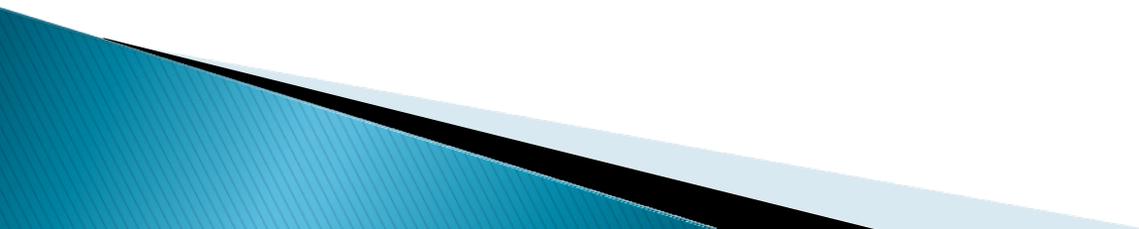
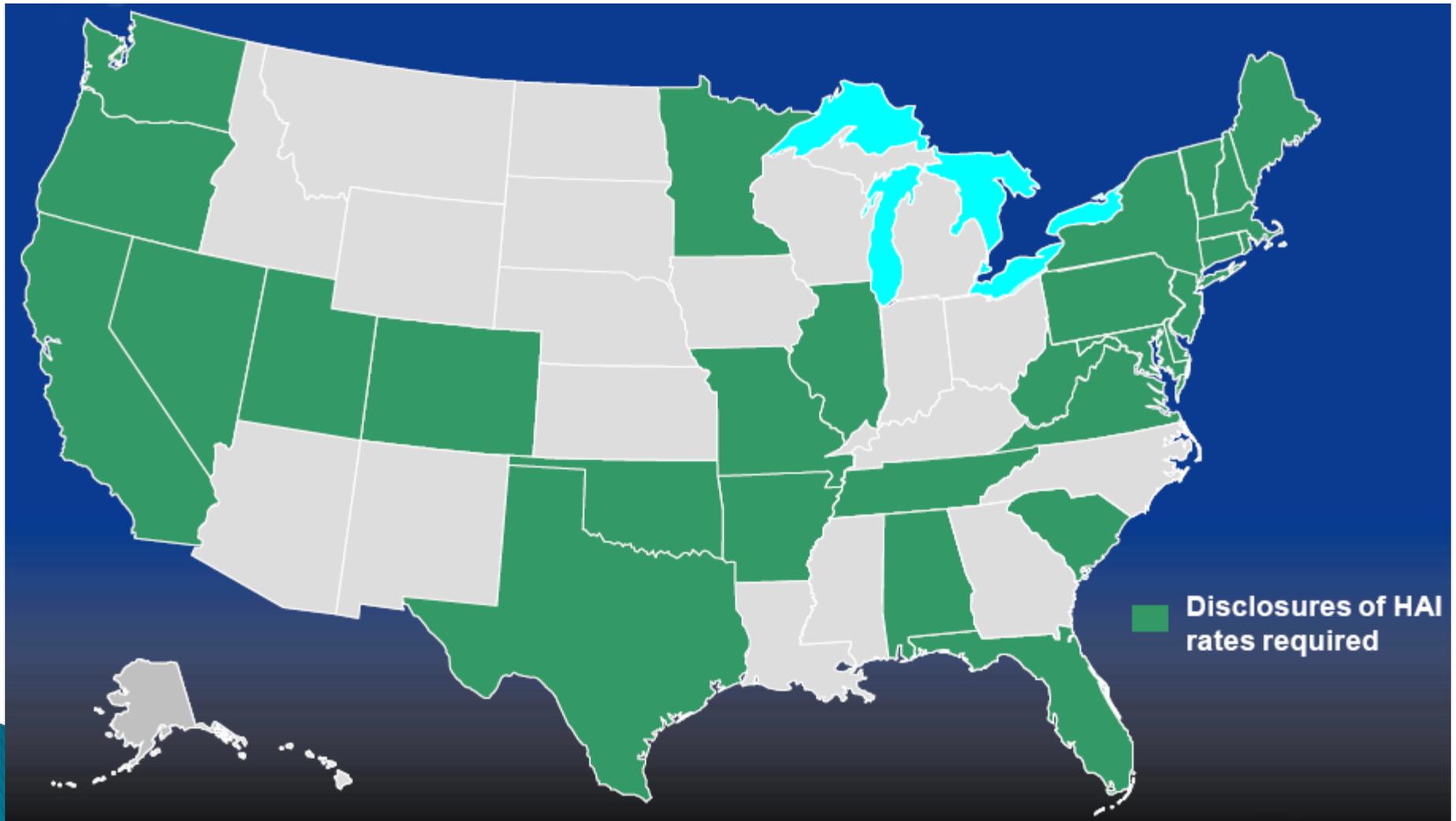


# Policy Update

# Increased Demand for Information

- ▶ Government Accountability Office (GOA) Report: HAIs are 1 of the top 10 causes of death in the US.
  - ▶ Cost: Between \$4.5 and \$5.7 billion annually
  - ▶ CDC's *First State-Specific Healthcare Associated Infections Summary Data Report*
  - ▶ Increased public perception that care is no longer safe
- 

# Legislation for HAI Public Reporting



# HAI Reporting Regulations 2010

- ▶ CMS Hospital Acquired Conditions (HAC)
- ▶ Inpatient Prospective Payment System (IPPS)
- ▶ Louisiana House Concurrent Resolution (HCR) 202 of the 2010 Regular Session

# CMS Infection HACs

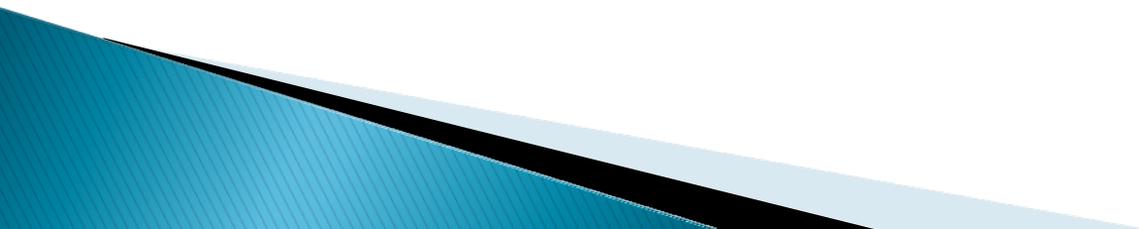
- ▶ Catheter-associated urinary tract infections.
- ▶ Vascular catheter-associated blood stream infection (BSI).
- ▶ Surgical site infection.
  - Mediastinitis after CABG surgery.
  - Selected orthopedic surgeries – Spinal fusion and other surgeries of the shoulder and elbow.
  - Bariatric surgery for morbid obesity – laparoscopic gastric bypass and gastroenterostomy.
- ▶ Driven by administrative data – No Risk Adjustments
- ▶ Cost savings have not materialized for CMS

# IPPS

- ▶ FY 2011 proposed changes to the IPPS does not recommend adding new HACs
- ▶ CMS proposes to use NHSN data for payment determination for CLABSI and SSI beginning in FY2013 (4Q12–3Q13)
  - Data collection to begin 1/1/11 for baseline
- ▶ Final ruling has not yet been released...

# HCR202

Healthcare–Acquired Infections Advisory Group  
charged to provide a report by 2/1/2011:

- ▶ Identify the most health–compromising and costly healthcare–acquired infections in the state
  - ▶ Rank infections by severity and prevalence
  - ▶ Provide healthcare providers with strategies to combat HAI
  - ▶ Determine a cost–effective method to collect and report HAIs
  - ▶ Recommend ways to present information to the public
- 



# NHSN Enrollment

**SAFER • HEALTHIER • PEOPLE™**



# Target Audience

- This training is designed for those who may be assigned as the NHSN Facility Administrator for a facility interested in NHSN Enrollment.



# Objectives

- Define the role the NHSN Facility Administrator in the enrollment process
- Describe the 5 steps of NHSN enrollment



# NHSN Facility Administrator

- The NHSN Facility Administrator is the only person who can enroll a facility and complete NHSN Enrollment.
  
- Additionally, the NHSN Facility Administrator:
  - is the only person who can reassign the role of Facility Administrator to another user
  - is responsible for initially adding users and assigning user rights.
  - is responsible for managing locations and patients across components.

# To Begin Enrollment, Visit:

<http://www.cdc.gov/nhsn/enroll.html>



CDC Home



Centers for Disease Control and Prevention  
Your Online Source for Credible Health Information

SEARCH

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## National Healthcare Safety Network (NHSN)

### NHSN

[About NHSN](#)

[Communication Updates](#)

#### ► Enrollment Requirements

[FAQs About Enrollment](#)

[FAQs About Mandatory Reporting](#)

[NHSN Security](#)

[Begin Enrollment](#)

[Enrollment Training](#)

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[Patient Safety Component](#)

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[Biovigilance Component](#)

[Data Collection Forms](#)

[NHSN Training](#)

[Data & Statistics](#)

[Resource Library](#)

[Clinical Document Architecture](#)

[Contact NHSN](#)

#### FAQs About...

• [NHSN](#)

[NHSN](#)

## Enrollment Requirements

### Eligibility Criteria

Facilities participating in the NHSN must meet the following criteria:

- Be a bona fide healthcare facility in the United States of America, for example, be listed in or associated with a facility that is listed in one of the following national databases:
  - American Hospital Association (AHA)
  - Centers for Medicare and Medicaid Services (CMS)
  - Veteran's Affairs (VA).
- Have email addresses for NHSN users and high-speed Internet access on the computers they will use to access NHSN and the ability to download a digital certificate onto those computers for each authorized user.
- Be willing to follow the selected NHSN component protocols exactly and report complete and accurate data in a timely manner during months when reporting data for use by CDC.
- Be willing to share such data with CDC for the purposes stated above.
- Be able to provide written consent for participation in the NHSN by a member of the facility's chief executive leadership (e.g., Chief Executive Officer).

[Top](#)

### Reporting Requirements for Participation

Once enrolled in the NHSN, each facility must:

- Use the NHSN Internet-based data entry interface and/or data import tools for reporting data to CDC.
- Successfully complete an annual survey for each component selected.
- Successfully complete one or more modules of the component selected. Successful completion

#### On This page

- [Eligibility Criteria](#)
- [Reporting Requirements for Participation](#)
- [Required Training](#)
  - [Facility Administrator](#)
  - [User \(other than Facility or Group Administrator\)](#)
  - [Group Administrator](#)
- [System Requirements](#)

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To receive email updates about NHSN, enter your email address:

[what's this?](#)

#### Contact NHSN:

 Centers for Disease Control and Prevention  
National Healthcare Safety Network  
MS-A24  
1600 Clifton Rd  
Atlanta, GA 30333

 [nhsn@cdc.gov](mailto:nhsn@cdc.gov)

[More contact info >>](#)

# After reviewing the Enrollment Requirements and Required Trainings, you are ready to begin the Enrollment Process.



CDC Home  
**CDC** Centers for Disease Control and Prevention  
Your Online Source for Credible Health Information

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## National Healthcare Safety Network (NHSN)

**NHSN**

- About NHSN
- Communication Updates
- Enrollment Requirements
  - FAQs About Enrollment
  - FAQs About Mandatory Reporting
  - NHSN Security
  - Begin Enrollment**
  - Enrollment Training
  - Enrollment Forms
- Patient Safety Component
- Healthcare Personnel Safety Component
- Biovigilance Component
- Data Collection Forms
- NHSN Training
- Data & Statistics
- Resource Library
- Clinical Document Architecture
- Contact NHSN

[NHSN > Enrollment Requirements](#)

### Begin Enrollment Process

Enrolling in NHSN is a multiple step process, outlined below, that is completed by the person designated to serve as the Facility Administrator. The steps must be followed in the order listed to ensure a successful enrollment.

The person designated as the NHSN Facility Administrator is the only person who can enroll a facility in NHSN or reassign the role of Facility Administrator. This person will also have the ability to nominate groups, that is, entities with which your hospital wants to share some/all of its data (e.g., state or county health department, corporate headquarters).

For complete detailed enrollment instructions please download the [NHSN Facility Administrator Enrollment Guide June 2009](#), PDF (1.16 MB / 30 pages).

Before attempting to enroll, as the Facility Administrator you must:

**Review the following documents and fulfill training requirements:**

- [Purposes, Eligibility, Requirements and Confidentiality April 2006](#) PDF (46 KB / 2 pages)
- [NHSN Facility Administrator Enrollment Guide June 2009](#), PDF (1.16 MB / 30 pages)
- [NHSN Manual: Patient Safety Component Protocols](#)

**When you have completed the required trainings and read the above documents, you are ready to enroll. Follow the steps below to complete the enrollment process.**

*NOTE: Please make sure that your email system will not block emails from [nhsn@cdc.gov](mailto:nhsn@cdc.gov) and [HealthTech@cdc.gov](mailto:HealthTech@cdc.gov) before beginning enrollment.*

Text size: [S](#) [M](#) [L](#) [XL](#)

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To receive email updates about NHSN, enter your email address:

[What's this?](#)

**Contact NHSN:**

- Centers for Disease Control and Prevention  
National Healthcare Safety Network  
MS-A24  
1600 Clifton Rd  
Atlanta, GA 30333
- [nhsn@cdc.gov](mailto:nhsn@cdc.gov)

[More contact info >>](#)



# **NHSN Facility Administrator Enrollment Guide**

Updated: 06/15/2009

## How do I get started in NHSN?

After completing the required training, you're ready to enroll your facility following these steps.

**Step 1: Review and accept Rules of Behavior**

**Step 2: Register**

**Before proceeding:** Receive email from NHSN with instructions for obtaining digital certificate.

**Step 3: Go to Secure Data Network (SDN) to apply for a Digital Certificate for NHSN Enrollment activity**

**Before proceeding:** Receive email from SDN with instructions for downloading digital certificate.

**Step 4: Access NHSN Enrollment and complete Facility Contact Information and Facility Survey online.**

**Before proceeding:** Receive "Enrollment Submitted" email from NHSN with Agreement to Participate and Consent form.

**Step 5: Print, sign, and return signed consent form to NHSN**

**Before proceeding:** NHSN will activate your facility when consent is received; Facility Administrator will then receive NHSN Enrollment Approval email.

**Enrollment is complete! Log in to SDN and select "NHSN Reporting."**

**Next Steps: Set up your facility (includes adding users and locations), and enter a Monthly Reporting Plan. For instructions, please visit the NHSN Online Help.**





# Enrollment Process



- Facility Administrator must -
  1. Review and accept Rules of Behavior
  2. Register
  3. Apply for and install an SDN digital certificate for NHSN Enrollment activity
  4. Print, complete and submit online:
    - Facility Contact Information Form
    - Appropriate survey form
  5. Print, sign and return Consent Form to NHSN
    - Agree to follow protocols and use definitions exactly
    - Send acceptable data 6 months every year\*, including annual survey

\*Your state or other group may require additional data reporting

# Step 1. Review and Accept the Rules of Behavior



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

## National Healthcare Safety Network (NHSN)

### Facility/Group Administrator Rules of Behavior

In order to participate in the NHSN, you must read and agree to abide by the following rules of behavior for safeguarding the system's security. Scroll through the document below and click on Agree or Do Not Agree button. To print a copy of the rules, click on the Print button.

NHSN, a surveillance system of the Centers for Disease Control and Prevention (CDC), allows participating healthcare facilities to enter data associated with healthcare safety, such as surgical site infections, antimicrobial use and resistance, bloodstream infections, dialysis incidents, and healthcare worker vaccinations. NHSN provides analysis tools that generate reports using the aggregated data (reports about infection rates, national and local comparisons, etc). NHSN also provides links to best practices, guidelines, and lessons learned.

NHSN processes and stores a variety of sensitive data that are provided by healthcare facilities. This information requires protection from unauthorized access, disclosure, or modification based on confidentiality, integrity, and availability requirements. These "Rules of Behavior" apply to all users of the NHSN web-based computer system.

#### Purpose

 [Print Version](#)  
PDF (87KB/13 pages)

Agree

Do Not Agree



# Step 2. Register



## National Healthcare Safety Network (NHSN)

### Registration Form

Please enter the values for the fields listed below and click on the **Save** button. (\*) indicates a required field. For additional information on NHSN Training, please visit the [NHSN Training Website](#).

**Personal Information**

\*Last name:

\*First name:

Middle name:

\*Email address:

**Facility Identifier**

\*Please select a facility identifier:

CMS ID     AHA ID     VA Station Code   
CDC Registration ID     None

\*Selected Identifier ID:

**NHSN Training Date**

\*I certify that I have completed all of the appropriate,  
required NHSN trainings on:



# IMPORTANT!!!

- You must use the same email address throughout the NHSN enrollment process. This includes your application for a digital certificate.
- Allow [nhsn@cdc.gov](mailto:nhsn@cdc.gov) and [PHINTech@cdc.gov](mailto:PHINTech@cdc.gov) to come through your organization's email spam blockers



# IMPORTANT!!

- Make sure the following site is listed as a trusted site in your browser and pop-ups are allowed:

**\*.cdc.gov**



## Before proceeding to Step 3:



# Receive email from NHSN with instructions for obtaining digital certificate

Welcome! You are now registered in the National Healthcare Safety Network (NHSN).

In order to begin the NHSN enrollment process, you will need to obtain and install a digital certificate onto your computer.

Follow the instructions in the document "NHSN Facility Administrator Enrollment Guide" beginning at Step 3, to obtain and install the digital certificate so that you will be able to access the NHSN application through CDC's Secure Data Network (SDN). This document can be accessed at: [http://www.cdc.gov/ncidod/dhqp/nhsn\\_documents.html](http://www.cdc.gov/ncidod/dhqp/nhsn_documents.html).

From the Centers for Disease Control and Prevention - Digital.ID



**Step 3: Go to SDN to apply for a  
digital certificate for NHSN  
Enrollment activity**

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# What is SDN?

- SDN = Secure Data Network
  - Provides security control services to most CDC systems, including the NHSN
    - Physical and environmental controls – The computer room that houses NHSN is physically secure and environmental controls are used to protect NHSN computing resources from system damage or failure.
    - Network controls - The SDN is located behind a firewall and is protected by a centralized security gateway (proxy server).
    - User Authentication – All users must authenticate their identities with digital certificates



# What is a Digital Certificate?

- A digital certificate provides an electronic means of proving your identity in order to securely conduct business with NHSN. Digital certificates provide the following benefits:
  - Data being sent to NHSN is encrypted so that only NHSN can read it
  - Provides assurance to NHSN that the data has not been changed in transit
  - Certifies that the certificate owner actually sent the transmission



# Additional information about Digital Certificates

- ❑ User specific – Do not share your digital certificate with another user! **Each user must have their own digital certificate.**
- ❑ Installed on your computer
- ❑ If you enroll more than one hospital, you only need one digital certificate
- ❑ Make a copy as soon as it is installed
- ❑ Can be installed on additional computers
- ❑ CDC pays for the digital certificate
- ❑ Digital certificates expire 12 months from the date of installation. You must apply for a new digital certificate each year.

# Step 3: Apply for a Digital Certificate

The website and password needed to apply for a digital certificate will be provided to you in the email after completion of Step 2.

 SAFER • HEALTHIER • PEOPLE™	<a href="#">CDC Home</a>   <a href="#">Search</a>   <a href="#">Health Topics A-Z</a>
<b>SDN Support</b>  800-532-9929 770-454-4863 phintech@cdc.gov	<b>Centers for Disease Control and Prevention - Digital ID Enrollment</b>
	<p style="text-align: center;"><b>WARNING</b></p> <p>This is a U.S. Government computer system, which may be accessed and used only for official government business by authorized personnel. Unauthorized access or use may subject violators to criminal, civil, and/or administrative action. There is no right to privacy on this system. All information on this computer system may be monitored, intercepted, recorded, read, copied, and shared by authorized personnel for official purposes including criminal investigations. Access or use of this system, whether authorized or unauthorized, constitutes consent to these terms. (Title 18, U.S.C.)</p> <p style="text-align: center;"><b>Enter Enrollment Password</b></p> <div style="border: 1px solid black; padding: 10px; margin: 20px auto; width: 80%;"><p>Please enter the password for CDC's Digital ID Services and click <i>Accept</i>.</p><p><b>Password:</b> <input type="password"/></p><p style="text-align: center;"><input type="button" value="Accept"/></p></div>

# Step 1: Enter Personal Information



## Step 1: Enter Personal Information

Items with (\*) are required.

<b>Prefix</b>	<input type="text"/>	<b>Preferred Name</b>	<input type="text"/>
<b>* First Name</b>	<input type="text" value="Jane"/>	<b>Middle Name</b>	<input type="text"/>
<b>* Last Name</b>	<input type="text" value="Doe"/>	<b>Degree</b>	<input type="text"/>
<b>* Email Address</b>	<input type="text" value="nhsn@cdc.gov"/>	<b>CDC User ID</b> (where applicable)	<input type="text"/>
<b>* Employer</b>	<input type="text" value="CDC"/>	<b>Program or Division</b>	<input type="text"/>
<b>* Employer Type</b>	<input type="text" value="CDC, all campuses"/>		
<b>* Job Type</b>	<input type="text" value="Surveillance"/>		
<b>* Phone</b>	<input type="text" value="404-639-4050"/>	<b>Fax</b>	<input type="text"/>
<b>Work Address</b> (130 characters maximum)	<input type="text"/>	<b>* U.S. State</b> (required for US)	<input type="text" value="Georgia"/>
<b>* City</b>	<input type="text" value="Atlanta"/>	<b>U.S. County</b>	<input type="text" value="Pick a County"/>
<b>* Country</b>	<input type="text" value="United States"/>		
<b>* Alternate Contact :</b>			
<b>* Name</b>	<input type="text" value="John Doe"/>	<b>* Phone</b>	<input type="text" value="404-639-4050"/>

Next



# Review Email Address

Windows Internet Explorer

 Your email address must be correct to receive your Digital ID.  
Is this your correct email address?  
nhsn@cdc.gov

OK Cancel



# Select a Program: Click on National Healthcare Safety Network (NHSN)

## Step 2: Select A Program

Select the program whose activities you want to join.

A screenshot of a web application's dropdown menu. The menu is open, showing a list of program names. The second item, 'National Healthcare Safety Network (NHSN)', is highlighted with a blue background. The other items are 'National Health Interview Survey', 'National Select Agent Registry', 'NEPHTN', 'NETSS', and 'Nutrition'. The dropdown has a scroll bar on the right side.

National Health Interview Survey	▲
National Healthcare Safety Network (NHSN)	
National Select Agent Registry	☰
NEPHTN	
NETSS	
Nutrition	▼



# Select Activities: Click on NHSN Enrollment



## Step 3: Select Activities

Select one or more National Healthcare Safety Network (NHSN) activities from the list.

<input type="checkbox"/> NHSN Enrollment
<input type="checkbox"/> NHSN Reporting

Next

# Create a Challenge Phrase (password)

[CDC Home](#)[Search](#)[Health Topics A-Z](#)

## Centers for Disease Control and Prevention - Digital ID Enrollment

### SDN Support

800-532-9929  
770-454-4863  
phintech@cdc.gov

### Step 4: Choose a Challenge Phrase

The challenge phrase is a password or phrase that you will need to provide every time you access the CDC Secure Data Network, and is also required to revoke your Digital ID.

For security reasons, a challenge phrase must:

- Be at least 8 characters long.
- Contain only English letters, numbers or any of these characters:
- Contain at least one non-alphabetic character.
- Not contain your name or any part of your email address.
- Not be a word, unless the word is either
  - Broken up by one or more non-alphabetic characters
  - Prefixed or suffixed by three or more non-alphabetic characters
- Not contain more than two consecutive repeating characters.
- Contain at least 4 unique characters.

Challenge phrases are case sensitive, so be sure to remember if any letters are capitalized. While not required, a challenge phrase containing mixed case letters is more secure, and we invite you to consider using one.

[More Information and Examples.](#)

Challenge Phrase

# About Your Challenge Phrase



- Use Password to log into SDN and access NHSN
  - Must be case-sensitive
  - Write it down and store in a secure place
  - Do not share your phrase with anyone including co-workers and IT staff
  - Must meet certain criteria

# Digital Certificate Request Received



## Digital Certificate Request Received

Your request for a digital certificate has been received.

You will receive an e-mail when your request is approved, which includes instructions for installing your digital certificate.

Please note that processing time may vary, depending upon the nature of the enrollment request. If you do not receive an e-mail notification within 72 hours, you may inquire about the status of your request by contacting the program administrator.



# After Applying for Your Certificate

- ❑ Check your email. Requests are processed by SDN (usually within 48-72 hours)
- ❑ Email will include a link and instructions to download the certificate
- ❑ Contact your facility IT department for assistance in installing your digital certificate
  - Your computer must have administrative rights in order that the certificate be installed. These rights can be assigned temporarily.
- ❑ Detailed instructions for installing the certificate are contained in the NHSN Facility Administrator Enrollment Guide
- ❑ Make a back-up copy of the certificate!!

