



National Healthcare Safety Network (NHSN) for State Reporting

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Essentials of Public Reporting of Healthcare-Associated Infections: A Tool Kit

Prepared by the Healthcare-Associated Infection Working Group of the Joint Public Policy Committee¹

Purpose:

This tool kit was created to assist states and healthcare facilities facing legislative mandates to publicly report healthcare-associated infections (HAIs) by providing guidance on components necessary for a meaningful reporting system. These components include the creation of an agency with the necessary expertise and resources to oversee the system; use of adequately trained and resourced data collectors; use standard case-finding methodologies, definitions, and risk-adjustment techniques of both outcome and process measures; and strategies to prevent unintended consequences of public reporting. The tool kit also includes recommendations for which indicator measures should be used for public reporting of HAIs.

- Caution to prevent unintended consequences
- Measures to consider

<http://www.cdc.gov/ncidod/dhqp/index.html>

Overview

- NHSN
 - ◆ Basics
 - ◆ Timeliness of information
 - ◆ Flexibility of the software/IT platform
 - ◆ Strengths and limitations
- How the State accesses data
- Support for States using NHSN
- Preview of process for registering hospitals for NHSN

What is NHSN?

- National voluntary, confidential system for monitoring events associated with health care
 - ◆ Initial focus on infections in patients and healthcare personnel
 - ◆ Expanding to include noninfectious events (such as process measures)
- Accessed through a secure, web-based interface
- Open to all US healthcare entities at no charge
 - ◆ Enrollment opened June 4th, 2007

National Healthcare Safety Network (NHSN) Report, data summary for 2006, issued June 2007

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This report is a summary of device-associated infections data collected and reported by hospitals participating in the National Healthcare Safety Network (NHSN) from January through December 2006. This report updates previously published data from the National Nosocomial Infections Surveillance (NNIS) system.¹⁻³

The NHSN was established in 2005 to integrate and supersede 3 legacy surveillance systems at the Centers for Disease Control and Prevention (CDC): the NNIS system, the Dialysis Surveillance Network (DSN), and the National Surveillance of Healthcare Workers (NaSH). Similar to the NNIS system, NHSN facilities voluntarily report their healthcare-associated infection (HAI) sur-

Identity of all NHSN facilities is held confidential in accordance with Sections 304, 306, and 308(d) of the Public Health Service Act (42 USC 242b, 242K, and 242m(d)).

METHODS

The NHSN has both a Patient Safety and a Healthcare Personnel Safety surveillance component. Within the Patient Safety component, the data are collected using standardized methods and definitions and are grouped into specific module protocols^{4,5} as follows:

