Engaging Stakeholders in Expanding Occupational Health Surveillance of Healthcare Personnel: A Collaboration Between NIOSH & DHQP

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Goals of Presentation

- Describe NIOSH and our history of collaboration with DHQP
- Explain why occupational health surveillance in the healthcare field needs to be enhanced
- Describe steps for developing new modules for the NIOSH HPS component
- Explain how the data will be used

*From a content perspective*
NIOSH vs. OSHA
Occupational Safety and Health Act of 1970

- Department of Health and Human Services (DHHS)
- Centers for Disease Control and Prevention (CDC)
- National Institute for Occupational Safety and Health (NIOSH)
- Department of Labor (DOL)
  - Occupational Safety and Health Administration (OSHA)

Established to help assure safe and healthful working conditions for working men and women by providing research, information, education, and training in the field of occupational safety and health.
Health Care Workers and Occupational Risks

Chemical
- Mercury
- Glutaraldehyde
- Cytotoxic drugs
- Pesticides
- Anesthetics
- Sodium hypochlorite

Organizational, Psychosocial
- Workload
- Technology
- Job Insecurity
- Violence

Physical
- Heavy lifting
- Handling patients
- Radiation
- Heat
- Repetitive movements
- TB
- SARS
- Measles
- Influenza

Biological
- Rubella
- HIV/AIDS
- Hepatitis B, C
Surveillance in Healthcare Facilities

Patient Safety

Healthcare Safety

Worker Safety

Environmental Safety
Project Background

- The National Occupational Research Agenda (NORA) is a partnership program to stimulate innovative research and improved workplace practices.

- NIOSH funds both intramural and extramural projects through the NORA framework.

- Project proposal submitted in 2007

- Funding received in May, 2009
Infectious Diseases
- Bloodborne pathogens- already developed
- Tuberculosis- 3.2 cases/100,000 workers

Traumatic Injuries - rates higher than private industry average
- Overexertion/lifting- 20.4 missed work cases/10,000 workers
- Slips, trips, and falls- 39.9 missed work cases/10,000 workers
- Physical assaults- 8.4 cases/10,000 workers

Work-Related Asthma- health services = 2nd-most common

Dermatitis- 10.2 cases/10,000 hospital workers
Proposed NHSN HPS Expansion

Healthcare Personnel Safety

- Vaccination & Screening
  - Influenza Vaccine
  - TB Screening*
  - Blood & Body Fluids
- Exposures
  - TB Exposure*
- Non-infectious Injuries & Illnesses
  - Traumatic Injuries
  - Asthma-like Symptoms
  - Skin Conditions

- Patient handling
- Slips, trips, & falls
- Workplace violence

Currently available modules
Proposed modules

*In collaboration with the CDC Division of TB Elimination
Benefits of Using NHSN for HCP Surveillance

- Web-based system
  - Electronically integrates multiple ongoing data collection activities
- Near real-time feedback
  - Facilitates more accurate and timely prevention strategies
- Based on end-users’ needs
- Meets necessary confidentiality and security requirements
- Promotes interaction between healthcare facilities and CDC/NIOSH
- Benchmarking and standardization
Steps for Implementing New HCP Modules in NHSN*

- Determine data elements to collect, with input from frontline workers and other stakeholders
  - E-mails and phone calls
  - Site visits
  - AOHP Conference
  - Stakeholder meeting in Cincinnati, OH/Hebron, KY

- Develop paper (hard copy) data collection forms
- Pilot test paper forms with ~25 facilities
- Translate paper forms into electronic format

*From a content perspective
Steps for Implementing New HCP Modules in NHSN* (cont.)

- Test electronic forms with ~20 facilities
- Finalize electronic forms
- Recruit facilities to use new modules
- Train facilities to use new modules
- Start collecting data
- Share data and best practices

*From a content perspective
Step 1: Determine data elements to collect

- What happened?
- Demographics: Who, where, when
- How did it happen?
  - Mechanism, circumstances, procedure
- Safety & prevention tools
  - What tools were/were not in place?
  - How could the event have been prevented?
Examples of data elements for specific modules