# Step 4: Complete NHSN enrollment online

- To access NHSN via the SDN, go to:
- <https://sdn.cdc.gov>
- Enter your challenge phrase (created when you applied for a digital certificate)
- After you are logged in, click on “NHSN Enrollment”



The screenshot shows the CDC Public Health Partners website interface. At the top, the CDC logo and the text "Public Health Partners" are visible. Below this, a yellow banner indicates the user is logged in as "Maggie Dudeck". The main content area is divided into several sections:

- My Applications:** This section contains a link for "National Healthcare Safety Network (NHSN)" with a sub-link for "NHSN Enrollment" highlighted by a red arrow. Below it is a link for "Request Additional Activities".
- Electronic Reference:** This section prompts the user to "Select a database and search term to locate journals." It features a dropdown menu for "Database" set to "PubMed", a "Search for:" text input field, and a "Search" button.
- Morbidity and Mortality Weekly Report:** This section includes a "This Week in MMWR" section for November 9, 2007, with links to articles such as "Great American Smokeout — November 15, 2007", "Cigarette Smoking Among Adults — United States", and "Salmonella Typhimurium Infection Associates with...".
- Recommendations and Reports:** This section includes a "Recommendations and Reports" section for November 2, 2007, with links to "Interpreting and Managing Blood Lead Levels of Children", "Lead Recommendations of CDC's Advisory Committee", and "Appendix: Guide to Resources for Parents". A link to "Download pdf document of this issue" is also present.
- Surveillance Summaries:** This section includes a "Surveillance Summaries" section for October 19, 2007, with a link to "National Surveillance for Influenza — United States".

# Complete Facility Enrollment Forms



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

NHSN - National Healthcare Safety Network

Contact Us

[Start](#)  
[Leave Enroll](#)

## Enroll Facility

Please Select Desired Option

[Access and print required enrollment forms](#)

[Enroll a facility](#)

[Leader for PDF files](#)

**If you have not completed these forms, obtain the forms now and complete them before proceeding**

The enrollment forms are also available on the NHSN website (see “Data Collection Forms”.)

# Facility Contact Information



<b>Facility Contact Information</b> <span style="float: right;">OMB No. 0990-0046 Rev. 03/01/12</span>	
*Required for existing <span style="float: right;">T (Facility #):</span>	
*Facility Name:	
*Main Telephone Number:	
*Mailing Address:	
*City:	*State:
*County:	*ZIP:
*American Hospital Association (AHA) ID#: *CMS Provider #: *VA Section Code:	
<input type="checkbox"/> Not Applicable <input type="checkbox"/> Not Applicable <input type="checkbox"/> Not Applicable	
If none of these codes identifies the facility, enter CDC-provided Identifier #: *FACILITY TYPE:	
<input type="checkbox"/> Pediatric Clinic <input type="checkbox"/> Pediatric Safety Clinic <input type="checkbox"/> Pediatric Personnel Safety Clinic <input type="checkbox"/> Blood/Bone Marrow Clinic	
*NHSN Facility Administrator: *Name: Title: *Mailing Address: (if different from facility)	
*City:	*State:
*Telephone Number: ( )	*Extension:
FAX Number: ( )	
Pager Number: ( )	
*Email:	*User Name:

<b>Facility Contact Information</b> <span style="float: right;">OMB No. 0990-0046 Rev. 03/01/12</span>	
*Required for existing <span style="float: right;">T (Facility #):</span>	
*Facility Name:	
*Main Telephone Number:	
*Mailing Address: (if different from facility)	
*City:	*State:
*County:	*ZIP:
*Telephone Number: ( )	*Extension:
FAX Number: ( )	
Pager Number: ( )	
*Email:	*User Name:
*NHSN Facility Administrator: *Name: Title: *Mailing Address: (if different from facility)	
*City:	*State:
*Telephone Number: ( )	*Extension:
FAX Number: ( )	
Pager Number: ( )	
*Email:	*User Name:
*NHSN Laboratory Director (Department): *Name: Title: *Mailing Address: (if different from facility)	
*City:	*State:
*Telephone Number: ( )	*Extension:
FAX Number: ( )	
Pager Number: ( )	
*Email:	*User Name:
*NHSN Emergency Contact (Department): *Name: Title: *Mailing Address: (if different from facility)	
*City:	*State:
*Telephone Number: ( )	*Extension:
FAX Number: ( )	
Pager Number: ( )	
*Email:	*User Name:

# Facility Survey



## Hemovigilance Module Annual Facility Survey

OMB No. 0920-0066  
Exp. Date: 09-30-2012

\*Required fields

\*Tracking # / Facility ID: \_\_\_\_\_ \*Survey Year: \_\_\_\_\_

**Facility Characteristics:** (For all questions use past full calendar year annual statistics)

\*1. Ownership: (Check one)

- For profit    Government  
 Veteran's Affairs    Physician owned

\*2. Is your hospital affiliated with a medical center?

If yes, type of affiliation:  Medical center



## Healthcare Personnel Safety Component Annual Facility Survey

OMB No. 0920-0066  
Exp. Date: 09-30-2012

Page 1 of 2

\* required for reporting

Tracking #: \_\_\_\_\_

Facility ID#: \_\_\_\_\_

\* Survey Year: \_\_\_\_\_

\*Facility ID#



## Patient Safety Component - Annual Facility Survey

OMB No. 0920-0066  
Exp. Date: 09-30-2012

Page 1 of 2

Total beds set up

\* required for reporting

Tracking #: \_\_\_\_\_

Facility ID: \_\_\_\_\_

\* Survey Year: \_\_\_\_\_

Facility Characteristics

\*Ownership (check one):

- For profit    Not for profit, including church    Government  
 Military    Veteran's Affairs    Physician owned    Managed Care Organization

If facility is a hospital:

# Enroll Facility



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

NHSN - National Healthcare Safety Network

Contact us

[Start](#)  
[Leave Enroll](#)

## Enroll Facility

**If you have already completed your Facility Survey and Contact Information forms**

Please Select Desired Option

[Access and print required enrollment forms](#)

[Enroll a facility](#)



[Get Adobe Acrobat Reader for PDF files](#)

# Facility Enrollment Cont'd.



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

RHSN - National Healthcare Safety Network

[Contact us](#)

[Start](#)  
[Leave Enroll](#)

## Facility Enrollment

Mandatory fields marked with \*

[Print PDF Form](#)

Tracking #

### Facility Information

Facility name\*

Address, line 1\*

Address, line 2

Address, line 3

City\*

County\*

State\*

Zip Code\*  -

Main telephone number\*

For each identifier listed below, enter the number / code, or check Not Applicable if your facility does not have that identifier

AHA ID\*

Select  if AHA ID Not Applicable

CMS ID\*

Select  if CMS ID Not Applicable

VA station code\*

Select  if VA Station Code Not Applicable

[Verify Data](#)

Click to verify values provided above before proceeding.

# About the Identifier



For each identifier listed below, enter the number / code, or check Not Applicable if your facility does not have that identifier

AHA ID\*:

Select  if AHA ID Not Applicable

CMS ID\*:

Select  if CMS ID Not Applicable

YA station code\*:

Select  if YA Station Code Not Applicable

**Click to verify values provided above before proceeding.**

- ❑ Enter only numbers – no dashes or spaces
- ❑ Enter only one identifier and check “N/A” for other identifiers
- ❑ If your data does not verify, contact NHSN
- ❑ If you do not have any of the listed identifiers, contact NHSN (NOTE: If you used a CDC-assigned ID at registration, you can use the same number here.)
- ❑ After data verifies, enter data from the Facility Survey and submit.

# Once enrollment is submitted, you will receive an email to access the Agreement to Participate and Consent form

From: NHSN  
To: NHSN Facility Administrator  
Sent:  
  
Subject: NHSN facility enrollment submitted

The following facility has been submitted for enrollment in the NHSN:

Facility Name: DHQP Memorial Hospital  
Tracking Number: 10000

NHSN Facility Administrator:

The NHSN Facility Administrator has 30 days to access the Agreement to Participate and Consent form at the following URL:

<http://server/enapp/enrollment.do?method=displayAgreement&trackingnum=xxxxx>

If this URL appears to be broken, please type the link on your browser address line. The complete address including trackingnum=xxxxx must be included in order to access the form.

Once the form has been accessed, the CDC system administrator must receive the original, signed copy of the Consent Form within 60 days or enrollment will be suspended. Mail the form to: NHSN Administrator, MS A-24, Centers for Disease Control and Prevention, 1600 Clifton Rd, NE, Atlanta, GA 30333.

If you have questions about NHSN, please contact us at [nhsn@cdc.gov](mailto:nhsn@cdc.gov) or 800-893-0485. For information on the NHSN, please visit the member's website at [http://www.cdc.gov/ncidod/dhqp/nhsn\\_members.html](http://www.cdc.gov/ncidod/dhqp/nhsn_members.html).



**Step 5: Print, sign and  
return signed Consent  
Form to NHSN**



# Enter Primary Contact for Enrolled Component(s)



**NHSN** **Agreement to Participate and Consent** OMB No. 0920-0000  
EEO/AAE/ADA

Page 3 of 3 Tracking # \_\_\_\_\_

**Primary Contact(s)**  
As the Primary Contact(s), I/we consent to follow exactly the selected protocols and report complete and accurate data in a timely manner in order to maintain active status in the NHSN.

**NHSN Patient Safety Primary Contact Person**  
\*Name: \_\_\_\_\_  
\*Title: \_\_\_\_\_  
\*Signature: \_\_\_\_\_ \*Date: \_\_\_\_\_

**NHSN Healthcare Personnel Safety Primary Contact Person**  
(If Different from Patient Safety Primary Contact)  
\*Name: \_\_\_\_\_  
\*Title: \_\_\_\_\_  
\*Signature: \_\_\_\_\_ \*Date: \_\_\_\_\_

**NHSN Biovigilance Primary Contact Person**  
\*Name: \_\_\_\_\_  
\*Title: \_\_\_\_\_  
\*Signature: \_\_\_\_\_ \*Date: \_\_\_\_\_

**Official Authorized To Bind This Facility To The Terms Of This Agreement (e.g., CEO/COO/CO)**  
As an official authorized to bind the facility as specified below, I warrant that I have read and understand the terms of this agreement and hereby consent to allow the facility to participate in the NHSN.

\*Name: \_\_\_\_\_  
\*Title: \_\_\_\_\_  
\*Signature: \_\_\_\_\_ \*Date: \_\_\_\_\_

\* Facility Name: \_\_\_\_\_  
\* Main Facility Telephone Number: \_\_\_\_\_  
\* Street Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\* City: \_\_\_\_\_ \* State: \_\_\_\_\_ \* ZIP: \_\_\_\_\_

Please sign and make a copy for your records. Mail original to:  
NHSN Administrator, 265 Ave. Center for Disease Control and Prevention, 1600 Clifton Road, NE, Atlanta, GA 30333

Signatures must be original. If not there, NHSN will return the form to you.

**\*Make a copy for your own files**

**Must have a C-level (high level corporate official such as CEO or COO) signature!**



# Agreement to Participate and Consent

- The original signed copy must be sent to CDC
- Send via U.S. mail
- NHSN will return any Agreement to Participate and Consent that is not completed correctly



# NHSN will activate your facility when Consent is received and send you an enrollment approval email



To: NHSN Facility Administrator  
From: NHSN  
Date:  
Subject: NHSN enrollment approved

Your facility has been approved as a new member of NHSN. Welcome!

---

Facility Name:  
Facility ID #:

As the Facility Administrator, you will now need to access the NHSN through the SIN (<https://sdn.cdc.gov>) by selecting the NHSN Reporting activity. Once in the NHSN, your first task should be to add those individuals who need to use the NHSN ("users") in the Users section of the navigation bar. Add locations and surgeons from the navigation bar under the heading Facility.

Once you add a user, that person will receive an email prompting her/him to obtain a digital certificate. It is important that you verify the email address and inform the user to use the same address when applying for their digital certificate.

If you have any questions about NHSN, please contact us at 800-893-0485 or [nhsn@cdc.gov](mailto:nhsn@cdc.gov). Information on NHSN is also available on the members' web site at [https://www.cdc.gov/ncidod/dhqp/nhsn\\_members.html](https://www.cdc.gov/ncidod/dhqp/nhsn_members.html)



# **Enrollment is complete!**

**NHSN Facility Administrator  
can now:**

- Access NHSN Reporting through the SDN**
- Add users and**
- Set up facility for reporting in NHSN.**



# Recap: 5-Step NHSN Enrollment Process



## Facility Administrator -

1. Reviews and accepts Rules of Behavior
2. Registers
3. Applies for and installs an SDN digital certificate for NHSN Enrollment activity
4. Prints, completes and submits enrollment forms online
5. Prints, signs and returns Consent Form to NHSN

# Click on NHSN Reporting



Public Health Partners

You are logged in as Maggie Dudeck

## My Applications

National Healthcare Safety Network (NHSN)

- > [NHSN Enrollment](#)
- > [NHSN Reporting](#)

- > [Request Additional Activities](#)

## Electronic Reference

Select a database and search term to locate journals.

Database:

Search for:

## Morbidity and Mortality Weekly Report

This Week in MMWR November 9, 2007 / Vol. 56 / No. 44

- > [Great American Smokeout — November 15, 2007](#)
- > [Cigarette Smoking Among Adults — United States, 2006](#)
- > [Salmonella Typhimurium Infection Associated with Raw Milk](#)

Recommendations and Reports November 2, 2007 / Vol. 56

- > [Interpreting and Managing Blood Lead Levels <10 µg/dL in Children: Recommendations of CDC's Advisory Committee on Lead](#)
- > [Appendix: Guide to Resources for Parents](#)
- ▮ [Download .pdf document of this issue](#)

Surveillance Summaries October 19, 2007 / Vol. 56 / No. 41

- > [National Surveillance for Asthma — United States, 1999–2005](#)

# NHSN is ready for users to be added and set-up



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NHSN - National Healthcare Safety Network

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 **NHSN Home**

Logged into DHQP Memorial Hospital (ID 10000) as MAGGIE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

**Reporting Plan**

**Patient**

**Event**

**Procedure**

**Summary Data**

**Analysis**

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**Users**

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**Group**

**Log Out**

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
to access the features of the application.

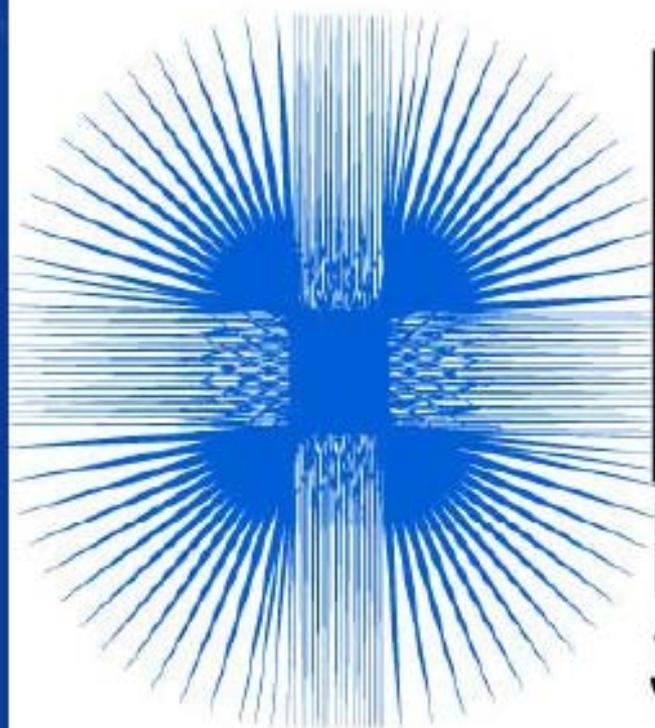
**NHSN maintenance may occur nightly  
between 12am and 6am Eastern time.**



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- **Set-up includes adding locations. NOTE: Locations must be added before entering a Monthly Reporting Plan.**



# NHSN

National Healthcare  
Safety Network

Email: [nhsn@cdc.gov](mailto:nhsn@cdc.gov)  
Website: <http://www.cdc.gov/nhsn>



# Getting Started in NHSN Adding Users, Locations, and Surgeons

**SAFER • HEALTHIER • PEOPLE™**



# Objectives

- Review the basic design of the NHSN computer screens and identify the function of its elements <sup>a1</sup>
- Describe the process for adding new users to the Facility NHSN profile
- Identify the process for setting up facility-specific locations
- Adding or importing surgeon codes

<http://www.cdc.gov/nhsn/index.html>

A faint, stylized profile of a human head with lines representing neural pathways or connections, located in the top left corner.

## Before working in the NHSN application, the User must:

- Enroll
- Add Users
- Add Locations
- Add Surgeons

# Select a Component

## Example: Patient Safety



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NHSN - National Healthcare Safety Network (ISD-CLFT-NHSN)

### Welcome to the NHSN Landing Page

Select a facility and component,  
then click Submit to go to the Home Page.

User: FAID (ID 1282)

Select facility/group from dropdown list:

Select facility within the above group:

Select component:

- Sub
- Biovigilance
- Healthcare Personnel Safety
- Patient Safety**



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# Patient Safety Component: Home Page



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Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as PAID.  
Facility: DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# Home Page Confidentiality Assurance



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Logged into OHQP MEMORIAL HOSPITAL (ID 10018) as PAJB.  
Facility OHQP MEMORIAL HOSPITAL (ID 10018) is following the DC component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# Home Page



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Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as PA30.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# Home Page



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Logged into OHQP MEMORIAL HOSPITAL (ID 10018) as PAJB.  
Facility OHQP MEMORIAL HOSPITAL (ID 10018) is following the DC component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# My Info Screen



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NIHSS - National Healthcare Safety Network (NHSS-CUT) - NHSS

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[Log Out](#)

Logged into DHQP MEMORIAL HOSPITAL (10 10018) as F40.  
Facility: DHQP MEMORIAL HOSPITAL (10 10018) is following the NHSS environment.

## View User

User ID:	F40
Contact Type:	
Prefix:	
First Name:	Denise
Middle Name:	
Last Name:	Faller
Title:	
User Type:	HE - Hospital Epidemiologist
User Active:	Y
Work Number:	
Extension:	
E-mail Address:	DFULLER@CDC.GOV
Fax Number:	
User Group/Facility:	DHQP MEMORIAL HOSPITAL (10018)
User Roles:	ADMIN(BV) ADMIN(HCW) ADMIN(PS) ALLRIGHTS(BV) ALLRIGHTS(HCW) ALLRIGHTS(PS)
	<input type="button" value="Edit"/> <input type="button" value="Effective Rights"/> <input type="button" value="Add"/>

# Home Page



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Logged into OHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility OHQP MEMORIAL HOSPITAL (ID 10018) is following the DS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# Contact NHSN

**Email**

**[nhsn@cdc.gov](mailto:nhsn@cdc.gov)**

**Website**

**<http://www.cdc.gov/nhsn/contact.html>**

# Home Page



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Centers for Disease Control and Prevention

NHSN - National Healthcare Safety Network (150-CLFT-NHSN1)

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Logged into OHQP MEMORIAL HOSPITAL (ID 10018) as PAJB.  
Facility OHQP MEMORIAL HOSPITAL (ID 10018) is following the DC component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# NHSN Online Manual



Contents Search Print Page

- Search -

Go

- Welcome
- Popular Topics
- About NHSN
- Patient Safety Component
- Healthcare Personnel Safety Component
- Biovigilance Component: Hemovigilance M
- Analysis

## Welcome to the NHSN Online Manual!

The NHSN Online Manual that guides the NHSN user through the definitions, reporting instructions, and capabilities relevant to the NHSN application. In an effort to ensure standardization of data collection and reporting procedures, considerable detail is provided throughout this help system.

Using the navigation bar to the left, the NHSN user can find the information they need by:

- browsing through the Table of Contents
- browsing through a list of Keywords in the Index
- performing a search through all topics of keywords the user specifies

### What's new in the NHSN Online Manual?

- Data Entry & "How To" Instructions for the Healthcare Personnel Safety Component

*(Updated 08/21/2009)*

# Navigation Bar



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Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as RAJB.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the DS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# Navigation Bar



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Logged into DQCF MEMORIAL HOSPITAL (ID: 00018) as PA00.  
Facility DQCF MEMORIAL HOSPITAL (ID: 00018) is following the 70 component.

## NHSN Patient Safety Component Home Page

Use the Navigator bar on the left to access the features of the application.

**Assurance of Confidentiality:** The information obtained 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 otherwise 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, 242c, and 242m(d)).

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**When you click on the topic, it expands to show the options that are available within that topic**



# Adding a User

- When Enrollment process is complete, NHSN Facility Administrator adds Users
- A person should not get a digital certificate until the Facility Administrator has added them as a user

# Adding a User Cont'd.



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NHSN - National Healthcare Safety Network (NHSN-CLF-VH)

Logged into SHIP MEDICAL HOSPITAL (ID 10028) as  
Faculty SHIP MEDICAL HOSPITAL (ID 10028) in follow

To add a new user to your facility, click on **Users**, then  
click on **Add**

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## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

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# Add User Page



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Linked into DPHC HOSPITAL (ID 10000) as PSC.  
Note: DPHC HOSPITAL (ID 10000) is following the PSC agreement.

Mandatory fields marked with \*

User ID\*  up to 12 letters and/or

Profile

First Name

Middle Name

Last Name

Title

User Active:  Yes  No

User Type:

Phone Number

Fax Number

E-mail Address\*

Enter New Password\*

Re-enter New Password\*

Address, line 1

Address, line 2

Address, line 3

City

State

County

Zip Code

Extension

Two Factor Auth.

**Create a different User ID for each user you create. Use any combination of letters and/or numbers but spaces are not used**



# Add User Page



Department of Health and Human Services  
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NSM - National Healthcare Safety Network (NHSN) v3.1.0

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NSM v3.1.0 (20150728) - NSM v3.1.0 (20150728) on 07/28/2015 10:07:10 AM. Copyright © 2015 by CDC. All rights reserved.

## Add User

NSM

Mandatory fields marked with \*

User ID\*  Up to 32 letters and/or numbers, no spaces or special characters

First Name *	<input type="text" value="Jill"/>
Middle Name	<input type="text"/>
Last Name *	<input type="text" value="Smith"/>
Title	<input type="text"/>
User Active	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
User Type	<input type="text" value="ICP - Infection Control Professional"/>
Phone Number	<input type="text"/>
Fax Number	<input type="text"/>
Extension	<input type="text"/>
E-mail Address*	<input type="text"/>
Enter New Password*	<input type="password"/>
Re-enter New Password*	<input type="password"/>
Address, line 1	<input type="text"/>
Address, line 2	<input type="text"/>
Address, line 3	<input type="text"/>
City	<input type="text"/>
State	<input type="text"/>
County	<input type="text"/>
Zip Code	<input type="text"/>

**Enter first and last name of the new user**



# User Active Field

Mandatory fields marked with \*

User ID\*: JB111 up to 32 letters and/or numbers, no spaces or special characters

Prefix:

First Name\*: Jay

Middle Name:

Last Name\*: Smith

Title:

User Active:

User Type:

Phone Number:

Fax Number:

E-mail Address\*:



# User Type

user

Mandatory fields marked with \*

User ID\*: JS111 Up to 32 letters and/or numbers; no spaces or special characters

Prefix:

First Name\*: Jay

Middle Name:

Last Name\*: Smith

Title:

User Active: Y

User Type:

Phone Number:

Fax Number:

E-mail Address\*:

Enter New Password\*:

Re-enter New Password\*:

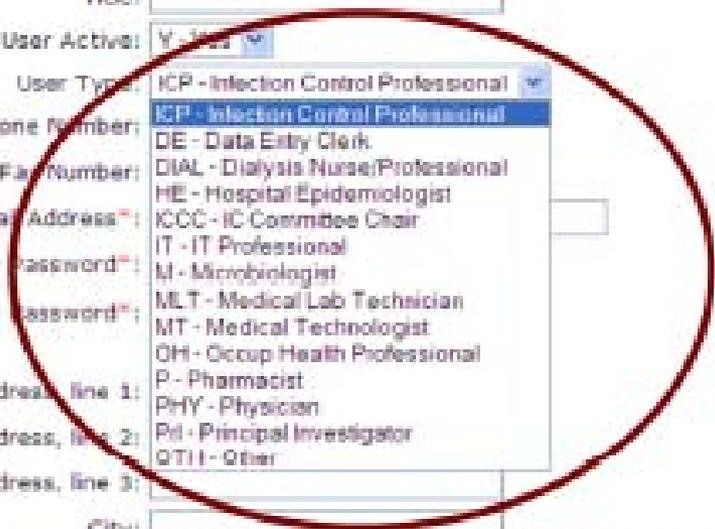
Address, line 1:

Address, line 2:

Address, line 3:

City:

State:



- ICP - Infection Control Professional
- DE - Data Entry Clerk
- DIAL - Dialysis Nurse/Professional
- HE - Hospital Epidemiologist
- ICCC - IC Committee Chair
- IT - IT Professional
- M - Microbiologist
- MLT - Medical Lab Technician
- MT - Medical Technologist
- OH - Occup Health Professional
- P - Pharmacist
- PHY - Physician
- PI - Principal Investigator
- OTI - Other

# Phone and Fax

## Add User

GETUP

Mandatory fields marked with \*

User ID\*: JS111

Up to 32 letters and/or numbers, no spaces or special characters

Prefix:

First Name \*: Jay

Middle Name:

Last Name \*: Smith

Title:

User Active: Y - Yes

User Type: ICP - Infection Control Professional

Phone Number: 404-552-9999

Fax Number:

E-mail Address\*: JS111@HOSPITAL.ORG

**Phone number and fax are optional, but you must enter a valid email address.**



# Edit User Rights



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

NHSN - National Healthcare Safety Network (NHSN-CUT-NHSD1)

Logged into DHQP MEMORIAL HOSPITAL (ID: 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID: 10018) is following the PS component.

✔ User JS111 (ID: 1392) saved successfully. Please add rights for the new user.

**A Facility Admin can choose to give a user all rights**

- NHSN Home
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
  - Add
  - Find
- Facility
- Group
- Log Out

User ID: JS111 (ID: 1392)

Facility List:

DHQP MEMORIAL HOSPITAL (10018)

Rights	Patient Safety	Healthcare Personnel Safety	Biovigilance
Administrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All Rights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyze Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enter Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customize Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Advanced

Effective Rights Save Back

# Edit User Rights Cont'd.



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

NHSN - National Healthcare Safety Network (ISD-CLFT-NHSN)

Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as PAID.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

- NHSN Home
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
  - Add
  - Find
- Facility
- Group
- Log Out

## Edit User Rights

✔ User JS111 (ID 1392) saved successfully. Please add rights for the new user.

