-associated infections, and 114 (1.3%) could not be classified. In 2005, the standardized incidence rate of invasive MRSA was 31.8 per 100 000 (interval estimate, 24.4-35.2). Incidence rates were highest among persons 65 years and older (127.7 per 100 000; interval estimate, 92.6-156.9), blacks (66.5 per 100 000; interval estimate, 43.5-63.1), and males (37.5 per 100 000; interval estimate, 26.8-

## Morbidity and Mortality Weekly Report

Weekly

September 26, 2003 / Vol. 52 / No. 38

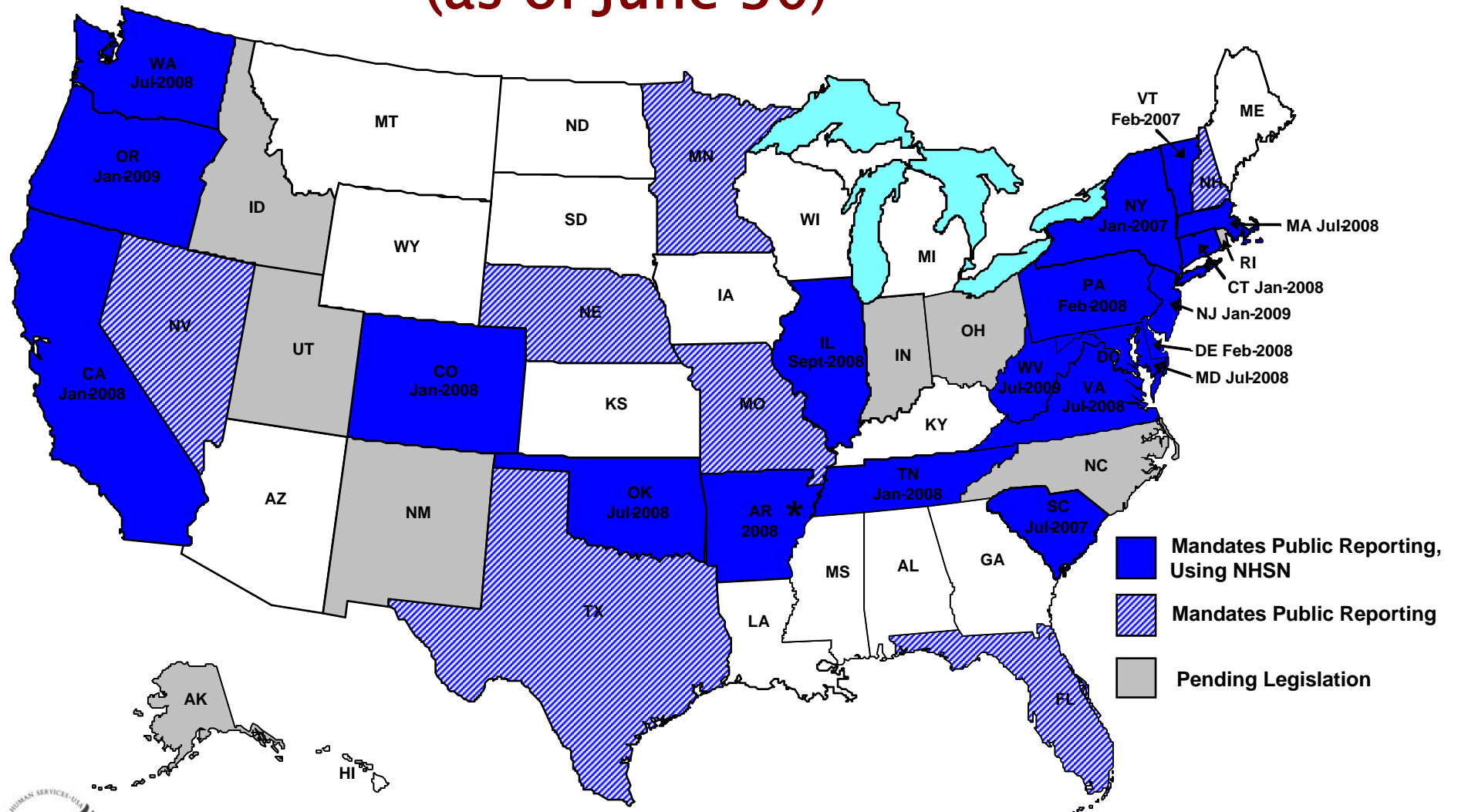
### Transmission of Hepatitis B and C Viruses in Outpatient Settings — New York, Oklahoma, and Nebraska, 2000–2002



