

Examples of Public Health Research, Programs, and Surveillance in Emergency Departments Conducted by the Centers for Disease Control and Prevention (CDC)

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The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.



Overview

- Mission
- Testing for HIV and sexually transmitted infections (STIs) in emergency departments (EDs)
- Surveillance for infectious diseases in EDs
- Research projects and surveillance related to injuries



CDC Mission

Collaborating to create the expertise, information, and tools that people and communities need to protect their health – through health promotion, prevention of disease, injury and disability, and preparedness for new health threats.



Testing for HIV and STIs



Incorporating HIV Testing into Medical Care: Initial Efforts

- In 2001, CDC first described the Serostatus Approach to Fighting the HIV Epidemic (SAFE), which comprised action steps for diagnosing HIV infection in all infected people and linking them to care
- In 2002, cooperative agreements were awarded to several hospitals
- Objectives were to assess feasibility and cost of implementing HIV/STI screening in healthcare settings, including EDs, and evaluate their effectiveness in identifying infected patients and linking them to care



Incorporating HIV Testing into Medical Care

- Sites

- Boston Medical Center, Mount Sinai Hospital (Chicago), and Stoger (Cook County) Hospital (Chicago)

- Methods

- Boston Medical Center (2002-2004)
 - Patients aged 15-54 years offered voluntary, opt-in HIV testing in 5 sites, including the ED and the urgent care center
- Mount Sinai Hospital (2003-2004)
 - Patients aged 15-54 years offered rapid HIV testing
 - Patients 15-25 years also offered gonorrhea and Chlamydia testing in the ED
- Stoger Hospital (2003-2004)
 - Patients 18-54 years offered rapid HIV testing in the ED



Advancing HIV Prevention (AHP) Initiative

- Announced in 2003
- Aimed at reducing barriers to early diagnosis of HIV infections and increasing access to quality medical care, treatment, and ongoing prevention services
- Making HIV testing a routine part of medical care is a key strategy
- Awarded \$27 million to health departments and community-based organizations to demonstrate key AHP strategies
- Conducted testing in a wide variety of clinical, nonclinical, and correctional settings



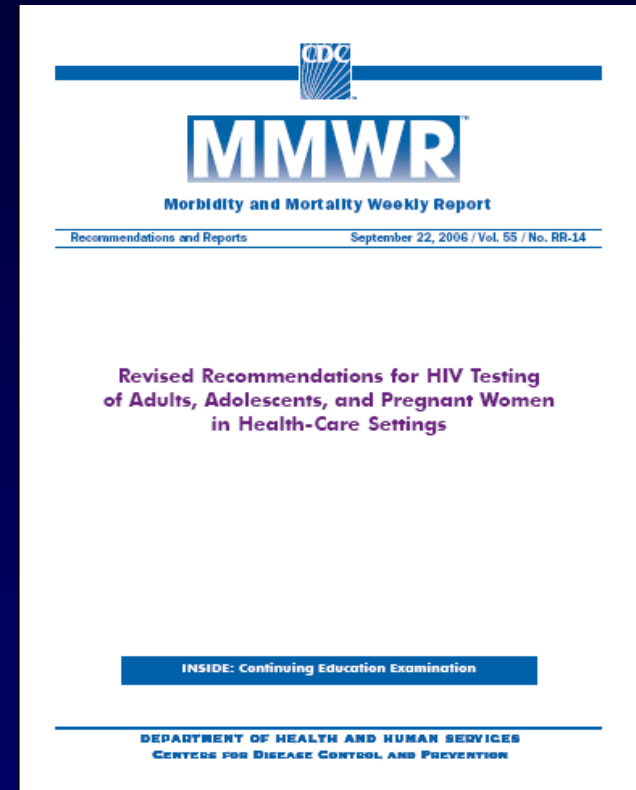
HIV Testing at AHP ED Sites

- Objectives
 - Evaluate patient acceptance and the feasibility of making rapid HIV testing a routine part of health care offered in EDs
- Sites
 - Bronx-Lebanon Hospital, USC-LA County Hospital, Alameda County Medical Center (Oakland, CA)
- Methods
 - Los Angeles and New York
 - Counselors offered and performed counseling and testing
 - Oakland
 - Triage nurse offered testing and ED staff conducted testing
- ~15,000 tests conducted in 3 EDs during 2004-2007
 - 1.1% new HIV diagnoses among persons tested



Revised Recommendations Adults and Adolescents

- Routine, voluntary HIV screening for all persons 13-64 years in healthcare settings
- Opt-out HIV screening with the opportunity to ask questions and the option to decline testing
- Separate signed informed consent should not be required
- Prevention counseling in conjunction with HIV screening in healthcare settings should not be required