[?HELP](#)

User ID: JS111 (ID 1392)

Facility List:

DHQP MEMORIAL HOSPITAL (10018)

Rights	Patient Safety	Healthcare Personnel Safety	Biovigilance
Administrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyze Data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enter Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View Data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customize Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

...or rights to one or more specific NHSN activities

Effective Rights Save Back

# Administrative User



Department of Health and  
Centers for Disease Control and Prevention

NHSN - National Healthcare Safety

Logged into DHQP MEMORIAL  
Facility: DHQP MEMORIAL HO

The NHSN Facility Admin can also choose make the user an Administrative User. This will allow the user all rights.

## Edit User Rights

✔ User JS111 (ID 1392) saved successfully. Please add rights for the new user.

GROUP

User ID: JS111 (ID 1392)

Facility List:

DHQP MEMORIAL HOSPITAL (10018)

Rights	Patient Safety	Healthcare Personnel Safety	Biovigilance
Administrator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All Rights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyze Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enter Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
View Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customize Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Advanced

Effective Rights

Save

Back

# Edit User Rights



NHSN - National Healthcare Safety Network (IDP-LLP1-NHSHN1)

Logged into DHQP MEMORIAL HOSPITAL (ID: 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID: 10018) is following the PS component.

## Edit User Rights

✔ User JS111 (ID 1392) saved successfully. Please add rights for the new user.

[HELP](#)

User ID: JS111 (ID 1392)

Facility List:

DHQP MEMORIAL HOSPITAL (10018)

Rights	Patient Safety	Healthcare Personnel Safety	Biovigilance
Administrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All Rights	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyze Data	<input type="checkbox"/>		
Enter Data	<input type="checkbox"/>		
View Data	<input type="checkbox"/>		
Customize Rights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Once you are more familiar with NHSN, if necessary, you can customize user rights

Advanced

Effective Rights

Save

Back



# Find User



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

NHSN - National Healthcare Safety Network (DOD-CLUT-NHSN1)

Logged into DHQP MEMORIAL HOSPITAL (ID: 10018) as FASD.  
Facility DHQP MEMORIAL HOSPITAL (ID: 10018) is following the PS component.

- NHSN Home
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
  - Add
  - Find
- Facility
- Group
- Log Out

- Enter search criteria and click Find

## User Information

User ID:

First Name:

Middle Name:

Last Name:

Phone Number:

E-mail Address:

## Find User

[HELP](#)



# User List



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

NHSN - National Healthcare Safety Network (NHSN-CLFT-NHSN)

Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## User List

Home

First | Previous | [Next](#) | Last

Deactivate	Name	Title	User ID	User Type
<input type="checkbox"/>	<a href="#">scouting, joy</a>		JPS1	OTH - Other
<input type="checkbox"/>	<a href="#">Dudeck, Maggie</a>		MAGGIE	ICP - Infection Control Professional
<input type="checkbox"/>	<a href="#">Tolson, James</a>		JST2	ICP - Infection Control Professional
<input type="checkbox"/>	<a href="#">Edwards, Jonathan</a>		JDE3	ICP - Infection Control Professional
<input type="checkbox"/>	<a href="#">Mandel, Paul</a>		PMANDEL	OTH - Other
<input type="checkbox"/>	<a href="#">Peterson, Kelly</a>		KMP	OTH - Other
<input type="checkbox"/>	<a href="#">Andrew, Mary</a>		MVA	ICP - Infection Control Professional
<input type="checkbox"/>	<a href="#">Haran, Teresa</a>		TCH	OTH - Other
<input type="checkbox"/>	<a href="#">Ducks, Daisy</a>		DAISY	ICP - Infection Control Professional
<input type="checkbox"/>	<a href="#">E.D</a>		DPOLLOCK	ICP - Infection Control Professional

na



First | Previous | [Next](#) | Last

Add

Back

NHSN Home

Reporting Plan

Patient

Event

Procedure

Summary Data

Import/Export

Analysis

Surveys

Users

Add

Find

Facility

Group

Log Out

# Edit User Information



## View User

User ID: DAISY  
Contact Type:  
Prefix:  
First Name: Daisy  
Middle Name:  
Last Name: Ducks  
Title:  
User Type: ICP - Infection Control Professional  
User Active: N  
Phone Number:  
Extension:  
E-mail Address: MLANDRUS@CHARTER.NET  
Fax Number:  
User Group/Facility: DHQP MEMORIAL HOSPITAL (10018)  
User Roles: VIEW(PS)

Edit

Effective Rights

Back

# Modify User Rights



## View User

User ID: DAISY  
Contact Type:  
Prefix:  
First Name: Daisy  
Middle Name:  
Last Name: Ducks  
Title:  
User Type: ICP - Infection Control Professional  
User Active: N  
Phone Number:  
Extension:  
E-mail Address: MLANDRUS@CHARTER.NET  
Fax Number:  
User Group/Facility: DHQP MEMORIAL HOSPITAL (10018)  
User Roles: VIEW(PS)

[Edit](#) [Effective Rights](#) [Back](#)



# Adding a User

- Once a user is added, NHSN will send the user an email with the following:
  - Agreement to follow the Rules of Behavior
  - Instructions on obtaining and downloading a Digital Certificate

**NHSN User Start-up Guide**

**<http://www.cdc.gov/nhsn/index.html>**



# Adding Locations





# Adding Locations cont'd.

- Decide which locations you will monitor
  - Patient care areas where device-associated infections are monitored
  - Patient care areas where patients having selected operations are housed
- Locations must be identified and set up before the Monthly Reporting Plan can be completed

# Facility Locations



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

NHSN - National Healthcare Safety Network (15D-CLFT-NHSN1)

- NHSN Home
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
- Facility
  - Customize Forms
  - Facility Info
  - Add/Edit Component
  - Locations
  - Surgeons
- Group
- Log Out

Logged Into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

**Assurance of Confidentiality:** The information obtained in this surveillance system that would permit will be used only for the purposes stated, and will not otherwise be disclosed or released without the Service Act (42 USC 242b, 242k, and 242m(d)).

**NHSN maintenance may occur nightly  
between 12am and 6am Eastern time.**



[Get Adobe Acrobat Reader for PDF files](#)

From the "Facility" section of the Navigation Bar, select **Locations**

# Facility Location Codes



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

NHSN - National Healthcare Safety Network (ISD-CLFT-NHSN)

Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FAID.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Locations

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the **Add** button.
- To **Find** a record, click on the **Find** button. One or more fields can be filled in to restrict the search to those values. Click on the desired record to fill in its values into the form and click on the **Add** button. Check the corresponding box(es), then click on the **Save** button.

**Enter a code of your choosing for the location**

Mandatory fields to "Add" or "Edit" a record marked with \*

Your Code\*: CRC

Your Label\*: CRCT

CDC Location Description\*: Cardiac Rehabilitation Center

Status\*: Active

Bed Size: 16

A bed size greater than zero is required for most inpatient locations.

Find

Add

Clear

# Facility Location Labels



## Instructions

- To **Add** a record, fill in the form with the required fields and any desired information.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to narrow the search.
- To **Edit** a record, perform a *Find* on the desired record. Click on the *Edit* button.
- To **Delete** one or more records, perform a *Find* on the desired record. Click on the *Delete* button.
- Press the **Clear** button to start over with a new record.

Mandatory fields to "Add" or "Edit" a record marked with an asterisk (\*)

Your Code\* : CRC

Your Label\* : CRC1

CDC Location Description\* : Cardiac Rehabilitation Center

Status\* : Active 

Bed Size: 16

A bed size greater than zero is required for this record.

**Enter a label for this location – may be the same as the code or an expanded name**

# Facility Location Description



## HELP Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. The
- To **Find** a record, click on the Find button.
- To **Edit** a record, click on the Edit button.
- To **Delete** one or more records, click on the Delete button.
- Press the **Clear** button to clear the form.

**Choose from the drop-down list the CDC location that most closely maps to your location**

Mandatory fields to "Add" or "Edit" a record marked with \*

Your Code\*: CRC

Your Label\*: CRC1

CDC Location Description\*: Cardiac Rehabilitation Center

Status\*: Cardiac Rehabilitation Center

Bed Size: Cardiology Clinic

Central Sterile Supply

Central Trash Area

Cesarean Section Room/Suite

Clinical Chemistry

Continence Clinic

Dermatology Clinic

Diabetes/Endocrinology Clinic

Ear, Nose, Throat Clinic

Emergency Department

Endoscopy Suite

Facility Grounds

Family Medicine Clinic

most inpatient location

Find

# Choosing a CDC Location Type:

## Using the 80% Rule

- Location: the specific patient care area to which a patient is assigned while receiving care in the healthcare facility



•If 80% of the patients in a patient care area (e.g., pediatric patients requiring orthopedic care) are of a certain type, then so designate that location (in this case, Inpatient Pediatric Orthopedic Ward).



## CDC Location Label

## Location Description

### INFANT LOCATIONS

#### Inpatient Adult Critical Care

##### Burn Critical Care

Critical care area specializing in the care of patients with significant/major burns.

##### Medical Cardio Critical Care

Critical care area specializing in the care of patients with serious heart problems that do not require heart surgery.

##### Surgical Cardiothoracic Critical Care

Critical care area specializing in the care of patients following cardiac and thoracic surgery.

##### Medical Critical Care

Critical care area for patients who are being treated for nonsurgical conditions.

##### Medical/Surgical Critical Care

An area where critically ill patients with medical and/or surgical conditions are managed.

##### Neurologic Critical Care

Critical care area specializing in treating life-threatening neurological diseases.

##### Neurosurgical Critical Care

Critical care area specializing in the surgical management of patients with severe neurological diseases or those at risk for neurological injury as a result of surgery.

##### Prenatal Critical Care

Critical care area specializing in the management of the pregnant patient with complex medical or obstetric problems requiring a high level of care to prevent the loss of the fetus and to protect the life of the mother.

##### Respiratory Critical Care

Critical care area for the evaluation and treatment of the patient with severe respiratory conditions.

##### Surgical Critical Care

Critical care area for the evaluation and management of patients with serious illness before and/or after surgery.

##### Trauma Critical Care

Critical care area specializing in the care of patients who require a high level of monitoring and/or intervention following trauma or during critical illness related to trauma.

#### Neonatal Units

##### Inpatient Well Baby Nursery (Level I)

Hospital area for normal newborns with no identified health problems.



## National Healthcare Safety Network (NHSN)

## NHSN

[About NHSN](#)[Communication Updates](#)[Enrollment Requirements](#)[Patient Safety  
Component](#)[Healthcare Personnel  
Safety Component](#)[Biosurveillance Component](#)[Data Collection Forms](#)[NHSN Training](#)[Data & Statistics](#)**► Resource Library**[Contact NHSN](#)[NHSN](#)<http://www.cdc.gov/nhsn/library.html>

## Resource Library

## NHSN Guides

-  [Purposes, Eligibility, Requirements and Confidentiality](#)  
NHSN's purpose and participation criteria. April 2006  
PDF (46 KB / 2 pages)
-  [NHSN Facility Administrator Enrollment Guide June 2009](#)  
PDF (1.16 MB / 30 pages) A step-by-step start-up guide for enrolling a facility in NHSN
-  [NHSN Group Administrator Guide June 2009](#)  
PDF (1.33 MB / 26 pages) A step-by-step start-up guide for forming a group in NHSN
-  [NHSN Rules of Behavior for Facility/Group Administrators Aug 2005](#)  
PDF (135 KB / 13 pages)
-  [User Start-up Guide June 2009](#)  
PDF (1.1 MB / 24 pages)

## NHSN Codes and Variables

-  [NHSN Operative Procedure Categories](#)  
Reference list includes NHSN operative procedures, ICD-9-CM codes. Jan. 2009  
PDF (83 KB / 4 pages)
-  [ICD-9-CM codes](#)  
Includes mapping to NHSN operative procedures codes. January 2009  
PDF (8.54 MB / 20 pages)
-  [CDC Location Labels and Location Descriptions](#)   
List of CDC location labels and location descriptions. PDF (268 KB / 15 pages)
-  [NHSN Variable List](#)  
Reference list of NHSN variable names and labels used in analysis. PDF (285 KB / 26 pages)

# Facility Location Status



Logged into DHQP MEMORIAL HOSPITAL (ID: 10018) as PA10.  
Facility DHQP MEMORIAL HOSPITAL (ID: 10018) is following the PS component.

## Locations

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the **Add** button.
- To **Find** a record, click on the **Find** button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a **Find** on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a **Find** on the desired record(s). Check the corresponding box(es), then click on the **Delete** button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Your Code\*: CRC

Your Label\*: CRC1

CDC Location Description: **Emergency Triage/Therapy Center**

Status\*: Active

Bed Size: 16 A bed size greater than zero is required for most inpatient locations.

Find

Add

Clear

# Facility Location Bed Size



Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Locations

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the *Add* button.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check the corresponding box(es), then click on the *Delete* button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Your Code\* : CRC

Your Label\* : CRC1

CDC Location Description\* : Cardiac Rehabilitation Center

Status\* : Active

Bed Size: 16 A bed size greater than zero is required for most inpatient locations.

Find

Add

Clear

# Facility Locations Added

The following message will appear, notifying you that your new location has been added:

Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

✓ The location 'CRC1' has been successfully added.

The new location will appear in a list at the bottom of your screen:

**Location Table**

[Display All](#)  
First | Previous | Next | Last

<input type="checkbox"/>	<u>Status</u>	<u>Your Code</u> <input type="checkbox"/>	<u>Your Label</u>	<u>CDC Description</u>
<input type="checkbox"/>	Active	<a href="#">CRC</a>	CRC1	Cardiac Rehabilitation Center

First | Previous | Next | Last

# Adding Surgeons



- Surgeon codes and surgeon names are not required in NHSN
- Feedback about SSI rates to surgeons has been shown to be an important component of strategies to reduce SSI risk\*

Haley RW, Culver DH, et. al. The efficacy of infection surveillance and control programs in preventing nosocomial infections in US hospitals. *Am J Epidemiol* 1985;121:182-205.



# Methods for Adding Surgeons

1. Manually enter each surgeon
2. Import surgeon information from a file

# Facility Surgeons Link



To add a surgeon to your facility, click links for **Facility**, and then **Surgeons**

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

NHSN - National Healthcare Safety Network (ISO-CLFT-NHSN1)

Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

**Assurance of Confidentiality:** The information obtained in this surveillance system that would be used only for the purposes stated, and will not otherwise be disclosed or released without Service Act (42 USC 242b, 242c, and 242m(d)).

**NHSN maintenance may occur nightly between 12am and 6am Eastern time.**

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**Navigation Menu:**

- NHSN Home
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
- Facility
  - Customize Forms
  - Facility Info
  - Add/Edit Component
  - Locations
  - Surgeons
- Group
- Log Out

# Manual Entry of Surgeon Codes



Logged into DHQP MEMORIAL HOSPITAL (ID: 10018) as PA10.  
Facility DHQP MEMORIAL HOSPITAL (ID: 10018) is following the PS component.

## Surgeons

[HELP](#)

**For manual entry of surgeons, enter alphanumeric code (required)**

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the **Add** button.
- To **Find** a record, click on the **Find** button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a **Find** on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a **Find** on the desired record(s). Check the corresponding box(es), then click on **Delete**.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\* :

Last Name:

First Name:

Middle Name:

Status\* :

Find

Add

Clear

Import Surgeon Codes

# Enter Surgeon Search Criteria



Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

Enter the surgeon's last and first name if you desire

## Surgeons

[HELP](#)

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the **Add** button.
- To **Find** a record, click on the **Find** button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a **Find** on the desired record. Click on the desired record to fill in its values into the form and
- To **Delete** one or more records, perform a **Find** on the desired record(s). Check the corresponding box(es), then click
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\*: A200

Last Name\*: Smith

First Name: Jay

Middle Name:

Status\*: Active

Find

Add

Clear

Import  
Surgeon Co

# Surgeon's Status



Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Surgeons

[HELP](#)

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the **Add** button.
- To **Find** a record, click on the **Find** button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a **Find** on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a **Find** on the desired record(s). Check the corresponding box(es), then click on **Delete**.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

**Status will default to Active**

Surgeon Code \* : A200  
Last Name : Smith  
First Name : Jay  
Middle Name :  
Status : Active

Find

Add

Clear

Import  
Surgeon Codes

# Add Surgeon Record



Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FAID.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Surgeons

[HELP](#)

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the *Add* button.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check the corresponding box(es), then click on *Delete*.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit"

**Click Add when all info has been entered**

Surgeon Code\*: A200  
Last Name: Smith  
First Name: Jay  
Middle Name:  
Status\*: Active

Find Add Clear Import Surgeon Codes

# Adding Surgeons, Cont'd.



First, the following message will appear, notifying you that the surgeon code has been added:

✔ The surgeon code 'A200' has been successfully added.

## Surgeon Table

First | Previous | Next | Last

Delete	Status	Surgeon Code	Last Name
<input type="checkbox"/>	Active	<a href="#">A200</a>	Smith

First | Previous | Next | Last

Then the new surgeon code will appear in a list at the bottom of your screen

# Surgeon Code Drop-down List



Procedure Details [HELP](#)

Outpatient\*:  Duration (Hrs:Mins)>: 0 :

Wound Class>:  General Anesthesia>:

ASA Class>:

Emergency>:  Trauma>:  Endoscope>:

Surgeon Code:  Multiple Procedures>:

Implant>:  Organ Transplant>:

Custom Fields [HELP](#)

Comments [HELP](#)

0103 - Simpson, Homer  
1012 - Barber, Henry  
1234 - Jones, Barb  
401 - Kline, Kevin  
402 - Banda, Harry  
403 - Thompson, Stanley  
407 - Bradbury, Helen  
408 - Wilcox, James  
409 - Jones, Brenda  
410 - Sweet, Carl  
411 - Green, Jack  
412 - Thomas, Bruce  
641 - Munster, Herman  
642 - Hepburn, Kathryn  
643 - George, Boy  
8202 - Duce, ...  
**A200 - Smith, Jay**  
123456 - ...

# Importing Surgeons



From the "Facility > Surgeons" screen,  
click on Import Surgeon Codes

## Surgeons

[HELP](#)

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the *Add* button.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record to fill in its values into the form and edit the values.
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check the corresponding box(es), then click on the *Delete* button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\* :

Last Name:

First Name:

Middle Name:

Status\* : Active

Find

Add

Clear

Import  
Surgeon Codes



# Importing Surgeons

- Import a comma delimited file

**Code, last name, first name, middle name**  
**200, Bond, James, L**  
**A200, Smith,**

# Locate Surgeon Code File to Import



Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as PA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Import Surgeon Data

For information on the accepted file formats and content, click the [Help](#) link below.

[HELP](#)

**Click on the Browse button to locate the file you want to import**

Select file to import

# Import Surgeon Code File Cont'd.



**Click on Submit and the data  
will load into the Surgeon  
Table**

## Import Surgeon Data

Logged into DHQP MEMORIAL HOSPITAL (ID 1  
Facility DHQP MEMORIAL HOSPITAL (ID 10018)

For information on the accepted file formats and content, click the [Help](#) link below.

[HELP](#)

Select file to import

C:\Documents and Settings\lal\Desktop\Surgeon Cod

Submit

Back

# Find a Surgeon



Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as FA10.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Surgeons

[HELP](#)

### Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the **Add** button.
- To **Find** a record, click on the **Find** button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a **Find** on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a **Find** on the desired record(s). Check the corresponding box(es), then click on the **Delete** button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\*:

Last Name:

First Name:

Middle Name:

Status\*: Active



# Edit Surgeon Codes



## Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the *Add* button.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check the corresponding box(es), then click on the *Delete* button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\* :

Last Name:

First Name:

Middle Name:

Status\* :

Find

Add

Clear

Import Surgeon Codes

## Surgeon Table

[Display All](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

<input type="checkbox"/>	Status	Surgeon Code	Last Name
<input type="checkbox"/>	Active	<a href="#">A700</a>	Smith

[First](#) | [Previous](#) | [Next](#) | [Last](#)



# Edit Surgeon Codes Cont'd.



## Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to refine the search.
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record to edit.
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check the *Delete* checkbox and click on the *Delete* button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\*:

Last Name:

First Name:

Middle Name:

Status\*:

Find

[Display All](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

<input type="checkbox"/>	<a href="#">Status</a>	<a href="#">Surgeon Code</a>
<input type="checkbox"/>	Active	<a href="#">A200</a>

[First](#) | [Previous](#) | [Next](#) | [Last](#)

# Save Edited Surgeon Codes Record



[HELP](#)

## Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional values. Then click on the *Add* button.
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to restrict the search to those values.
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record to fill in its values into the form and edit.
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check the corresponding box(es), then click on the *Delete* button.
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code*	<input type="text" value="A200"/>
Last Name:	<input type="text" value="Smith"/>
First Name:	<input type="text" value="Harry"/>
Middle Name:	<input type="text" value="Jay"/>
Status*	<input type="text" value="Active"/>

Find

Save

Clear

Import Surgeon Codes

 Surgeon Table



# Name Change in Surgeon Table

[Find](#) [Add](#) [Clear](#) [Import Surgeon Codes](#)

## Surgeon Table

[Display All](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

<a href="#">Delete</a>	Status	Surgeon Code	Last Name	First Name
<input type="checkbox"/>	Active	<a href="#">A200</a>	Smith	Harry

[First](#) | [Previous](#) | [Next](#) | [Last](#)

# Find a Surgeon Table List



## Instructions

- To **Add** a record, fill in the form with the required fields and any desired optional va
- To **Find** a record, click on the *Find* button. One or more fields can be filled in to res
- To **Edit** a record, perform a *Find* on the desired record. Click on the desired record
- To **Delete** one or more records, perform a *Find* on the desired record(s). Check th
- Press the **Clear** button to start over with a new form.

Mandatory fields to "Add" or "Edit" a record marked with \*

Surgeon Code\* :

Last Name:

First Name:

Middle Name:

Status\* : Active

Find



# Surgeon Table Display



Find

Add

Clear

Import  
Surgeon Codes

## Surgeon Table

[Display All](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

<input type="checkbox"/>	Status	Surgeon Code	Last Name	First Name
<input type="checkbox"/>	Active	<a href="#">0103</a>	Simpson	Homer
<input type="checkbox"/>	Active	<a href="#">1012</a>	Barber	Henry
<input type="checkbox"/>	Active	<a href="#">1234</a>	Jones	Barb
<input type="checkbox"/>	Active	<a href="#">401</a>	Kline	Kevin
<input type="checkbox"/>	Active	<a href="#">402</a>	Banda	Harry
<input type="checkbox"/>	Active	<a href="#">403</a>	Thompson	Stanley
<input type="checkbox"/>	Active	<a href="#">407</a>	Bradbury	Helen
<input type="checkbox"/>	Active	<a href="#">408</a>	Wilcox	James
<input type="checkbox"/>	Active	<a href="#">409</a>	Jones	Brenda
<input type="checkbox"/>	Active	<a href="#">410</a>	Sweet	Carl

[First](#) | [Previous](#) | [Next](#) | [Last](#)



# Surgeon Table: Display All



[First](#) [All](#) [Clear](#) [Import Surgeon Codes](#)

## Surgeon Table

 [Display All](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

<input type="checkbox"/>	Status	Surgeon Code 	Last Name	First Name
<input type="checkbox"/>	Active	<a href="#">0103</a>	Simpson	Homer
<input type="checkbox"/>	Active	<a href="#">1012</a>	Barber	Henry
<input type="checkbox"/>	Active	<a href="#">1234</a>	Jones	Barb
<input type="checkbox"/>	Active	<a href="#">401</a>	Kline	Kevin
<input type="checkbox"/>	Active	<a href="#">402</a>	Banda	Harry
<input type="checkbox"/>	Active	<a href="#">403</a>	Thompson	Stanley
<input type="checkbox"/>	Active	<a href="#">407</a>	Bradbury	Helen
<input type="checkbox"/>	Active	<a href="#">408</a>	Wilcox	James
<input type="checkbox"/>	Active	<a href="#">409</a>	Jones	Brenda
<input type="checkbox"/>	Active	<a href="#">410</a>	Sweet	Carl

[First](#) | [Previous](#) | [Next](#) | [Last](#)

# Expanded view



Find

Add

Clear

Import  
Surgeon Codes

## Surgeon Table

[Display All](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

<input type="checkbox"/>	Status	Surgeon Code	Last Name	First Name
<input type="checkbox"/>	Active	<a href="#">0103</a>	Simpson	Homer
<input type="checkbox"/>	Active	<a href="#">1012</a>	Barber	Henry
<input type="checkbox"/>	Active	<a href="#">1234</a>	Jones	Barb
<input type="checkbox"/>	Active	<a href="#">401</a>	Kline	Kevin
<input type="checkbox"/>	Active	<a href="#">402</a>	Banda	Harry
<input type="checkbox"/>	Active	<a href="#">403</a>	Thompson	Stanley
<input type="checkbox"/>	Active	<a href="#">407</a>	Bradbury	Helen
<input type="checkbox"/>	Active	<a href="#">408</a>	Wilcox	James
<input type="checkbox"/>	Active	<a href="#">409</a>	Jones	Brenda
<input type="checkbox"/>	Active	<a href="#">410</a>	Sweet	Carl
<input type="checkbox"/>	Active	<a href="#">411</a>	Green	Jack
<input type="checkbox"/>	Active	<a href="#">412</a>	Thomas	Bruce
<input type="checkbox"/>	Active	<a href="#">641</a>	Munster	Herman
<input type="checkbox"/>	Active	<a href="#">642</a>	Hepburn	Kathryn
<input type="checkbox"/>	Active	<a href="#">643</a>	George	Boy
<input type="checkbox"/>	Active	<a href="#">85612</a>	Doe	J
<input type="checkbox"/>	Active	<a href="#">A200</a>	Smith	Harry
<input type="checkbox"/>	Active	<a href="#">ADAMS2</a>		
<input type="checkbox"/>	Active	<a href="#">KEN2</a>	Newman	Kernon
<input type="checkbox"/>	Active	<a href="#">NEW</a>	Stimpson	Harold

[First](#) | [Previous](#) | [Next](#) | [Last](#)



# Questions?

Email: [nhsn@cdc.gov](mailto:nhsn@cdc.gov)

<http://www.cdc.gov/nhsn/index.html>

# Nosocomial Infections: Definitions

Infectious Disease Epidemiology Section  
Office of Public Health  
Louisiana Dept of Health & Hospitals  
800-256-2748

[www.infectiousdisease.louisiana.gov](http://www.infectiousdisease.louisiana.gov)

# What is a Nosocomial Infection ?

- **An infection which is acquired during hospitalization and which was not present or incubating at the time of admission**
- **An infection which is acquired in the hospital and becomes evident after discharge from the hospital**
- **A newborn infection which is the result of passage through the birth canal**

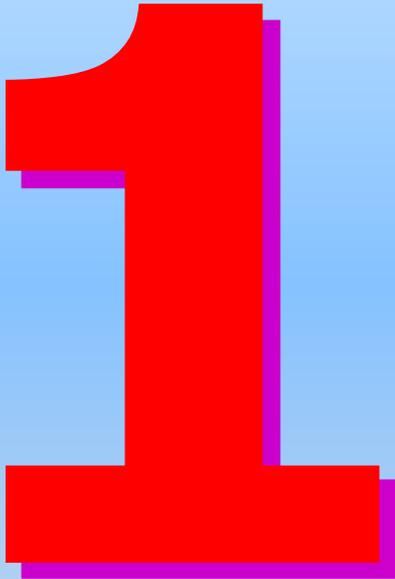
# What is a Nosocomial Infection ?