# Components of NHSN



## Legislative Activity for HAIs (as of June 30)



**\*Voluntary reporting using NHSN**

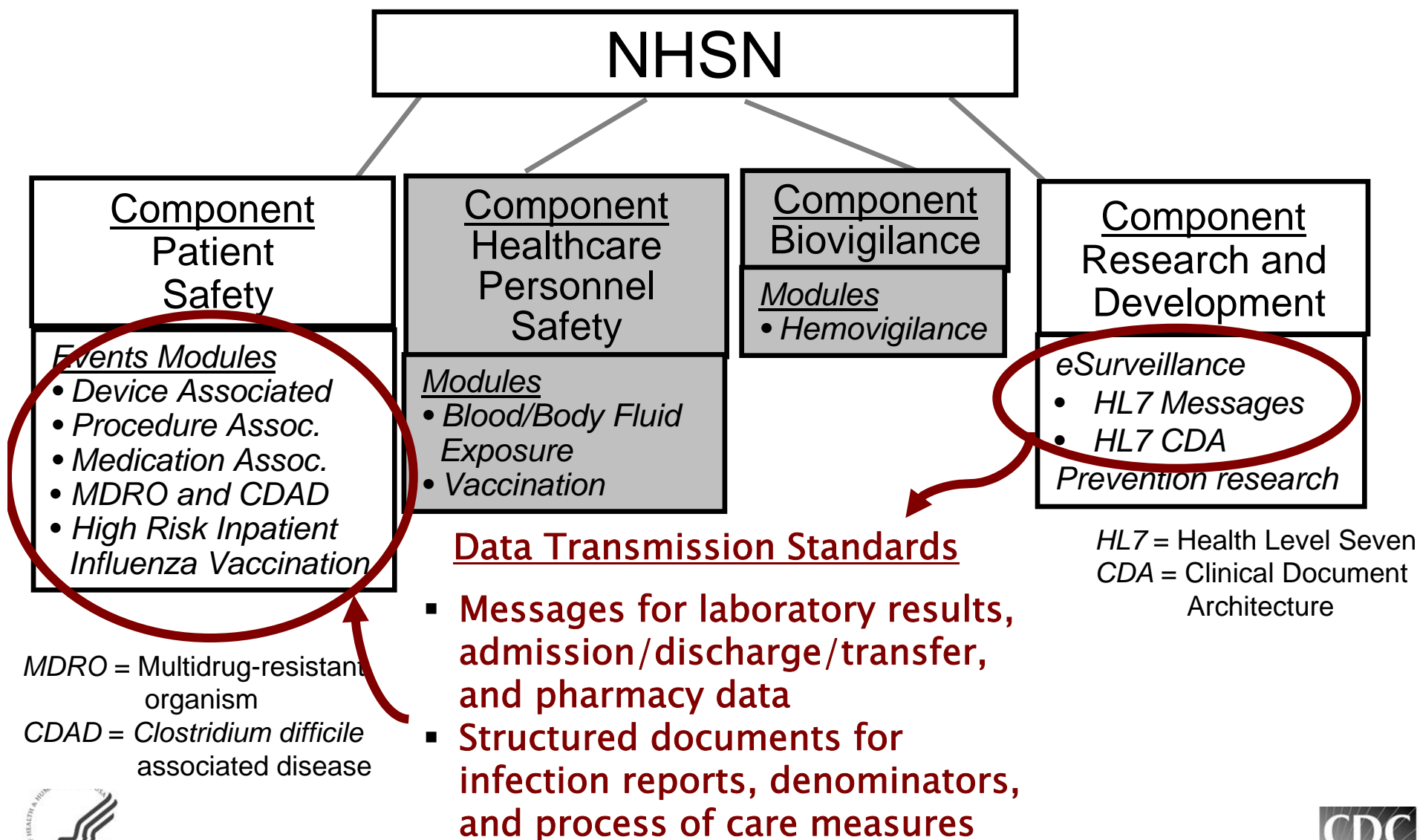
# Increased opportunities

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- Number of hospitals using **National Healthcare Safety Network (NHSN)** has **TRIPLED** in the last year
- **April 2007**
  - 491 facilities enrolled
  - 8 States using or planning to use NHSN for mandatory reporting
- **August 2008**
  - 1722 facilities enrolled (47 States)
  - 18 States using or planning to use NHSN for mandatory reporting