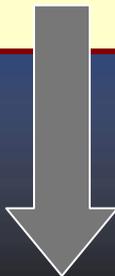


NHSN Components

**Patient
Safety**

**Healthcare
Personnel
Safety**

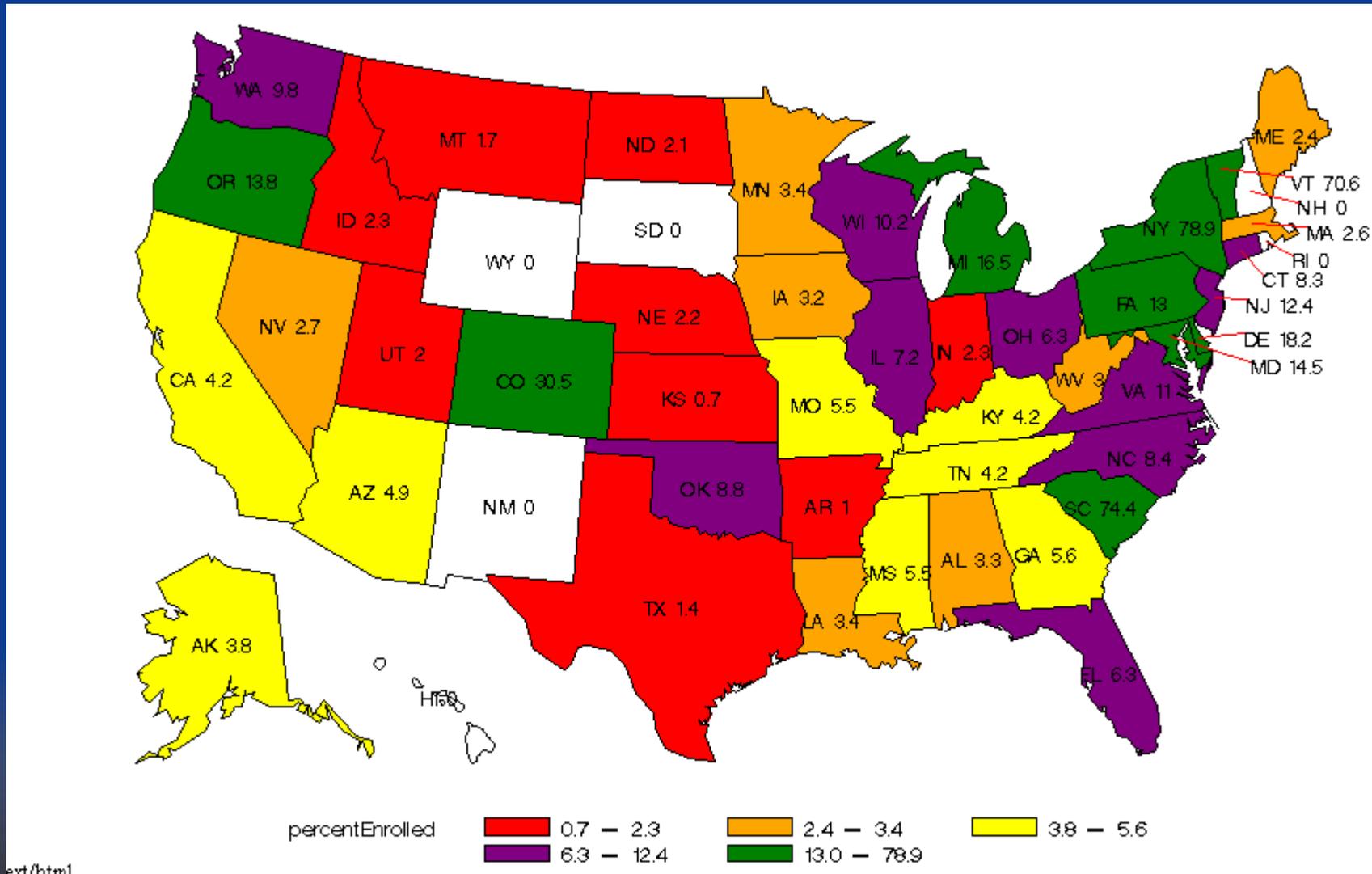
**Research
and
Development**



- Device-associated
- Procedure-associated
- Medication-associated

modules

Percentage of Hospitals in AHA Survey Enrolled* in NHSN



*613 facilities

Status as of June 18, 2007

Characteristics of NHSN Surveillance Methodology

- Active
- Patient-based
- Prospective
- Priority-directed
- Risk-adjusted incidence rates

Authority and Confidentiality for NHSN

- Public Health Service Act (42 USC 242b, 242k, and 242m(d))
- Confidentiality Protection
 - ◆ Sections 304, 306, and 308(d) of the PHS Act

“The information contained in this surveillance system that would permit identification of any individual or institution is collected with a guarantee that it will be held in strict confidence, will be used only for the purposes stated, and will not be disclosed or released without the consent of the individual, or the institution in accordance with Sections 304, 306, and 308(d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).”

Timeliness

- Facilities agree to submit data within 30 days of the end of each month
- Data are immediately available to CDC and Group after entry

Strengths – Built on NNIS Experience

- NNIS System is a model for patient safety^{1,2}
 - ◆ High quality data used for local performance improvement
 - ◆ Reductions in national infection rates have been achieved
- Scientific credibility
 - ◆ Definitions and methods adopted internationally

¹Leape LL. Reporting of adverse events. NEJM 2002;347:1633-8.

²Burke JP. Infection control—a problem for patient safety. NEJM 2003;348:651-6.

Strengths (cont.)

- Timeliness
 - ◆ Data are immediately available for analyses at the facility, Group, and CDC
- Aggregate comparisons by unit or procedure across states ensure greater numbers
- Existing protocols, definitions, and web-based application with technical support
- **Free to users**

Limitations

- Primary experience with voluntary, confidential reporting
 - ◆ Validation methods in development
- Labor intensive
- No special protocols for small hospitals
- Not tied to utilization or billing data directly
 - ◆ DRGs, ICD9/10, etc.
- Must follow NHSN rules

How CDPH Accesses Data in NHSN

- Groups: e.g., healthcare corporations, State Health Departments
 - ◆ A facility “nominates” CDPH
 - ◆ Facilities join the group and confer some/all rights to data
 - ◆ Facilities within the group cannot see each other’s data
 - ◆ Group sees data from all facilities as granted
- Alternative: Without joining a group, a facility can download raw data, analyzed data sets, or data reports for sharing



NHSN Home

Reporting Plan

- ▶ Add
- ▶ Find
- Patient**
- ▶ Add
- ▶ Find
- ▶ Import
- Event**
- ▶ Add
- ▶ Find
- ▶ Incomplete

Procedure

- ▶ Add
- ▶ Find
- ▶ Import
- ▶ Incomplete

Summary Data

- ▶ Add
- ▶ Find

Analysis

- ▶ Generate Data Sets
- ▶ Output Options

Surveys

Hospital

- ▶ Add
- ▶ Find

Dialysis

- ▶ Add
- ▶ Find

Users

- ▶ Add
- ▶ Find

Facility

- ▶ Customize Forms
- ▶ Export Data
- ▶ Facility Info
- ▶ Add/Edit Component
- ▶ Locations
- ▶ Surgeons

Group

- ▶ Confer Rig.
- ▶ Join
- ▶ Leave
- ▶ Nominate

Log Out

Logged into Mount Sinai Medical Center (ID 10127) as MSHEPARD.
Facility Mount Sinai Medical Center (ID 10127) is following PS component.