**Practically - to establish that an infection is hospital acquired,**

**SHOW THAT the patient:**

- 1. HAS AN INFECTION, not a simple colonization**
- 2. WAS NOT infected at the time of admission**
- 3. HAD SUFFICIENT TIME to develop infection**

# True Infection NOT Colonization



- Infections are accompanied by signs and symptoms:
  - → fever, malaise
  - → in localized infections: swelling due to inflammation, heat, pain, erythema (tumor, dolor, rubor, calor)
- Use definitions which establish minimum characteristics for infection
- **Remember:** Immunocompromised patients do not show signs of infection as normal patients. Neutropenic patients ( $\leq 500$  neutrophils /mm<sup>3</sup>) show no pyuria, no purulent sputum, little infiltrate and no large consolidation on chest X-ray

# NO Infection at Time of Admission



- **establish prior negativity**
- **check history, symptoms and signs**
- **documented at time of admission, lab tests & chest X-rays done**
  - normal physical examination
  - absence of signs and symptoms
  - normal chest X-ray
  - negative culture or lack of culture

## Excluded:

- Transplacental infections
- Reactivation of old infections (ex Shingles)
- Infections considered extensions of infections present at admission

**Example:** If urine cultures are collected at day 7 of hospitalization and none was collected before, it implies that no signs of infection were present in urine before

# Sufficient Time to Develop Infection

3

- diseases with specific incubation period:  
stay in hospital  $\geq$  incubation period
- numerous infections do not have well set incubation periods (for example, staphylococci, *E.coli* infections)
  - these infections rarely develop in less than **2 days**

**To establish a nosocomial infection, meeting the definition criteria is sufficient. There is no need to have proof *beyond the shadow of a doubt.***

# Case Definitions

AJIC major articles

## CDC/NHSN surveillance definition of health care–associated infection and criteria for specific types of infections in the acute care setting

Teresa C. Horan, MPH, Mary Andrus, RN, BA, CIC, and Margaret A. Dudeck, MPH  
Atlanta, Georgia

### BACKGROUND

Since 1988, the Centers for Disease Control and Prevention (CDC) has published 2 articles in which nosocomial infection and criteria for specific types of nosocomial infection for surveillance purposes for use in acute care settings have been defined.<sup>1,2</sup> This document replaces those articles, which are now considered obsolete, and uses the generic term “health care–associated infection” or “HAI” instead of “nosocomial.” This document reflects the elimination of criterion 1 of clinical sepsis (effective in National Healthcare Safety Network [NHSN] facilities since January 2005) and criteria for laboratory–confirmed bloodstream infection (LCBI). Specifically for LCBI, criterion 2c and 3c, and 2b and 3b, were removed effective in NHSN facilities since January 2005 and January 2008, respectively. The definition of “implant,” which is part of the surgical site infection (SSI) criteria, has been slightly modified. No other infection criteria have been added, removed, or changed. There are also notes throughout this document that reflect changes in the use of surveillance criteria since the implementation of NHSN. For example, the

population for which clinical sepsis is used has been restricted to patients  $\leq$  1 year old. Another example is that incisional SSI descriptions have been expanded to specify whether an SSI affects the primary or a secondary incision following operative procedures in which more than 1 incision is made. For additional information about how these criteria are used for NHSN surveillance, refer to the NHSN Manual: Patient Safety Component Protocol available at the NHSN Web site ([www.cdc.gov/nhsn/d/dhq/nhsn.html](http://www.cdc.gov/nhsn/d/dhq/nhsn.html)). Whenever revisions occur, they will be published and made available at the NHSN Web site.

### CDC/NHSN SURVEILLANCE DEFINITION OF HEALTH CARE–ASSOCIATED INFECTION

For the purposes of NHSN surveillance in the acute care setting, the CDC defines an HAI as a localized or systemic condition resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s). There must be no evidence that the infection was present or incubating at the time of admission to the acute care setting.

HAIs may be caused by infectious agents from endogenous or exogenous sources.

- Endogenous sources are body sites, such as the skin, nose, mouth, gastrointestinal (GI) tract, or vagina that are normally inhabited by microorganisms.
- Exogenous sources are those external to the patient, such as patient care personnel, visitors, patient care equipment, medical devices, or the health care environment.

Other important considerations include the following:

- Clinical evidence may be derived from direct observation of the infection site (eg, a wound) or

From the National Healthcare Safety Network, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, Atlanta, GA.

Address correspondence to Teresa C. Horan, MPH, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention, 1600 Clifton Road, NE, Atlanta, GA 30333. E-mail: [thoran@cdc.gov](mailto:thoran@cdc.gov)

Am J Infect Control 2008;36:309–32.

0196-6533/08\$4.00

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doi:10.1016/j.ajic.2008.03.002

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and Margaret A. Dudeck, MPH  
Atlanta, Georgia

Am J Infect Control 2008;36:309–32.

# The 4 BIG Ones

- **BSI Bloodstream infection**
- **PNEU Pneumonia**
- **UTI Urinary tract infection**
- **SSI Surgical site infection**

# The 4 BIG Ones: BSI

## **BSI Bloodstream infection**

- **LCBI Laboratory-confirmed bloodstream infection**
- **CSEP Clinical sepsis**

# The 4 BIG Ones

## **SSI Surgical site infection**

- **SIP Superficial incisional primary SSI**
- **SIS Superficial incisional secondary SSI**
- **DIP Deep incisional primary SSI**
- **DIS Deep incisional secondary SSI**
- **Organ/space SSI**

# The 4 BIG Ones

## UTI Urinary tract infection

- **SUTI** Symptomatic urinary tract infection
- **ASB** Asymptomatic bacteriuria
- **OUTI** Other infections of the urinary tract

# The 4 BIG Ones: PNEU / VAP

## PNEU Pneumonia

- **PNU1 Clinically defined pneumonia**
- **PNU2 Pneumonia with specific laboratory findings**
- **PNU3 Pneumonia in immunocompromised patient**

# **Blood Stream Infections BSI**

# Primary Lab Confirmed BSI

## 1 - Pathogen

- Recognized pathogen from 1 or more blood culture
- Not related to infection at other site

### Specimen collection considerations

Ideally, blood specimens for culture should be obtained from 2 to 4 blood draws from separate venipuncture sites (eg, right and left antecubital veins), not through a vascular catheter. These blood draws should be performed simultaneously or over a short period of time (ie, within a few hours). If the facility does not currently obtain specimens using this technique, work with appropriate personnel to facilitate better specimen collection practices for blood cultures.

# Primary Lab Confirmed BSI

## 2 - Contaminant

- One of following:
  - fever  $>38^{\circ}\text{C}$
  - or chills
  - or hypotension  $<90\text{ mm}$

**Skin Contaminants:**  
Diphtheroids, *Corynebacterium* spp,  
*Bacillus* [not *B anthracis*] spp  
*Propionibacterium* spp,  
coagulase-negative staphylococci [including  
*S epidermidis*],  
Viridans group streptococci,  
*Aerococcus* spp, *Micrococcus* spp)

- AND Common skin contaminant
  - from 2 or more blood cultures
  - drawn on separate occasions

- AND Common skin contaminant
  - from 1 or more blood cultures
  - with intravascular line
  - tx prescribed for infection

- AND positive antigen in blood for
  - *Haemophilus influenzae*
  - or *Neisseria meningitidis*
  - or group B streptococci

# Primary Lab Confirmed BSI

## 3 - Pediatric

- **One of following:**
  - fever  $>38^{\circ}\text{C}$  rectal
  - or hypothermia  $<37^{\circ}\text{C}$
  - or apnea
  - or bradycardia

- **AND Common skin contaminant**
  - from 2 or more blood cultures
  - drawn on separate occasions

- **AND Common skin contaminant**
  - from 1 or more blood cultures
  - with intravascular line
  - tx prescribed for infection

- **AND positive antigen in blood for**
  - *Haemophilus influenzae*
  - or *Neisseria meningitidis*
  - or group B streptococci

# **Surgical Site Infection SSI**

# Clean/Contaminated

- **Clean site:**
  - **No inflammation**
  - **No penetration**
  - **Closed or with closed drainage**
  
- **Clean Contaminated site:**
  - **Respiratory, GI, genital or urinary tracts entered under controlled conditions with no unusual contamination**
  - **Specific site: biliary tract, appendix, vaginal, oropharynx**

# Clean/Contaminated Cont.

- **Contaminated site:**
  - **Accidental wound with major breach in asepsis**
  - **Wound with massive GI spill**
  - **Sites entered with urinary, biliary infection, acute non-purulent infection**
  
- **Dirty & Infected:**
  - **Old wound with devitalized tissue, foreign bodies, fecal contamination**
  - **Perforated viscus**
  - **Pus**

# Classification

## Not Superficial SSI

- Stab wound –report as skin
- Stitch abscess
- Episiotomy, circumcision infection
- Infected burn wound report as burn

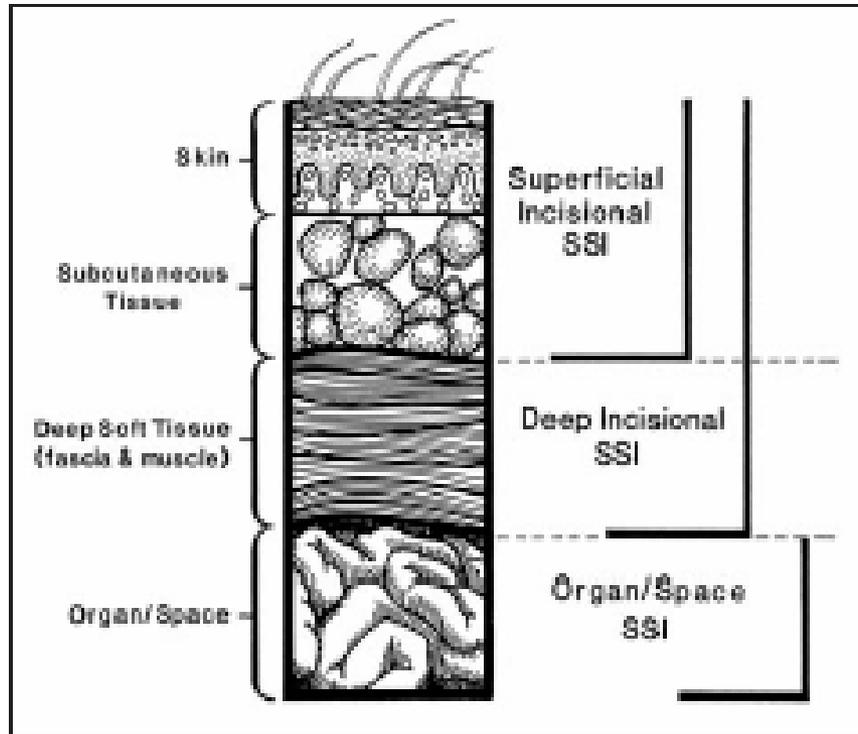


FIGURE. Cross-section of abdominal wall depicting CDC classifications of surgical site infection.<sup>22</sup>

Infection occurs within 30 days after the operation if no implant is left in place

or

within 1 year if implant is in place and the infection appears to be related to the operation

# Superficial SSI

- **PURULENT DRAINAGE** from superficial incision (Culture not indispensable)

or

- **Positive culture** from a closed surgical site obtained aseptically

or

- **One of : Pain or tenderness, localized swelling, redness, heat, wound dehiscence, abscess and of infection and wound reopening**

or

- **Medical diagnosis of SSI**

**Not Superficial SSI**

**Stitch abscess**

**Episiotomy, circumcision infection  
(not operative figures)**

**Infected burn wound**

# **Urinary Tract Infection UTI**

# UTI

- **Positive culture of urinary catheter tip not acceptable laboratory test to diagnose UTI**
- **Urine cultures must be obtained using appropriate technique**
  - **Adult: clean catch collection or catheterization**
  - **Infants: bladder catheterization or suprapubic aspiration**
- **Positive urine culture from bag is unreliable and should be confirmed**

# SUTI: Symptomatic UTI -1-

- Patient has at least one of the following signs or symptoms with no other recognized cause:
  - fever ( $\geq 38^{\circ}$  C), urgency, frequency, dysuria, suprapubic tenderness
- and at least 1 of the following:
- Positive urine culture  $\geq 10^5$  microorganisms per mL
- And urine with no more than two species of microorganisms

Clean catch or catheter,  
Bag specimen unacceptable in children  
Positive catheter tip is NOT acceptable

# Asymptomatic Bacteriuria

- **Very common among hospitalized patients**
- **Endogenous organisms:**
  - Fecal flora colonizes perineum
- **Exogenous organisms:**
  - From HCW hands /collection containers
  - Colonize perineum
- **Colonization progresses to meatal/urethral surface**
  - Kass EH 1957, NEJM 256:55: *Serratia marcescens* applied to perineum, in 3 days some appeared in urine
  - Meatal colonization more important than length of urethra  
Female at higher risk of meatal colonization
- **Pyuria**
  - Often absent
  - Suppression of immune response by catheter

# ASB: Asymptomatic Bacteriuria -1-

- Patient with indwelling urinary catheter within 7 days before first culture

and

- Positive urine culture  $\geq 10^5$  microorganisms per mL with no more than two species of microorganisms

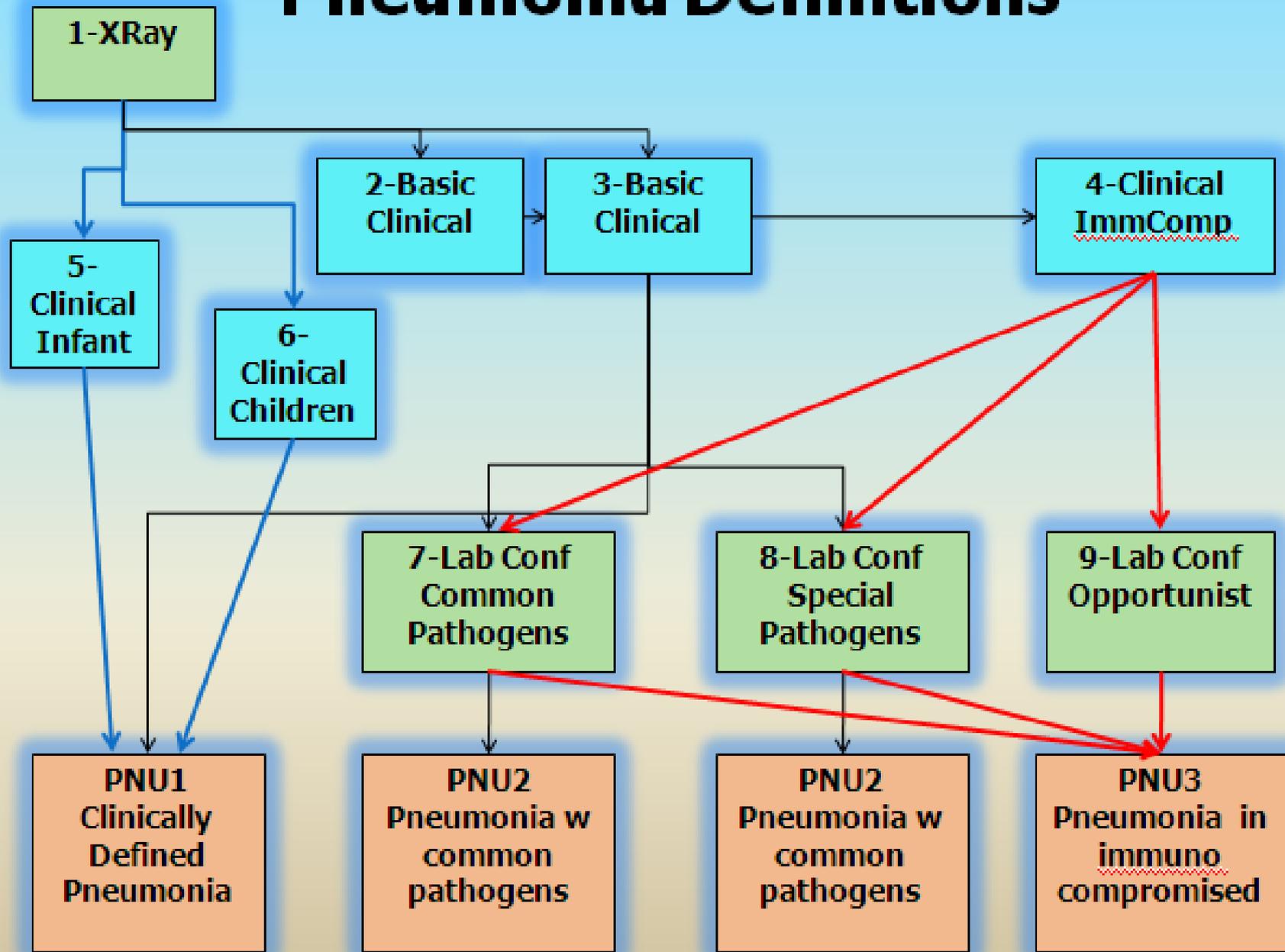
and

- Patient has no fever ( $\leq 38^\circ \text{C}$ ), urgency, frequency, dysuria, or suprapubic tenderness

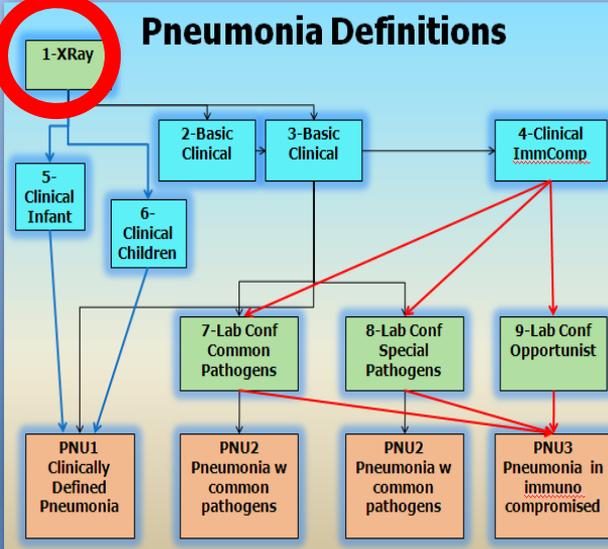
# Pneumonia



# Pneumonia Definitions



# Pneumonia Definitions



## X ray

Patient with underlying diseases<sup>1,2</sup> has 2 or more serial x-rays with one of the following:

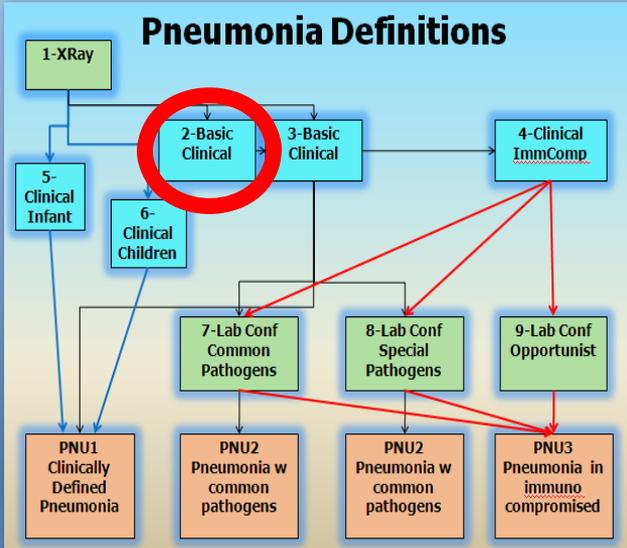
- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in  $\leq 1$  y.o.

Patient without underlying diseases<sup>1,2</sup> has 1 or more serial x-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in  $\leq 1$  y.o.

## Pneumonia Definitions

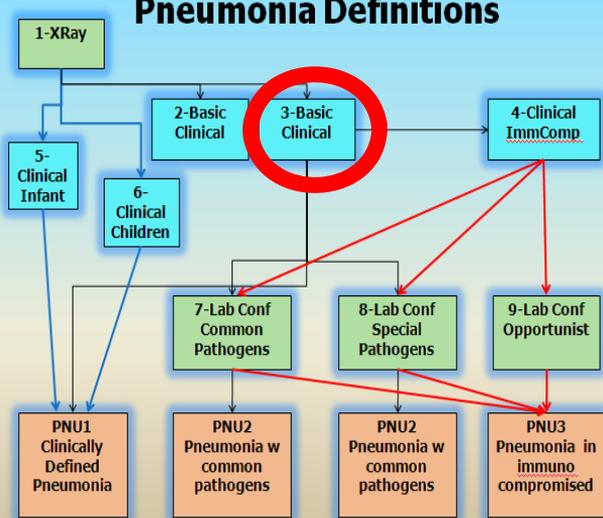
# 2-Basic Clinical



At least one of the following:

- Fever ( $> 38^{\circ}\text{C}/100.4^{\circ}\text{F}$ ) with no other cause
- Leukopenia ( $< 4,000 \text{ WBC}/\text{mm}^3$ ) or leukocytosis ( $\geq 12,000 \text{ WBC}/\text{mm}^3$ )
- Altered mental status with no other cause, in  $\geq 70$  y.o.