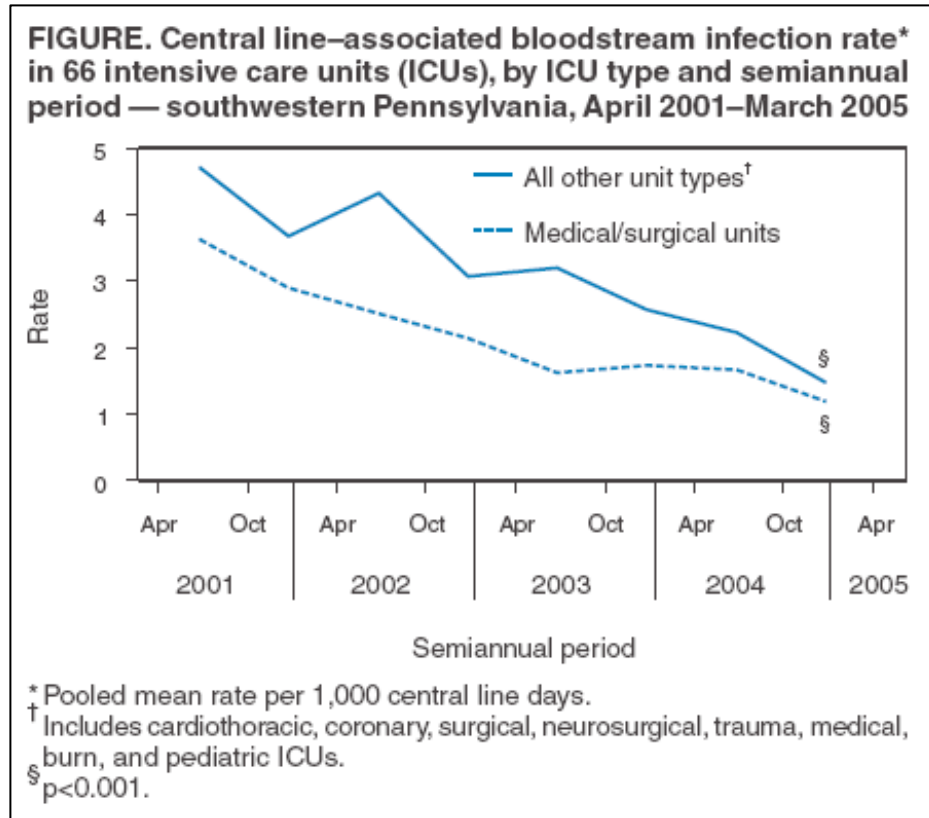


# NHSN: Moving towards e-surveillance



# Examples of Success

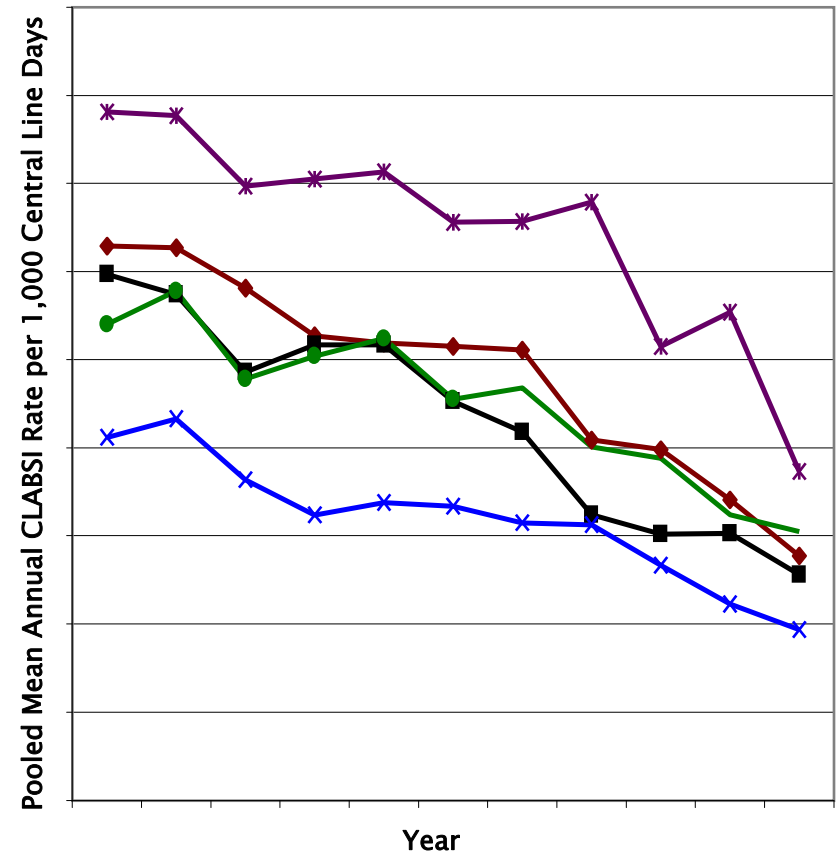
Following CDC/HICPAC guidelines  
reduces HAIs



MMWR 2005;54:1013–16

Hospitals participating in NHSN are  
preventing bloodstream infections

Trends in Bloodstream Infections\* by ICU Type,  
United States, 1997–2007





# HHS Initiative to Prevent Healthcare-Associated Infections

- Goal: Develop a **national plan for reducing HAIs** including goals, metrics, and strategies
- Cross-agency initiative: **CDC, AHRQ, CMS, NIH, VA**
- CDC role:
  - Steering Committee
  - Develop targets and metrics for prevention (stakeholder meeting)
  - Prevention and Implementation workgroup (lead)
  - Information Technology and Data workgroup (co-lead)
  - Participate in other workgroups:
    - Research (AHRQ led)
    - Regulation and Incentives (CMS led)
    - Outreach and Communications (HHS led)



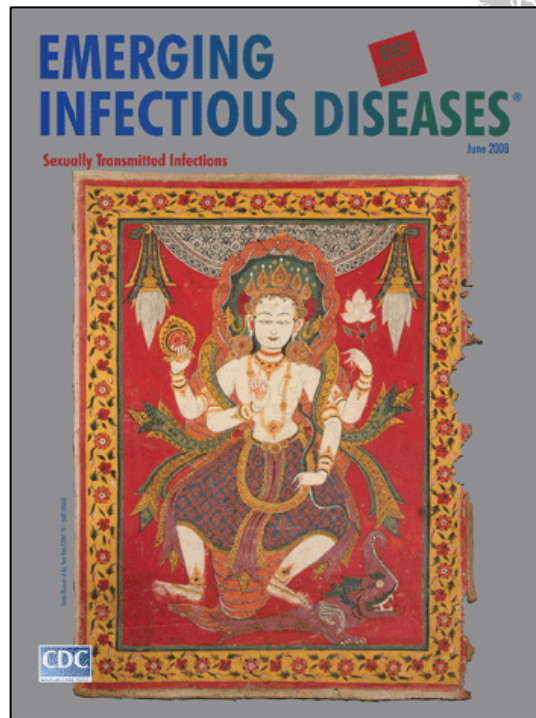


## National MRSA Education Initiative for General Public and Healthcare Community

- **General population**
  - Increase public awareness of MRSA in community settings
  - Improve knowledge of signs, symptoms, prevention and control measures
  - Guide patients to appropriate MRSA information and care resources
- **Clinical audiences**
  - Ensure clinicians are using evidence-based methods to diagnose, treat, and manage MRSA infections
  - Facilitate clinician/patient communication related to MRSA
- Develop communication materials, proactive media relations, web site restructuring,
- Collaborate with professional and consumer partners
- **Anticipated launch August/September of 2008**

# NCPDCID

## Flexible, Adaptable, Collaborative Programs and Partnerships



- Preventing, detecting, and controlling infectious diseases
  - through partnerships, networks, and systems
  - in specific populations and settings
  - domestically and internationally