Multi-site Evaluation of HIV Testing in EDs

- Objectives
 - Compare outcomes and program costs of different HIV testing models used by 6 EDs
- Contract with Health Education and Research Trust
 - Partnered with staff from Johns Hopkins University and the University of Chicago
- Sites
 - Ben Taub Hospital (Houston), Detroit Receiving Hospital, George Washington University (DC), Metropolitan Hospital Center (New York City), San Francisco General Hospital, University of Cincinnati
- Methods
 - Used pre-site visit surveys and on-site interviews to learn about operational models, process outcomes, and cost-effectiveness



Opt-out HIV Testing Project in EDs, 2007-2009

- Objectives
 - Assess the feasibility of offering HIV screening on a voluntary opt-out basis in EDs and evaluate different models for providing opt-out testing
- Sites
 - Alameda County Medical Center (Oakland, CA)
 - Denver Health Medical Center (Denver, CO)
- Methods
 - Both sites have control (current testing practices) and intervention (voluntary, opt-out HIV screening) phases
 - Collect testing data
 - Perform multiple HIV rapid tests in addition to conventional confirmatory testing methods for persons with preliminary positive tests to increase the predictive value of positive results and expedite linkage to care
 - Administer surveys to assess the patient and provider satisfaction
 - Perform cost analyses



2007 CDC HIV Testing Funding Initiative

- \$35 million for HIV testing in priority jurisdictions
 - Testing projects to be conducted during 2007-2009 in healthcare settings in 23 U.S. jurisdictions with the highest number of AIDS cases among African Americans
 - Applicants encouraged to integrate HIV activities with STI, TB, and viral hepatitis activities (including screening for STIs, TB, and viral hepatitis; and referral for vaccination against HAV and HBV)
- Goal to test 1.5 million persons and identify 20,000 newly reported cases of HIV infection annually
- During 1st year, 18 sites conducted HIV testing in ~60 EDs
 - 102,536 tested and 1,087 (1.1%) persons newly identified with HIV
- During 2nd year, 22 sites plan to conduct testing in ~90 EDs



National Surveys of HIV/STI Testing

- National Survey of HIV Testing in U.S. Hospitals
 - Survey of U.S. hospitals to assess HIV testing policies and practices
 - Sites of interest in hospitals include:
 - EDs, inpatient units, and primary care clinics
 - First survey conducted in 2004
 - 1,230 hospitals completed a survey
 - Follow-up survey will be conducted in ~1,000 hospitals in 2009 to monitor the uptake of the revised CDC recommendations for HIV testing in healthcare settings
- National Survey of U.S. physicians
 - Sent to 7,300 physicians in 5 specialties
 - ~10% of respondents practiced in an ED
 - Assessed screening, case reporting, partner management, and clinical practices for syphilis, gonorrhea, Chlamydia, and HIV infection



Surveillance for Infectious Diseases in EDs



Why Conduct Surveillance for Infectious Diseases in EDs?

- Large patient numbers
- Acute and severe presentations
- EDs are ideal sites for syndromic surveillance for early detection of outbreaks
- Community-acquired infections
- At-risk populations
- Real-time, prospective data collection
- Hospital laboratory availability