# Pneumonia Definitions



## 3-Basic Clinical

At least two of the following:

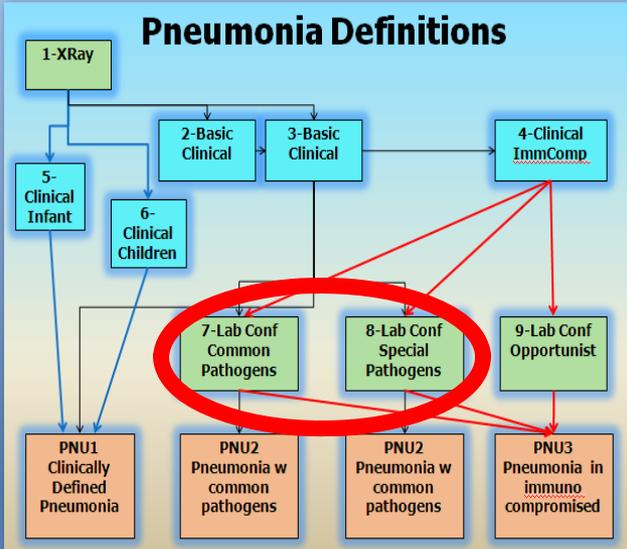
- New onset of purulent sputum,<sup>3</sup> or change in character of sputum, or ↑ respiratory secretions, or ↑ suctioning requirements<sup>4</sup>
- New onset or worsening cough, or dyspnea, or tachypnea<sup>5</sup>
- Rales<sup>6</sup> or bronchial breath sounds
- Worsening gas exchange (e.g., O<sub>2</sub> desats [e.g., PaO<sub>2</sub>/FiO<sub>2</sub> ≤ 240],<sup>7</sup> ↑ O<sub>2</sub> req, or ↑ ventilation demand)

At least one of the following:

- New onset of purulent sputum,<sup>3</sup> or change in character of sputum, or ↑ respiratory secretions, or ↑ suctioning requirements<sup>4</sup>
- New onset or worsening cough, or dyspnea, or tachypnea<sup>5</sup>
- Rales<sup>6</sup> or bronchial breath sounds
- Worsening gas exchange (e.g., O<sub>2</sub> desats [e.g., PaO<sub>2</sub>/FiO<sub>2</sub> ≤ 240],<sup>7</sup> ↑ O<sub>2</sub> req, or ↑ ventilation demand)

# Pneumonia Definitions

# 7-8-Lab



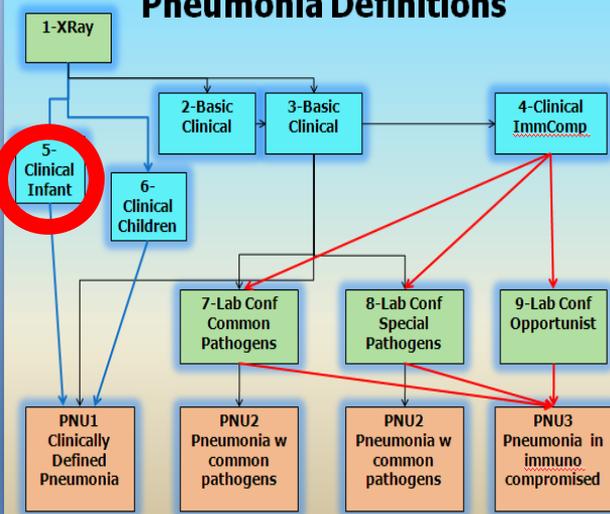
At least one of the following:

- Positive blood culture not related to another infection<sup>8</sup>
- Positive pleural fluid culture
- Positive quantitative culture<sup>9</sup> from minimally contaminated LRT specimen (e.g., BAL or protected specimen brushing)
- $\geq 5\%$  BAL-obtained cells contain intracellular bacteria on direct microscopic exam
- Histopathologic exam shows one of the following:
  - Abscess formation or foci of consolidation with intense PMN accumulation in bronchioles and alveoli
  - Positive quantitative culture<sup>9</sup> of lung parenchyma
  - Evidence of lung parenchyma invasion by fungal hyphae or pseudohyphae

At least one of the following<sup>10-12</sup>:

- Positive culture of virus or *Chlamydia* from respiratory secretions
- Positive detection of viral antigen or antibody from respiratory secretions (e.g., EIA, FAMA, shell vial assay, PCR)
- 4-fold rise in paired sera (IgG) for pathogen (e.g., influenza viruses, *Chlamydia*)
- Positive PCR for *Chlamydia* or *Mycoplasma*
- Positive micro-IF test for *Chlamydia*
- Positive culture or micro-IF of *Legionella* spp from respiratory secretions or tissue
- Detection of *Legionella pneumophila* serogroup 1 antigens in urine by RIA or EIA
- 4-fold rise in *L. pneumophila* antibody titer to  $\geq 1:128$  in paired acute and convalescent sera by indirect IFA

## Pneumonia Definitions



# 5-Clinical Infant

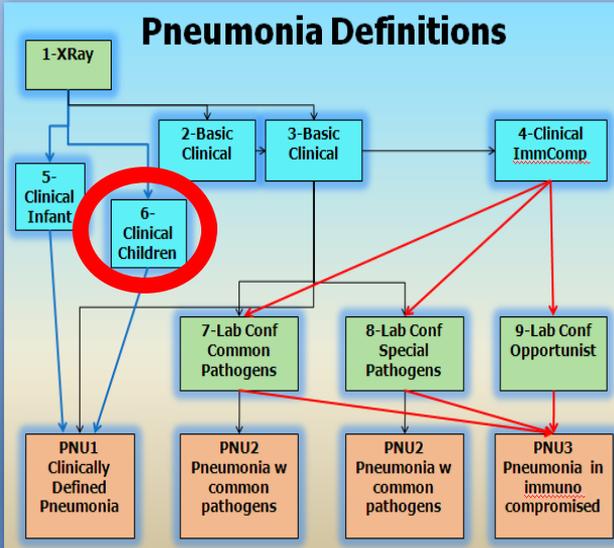
Infants  $\leq 1$  y.o.

- Worsening gas exchange (e.g.,  $O_2$  desats [e.g., pulse oximetry  $<94\%$ ],  $\uparrow O_2$  req, or  $\uparrow$  ventilation demand)

and three of the following:

- Temperature instability with no other recognized cause
- Leukopenia ( $< 4,000$  WBC/mm<sup>3</sup>) or leukocytosis ( $\geq 15,000$  WBC/mm<sup>3</sup>) and left shift ( $\geq 10\%$  band forms)
- New onset of purulent sputum<sup>3</sup>, or change in character of sputum<sup>4</sup>, or  $\uparrow$  respiratory secretions, or  $\uparrow$  suctioning requirements
- Apnea, tachypnea<sup>5</sup>, nasal flaring with retraction of chest wall or grunting
- Wheezing, rales<sup>6</sup>, or rhonchi
- Cough
- Bradycardia ( $<100$  beats/min.) or tachycardia ( $> 170$  beats/min.)

## Pneumonia Definitions



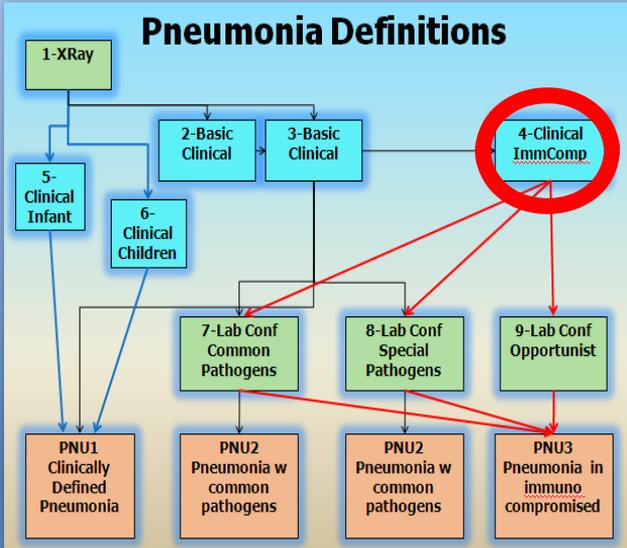
# 6-Clinical Children

Children  $>1$  or  $\leq 12$  y.o.

At least three of the following:

- Fever ( $>38.4^{\circ}\text{C}/101.1^{\circ}\text{F}$ ) or hypothermia ( $< 36.5^{\circ}\text{C}/97.7\text{F}$ ) with no other recognized cause
- Leukopenia ( $< 4,000$  WBC/ $\text{mm}^3$ ) or leukocytosis ( $\geq 15,000$  WBC/ $\text{mm}^3$ )
- New onset of purulent sputum<sup>3</sup>, or change in character of sputum<sup>4</sup>, or  $\uparrow$  respiratory secretions, or  $\uparrow$  suctioning requirements
- New onset or worsening cough, or dyspnea, apnea, or tachypnea<sup>5</sup>
- Rales<sup>6</sup> or bronchial breath sounds
- Worsening gas exchange ( e.g.,  $\text{O}_2$  desats [e.g., pulse oximetry  $< 94\%$ ],  $\uparrow \text{O}_2$  req, or  $\uparrow$  ventilation demand)

## Pneumonia Definitions

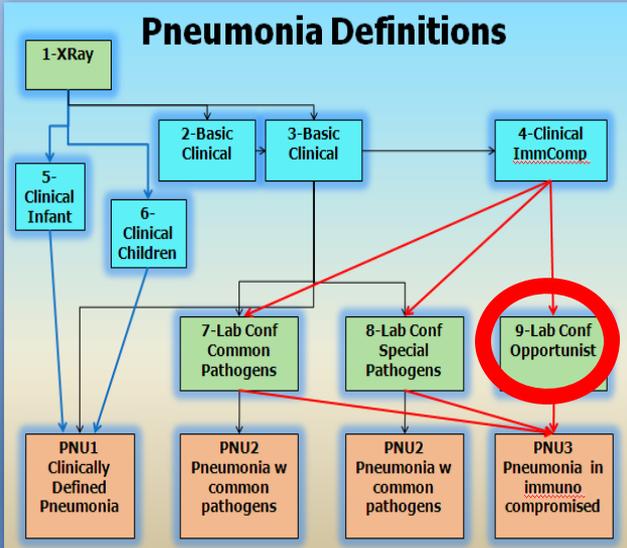


# 4-Clinical Immuno-compromised

At least one of the following in an immunocompromised patient<sup>13</sup>:

- Fever ( $> 38^{\circ}\text{C}/100.4^{\circ}\text{F}$ ) with no other cause
- Altered mental status with no other cause, in  $\geq 70$  y.o.
- New onset of purulent sputum,<sup>3</sup> or change in character of sputum, or  $\uparrow$  respiratory secretions, or  $\uparrow$  suctioning requirements<sup>4</sup>
- New onset or worsening cough, or dyspnea, or tachypnea<sup>5</sup>
- Rales<sup>6</sup> or bronchial breath sounds
- Worsening gas exchange (e.g.,  $\text{O}_2$  desats [e.g.,  $\text{PaO}_2/\text{FiO}_2 \leq 240$ ],<sup>7</sup>  $\uparrow$   $\text{O}_2$  req, or  $\uparrow$  ventilation demand)
- Hemoptysis
- Pleuritic chest pain

## Pneumonia Definitions

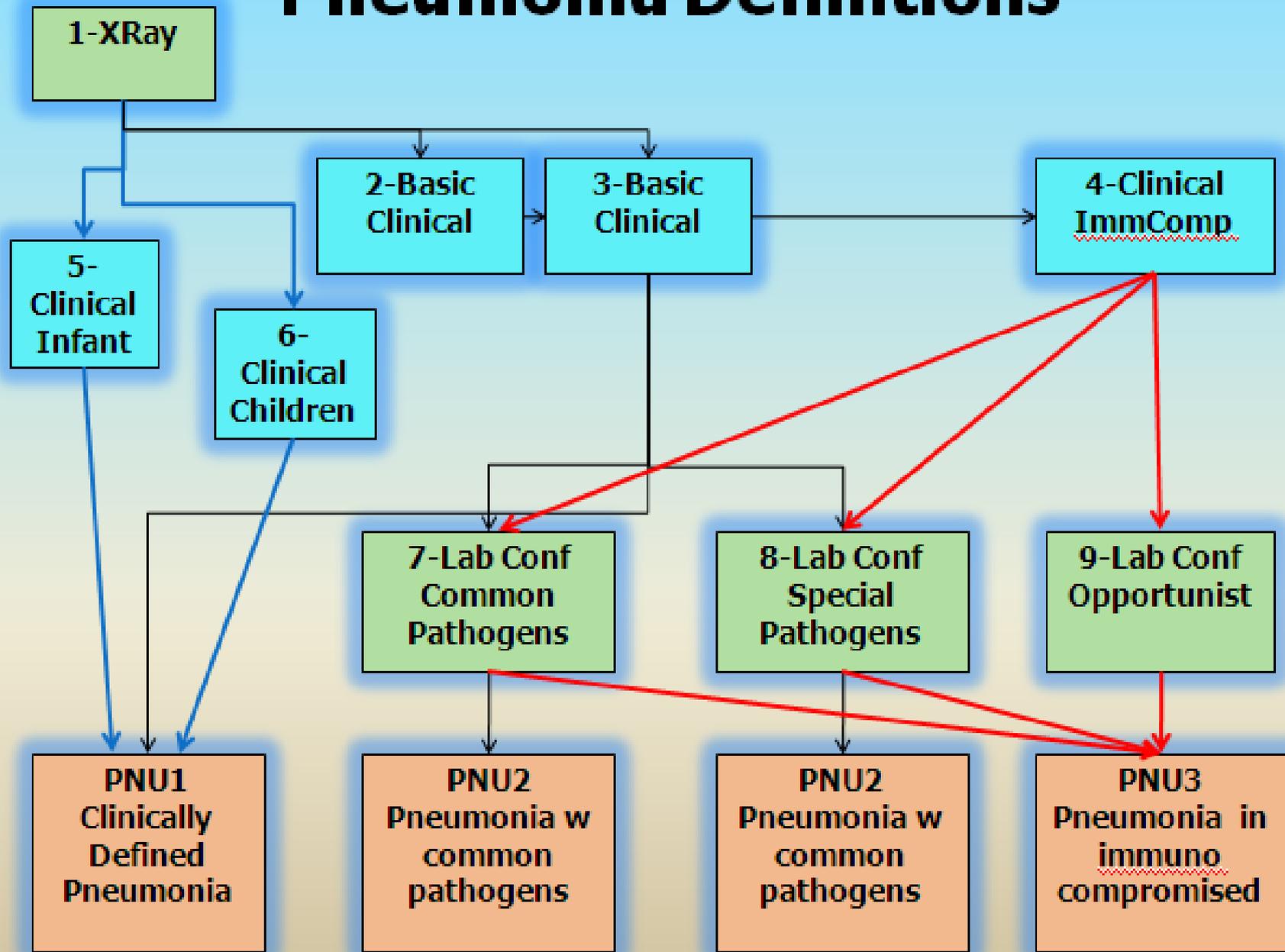


# 9-Lab Confirmed Opportunistic

At least one of following:

- Matching positive blood and sputum cultures with *Candida* spp<sup>14,15</sup>
- Evidence of fungi or *Pneumocystis carinii* from minimally contaminated LRT specimen (e.g., BAL or protected specimen brushing) from one of the following:
  - Direct microscopic exam
  - Positive culture of fungi

# Pneumonia Definitions



# Other Infections

# **Health Care Associated Infections: HCF Statistics**

**Infectious Disease Epidemiology Section  
Office of Public Health  
Louisiana Dept of Health & Hospitals  
(504) 219-4563 \*\*\* 800-256-2748**

**[www.infectiousdisease.dhh.louisiana.gov](http://www.infectiousdisease.dhh.louisiana.gov)**

**Your taxes at work**

# Infection Control Data

# Rates: Numerators

- Number of infections
- Number of patients infected
- Note:
  - **Infections caused by multiple organisms of similar origin at the same site = single infection**
  - **In a patient with a previously established nosocomial infection, a second nosocomial infection should be recorded in two situations:**
    1. the appearance of clinical infection at a new and different site
    2. the appearance in culture of new and different organisms if deterioration in patient's condition

# Rates: Denominators

- **Number of patients admitted (or discharged)**
- **Number of hospital days**
- **Number of device days**

# Hospital Wide Rates

- Hospital wide nosocomial infection rate /100 Admissions for a given period: month, quarter, year.

$$= \frac{\text{Number of nosocomial infections}}{\text{Number of patients admitted}} * 100$$

In this rate a patient with 2 infections is counted twice

- Hospital wide patient infected rate /100 Admissions for a given period: month, quarter, year

$$= \frac{\text{Number of patients infected}}{\text{Number of patients admitted}} * 100$$

In this rate a patient with 2 infections is counted only once

# Ward Specific Rates



- Rate of infection /1,000 HD  
=  $\frac{\text{Number of infections}}{\text{Number of hospital days}} * 1000$
- Rate of Patients infected /1,000 HD  
=  $\frac{\text{Number of patients infected}}{\text{Number of hospital days}} * 1,000$

# Device Specific Rates, Procedure Specific Rates

- **Surgical Site Infection rate:**

$$= \frac{\text{Number of surgical site infections}}{\text{Number of patients operated on}} * 100$$

- **Ventilator Associated Pneumonia rate:**

$$= \frac{\text{Number of ventilator associated pneumonia}}{\text{Number of patients on ventilator-days}} * 1,000$$

- **Catheter Related Blood Stream Infection rate:**

$$= \frac{\text{Number of Catheter related BSI}}{\text{Number of patients on IV line-days}} * 100$$

# Risk Adjustment

- For comparison: rates should be adjusted for risk factors
- Risk adjustment is labor intensive because data must be collected on the entire population at risk (denominator) rather than only the fraction with infections (numerator)
- Risk adjustment cannot correct for variability among data collectors in accuracy of finding and reporting events
- Current risk-adjustment methods improve but do not guarantee the validity of inter-hospital comparisons, especially comparisons involving facilities with diverse patient populations (e.g., community versus tertiary-care hospitals)

# Severity: Surgical Patients, NNIS

- Record on every patient undergoing selected procedure generated with risk factors information for SSI
  - Wound class  
*(Mangram AJ, Horan TC, Pearson ML, Silver LC, Jarvis WR. Guideline for prevention of surgical site infection, 1999. Am J Infect Control 1999;27:97-134.)*
  - Duration of operation
  - American Society of Anesthesiology (ASA) score  
*(Owens WD, Felts JA, Spitznagel EL Jr. ASA physical status classification: a study of consistency of ratings. Anesthesiology 1978;49:239-43)*
- Using a composite index for predicting SSI risk after operation calculate rates by the number of risk factors present  
*(Culver DH, Horan TC, Gaynes RP, Martone WJ, Jarvis WR, Emori TG, et al. Surgical wound infection rates by wound class, operative procedure, and patient risk index. Am J Med 1991;91(Suppl 3B):152S-75S.)*

# COLO Surgery

## NHSN, 2009

Table 22. Pooled means and key percentiles of the distribution of SSI rates\* by operative procedure and risk index categories, PA module, 2006 through 2008

Procedure code	Operative procedure description	Duration cutpoint, minutes	Risk index category	No. of hospitals <sup>†</sup>	No. of procedures	No. of SSI	Pooled mean	Percentiles				
								10%	25%	50% (median)	75%	90%
COLO	Colon surgery	187	0	278 (177)	17,126	683	3.99	0.00	1.58	3.49	5.56	8.73
COLO	Colon surgery	187	1	292 (235)	30,159	1686	5.59	0.00	2.06	4.48	7.43	11.16
COLO	Colon surgery	187	2	277 (182)	13,387	945	7.06	0.00	2.38	5.06	9.09	13.78
COLO	Colon surgery	187	3	207 (14)	1,468	139	9.47					
CRAN	Craniotomy	225	0,1	44 (37)	7902	170	2.15	0.00	0.00	1.51	2.62	6.37
CRAN	Craniotomy	225	2,3	41 (18)	1,761	87	4.66					

# COLO CLABSI- NICU NHSN, 2009

Table 17. Distribution of specific sites and criteria for device-associated BSI among level III NICUs by birthweight, 2006 through 2008

Birth-weight category	LCBI						CSEP	Total	
	Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5	Criterion 6			
<b>Central line-associated BSI</b>									
≤750 g	317	65.9%	100	20.8%	29	6.0%	35	7.3%	481
750-1000 g	251	67.3%	74	19.8%	23	6.2%	25	6.7%	373
1001-1500 g	177	64.1%	62	22.5%	16	5.8%	21	7.6%	276
1501-2500 g	139	64.4%	54	25.0%	8	3.7%	15	6.9%	216
>2500 g	94	59.9%	41	26.1%	2	1.3%	20	12.7%	157
<b>Total</b>	<b>978</b>	<b>65.1%</b>	<b>331</b>	<b>22.0%</b>	<b>78</b>	<b>5.2%</b>	<b>116</b>	<b>7.7%</b>	<b>1503</b>
<b>Umbilical catheter-associated BSI</b>									
≤750 g	93	72.1%	18	14.0%	2	1.6%	16	12.4%	129
750-1000 g	39	52.0%	18	24.0%	8	10.7%	10	13.3%	75
1001-1500 g	32	54.2%	14	23.7%	5	8.5%	8	13.6%	59
1501-2500 g	17	60.7%	4	14.3%	1	3.6%	6	21.4%	28
>2500 g	22	55.0%	9	22.5%	2	5.0%	7	17.5%	40
<b>Total</b>	<b>203</b>	<b>61.4%</b>	<b>63</b>	<b>19.0%</b>	<b>18</b>	<b>5.4%</b>	<b>47</b>	<b>14.2%</b>	<b>331</b>

# COLO CLABSI- Critical Care Units

## NHSN, 2009

Table 3. Pooled means and key percentiles of the distribution of laboratory-confirmed central line-associated BSI rates and central line utilization ratios, by type of location, DA module, 2006 through 2008

Type of location	Central line-associated BSI rate <sup>†</sup>								
	No. of locations <sup>a</sup>	No. of CLABSI	Central line-days	Pooled mean	Percentile				
					10%	25%	50% (median)	75%	90%
<b>Critical care units</b>									
Burn	35	390	70,932	5.5	0.0	1.2	3.1	7.5	11.8
Medical cardiac	228 (221)	876	436,409	2.0	0.0	0.0	1.3	2.5	4.6
Medical major teaching	125	1410	549,088	2.6	0.1	1.1	2.3	3.7	5.2
Medical all others	153 (147)	687	362,388	1.9	0.0	0.0	1.0	2.4	4.3
Medical/surgical major teaching	182 (181)	1474	699,300	2.1	0.0	0.6	1.7	2.9	4.6
Medical/surgical all others ≤15 beds	718 (650)	1130	755,437	1.5	0.0	0.0	0.0	1.8	3.7
Medical/surgical all others >15 beds	280 (277)	1449	986,982	1.5	0.0	0.0	1.1	2.0	3.6
Neurologic	24 (23)	61	45,153	1.4	0.0	0.0	1.0	1.9	3.2
Neurosurgical	72	396	160,879	2.5	0.0	0.0	1.9	3.2	5.3
Pediatric cardiothoracic	18	195	58,626	3.3					
Pediatric medical	16 (15)	23	17,321	1.3					
Pediatric medical/surgical	129 (123)	929 <sup>‡</sup>	314,306	3.0	0.0	1.1	2.5	4.3	5.8
Respiratory	8	29	17,223	1.7					
Surgical	208 (207)	1683	729,989	2.3	0.0	0.7	1.7	3.1	5.0
Surgical cardiothoracic	203 (202)	879	632,769	1.4	0.0	0.2	0.8	1.9	3.3
Trauma	62	814	224,864	3.6	0.0	1.4	3.0	5.5	9.3

# Aggregate Comparisons

- To get the high-level view, it would be ideal to find a way to aggregate data from all unit types to yield a single number.
- The Standardized Infection Ration is a way to do just that

# Standardized Infection Ratio

- SIR, is a summary measure used to compare the HAI experience among one or more groups of patients to that of a standard population's
- Indirect standardization method
- Accounts for differences in risk of HAI among the groups

$$\text{SIR} = \frac{\text{Observed (O) HAIs}}{\text{Expected (E) HAIs}}$$

- To calculate O, sum the number of HAIs rates among a group
- To calculate E, requires the use of the appropriate aggregate data (risk-adjusted rates)

# Potential Applications for the SIR

- Can provide public health policy makers with (and others) with an overview of HAI rates across several units or facilities.
- Is a measure with “built-in” risk adjustment.
- Might be useful in helping direct us to facilities with particular problems.

# Using the SIR to Direct Prevention Interventions

**Like any aggregate measure, the SIR does not tell the whole story.**

Facility	Facility SIR for CLABSI
A	2.0
B	1.2
C	0.75

Unit type	Pooled mean CLABSI rate	Unit SIR
Facility A MICU	10.3	4.0
Facility A SICU	2.3	1.0

Though the overall facility SIR is elevated, the bigger need for prevention efforts is in the SICU

Unit type	Pooled mean CLABSI rate	Unit SIR
Facility B PICU	3.7	2.5
Facility B CCU 1	0.0	0.0
Facility B CCU 2	1.9	1.0

Though the overall facility SIR is near “expected”, prevention efforts are warranted in the PICU



## Protocols and Definitions Device-associated Module

# Ventilator-associated Pneumonia (VAP)

Division of Healthcare Quality Promotion

**SAFER • HEALTHIER • PEOPLE™**



# Target Audience



- This training session is designed for those who will collect and analyze Ventilator-associated Pneumonias in the Patient Safety Component of NHSN. This may include:
  - NHSN Facility Administrator
  - Patient Safety Primary Contact
  - Infection Control Professional (ICP)
  - Epidemiologist
  - Microbiologist
  - Respiratory Therapy Staff
  - Data entry staff



# Objectives

- Outline the structure, methodology and purpose of the Device-associated Module of NHSN
- Describe the protocols and definitions used in the VAP option within the Device-associated Module



# NHSN Website

## http://www.cdc.gov/nhsn/

CDC Home



Centers for Disease Control and Prevention  
Your Online Source for Credible Health Information

SEARCH

A-Z Index: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

## National Healthcare Safety Network (NHSN)

The National Healthcare Safety Network (NHSN) is a voluntary, secure, internet-based surveillance system that integrates and expands legacy patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion (DHQP) at CDC. NHSN also includes a new component for hospitals to monitor adverse reactions and incidents associated with receipt of blood and blood products. Enrollment is open to all types of healthcare facilities in the United States, including acute care hospitals, long term acute care hospitals, psychiatric hospitals, rehabilitation hospitals, outpatient dialysis centers, ambulatory surgery centers, and long term care facilities. For more information, click on the topics below.

**Biovigilance Component**

NHSN Biovigilance Component

HERO    HAI: Recovery Act    Biovigilance

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START THIS WIDGET

**Topics**

**Data & Statistics**



# Surveillance for DA HAI



- **Active** (vs. passive)
  - Trained ICPs look for and identify infections
  - Accumulate information from multiple data sources
- **Patient-based** (vs. laboratory-based)
  - Not based solely on laboratory data
  - Identification of risk factors, patient care procedures
- **Prospective** (vs. retrospective)
  - Monitor patients during their hospitalization when possible

# National Healthcare Safety Network (NHSN)



Patient Safety  
Component

Device-associated Module

Procedure-associated Module

Medication-associated Module

MDRO/CDAD Module

High-Risk Inpatient Influenza Vaccination Module

# National Healthcare Safety Network (NHSN)



Catheter-associated Module

Central Line-associated bloodstream Infection (CLABSI)

Ventilator-associated Pneumonia (VAP)

Catheter-associated Urinary Tract Infection (CAUTI)

Central Line Insertion Practices (CLIP)

Dialysis Event (DE)



# VAP



- Second most common HAI in the U.S.
- Patients with ventilators at high risk
- *CDC/HICPAC Guideline for Prevention of Nosocomial Pneumonia*
  - Recommends surveillance for bacterial pneumonia for trends and for interhospital comparison

<http://www.cdc.gov/nhsn/PDFs/pscManual/6pscVAPcurrent.pdf>



# Use CDC Definitions for the following:

- VAP
  - Ventilator
  - PNU1
  - PNU2
  - PNU3
-



# Definition: VAP

- Pneumonia (PNEU) that occurs in a patient who was intubated and ventilated at the time of or *within* 48 hours before the onset of the pneumonia.
- If the PNEU develops in a patient within 48 hours of discharge from a location, indicate the discharging location on the infection report, not the current location of the patient



## Definition: Ventilator

- A device to assist or control respiration continuously, inclusive of the weaning period, through a tracheostomy or by endotracheal intubation.
  - **NOTE:** Lung expansion devices such as intermittent positive-pressure breathing (IPPB); nasal positive end-expiratory pressure (PEEP); and continuous nasal positive airway pressure (CPAP, hypoCPAP) are not considered ventilators unless delivered via tracheostomy or endotracheal intubation (e.g., ET-CPAP)



# Pneumonia Criteria

- Indicate the specific type of VAP\*
  - PNU1 – Clinically Defined Pneumonia
  - PNU2 – Pneumonia with Common Bacterial Pathogens
  - PNU3 - Pneumonia in Immunocompromised Patients

\* See *NHSN Manual: Patient Safety Component Protocol*



# PNU1 – Clinically Defined

## ■ X-Ray findings

Patient with underlying diseases has 2 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in <1 y.o.

or

Patient without underlying diseases has 1 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in <1 y.o.