- Musculoskeletal disorders due to patient handling
  - Use of lift teams, lift devices; reasons for non-use
- Slips, trips, and falls
  - Floor contamination, familiarity with pathways
- Physical assaults
  - Perpetrator (e.g., patient, patient family member, co-worker)
- Work-Related Asthma
  - Exposure to specific chemicals
- Dermatitis
  - Frequency of handwashing, glove use
- TB screening and exposure
  - History of positive TST, BCG
Tiers of Data

NIOSH

Data to be shared with

Standard, agreed-upon

Criteria

Use to set benchmarks,

Monitor trends

Confidential, only

Aggregate data published

Joint Commission

Management, OSHA

Generate reports for

Meet day-to-day needs

Policy changes

Use to evaluate programs,

Focus on prevention

Internally

Data to be used

Improve decision-making

Joint Commission

Health

in occupational safety &
Occupational Groups Exposed to Blood/Body Fluids  \((n=25,335^*)\)

- Research, 185 (1%)
- Clerical/Admin, 177 (1%)
- Dental, 215 (1%)
- Maint./Housekeeping, 865 (3%)
- Student, 1060 (4%)
- Technician, 3815 (15%)
- Other, 966 (4%)
- Nurse, 10630 (42%)
- Physician, 7422 (29%)

* Occupational information not recorded in 20 records
Work Locations Where Blood/Body Fluid Exposures Occurred ($n=25,291^*$)

- Medical/Surgical ward: 36%
- Intensive care unit: 20%
- Intensive care unit: 12%
- OB/GYN: 9%
- Psychiatry ward: 9%
- Pediatrics ward: 5%
- Central Service: 8%
- Waste/Laundry: 5%

*Work location not indicated in 64 records.
Preventability of Hollow-Bore Needle Injuries
(n=11,060)

- Preventable, 6818 (62%)
- Undetermined, 2115 (19%)
- Not preventable, 2127 (19%)

Detailed preventability:
- Unnecessary needle use: 13%
- Safer device available: 24%
- No/improper activation of safety feature: 6%
- Safer work practice: 6%
- Proper sharps disposal: 9%
- Other preventable: 2%
Figure 1. Injury rates in surgical versus non-surgical hospital settings before and after the Needlestick Safety and Prevention Act of 2000

87 U.S. hospitals; surgical injuries=7,186, non-surgical injuries=24,138
Review of our Efforts to Date

Sara Luckhaupt, MD, MPH

NIOSH NHSN Project Stakeholders Meeting

November 16, 2009

CDC
Site Visits

- Visit to learn about NHSN
  - DHQP

- Visits to learn about other existing surveillance systems
  - Vanderbilt University Medical Center 5/27/09
  - Health Alliance (Cincinnati) 6/23/09
  - Cincinnati VA Hospital 7/14/09
  - Duke University Health System 7/22/09
Site Visits

General lessons learned

- Many different players involved (e.g., safety, comp, employee health, infection control, workers)
- Many data needs besides tracking rates of specific injuries and illnesses
- Both internally developed and commercial software programs being used
- Importance of buy-in from upper management
Site Visits

Specific suggestions for our project
- Identify minimum fields necessary
- Allow importation of data from existing systems
- Create relational database (not flat file)
- Include open (custom) fields
- Design modules along existing protocols
- Create comparative reports for management
- Include help menus
Site Visits

Specific suggestions for our project (cont.)

- Allow multiple users to start records
- Allow edits by system manager
- Post data publicly to motivate use
  (as for patient safety)
- Include all health system employees
  (vs. just hospital workers)
- Promote standard definitions of outcomes
- Allow flexibility depending on facility’s risk
Key Points from AOHP and Other Conversations with Stakeholders

- Concern about dual data entry; desire to interface with existing systems
- Interest in being able to track all work-related injuries and illnesses, not just the specific outcomes listed
- OSHA Log/risk management records separate from employee health records
- Concern about denominator data
- Concern about entering follow-up data
- Concern about amount of training required
- Concern about getting timely results
Moving Forward

- Primary task for this meeting:
  - Determine data elements to collect, with input from frontline workers and other stakeholders

- Keeping in mind:
  - Primary goal = prevention
  - Current data collection processes/systems in use
  - OSHA requirements, JC standards
  - Strengths and limitations of NHSN
  - Facility needs
NIOSH NHSN Team

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In collaboration with the Division of Healthcare Quality Promotion (DHQP) and the Division of Tuberculosis Elimination (DTBE)

The findings and conclusions in this report have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.