Confer Rights-Patient Safety

Please select the rights that group 'Test MMS2' should have to facility 'Mount Sinai Medical Center'

Patient Safety

General

	View Options	
Patient	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> With Identifiers <input type="radio"/> Without Identifiers
Monthly Reporting Plan	<input checked="" type="checkbox"/>	
Annual Hospital Survey	<input checked="" type="checkbox"/>	
Data Analysis	<input checked="" type="checkbox"/>	
AUR Microbiology Laboratory Data	<input type="checkbox"/>	
AUR Pharmacy Data	<input type="checkbox"/>	

Infections and other Events

Plan	Month	Year		Month	Year	Event
Both	1	2006	to	12	2006	ALL SSI and PPP Setting: Both
Procedure: ALL						
Both	1	2006	to	12	2006	ALL non-SSI and PPP
Location type: ALL Location: ALL						
<input type="button" value="Add Row"/> <input type="button" value="Clear All Rows"/> <input type="button" value="Copy Locations to Summary Data"/> <input type="button" value="Copy Procs to Denominator data"/>						

Summary Data for Events

Plan	MonthYear	MonthYear		Location Type	Location	
Both	1	2006	to	12	2006	ALL
<input type="button" value="Add Row"/> <input type="button" value="Clear All Rows"/>						

Denominator Data for Events

Plan	Month	Year		Month	Year	Procedure	Setting
Both	1	2006	to	12	2006	ALL	Both
<input type="button" value="Add Row"/> <input type="button" value="Clear All Rows"/>							



Support for States

- Collaboration with CSTE, SHEA, APIC/CACC, IDSA
- NHSN State Users Group
 - ◆ Conference calls monthly
 - ◆ Webboard to share materials, including users newsletter
- Training for all members
 - ◆ Webinars
 - ◆ Interactive distance learning
 - ◆ nhsn.cdc.gov

What and When States Using NHSN are Reporting



CLABSI	CO, DE, NY, PA, SC, TN, VA, VT, WA
SSI	CO, DE, NY, PA, SC, TN
VAP	PA, SC, WA
Dialysis events	CO, PA
Process measures	CA, DE, PA

* Undefined measures

California is first to require reporting of process measures

SB 739 Section 1288.8(b)

On or after January 1, 2008, implement and annually report infection surveillance and infection prevention process measures...

- ◆ Central Line Insertion Procedures (CLIP)
- ◆ Compliance w/ seasonal influenza vaccination of employees
- ◆ Antimicrobial prophylaxis for SSIs

Process for Hospitals to Register

- http://www.cdc.gov/ncidod/dhqp/nhsn_members.html
- Accept rules of behavior
 - ◆ Part of registration is to complete 8 modules (~2 hrs each)
 - ★ On R side of page NHSN Resources, click on “Archived Training”
 - ★ Follow stepwise directions
- Name a facility administrator [person with all rights to all data @ patient level for your facility]

Registration Process Cont'd

- Obtain digital certificate
- Fill out online form and survey
 - ◆ Name group/groups
 - ◆ Send to NHSN
- CDC will activate facility
- Facility will have to give CDPH as group leader rights to see mandated data
- If firewalls prevent access, own IT dept must clear site

Anticipated Additions – Jan 2008

- Process modules for CLIP and immunizations (for both employees and patients) to be released
- Introduction of 23 modules of interactive computer training (20-30 min ea)
 - ◆ In addition to original modules
 - ◆ Number required will depend on 'rights' conferred
 - ◆ Goal to set up CEUS for module completion
 - ◆ Will contain post-test to document knowledge; minimal score of 80% to pass

What we would like to see

- Formulation of a model for reporting of “never events” for nationwide use
- Downloading capacity from 3rd party vendors directly into NHSN
 - ◆ Discussion between CMS and NHSN

Disclaimer: While willing, CDC lacks personnel and monetary resources to develop these capacities at this time.

Challenges

- What are the evidence-based reporting best practices?
 - ◆ Balance use of existing data with accuracy and ownership
- How to gain necessary resources for implementation of reporting?
 - ◆ State and hospital levels
 - ◆ More efficient methods
- How will reporting impact quality of care?
 - ◆ Processes
 - ◆ Infection rates
 - ◆ Provider and consumer behavior

Resources

CDC

http://www.cdc.gov/ncidod/dhqp/nhsn_members.html

APIC/CACC

<http://www.apic.org> <http://www.cacc.net>

IDSA <http://www.idsociety.org>

SHEA

<http://www.shea-online.org/news/publicreporting.cfm>

CDPH <http://www.cdph.ca.gov>

Questions?