And



# PNU1 – Clinically defined

## ■ Signs and Symptoms

At least one of the following:

- Fever ( $> 38^{\circ}\text{C}/100.4^{\circ}\text{F}$ ) with no other cause
- Leukopenia ( $< 4,000\text{ WBC}/\text{mm}^3$ ) or leukocytosis ( $\geq 12,000\text{ WBC}/\text{mm}^3$ )
- Altered mental status with no other cause, in  $> 70\text{ y.o.}$

**and**



At least two of the following.

- New onset of purulent sputum, or change in character of sputum, or  $\uparrow$  respiratory secretions, or  $\uparrow$  suctioning requirements
- New onset or worsening cough, or dyspnea, or tachypnea
- Rales or bronchial breath sounds
- Worsening gas exchange (e.g.,  $\text{O}_2$  desats [e.g.,  $\text{PaO}_2/\text{FiO}_2 \leq 240$ ],  $\uparrow\text{ O}_2$  req, or  $\wedge$  ventilation demand)



# PNU2 – Specific laboratory findings



## ■ X-Ray findings

Patient with underlying diseases has 2 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in <1 y.o.

or

Patient without underlying diseases has 1 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in <1 y.o.

And...



# PNU2 – Specific laboratory findings



- Signs and symptoms

At least one of the following:

- Fever ( $> 38^{\circ}\text{C}/100.4^{\circ}\text{F}$ ) with no other cause
- Leukopenia ( $< 4,000\text{ WBC}/\text{mm}^3$ ) or leukocytosis ( $\geq 12,000\text{ WBC}/\text{mm}^3$ )
- Altered mental status with no other cause, in  $\geq 70\text{ y.o.}$

**And...**



# PNU2 – Specific laboratory findings

At least two of the following

- New onset of purulent sputum, or change in character of sputum, or ↑ respiratory secretions, or ↑ suctioning requirements
- New onset or worsening cough, or dyspnea, or tachypnea
- Rales or bronchial breath sounds
- Worsening gas exchange (e.g., O<sub>2</sub> desats [e.g., PaO<sub>2</sub>/FIO<sub>2</sub> < 240], ↑ O<sub>2</sub> req, or ↑ ventilation demand)

or

At least one of the following:

- New onset of purulent sputum, or change in character of sputum, or ↑ respiratory secretions, or ↑ suctioning requirements
- New onset or worsening cough, or dyspnea, or tachypnea
- Rales or bronchial breath sounds
- Worsening gas exchange (e.g., O<sub>2</sub> desats [e.g., PaO<sub>2</sub>/FIO<sub>2</sub> ≤ 240], ↑ O<sub>2</sub> req, or ↑ ventilation demand)

and



At least one of the following: Positive blood culture not related to another infection

- Positive pleural fluid culture
- Positive quantitative culture from minimally contaminated LRT specimen (e.g., BAL or protected specimen brushing)
- $\geq 5\%$  BAL-obtained cells contain intracellular bacteria on direct microscopic exam
- Histopathologic exam shows one of the following:
  - Abscess formation or foci of consolidation with intense PMN accumulation in bronchioles and alveoli
  - Positive quantitative culture of lung parenchyma
  - Evidence of lung parenchyma invasion by fungal hyphae or pseudohyphae

or

At least one of the following:

- Positive culture of virus or *Chlamydia* from respiratory secretions
- Positive detection of viral antigen or antibody from respiratory secretions (e.g., EIA, FAMA, shell vial assay, PCR)
- 4-fold rise in paired sera (IgG) for pathogen (e.g., Influenza viruses, *Chlamydia*)
- Positive PCR for *Chlamydia* or *Mycoplasma*
- Positive micro-IF test for *Chlamydia*
- Positive culture or micro-IF of *Legionella* spp from respiratory secretions or tissue
- Detection of *Legionella pneumophila* serogroup 1 antigens in urine by RIA or EIA
- 4-fold rise in *L. pneumophila* antibody titer to  $\geq 1:128$  in paired acute and convalescent sera by indirect IFA

**PNU2**



# PNU3 – Immunocompromised patient

## ■ X-Ray findings

Patient with underlying diseases has 2 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in <1 y.o.

**or**

Patient without underlying diseases has 1 or more serial X-rays with one of the following:

- New or progressive and persistent infiltrate
- Consolidation
- Cavitation
- Pneumatoceles, in <1 y.o.

**and** →



# PNU3 – Immunocompromised patient



## ■ Signs and symptoms

At least one of the following in an immunocompromised patient:

- ⓐ Fever ( $> 38^{\circ}\text{C}/100.4^{\circ}\text{F}$ ) with no other cause
- ⓑ Altered mental status with no other cause, in  $> 70$  y.o.
- ⓒ New onset of purulent sputum, or change in character of sputum, or respiratory secretions, or  $\uparrow$  suctioning requirements
- ⓓ New onset or worsening cough, or dyspnea, or tachypnea
- ⓔ Rales or bronchial breath sounds
- ⓕ Worsening gas exchange (e.g.,  $\text{O}_2$  desats [e.g.,  $\text{PaO}_2/\text{FiO}_2 \leq 240$ ],  $\uparrow$   $\text{O}_2$  req, or  $\uparrow$  ventilation demand)
- ⓖ Hemoptysis
- ⓗ Pleuritic chest pain

and

# PNU3 – Immunocompromised patient

## ■ Laboratory findings

At least one of following:

- ⊕ Matching positive blood and sputum cultures with *Candida* spp
- Evidence of fungi or *Pneumocystis carinii* from minimally contaminated LRT specimen (e.g., BAL or protected specimen brushing) from one of the following:
  - Positive culture of fungi
  - Direct microscopic exam

or

Any of the laboratory criteria from PNU2

PNU3

# Acceptable Specimens for PNU2 and PNU3



- Quantitative culture from minimally contaminated LRT specimen
  - Obtained with or without bronchoscope
    - Bronchoalveolar lavage (BAL)
    - Protected specimen brushing
- Lung parenchyma
  - Open lung biopsy specimens
  - Immediate post-mortem specimens obtained by transthoracic or transbronchial biopsy



# Pneumonia (PNEU)

OMB No.  
Exp. Date:

Page 1 of 3

* required for saving    **required for completion		
Facility ID: <b>3001</b>	Event #: <b>162</b>	
*Patient ID: <b>24689</b>	Social Security #:	
Secondary ID:		
Patient Name, Last: <b>Miller</b>	First: <b>James</b>	Middle: <b>R</b>
*Gender: F <b>M</b>	*Date of Birth: <b>3/11/1964</b>	
Ethnicity (Specify):	Race (Specify):	
*Event Type: <b>PNEU</b>	*Date of Event: <b>9/8/2009</b>	
*Post-procedure PNEU: Yes <b>No</b>	Date of Procedure: <b>9/1/2009</b>	
NHSN Procedure Code:	ICD-9-CM Procedure Code:	

\*MDRO Infection Surveillance:  Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Mod  
 No, this event's pathogen & location are not in-plan for the MDRO/CDAD

\*Date Admitted to Facility: **08/31/2009**      \*Location: **ICU**

### Risk Factors

\*Ventilator: **Yes** No      Location of Device Insertion: SURG      Date of Device Insertion: \_\_09/\_01/\_2009  
 \*For NICU only: Birth weight: \_\_\_\_\_grams

### Event Details

\*Specific Event:  PNU1  PNU2  PNU3      \*Immunocompromised: Yes **No**

\*Specify Criteria Used: (check all that apply)

### X-Ray

New or progressive and persistent infiltrate (y.o.)       Consolidation       Cavitation       Pneumatoceles (y.o.)



# Pathogen Data

- List up to 3 pathogens for each PNEU identified (in rank order of importance)
- For each pathogen, complete information about antimicrobial susceptibilities
- Only certain bug/drug combinations are required but up to 20 drugs can be listed with susceptibilities

# VAP Denominator Data



- At the same time each day, count
  - # patients (i.e., patient days)
  - # patients on ventilators

## Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

Facility ID #: \_\_\_\_\_

Location Code: \_\_\_\_\_ Month: \_\_\_\_\_ Year: \_\_\_\_\_

Date	Number of patients	Number of patients with 1 or more central lines	Number of patients with a urinary catheter	Number of patients on a ventilator
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

Record the number of patients and the number of patients on a ventilator each day

# VAP Denominator Data for NICU



- At the same time each day, for each birthweight category, count
  - # patients on ventilators
  - # patients (i.e., patient days)
- Enter the totals within 30 days of the end of the month



# Analysis: VAP Rate

$$\text{VAP Rate} = \frac{\text{\#VAPs identified*}}{\text{\# ventilator days*}} \times 1000$$

- \* Stratify by:
  - Type Location
  - NICU
    - Birthweight category



# Analysis: Device Utilization (DU) Ratio

$$\text{Ventilator DU Ratio} = \frac{\# \text{ Ventilator Days}}{\# \text{ Patient Days}}$$

DU Ratio measures the proportion of total patient-days in which ventilators were used

# Example of VAP Analysis



National Healthcare Safety Network

Rate Table for Ventilator-Associated PNEU Data for ICU-Other/SCA

As of: August 15, 2006 at 11:06 AM

Data Range: VAP\_RATE\_ICU\_SCA summary: 10/1/00 to 10/1/05

Org ID=10600

Location	VA		NHSN				NHSN		Vent		Proportion	Proportion
	Pneu Count	Ventilator Days	VA Pneu Rate	VAP Pneu Pooled Mean	Incidence Density p-value	Incidence Density Percentile	Patient Days	Util Ratio	Vent DU Pooled Mean	Proportion p-value		
2SOUTH	0						503					
3 MS	4	509	7.9	5.1	0.2579	83	1,819	0.28	0.37	0.0000	32	
BICU	1	203	4.9	12.0	0.2996		507	0.40	0.31	0.0000		
BURN	2	199	10.1	12.0	0.5715		386	0.52	0.31	0.0000		
RICU	0	203	0.0	4.9	0.3671		284	0.71	0.71	0.4423		
SICU	3	295	10.2	9.3	0.5175	62	1,309	0.23	0.44	0.0000	11	
STROKE	0						563					



# Questions ?

[nhsn@cdc.gov](mailto:nhsn@cdc.gov)

<http://www.cdc.gov/nhsn>

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## Protocols and Definitions Device-associated Module

# Catheter-associated Urinary Tract Infections

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# Target Audience



- This training session is designed for those who will collect and analyze Catheter-associated UTIs in the Patient Safety Component of NHSN. This may include the following:
  - NHSN Facility Administrator
  - Patient Safety Primary Contact
  - Infection Control Professional (ICP)
  - Epidemiologist
  - Microbiologist
  - Data entry staff



# Objectives

- Outline the structure, methodology and purpose of the Device-associated Module of NHSN
- Describe the protocols and definitions used in the CAUTI option within the Device-associated Module

<http://www.cdc.gov/nhsn/>



# Surveillance for DA HAI



- **Active** (vs. passive)
  - Trained ICPs
    - Look for and identify infections
    - Accumulate information from multiple data sources
- **Patient-based** (vs. laboratory-based)
  - Not based solely on laboratory data
  - Identify risk factors, patient care procedures
- **Prospective** (vs. retrospective)
  - Monitor patients during their hospitalization when possible



# National Healthcare Safety Network (NHSN)

Patient Safety Component

Device-associated Module

Procedure-associated Module

Medication-associated Module

MDRO/CDAD Module

High-Risk Inpatient Influenza Vaccination Module

# National Healthcare Safety Network (NHSN)



Catheter-associated Module

Central Line-associated bloodstream Infection (CLABSI)

Ventilator-associated Pneumonia (VAP)

Catheter-associated Urinary Tract Infection (CAUTI)

Central Line Insertion Practices (CLIP)

Dialysis Event (DE)





# CAUTI

## CAUTI Characteristics:

- Most common site of HAI – more than 30% of all reported by acute care hospitals
- Almost all are caused by instrumentation

## CAUTI Complications:

- Discomfort
- Prolonged hospital stay
- Increased cost

*CDC/HICPAC Guideline for Prevention of Catheter-associated Urinary Tract Infection*

# Use CDC Definitions for the following:

- CAUTI
- Indwelling catheter
- Symptomatic Urinary Tract Infection (SUTI)
- Asymptomatic Bacteremic Urinary Tract Infection (ABUTI)
- Other UTI (OUTI)
- NOTE: Asymptomatic Bacteremia (ASB) is no longer a CDC/NHSN infection type; cannot be reported





## Definition: **CAUTI**

- UTI that occurs in a patient who had an indwelling urethral urinary catheter in place within the 48-hour period before the onset of the UTI.
- If the UTI develops in a patient within 48 hours of discharge from a location, indicate on the infection report the discharging location, not the current location of the patient, (Transfer Rule)

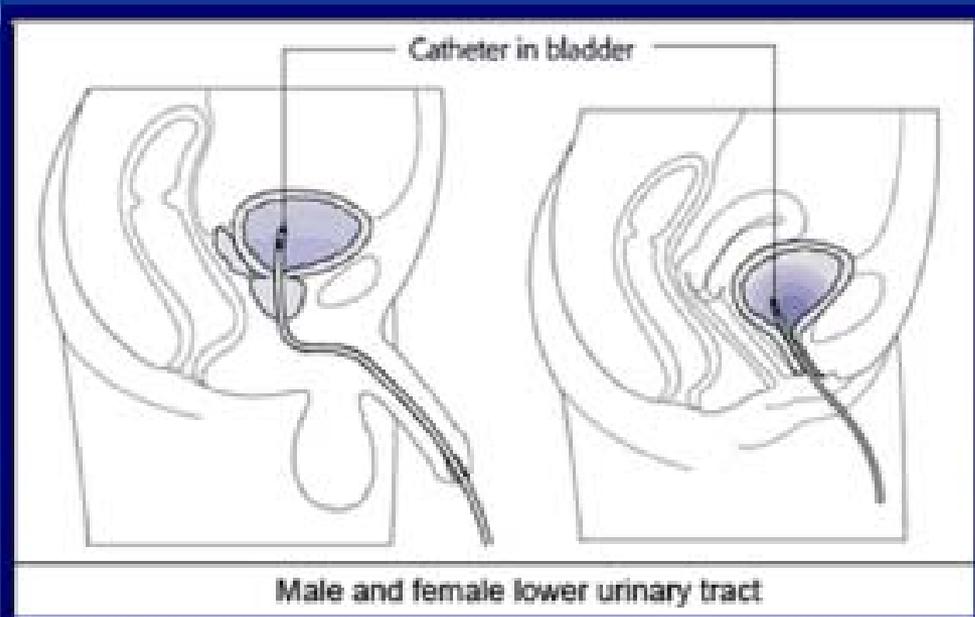


## Definition: CAUTI

- In addition to CAUTIs, some facilities are required by their state to report healthcare associated UTIs that are NOT associated with catheters.
- These should NEVER be included in CAUTI data reported through NHSN.
- Specific criteria will be reviewed later and more information on this issue provided

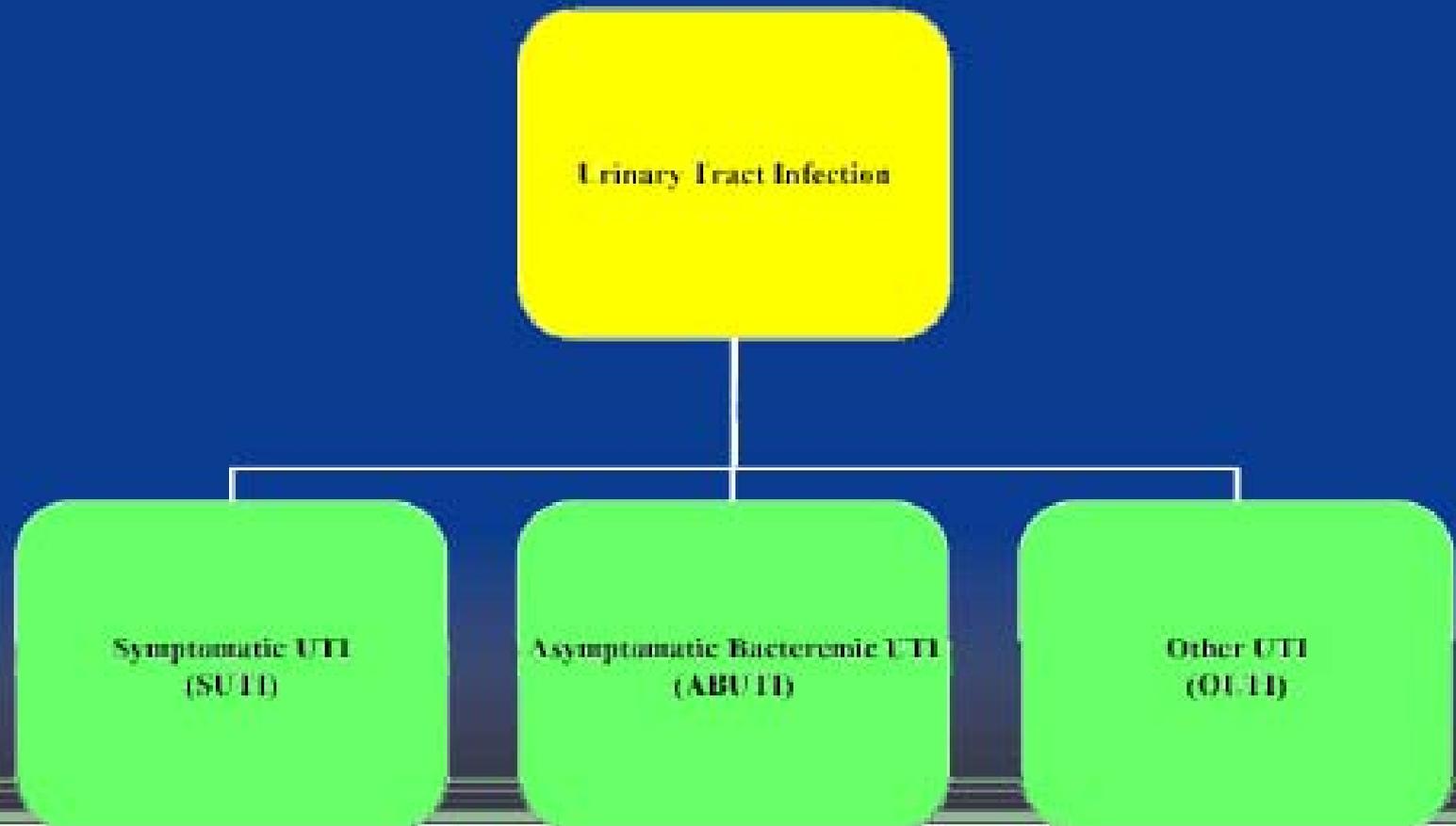
# Definition:

## Indwelling Catheter



- A drainage tube that is inserted into the urinary bladder through the urethra, is left in place, and is connected to a closed collection system
  - Also called a Foley catheter
  - Does not include straight in and out catheters or urinary catheters that are not placed in the urethra (ex. suprapubic catheter).

# UTI Specific Infection Types





# SUTI Criteria

## ■ SUTI (Symptomatic UTI)

Patient  
of any  
age

– **Criterion 1a** →  $\geq 10^5$  CFU/ml in urine\*

– **Criterion 1b** →  $\geq 10^5$  CFU/ml in urine\*

– **Criterion 2a** →  $\geq 10^3$  and  $< 10^5$  CFU/ml in urine\*

– **Criterion 2b** →  $\geq 10^3$  and  $< 10^5$  CFU/ml in urine\*

– **Criterion 3** →  $\geq 10^3$  and  $< 10^5$  CFU/ml in urine\*

– **Criterion 4** →  $\geq 10^3$  and  $< 10^5$  CFU/ml in urine\*

Patients  
 $\leq 1$  year  
of age

\* Urine culture must have no more than 2 microorganism species



# SUTI Criteria

- SUTI (Symptomatic UTI)

Patient  
of any  
age



- Criterion 1a

- Criterion 1b

- Criterion 2a

- Criterion 2b

- Criterion 3

- Criterion 4

**Had catheters in 48 hours  
prior to specimen collection**

**DIDN'T have catheters in 48  
hours prior to specimen  
collection**

**With or without catheters in  
48 hours prior to specimen**

Patients  
≤ 1 year  
of age



# Symptomatic UTI (SUTI) – Any Patient



Criterion

## Symptomatic Urinary Tract Infection (SUTI)

Must meet at least 1 of the following criteria:

1a

Patient **had an indwelling urinary catheter in place** **at the time of specimen collection**

*and*

at least 1 of the following signs or symptoms with no other recognized cause:

fever ( $>38^{\circ}\text{C}$ ), suprapubic tenderness, or costovertebral angle pain or tenderness

*and*

a positive urine culture of  $\geq 10^5$  colony-forming units (CFU)/ml with no more than 2 species of microorganisms.

-----OR-----

Patient **had indwelling urinary catheter removed within the 48 hours prior to specimen collection**

*and*

at least 1 of the following signs or symptoms with no other recognized cause:

fever ( $>38^{\circ}\text{C}$ ), urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness

*and*

a positive urine culture of  $\geq 10^5$  colony-forming units (CFU)/ml with no more than 2 species of microorganisms.

Note differing acceptable symptoms

# Symptomatic UTI (SUTI) – Any Patient (cont'd.)



2a



Patient had an indwelling urinary catheter **in place at the time of specimen collection**  
*and*

at least 1 of the following signs or symptoms with no other recognized cause:  
fever ( $>38^{\circ}\text{C}$ ), suprapubic tenderness, or costovertebral angle pain or tenderness  
*and*

a positive urinalysis demonstrated by at least 1 of the following findings:

- positive dipstick for leukocyte esterase and/or nitrite
- pyuria (urine specimen with  $\geq 10$  white blood cells [WBC]/ $\text{mm}^3$  or  $\geq 3$  WBC/high power field of unspun urine)
- microorganisms seen on Gram stain of unspun urine

*and*

a positive urine culture of  $\geq 10^3$  and  $< 10^5$  CFU/ml with no more than 2 species of microorganisms.

-----OR-----

Patient had indwelling urinary catheter **removed within the 48 hours prior to specimen collection**  
*and*

at least 1 of the following signs or symptoms with no other recognized cause:  
fever ( $>38^{\circ}\text{C}$ ), urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness  
*and*

a positive urinalysis demonstrated by at least 1 of the following findings:

- positive dipstick for leukocyte esterase and/or nitrite
- pyuria (urine specimen with  $> 10$  white blood cells [WBC]/ $\text{mm}^3$  or  $> 3$  WBC/high power field of unspun urine)
- microorganisms seen on Gram stain of unspun urine

*and*

a positive urine culture of  $\geq 10^3$  and  $< 10^5$  CFU/ml with no more than 2 species of microorganisms.