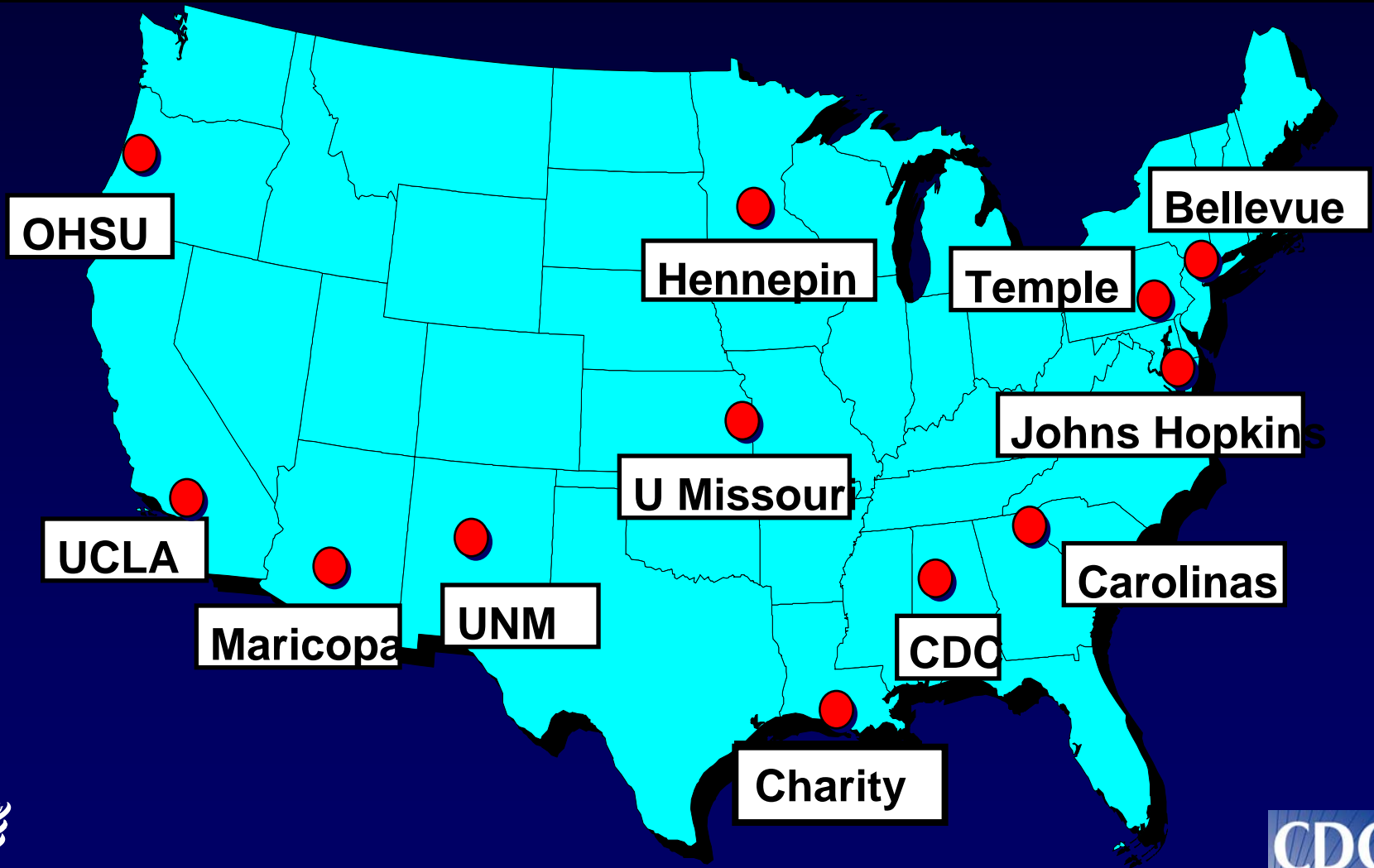


EMERGENCY ID Net

- In 1995, CDC funded the Olive View-UCLA Department of Emergency Medicine to develop an emerging infections network
- Objectives of *EMERGENCY* ID Net
 - Estimate community burden of disease, develop preventive strategies, improve cost-effective management, anticipate and rapidly respond to new emerging problems
- Sites: 11 university-affiliated urban EDs
- Methods: Data collected during ED evaluation of patients with specific clinical syndromes and are electronically stored, transferred, and analyzed at a central receiving site



EMERGENCY ID NET Sites



Selected *EMERGENCY* ID NET Publications

- Prevalence and risk factor analysis of trimethoprim-sulfamethoxazole- and fluoroquinolone-resistant *Escherichia coli* infection among emergency department patients with pyelonephritis. *Clin Infect Dis* 2008;47:1150-8.
- Methicillin-resistant *S. aureus* infections among patients in the emergency department. *N Engl J Med* 2006;355:666-74.
- Syndromic surveillance for bioterrorism following the attacks on the World Trade Center—New York City, 2001. *Ann Emerg Med* 2003;41:414-8.
- Emergency physicians' perspectives on smallpox vaccination. *Acad Emerg Med* 2003;10:599-605.



Research Projects and Surveillance Related to Injuries



Acute Injury Care Research

- CDC awarded 3-year acute injury care research grants that began in fiscal year 2006-2007
 - Improving Trauma Outcomes: A Patient-Centered Approach
 - Evaluation of the American Trauma Society's Trauma Survivor Network (TSN) and the effectiveness of TSN Program in improving primary, secondary and intermediary outcomes for trauma patients
 - Clinical Decision Rule to Identify Children with Intra-abdominal Injuries
 - Development of sensitive, specific, and generalizable decision rules for evaluation of children with blunt abdominal trauma who are seen in EDs – goal to generate guidelines for more efficient use of computed tomography scans
 - Evaluation of the Mechanism-of-Injury Component of the Trauma Triage Criteria
 - Evaluation of American College of Surgeon's Field Triage Criteria to determine which conditions are predictive of trauma center need



National Surveillance of ED Visits

- 63 hospitals participating in the National Electronic Injury Surveillance System-All Injury Program
- U.S. Consumer Product Safety Commission (CPSC) and CDC jointly train coders located at each hospital who review clinical records of every ED visit to identify all initial visits for injuries, poisonings, and adverse drug events
- Approximately 500,000 injury-related ED visits are reported to NEISS-AIP each year
- CDC, CPSC, and FDA developed the National Electronic Injury Surveillance System–Cooperative Adverse Drug Event Surveillance project to enhance surveillance of outpatient drug safety



Summary

- CDC conducts important programmatic activities, surveillance, and research in partnership with ED providers
 - HIV/STI testing
 - Demonstration projects
 - Evaluation of testing models
 - HIV testing funding initiative
 - National surveys
 - Surveillance for emerging infections
 - Surveillance for injuries, illnesses, and adverse drug events
 - Acute care injury research



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