# Symptomatic UTI (SUTI) Patient $\leq 1$ year of age



3	<p>Patient <math>\leq 1</math> year of age with or without an indwelling urinary catheter has at least 1 of the following signs or symptoms with no other recognized cause: fever (<math>&gt;38^{\circ}\text{C}</math> core), hypothermia (<math>&lt;36^{\circ}\text{C}</math> core), apnea, bradycardia, dysuria, lethargy, or vomiting <i>and</i> a positive urine culture of <math>\geq 10^5</math> CFU/ml with no more than 2 species of microorganisms.</p>
4	<p>Patient <math>\leq 1</math> year of age with or without an indwelling urinary catheter has at least 1 of the following signs or symptoms with no other recognized cause: fever (<math>&gt;38^{\circ}\text{C}</math> core), hypothermia (<math>&lt;36^{\circ}\text{C}</math> core), apnea, bradycardia, dysuria, lethargy, or vomiting <i>and</i> a positive urinalysis demonstrated by at least one of the following findings:</p> <ol style="list-style-type: none"><li>positive dipstick for leukocyte esterase and/or nitrite</li><li>pyuria (urine specimen with <math>\geq 10</math> WBC/<math>\text{mm}^3</math> or <math>\geq 3</math> WBC/high power field of unspun urine)</li><li>microorganisms seen on Gram's stain of unspun urine</li></ol> <p><i>and</i> a positive urine culture of between <math>\geq 10^3</math> and <math>&lt;10^5</math> CFU/ml with no more than two species of microorganisms.</p>

# ABUTI



	a positive urine culture of $\geq 10^5$ and $<10^8$ CFU/ml with no more than 2 species of microorganisms
Criterion	<b>Asymptomatic Bacteremic Urinary Tract Infection (ABUTI)</b>
	<p>Patient with or without an indwelling urinary catheter has <u>no</u> signs or symptoms (i.e., <u>no</u> fever (<math>&gt;38^\circ\text{C}</math>) for patients <math>\leq 65</math> years of age*; and for any age patient <u>no</u> urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness, <u>OR</u> for a patient <math>\leq 1</math> year of age, <u>no</u> fever (<math>&gt;38^\circ\text{C}</math> core), hypothermia (<math>&lt;36^\circ\text{C}</math> core), apnea, bradycardia, dysuria, lethargy, or vomiting)</p> <p>and</p> <p>a positive urine culture of <math>\geq 10^5</math> CFU/ml with no more than 2 species of uropathogen microorganisms**</p> <p>and</p> <p>a positive blood culture with at least 1 matching uropathogen microorganism to the urine culture.</p> <p><b>Urine and Blood cultures must have matching uropathogen(s)</b></p> <p>*Fever is not diagnostic for UTI in the elderly (<math>&gt;65</math> years of age) and therefore fever in this age group does not disqualify from meeting the criteria of an ABUTI.</p> <p>**Uropathogen microorganisms are: Gram-negative bacilli, <i>Staphylococcus</i> spp., yeasts, beta-hemolytic <i>Streptococcus</i> spp., <i>Enterococcus</i> spp., <i>G. vaginalis</i>, <i>Aerococcus urinae</i>, and <i>Corynebacterium</i> (urease positive).</p>
Comments	Urinary catheter tips should not be cultured and are not acceptable for the diagnosis of a urinary tract infection.



limited  
uro-  
pathogens



# Other UTI (OUTI)

- Infections of urinary tract not meeting SUTI or ABUTI criteria
- Most often a site of surgical site infection (SSI), specific event type: Organ/Space
- Positive urine culture is not a part of criteria
- See criteria on page 7-6 of the NHSN User Manual:

<http://www.cdc.gov/nhsn/pdfs/pscManual/7pscCAUTIcurrent.pdf>



# CAUTI Infection Data

- Catheter-associated UTI (CAUTI) specific events must, by definition, involve an indwelling catheter. Therefore only the following specific event types can be CAUTI:

- SUTI Criteria:

- 1a
- 2a
- 3\*
- 4\*

- ABUTI\*

**\*NOTE:** SUTI criteria 1b, 2b and Other UTI (OUTI) are types of UTI-specific event, but they are not associated with a urinary catheter and are not used when collecting data for CAUTI events.

# Example of Completed UTI Form



Fields required when in Plan marked with \*

## Patient Information [HELP](#)

Facility ID*:	Medical Center East (10000)	Event #:	15537
Patient ID*:	KB1225		
Social Security #:		Secondary ID:	
Last Name:		First Name:	
Middle Name:			
Gender*:	M - Male	Date of Birth*:	04/29/1958
Ethnicity:			
Race:	American Indian/Alaska Native Black or African American White	Asian Native Hawaiian/Other Pacific Islander	

## Event Information [HELP](#)

Event Type*:	UTI - Urinary Tract Infection	Date of Event*:	04/19/2009
Post-procedure:	N - No		
MDRO Infection Surveillance*:	No, this event pathogen/location is not in-plan for MDRO/CDAD Module		
Location*:	MSICU - MEDSURG ICU		
Date Admitted to Facility>:	04/01/2009		

## Risk Factors [HELP](#)

Urinary Catheter*:	INPLACE - In place
Location of Device Insertion:	
Date of Device Insertion:	



Determines the appropriate criteria



# CAUTI Denominator Data

- ICU, SCA and Regular Ward locations data collection:
  - # patients on the unit, collected at the same time each day
  - # patients on the unit with an indwelling urinary catheter, collected at the same time each day
- Not monitored in NICU locations



# Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

OMB No. 0920-0665  
Exp. Date: 03-31-2011

\* required for saving

Facility ID:		*Location Code:		*Month:	*Year:
Date	*Number of patients	**Number of patients with 1 or more central lines	**Number of patients with a urinary catheter	**Number of patients on a ventilator	
1					
2					
3					
4					
5					
23					
24					
25					
26					
27					
28					
29					
30					
31					
*Totals					
Patient-days		Central-line days	Urinary catheter-days	Ventilator-days	

Record the Number each day

Record the Total for the month

Urinary catheter-days



# Analysis: CAUTI Rate

$$\text{CAUTI Rate} = \frac{\text{\#CAUTIs identified*}}{\text{\# indwelling urinary catheter days*}} \times 1000$$

- \* Stratify by:
  - Location Type



# Analysis: Device Utilization (DU) Ratio

$$\text{Urinary Catheter DU Ratio} = \frac{\# \text{ Indwelling catheter days}}{\# \text{ Patient Days}}$$

**DU Ratio measures the proportion of total patient-days in which indwelling urinary catheters were used**

**Indwelling catheter use is necessary for CAUTI. Therefore reducing your facility/location's catheter device utilization rate, may lead to reduced CAUTI rates.**

# Example of Output - CAUTI



National Healthcare Safety Network

Rate Table for Catheter-Associated UTI Data for ICU-Other/SCA

As of: November 30, 2009 at 12:42 PM

Date Range: All CAU\_RATES/ICU\_SCA

orgID=10000 loccdc=IN:ACUTE:CC:B

NHSN pooled means:

CAUTI

Device Utilization

Location	summaryYr	CAUCoups	numcathdays	CAURate	CAU_Mean	IDR_pval	IDR_pct	numpadays	CathDU	CathDU_Mean	P_pval	P_pct
BICU	2005M11	0	387	0.0	7.7	0.0516		421	0.82	0.65	0.0000	
BICU	2005M12	0	377	0.0	7.7	0.0557		494	0.76	0.65	0.0000	
BICU	2006M01	0	299	0.0	7.7	0.1012		507	0.59	0.65	0.0015	
BICU	2006M05	2	300	6.7	7.7	0.5965		352	0.85	0.65	0.0000	
BICU	2009M03	1	200	5.0				600	0.33			
BURN	2006M01	3	304	9.9	7.7	0.4116		386	0.79	0.65	0.0000	
BURN	2009M08	0	10	0.0				100	0.10			

Source of aggregate data: NHSN Report, Am J Infect Control 2008;34:109-26

Data contained in this report were last generated on November 30, 2009 at 12:39 PM.

National Healthcare Safety Network



# Questions?

[www.cdc.gov/nhsn](http://www.cdc.gov/nhsn)

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## **Patient Safety Component**

### **Central Line-associated Bloodstream Infection**

**(CLABSI)**

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# Introduction

This course will review key concepts of surveillance for central line-associated bloodstream infections (CLABSI) in the Device-associated Module of the Patient Safety Component, as well as review certain definitions.

---



# Objectives



- By completing this lesson, you should be able to
- Describe the scope of the problem of CLABSI
  - Review the structure of the Device-associated Module in NHSN and the surveillance methodology used for data collection
  - Define key terms and protocol used for collecting CLABSIs and their corresponding denominator data
  - Describe how to collect CLABSI data using the BSI form
  - Describe how CLABSI rates and device utilization ratios are calculated and reported to promote performance improvement

# Target Audience



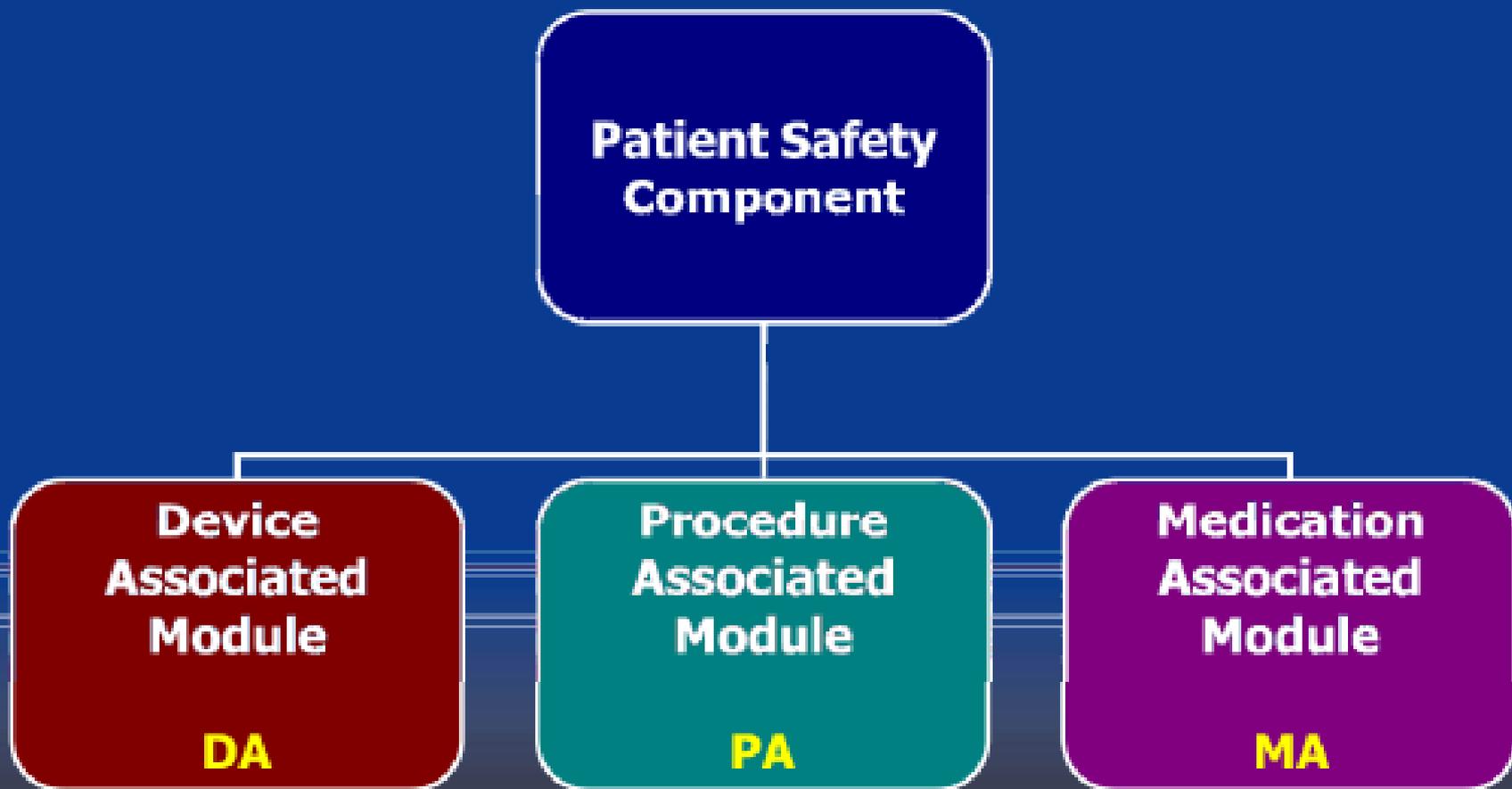
- This training session is designed for those individuals who collect and analyze CLABSI and their associated denominators in the Patient Safety Component of NHSN.
- This may include:
  - Facility Administrator
  - Patient Safety Primary Contact
  - Infection Preventionist
  - Epidemiologist
  - Microbiologist
  - Data entry staff

# Background

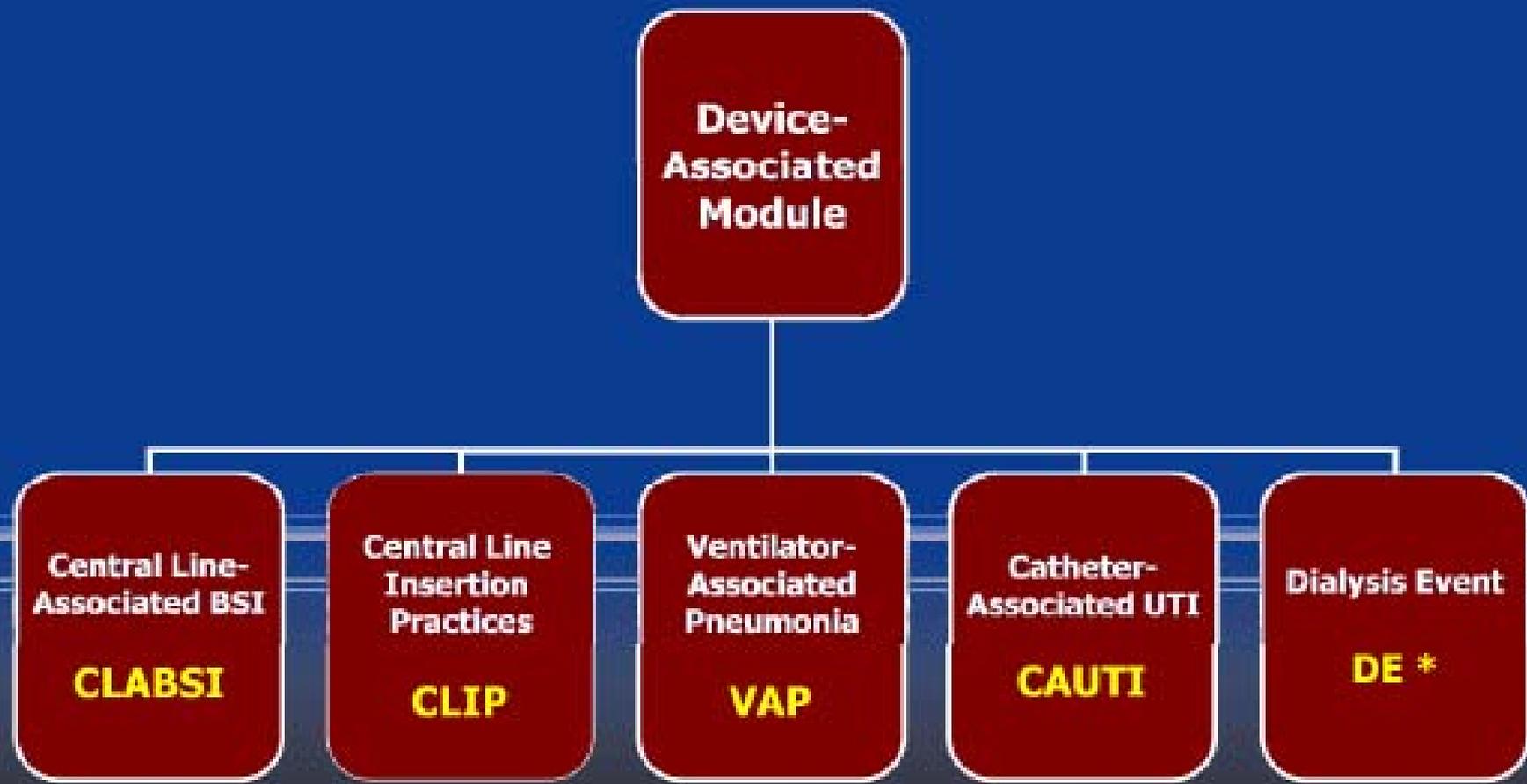
- 250,000 CLABSIs occur in the United States each year
- Most bloodstream infections are associated with the presence of a central line or umbilical catheter (in neonates) at the time of or before the onset of the infection
- Estimated mortality is 12-25% for each CLABSI
- Cost to the healthcare system is approximately \$25,000 per episode



# Modules in the Patient Safety Component



# Events that can be monitored in the Device-Associated Module



**\* For outpatient dialysis only. See Outpatient Dialysis Training Session**



**DA Module**

**Central Line-Associated  
Bloodstream Infections**

**CLABSI**

# NHSN location types (patient care areas) where CLABSI events can be monitored

1. Intensive care units (ICU)
2. Specialty care areas (SCA)
  - a) Hematology/Oncology unit
  - b) Bone marrow/Stem cell transplant unit
  - c) Solid organ transplant unit
  - d) Acute inpatient dialysis unit
  - e) Long term acute care
3. Neonatal intensive care units (NICU)
4. Any other inpatient care location in which central line days and patient days can be collected (e.g., surgical ward, etc.)



# Surveillance Methodology

CLABSI methodology requires

- Active
- Patient-based
- Prospective
- Priority-directed surveillance

that will yield risk-adjusted incidence rates.



# Sources of Data for Finding CLABSI



- Microbiology reports
- Infection control rounds on monitored units
- Pharmacy reports for antimicrobial use
- Networking with nursing staff
- Temperature chart
- List of patients with central lines



# Key Terms

- Use CDC Definitions for the following:
  - CLABSI
  - Central line
  - Laboratory-confirmed BSI (LCBI)
  - Temporary Central Line
  - Permanent Central Line



## Definition: CLABSI

- Central line-associated bloodstream infection (CLABSI) is a primary bloodstream infection (BSI) in a patient that had a central line *within* the 48-hour period before the development of the BSI.
- If the BSI develops in a patient within 48 hours of discharge from a location, indicate the discharging location on the infection report.

NOTE: There is no minimum time period that the central line must be in place in order for the BSI to be considered central line-associated.



## Definition: Central Line

**A vascular infusion device that terminates at or close to the heart or in one of the great vessels.**

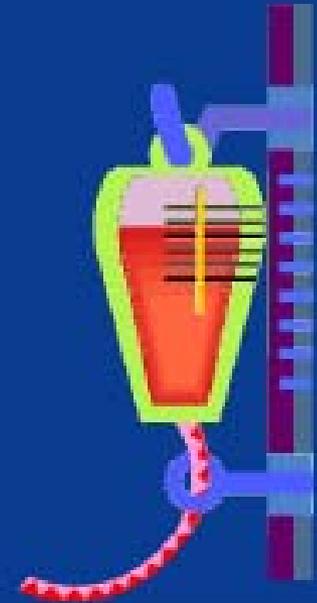
The following are considered great vessels for the purpose of reporting CLABSI and counting central line days

- Aorta
- Pulmonary artery
- Superior vena cava
- Inferior vena cava
- Brachiocephalic veins
- Internal jugular veins
- Subclavian veins
- External iliac veins
- Common femoral veins



# Infusion

- Introduction of a solution through a blood vessel via a catheter lumen
- Includes:
  - Continuous infusions such as nutritious fluids or medications, or
  - Intermittent infusions such as flushes or IV antimicrobial administration
  - Administration of blood or blood products in the case of transfusion or hemodialysis





- In neonates, the umbilical artery is considered a great vessel
- Neither the location of the insertion site nor the type of device may be used to determine if a line qualifies as a central line
- Pacemaker wires and other non-lumened devices inserted into central blood vessels or the heart are not considered central lines, because fluids are not infused, pushed, nor withdrawn through such devices.



# Transfer Rule

- If the BSI develops in a patient within 48 hours of transfer from one inpatient location to another, indicate the *transferring* location on the infection report.

Example: A patient with a central line is transferred from the Orthopedic ward to the Medical/Surgical ICU on Monday. On Tuesday afternoon, he spikes a fever and is determined to have a CLABSI. The location of the CLABSI is recorded as the Orthopedic ward.

- NOTE: It is not required to monitor for CLABSIs after the patient is discharged from the facility. However, if discovered, they should be reported to NHSN. No additional central line days are recorded.



# Types of Central Lines

- Temporary– A central line that is noncuffed and nontunneled
- Permanent– A central line that is cuffed and tunneled
- Umbilical Catheter – Central vascular device inserted through the umbilical artery or vein in a neonate



# CLABSI Numerator Data

- Use a Primary Bloodstream Infection (BSI) form for each CLABSI that is identified during the month (Form CDC 57.108).
- Indicate the specific criteria used to identify the BSI\*
  - Note that laboratory-confirmed bloodstream infection (LCBI) criterion 3 is restricted to patients  $\leq 1$  year of age, but criteria 1 and 2 can be used for patients of any age, including those  $\leq 1$  year of age .

\* See NHSN Manual: Patient Safety Component Protocol

# LCBI – Criterion 1



Patient has a recognized pathogen cultured from one or more blood cultures  
and  
organism cultured from blood is not related to an infection at another site.



**Example: Jon Smith had a PICC line inserted on admission. On hospital day 4, he became confused and experienced chills. Blood cultures were drawn which grew *Enterococcus faecalis*. There was no infection at any other body site.**

**Mr. Smith's infection meets LCBI criterion 1.**

One or more blood cultures means that at least one bottle from a blood draw is reported by the laboratory as having grown organisms (i.e., is a positive blood culture).

Recognized pathogen does not include organisms considered common skin contaminants. A few of the recognized pathogens are *Staphylococcus aureus*, *Enterococcus* species, *Escherichia coli*, *Pseudomonas* species, *Klebsiella* species, *Candida* species, etc.





# LCBI – Criterion 2

Criterion 2: Patient has at least one of the following signs or symptoms: fever (>38°C), chills, or hypotension  
and  
signs and symptoms and positive laboratory results are not related to an infection at another site  
and  
common skin contaminant (i.e., diphtheroids [*Corynebacterium* spp.], *Bacillus* [not *B. anthracis*] spp., *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*], viridans group streptococci, *Aerococcus* spp., *Micrococcus* spp.) is cultured from two or more blood cultures drawn on separate occasions.



**The phrase “two or more blood cultures drawn on separate occasions” means:**

- 1. That blood from at least two blood draws were collected within two days of each other, and**
- 2. That at least one bottle from each blood draw is reported by the laboratory as having grown the same common skin contaminant organism (i.e., is a positive blood culture)**

**Note: If special pediatric blood culture bottles are used, only one bottle may be inoculated per blood draw. Therefore, to meet this part of the criterion, two would have to be culture-positive.**



# LCBI – Criterion 3

Criterion 3: Patient  $\leq 1$  year of age has at least one of the following signs or symptoms: fever ( $>38^{\circ}\text{C}$ , rectal), hypothermia ( $<37^{\circ}\text{C}$ , rectal), apnea, or bradycardia and signs and symptoms and positive laboratory results are not related to an infection at another site and common skin contaminant (i.e., diphtheroids [*Corynebacterium* spp.], *Bacillus* [not *B. anthracis*] spp., *Propionibacterium* spp., coagulase-negative staphylococci [including *S. epidermidis*], viridans group streptococci, *Aerococcus* spp., *Micrococcus* spp.) is cultured from two or more blood cultures drawn on separate occasions.

**Note that although Criterion 3 can only be used for infants and neonates, criteria 1 and 2 can also be used in this age group.**



# Determining “sameness” of two organisms



If the common skin contaminant from one culture is identified to both genus and species level (e.g., *Staphylococcus epidermidis*) and the companion culture identifies only the genus with or without other attributes (in this example, coagulase negative staphylococci), then it is assumed that the organisms are the same.

The more specific organism should be reported in NHSN; in this example *S. epidermidis*, would be reported. See other examples below:

Culture	Companion Culture	Report as...
<i>Bacillus</i> spp. (not <i>anthracis</i> )	<i>B. cereus</i>	<i>B. cereus</i>
<i>S. salivarius</i>	<i>Strep viridans</i>	<i>S. salivarius</i>

# Determining “sameness” of two organisms (cont.)

If common skin contaminant organisms are speciated (e.g., both are *Bacillus cereus*), but no antibiograms are done, or they are done for only one of the isolates, it is assumed that the organisms are the same.



# Determining “sameness” of two organisms (cont.)



If the common skin contaminants from the cultures have antibiograms that are different for two or more antimicrobial agents, it is assumed that the organisms are not the same.

## Examples:

Organism Name	Isolate A	Isolate B	Interpret as...
<i>S. epidermidis</i>	All drugs S	All drugs S	Same
<i>S. epidermidis</i>	OX R CEFAZ R	OX S CEFAZ S	Different
<i>Corynebacterium spp.</i>	PENG R CIPRO S	PENG S CIPRO R	Different
<i>Strep viridans</i>	All drugs S	All drugs S except ERYTH (R)	Same

# Collecting Blood Culture Specimens



Ideally, blood specimens for culture should be obtained from two to four blood draws from separate venipuncture sites (e.g., right and left antecubital veins), not through a vascular catheter.



These blood draws should be performed simultaneously or over a short period of time (i.e., within a few hours).

If your facility does not currently obtain specimens using this technique, you may still report BSIs using the NHSN criteria, but you should work with appropriate personnel to facilitate better specimen collection practices for blood cultures.



# Bloodstream Infection Criteria Summary



## Laboratory Confirmed Bloodstream Infection (LCBI)

1. Any age patient:  $\geq 1$  blood culture with recognized pathogen + no HAI at another site
2. Any age patient:  $\geq 2$  blood cultures drawn on separate occasions positive for the same skin contaminant organism + clinical symptoms + no HAI at another site
3. Infant/neonate:  $\geq 2$  blood cultures drawn on separate occasions positive for the same skin contaminant organism + clinical symptoms + no HAI at another site

# Example of a Completed BSI Form – top section



## Primary Bloodstream Infection (BSI)

OMB No. 0920-066  
Exp. Date: 09-30-2011

Page 1 of 3

*required for saving		*required for completion	
Facility ID: 10000		Event #: 2488	
Patient ID: 123456		Social Security #:	
Secondary ID:			
Patient Name, Last: Smith	First: Jane	Middle:	
*Gender: <input checked="" type="radio"/> F <input type="radio"/> M	*Date of Birth: 08/12/1956		
Ethnicity (specify):	Race (specify):		
*Event Type: BSI	*Date of Event: 02/16/2009		
Post-procedure BSI: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date of Procedure:		
NHSN Procedure Code:	ICD-9-CM Procedure Code:		
*MDRO Infection Surveillance: <input type="checkbox"/> Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module			
<input checked="" type="checkbox"/> No, this event's pathogen & location are not in-plan for the MDRO/CDAD Module			
*Date Admitted to Facility: 02/05/2009		*Location: MSICU	

# Example of a Completed BSI Form



## Primary Bloodstream Infection (BSI)

OMB No. 0920-  
Exp. Date: 09-30-

Page 1 of 3

*required for saving    **required for completion		
Facility ID: 10000	Event #: 2488	
*Patient ID: 123456	Social Security #:	
Secondary ID:		
Patient Name, Last: Smith	First: Jane	Middle:
*Gender: <input checked="" type="radio"/> F   M	*Date of Birth: 08/12/1956	
Ethnicity (specify):	Race (specify):	
*Event	<b>Required patient demographic fields (marked with *):</b> <b>*Patient ID</b> <b>*Gender</b> <b>*Date of Birth</b>	
Post-pr		
NHSN P		
*MDRO		
*Date Admitted to Facility: 02/05/2009	*Location: MSICU	

# Example of a Completed BSI Form



## Primary Bloodstream Infection (BSI)

OMB No. 0920-066  
Exp. Date: 09-30-2011

Page 1 of 3

*Required for reporting		*Required for completion	
Facility ID: 10000	Event #: 2008		
*Patient ID: 123456	Social Security #:		
Secondary ID:			
Patient Name, Last: Smith		First: Jane	Middle:
*Gender: <input checked="" type="radio"/> F <input type="radio"/> M	*Date of Birth: 08/12/1956		
Ethnicity (specify):		Race (specify):	
*Event Type: BSI		*Date of Event: 02/16/2009	
Post-procedure BSI: Yes No		Date of Procedure:	
NHSN Procedure Code:		ICD-9-CM Procedure Code:	
*MDRO Infection Surveillance: <input type="checkbox"/> Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module <input checked="" type="checkbox"/> No, this event's pathogen & location are not in-plan for the MDRO/CDAD Module			
*Date Admitted to Facility: 02/05/2009		*Location: MSICU	

**Required Event fields:**

**\*Date of Event**

**\*Date Admitted to Facility**

**\*Event Type**

**\*MDRO Infection Surveillance**

**\*Location**





# Example of a Completed BSI Form



## Primary Bloodstream Infection (BSI)

OMB No. 0920-0045

Exp. Date: 09-30-20

Page 1 of 3

*Required for coding		*Required for completion	
Facility ID: 00000		Event #: 2000	
*Patient ID: 123456		Social Security #:	
Secondary ID:			
Patient Name, Last: Smith		First: Jane	Middle:
*Gender: <input checked="" type="radio"/> F <input type="radio"/> M		*Date of Birth: 08/12/1956	
Ethnicity (specify):		Race (specify):	
*Event Type: BSI		*Date of Event: 02/16/2009	
Post-procedure BSI: Yes No		Date of Procedure:	
NHSN Procedure Code:		ICD-9-CM Procedure Code:	

\*MDRO Infection Surveillance  Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module  
 No, this event's pathogen & location are not in-plan for the MDRO/CDAD Module

\*Date Admitted to

**MDRO Infection Surveillance: Check "Yes" if this BSI's pathogen and location are in-Plan for the MDRO & CDAD Module; otherwise, check "No".**

# Example of a Completed BSI Form



## Primary Bloodstream Infection (BSI)

OMB No. 0920-066  
Exp. Date: 09-30-2011

Page 1 of 3

*required for saving    **required for completion	
Facility ID: <b>10000</b>	Event #: <b>2488</b>
*Patient ID: <b>123456</b>	Social Security #:
Secondary ID:	
Patient Name Last: <b>Smith</b>	First: <b>Jane</b> Middle:
*Gender: <input checked="" type="radio"/> F <input type="radio"/> M	*Date of Birth: <b>08/12/1956</b>
Ethnicity (specify):	Race (specify):
*Event Type: <b>BSI</b>	*Date of Event: <b>02/16/2009</b>
Post-procedure BSI: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date of Procedure:
NHSN Procedure Code:	ICD-9-CM Procedure Code:

\*MDRO Infection Surveillance:  Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module  
 No, this event's pathogen & location are **not** in-plan for the MDRO/CDAD Module

\*Date Admitted to Facility: **02/05/2009**      \*Location: **MSICU**

**Date Admitted to Facility:** The date the patient was admitted to this facility.

# Example of a Completed BSI Form



## Primary Bloodstream Infection (BSI)

OMB No. 0920-056  
Exp. Date: 09-30-2011

Page 1 of 3

\*required for saving \*\*required for completion

Facility ID: 10000

Event #: 2488

\*Patient ID: 123456

Social Security #:

Secondary ID:

Patient Name Last: Smith

First: Jane

Middle:

\*Gender:  M

\*Date of Birth: 08/12/1956

Ethnicity (specify):

Race (specify):

\*Event Type: BSI

\*Date of Event: 02/16/2009

Post-procedure BSI? Yes No

Date of Procedure:

NHSN Procedure Code:

ICD-9-CM Procedure Code:

\*MDRO Infection Surveillance:  Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module

No, this event's pathogen & location are not in-plan for the MDRO/CDAD Module

\*Date Admitted to Facility: 02/05/2009

\*Location: MSICU

**Location:** The patient care area to which this patient was assigned at the time the BSI was identified.

# Risk Factors – ICU/Other Locations

## Risk Factors

\*If ICU/Other locations, Central line:

Yes

No

\*If Specialty Care Area,

Permanent central line:

Yes

No

Temporary central line:

Yes

No

\*If NICU

Yes

No

Yes

No

**For an ICU patient, in the Risk Factors section, circle "Yes" if the patient had one or more central lines.**

**If the patient is on a patient care area that is not an ICU, SCA or NICU, circle "Yes" if the patient had one or more central lines.**

# Risk Factors – Specialty Care Area (SCA)

Risk Factors		
*If ICU/Other locations, Central line:	Yes	No
*If Specialty Care Area,		
Permanent central line:	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Temporary central line:	<input checked="" type="radio"/> Yes	<input type="radio"/> No
*If NICU,		
Central line:	Yes	No
Umbilical catheter:	Yes	No
Birth weight (grams):		

**For SCA, note that a response is required for both “Permanent central line” and for “Temporary central line”.**

# Risk Factors -- NICU

Risk Factors		
*If ICU/Other locations, Central line:	Yes	No
*If Specialty Care Area,		
Permanent central line:	Yes	No
Temporary central line:	Yes	No
*If NICU,		
Central line:	Yes	<input checked="" type="radio"/> No
Umbilical catheter:	<input checked="" type="radio"/> Yes	No
Birth weight (grams):	<input checked="" type="text" value="1888"/>	

Event Details

**For NICU, the birthweight and the line type are required.**

# Risk Factors – Optional Fields

## Risk Factors

\*If ICU/Other locations, Central line: Yes No  
\*If Specialty Care Area,  
Permanent central line: Yes No  
Temporary central line: Yes No  
\*If NICU,  
Non-umbilical Central line: Yes No  
Umbilical catheter: Yes No  
Birth weight (grams):

Location of Device Insertion: \_\_\_\_\_

Date of Device Insertion: \_\_/\_\_/\_\_\_\_

## Event Details

\*Specific Event:

Laboratory-confirmed

\*Specify Criteria Used:

Signs & Symptoms (check all that apply)

Any patient

≤1 year of age

Fever

Fever

Chills

Hypotension

Hypotension

Apnea

Bradycardia

**Location of Device Insertion and Date of Device Insertion are optional fields for identifying the patient care area on which the patient was located at the time of central line insertion.**

# Event Details Section



## Event Details

\*Specific Event: Laboratory-confirmed

### \*Specify Criteria Used:

#### Signs & Symptoms (check all that apply)

Any patient

Fever

Chills

Hypotension

Sepsis

Fever

Hypotension

Agitation

Bradycardia

#### Laboratory (check one)

Recognized pathogen from one of the listed cultures

Culture also confirmed from test typed culture

\*\*Died: Yes

Discharge Date:

There is only one **Specific Event** type for BSI: **Laboratory-confirmed**. Check the elements of the **specific criterion** that were used to identify this CLABSI.

# Event Details Section



**Died:** If the patient died before discharge, circle "Yes"; otherwise, circle "No".

**BSI Contributed to Death:** If "Died" is Yes, then circle "Yes" if the BSI caused the patient's death or exacerbated an existing disease which then lead to death; otherwise, circle "No".

**Pathogens Identified: Yes:** Specify organism and antibiogram on back of form.

Event Details

\*Specific Event

\*Specify Criteria

Signs & Symptoms

Any patient

Fever

Chills

Hypotension

**Died: Yes <input type="radio"/> No <input checked="" type="radio"/>	BSI Contributed to Death: Yes <input type="radio"/> No <input type="radio"/>
Discharge Date:	*Pathogens Identified: Yes <input type="checkbox"/> *Specify on page 2

# Pathogen Data

- List up to 3 pathogens for each CLABSI identified (in rank order of importance)
- For each pathogen, complete information about antimicrobial susceptibilities
- Only certain bug/drug combinations are required but up to 20 drugs can be listed with susceptibilities

# Example of Completed BSI Form (back)



## Primary Bloodstream Infection (BSI)

Page 2 of 3

OMB No. 0920-0001  
Exp. Date: 03-31-2011

Pathogen #	Gram-positive Organisms
1	Coagulase-negative staphylococci (specify): <u>VANC</u> <u>S</u> <u>R</u> <u>N</u>
2	<i>Enterococcus faecalis</i> : AMP <u>S</u> <u>R</u> <u>N</u> DAPTO <u>S</u> <u>R</u> <u>N</u> LNZ <u>S</u> <u>R</u> <u>N</u> PENG <u>S</u> <u>R</u> <u>N</u> VANC <u>S</u> <u>R</u> <u>N</u>
3	<i>Enterococcus faecium</i> : AMP <u>S</u> <u>R</u> <u>N</u> DAPTO <u>S</u> <u>R</u> <u>N</u> LNZ <u>S</u> <u>R</u> <u>N</u> PENG <u>S</u> <u>R</u> <u>N</u> QUIDAL <u>S</u> <u>R</u> <u>N</u> VANC <u>S</u> <u>R</u> <u>N</u>
4	Staphylococci: AMP <u>S</u> <u>R</u> <u>N</u> DAPTO <u>S</u> <u>R</u> <u>N</u> LNZ <u>S</u> <u>R</u> <u>N</u> GENT <u>S</u> <u>R</u> <u>N</u> ENG <u>S</u> <u>R</u> <u>N</u> QUIDAL <u>S</u> <u>R</u> <u>N</u> IMI <u>S</u> <u>R</u> <u>N</u> TMR <u>S</u> <u>R</u> <u>N</u> VANC <u>S</u> <u>R</u> <u>N</u>
Pathogen #	Gram-negative Organisms
5	<i>Acinetobacter</i> spp. (specify): AMK <u>S</u> <u>R</u> <u>N</u> AMPSUL <u>S</u> <u>R</u> <u>N</u> CEFEP <u>S</u> <u>R</u> <u>N</u> CEFTAZ <u>S</u> <u>R</u> <u>N</u> CIPRO <u>S</u> <u>R</u> <u>N</u> GENT <u>S</u> <u>R</u> <u>N</u> IMI <u>S</u> <u>R</u> <u>N</u> LEVO <u>S</u> <u>R</u> <u>N</u> MERO <u>S</u> <u>R</u> <u>N</u> PIPTAZ <u>S</u> <u>R</u> <u>N</u> TOBRA <u>S</u> <u>R</u> <u>N</u>

# CLABSI Denominator Data for ICU and Patient Care Areas that are not SCA or NICU

- Use **Denominators for ICU/Other Locations form**
- At the same time each day, count
  - # patients (i.e., patient days)
  - # patients with one or more central lines (i.e., central line-days)
- Enter the totals within 30 days of the end of the month

# Example of Completed Denominators for ICU/Other Locations Form



## Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

OMB No. 0920-0668  
Exp. Date: 02-29-2009

\* required for saving

\*Facility ID# **10000**      \*Month: **Feb**      \*Year: **2009**      \*Location Code: **MSICU**

Date	*Number of patients	**Number of patients with 1 or more central lines	**Number of patients with a urinary catheter	**Number of patients on a ventilator
1	6	6		
2	8	6		
3	6	4		
4	7	7		
5	6	6		
6	8	6		
7				
8				
9				
10				
11				
31	//	//		
<b>*Totals</b>	<b>151</b>	<b>138</b>		



# CLABSI Denominator Data for Specialty Care Areas (SCA)



- Use **Denominators for Specialty Care Areas (SCA)** form
- At the same time each day, count
  - # patients (i.e., patient days)
  - # patients with one or more central lines (i.e., central line-days) separated into
    - Temporary central lines and
    - Permanent central lines\*
- Enter the totals within 30 days of the end of the month

**\* If a patient has both a temporary and a permanent line, count as a patient with only a temporary line.**

# Example of Completed Denominators for SCA Form



## Denominators for Specialty Care Area (SCA)

OMB No. 0920-0666  
Exp. Date: 02-29-2008

\* required for saving

*Facility ID# : 10000 *Month: Jan *Year: 2009 *Location Code: LTAC					
Date	*Number of patients	**Number of patients with 1 or more central lines (if patient has both, count as Temporary)		**Number of patients with a urinary catheter	**Number of patients on a ventilator
		Temporary	Permanent		
1					
2	4	1	3		
3	6	4	1		
4	7	1	4		
5	4	2	0		
6	4	4	4		
7	6	4	2		
26					
27					
28					
29					
30	//		//		
31	//		//		
<b>*Totals</b>	<b>141</b>	<b>84</b>	<b>14</b>		

# CLABSI Denominator Data for NICU

- Use **Denominators for NICU** form
- At the same time each day, count for each birthweight category:
  - # patients (i.e., patient days)
  - # patients with one or more central lines (i.e., central line-days) separated into central lines and umbilical catheters\*
- Enter the totals within 30 days of the end of the month

\*If an infant has both an umbilical catheter and a central count as a patient with only an umbilical line.



# NICU Birthweight Categories

- $\leq 750$  grams
  - 751-1000 grams
  - 1001-1500 grams
  - 1501-2500 grams
  - $>2500$  grams
-

# Example of Completed Denominators for NICU Form



## Denominators for Neonatal Intensive Care Unit (NICU)

OMB No. 0920-0666  
Exp. Date: 02-29-2008

\* required for saving

\*Facility ID# : **10000** \*Month: **Jan** \*Year: **2009** \*Location Code: **NICUW**

### Birth Weight Categories

Date	<750 gm				751-1000 gm				1001-1500 gm				1501-2500 gm				>2500 gm			
	*Pts	**U/C	**CL	**VNT	*Pts	**U/C	**CL	**VNT	*Pts	**U/C	**CL	**VNT	*Pts	**U/C	**CL	**VNT	*Pts	**U/C	**CL	**VNT
1	4	4	0		4	0	4		4	4	4		4	1	2		6	1	4	
2	6	2	3		6	0	6		6	6	6		4	1	2		6	1	4	
3	7	6	0		7	1	4		7	7	7		1	1	0		4	0	4	
4	4	4	0		4	0	4		4	1	2		4	1	2		4	0	4	
5	4	2	1		4	4	4		4	4	4		4	4	4		5	1	4	
6	6	3	3		5	3	1		1	1	0		6	1	4		4	0	4	
7	5	2	3		3	0	3		1	1	0		5	5	0		4	0	4	
8	4	0	4		0	0	0		1	1	0		5	5	0		4	0	4	
27																				
28																				
29																				
30		//				//				//				//				//		
31		//				//				//				//				//		
*Total	116	62	44		100	44	31		88	63	16		101	68	24		116	7	100	

Pts=number of infants U/C=number of infants with umbilical catheter CL=number of infants with 1 or more central lines  
VNT=number of infants on a ventilator \*if infant has both a U/C and CL, count as U/C infant only for the day

\*\* Conditionally required according to the events indicated in Plan

# Required Fields for Summary (Denominator) Data

- Based on the Monthly Reporting Plan



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

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- [Procedure](#)
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Logged into DHQP Memorial Hospital (ID: 10000) as TCH.  
Facility DHQP Memorial Hospital (ID: 10000) is following the PS component.

## View Monthly Reporting Plan

[Print PDF Form](#)

Mandatory fields marked with \*

Facility ID\*: DHQP Memorial Hospital (10000)  
Month\*: October  
Year\*: 2009

### Device-Associated Module [HELP](#)

Locations	CLA	BSI	DE	VAP	CAUTI	CLIP
CMICU - CARDIAC ICU	X			X	X	

# Required denominators will appear with an asterisk (\*) only if included in the Monthly Reporting Plan

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Logged into DHQP Memorial Hospital (ID: 10000) as TCH.

Facility DHQP Memorial Hospital (ID: 10000) is following the PS component:

## Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

[HELP](#)

Mandatory fields marked with \*

[Print PDF Form](#)

Facility ID\*: 10000 (DHQP Memorial Hospital)

Location Code\*: CMICU - CARDIAC ICU

Month\*: October

Year\*: 2009

Total Patient Days\*: 128

Central Line Days\*: 89

Urinary Catheter Days\*: 76

Ventilator Days\*: 68

Note: Only the totals are entered into the data entry screen.

# CLABSI Rate



$$\text{CLABSI Rate}^* = \frac{\text{\# CLABSIs identified}}{\text{\# central line days}} \times 1000$$

\* Stratify by:

- Type of ICU/Other Location
- SCA
  - Catheter type (temporary or permanent)
- NICU
  - Birthweight category
  - Catheter type (umbilical or central)



# Device Utilization (DU) Ratio



$$\text{CL DU Ratio} = \frac{\# \text{ Central line days}}{\# \text{ Patient days}}$$

DU Ratio is the proportion of total patient-days during which central lines were used.

# CLABSI Rate Options



Expand All Collapse All

- Device-Associated Module
  - All Device-Associated Events
  - Central Line-Associated BSI
    - CDC Defined Output
      - Line Listing - All CLAB Events
      - Frequency Table - All CLAB Events
      - Bar Chart - All CLAB Events
      - Pie Chart - All CLAB Events
      -  Rate Table - CLAB Data for ICU-Other
      - Control Chart - CLAB Data for ICU-Other
      -  Rate Table - UCAB/CLAB Data for NICU
      - Control Chart - UCAB/CLAB Data for NICU
      -  Rate Table - CLAB Data for SCA
      - Control Chart - CLAB Data for SCA
    - Custom Output
  - Ventilator-Associated PNEU
  - Urinary Catheter-Associated UTI
  - Central Line Insertion Practices



# CLABSI Rate Tables



National Healthcare Safety Network

Rate Table for Central Line-Associated BSI Data for ICU-Other

As of: September 22, 2009 at 1:28 PM

Date Range: All CLAB\_RATESICU

orgID=10018 loccdc=IN:ACUTE:CC:M

Location	summaryYM	CLABCount	numCLDays	CLABRate	CLAB_Mean	IDR_pval	IDR_pctl	numPatDays	LineDU	LineDU_Mean	P_pval	P_pctl
MICU	2005M06	0	110	0.0	2.4	0.7714	10	299	0.37	0.58	0.0000	23
MICU	2005M07	0	266	0.0	2.4	0.5339	10	401	0.66	0.58	0.0004	78
MICU	2005M08	1	238	4.2	2.4	0.4296	80	494	0.48	0.58	0.0000	39
MICU	2005M09	0	288	0.0	2.4	0.5069	10	447	0.64	0.58	0.0030	58
MICU	2006M01	0	214	0.0	2.4	0.6036	10	439	0.49	0.58	0.0001	39
MICU	2006M02	1	302	3.3	2.4	0.5096	71	481	0.63	0.58	0.0168	58
MICU	2006M03	2	169	11.8	2.4	0.0612	100	401	0.42	0.58	0.0000	23
MICU	2006M11	0	100	0.0	2.4	0.7899	10	388	0.26	0.58	0.0000	13
MICU	2007M01	0	115	0.0	2.4	0.7624	10	330	0.35	0.58	0.0000	13
MICU	2007M02	0	219	0.0	2.4	0.5965	10	309	0.71	0.58	0.0000	78
MICU	2007M03	0	114	0.0	2.4	0.7642	10	385	0.30	0.58	0.0000	13

# CLABSI Rate Tables



National Healthcare Safety Network

Rate Table for Umb Cath/Central Line-Associated BSI Data for NICU

As of: September 12, 2009 at 1:31 PM

Date Range: All CLAB\_RATES(NICU)

orgID=10018 loccdc=IN:ACUTE:CC:NURS

## Non-umbilical CLABSI Rates (CLAB rate)

location	birthwtcode	clabcount	numclays	CLABRate	CLAB_Mean	IDR1_pval	IDR1_pctl	numptdays	LineDU	LineDU_Mean	P1_pval	P1_pctl
NICU	A	0	172	0.0	3.7	0.5294	25	504	0.34	0.34	0.2911	29
NICU	B	0	116	0.0	3.3	0.6791	25	375	0.31	0.32	0.4104	47
NICU	C	0	109	0.0	2.6	0.7551	25	290	0.38	0.23	0.0000	91
NICU	D	0	124	0.0	2.4	0.7459	25	580	0.21	0.16	0.0005	75
NICU	E	0	111	0.0	2.0	0.7972	50	406	0.27	0.20	0.0001	90

Source of aggregate data: HHS Report, Am J Infect Control 2008;36:409-26

Data contained in this report were last generated on September 11, 2009 at 9:05 AM.

National Healthcare Safety Network

Rate Table for Umb Cath/Central Line-Associated BSI Data for NICU

As of: September 12, 2009 at 1:31 PM

Date Range: All CLAB\_RATES(NICU)

orgID=10018 loccdc=IN:ACUTE:CC:NURS

## Umbilical Catheter CLABSI Rates (UCAB rate)

location	birthwtcode	ucabcount	numumbdays	UCABRate	UCAB_Mean	IDR2_pval	IDR2_pctl	numptdays	UmbCDU	UmbCDU_Mean	P2_pval	P2_pctl
NICU	A	0	202	0.0	4.7	0.3860	50	504	0.40	0.11	0.0000	97
NICU	B	1	160	6.3	2.6	0.3397	82	375	0.43	0.10	0.0000	99
NICU	C	2	124	16.1	1.9	0.6242	100	290	0.43	0.08	0.0000	100
NICU	D	0	360	0.0	0.9	0.7183	75	580	0.62	0.07	0.0000	100
NICU	E	0	157	0.0	1.0	0.8604	75	406	0.39	0.10	0.0000	100

Source of aggregate data: HHS Report, Am J Infect Control 2008;36:409-26

Data contained in this report were last generated on September 11, 2009 at 9:05 AM.

# CLABSI Rate Tables



National Healthcare Safety Network

Rate Table for Central Line-Associated BSI Data for SCA

As of: September 22, 2009 at 1:38 PM

Date Range: All CLAB\_RATES\_SCA

## Permanent Central Line CLABSI Rates (PCLAB Rate)

orgID=10018 loccdc=IN:ACUTE:SCA:BMT

location	pclabcount	numpatdays	PCLABRate	PCLAB_Mean	IDR1_pval	IDR1_pctl	numpatdays	PLineDU	PLineDU_Mean	P1_pval	P1_pctl
BMT	0	558	0.0	3.9	0.1139	.	1790	0.31	0.67	0.0000	.

Source of aggregate data: NNSH Report, Am J Infect Control 2008;36:609-24

Data contained in this report were last generated on September 11, 2009 at 9:05 AM.

National Healthcare Safety Network

Rate Table for Central Line-Associated BSI Data for SCA

As of: September 22, 2009 at 1:38 PM

Date Range: All CLAB\_RATES\_SCA

## Temporary Central Line CLABSI Rates (TCLAB Rate)

orgID=10018 loccdc=IN:ACUTE:SCA:BMT

location	tclabcount	numtcldays	TCLABRate	TCLAB_Mean	IDR2_pval	IDR2_pctl	numpatdays	TLineDU	TLineDU_Mean	P2_pval	P2_pctl
BMT	5	481	10.4	.	.	.	1790	0.27	.	.	.

Source of aggregate data: NNSH Report, Am J Infect Control 2008;36:609-24

Data contained in this report were last generated on September 11, 2009 at 9:05 AM.

# Interpreting CLABSI Rates



Location	Birth Wt Code	CLA BSI Count	Central Line Days	CLA BSI Rate	NHSN CLAB Pooled Mean	Incidence Density p-value #1	Incidence Density Percentile #1	Patient Days	CL Util Ratio	NHSN Line DU Pooled Mean	Proportion p-value #1	Proportion Percentile #1
NICU3	A	0	248	0.0	6.4	0.2049	10	552	0.45	0.32	0.0000	68
NICU3	B	4	214	18.7	4.4	0.0158	97	549	0.39	0.31	0.0000	65
NICU3	C	1	240	4.2	4.8	0.6764	54	730	0.33	0.23	0.0000	67
NICU3	D	0	162	0.0	4.2	0.5068	50	490	0.33	0.17	0.0000	79
NICU3	E	0	61	0.0	3.1	0.8277	50	335	0.18	0.21	0.0893	66

- This table shows data for a Neonatal ICU (NICU).
- During the time period, the NICU reported 4 central line-associated BSIs and a total of 214 days in which patients had central lines (central line days) in birthweight category B (751-1000 grams).
- Dividing 4 (numerator) by 214 (denominator) and multiplying by 1000 gives this birthweight category in the NICU a CLABSI rate of 18.7 per 1000 central line days.

# Interpreting CLABSI Rates



Location	Birth Wt Code	CLA BSI Count	Central Line Days	CLA BSI Rate	NHSN CLAB Pooled Mean	Incidence Density p-value #1	Incidence Density Percentile #1	Patient Days	CL Util Ratio	NHSN Line DU Pooled Mean	Proportion p-value #1	Proportion Percentile #1
NICU3	A	0	248	0.0	6.4	0.2049	10	552	0.45	0.32	0.0000	68
NICU3	B	4	214	18.7	4.4	0.0158	97	549	0.39	0.31	0.0000	65
NICU3	C	1	240	4.2	4.8	0.6764	54	730	0.33	0.23	0.0000	67
NICU3	D	0	162	0.0	4.2	0.5068	50	490	0.33	0.17	0.0000	79
NICU3	E	0	61	0.0	3.1	0.8277	50	335	0.18	0.21	0.0893	66

- When compared to the NHSN mean rate of 4.4, this NICUs rate is at the 97th percentile, which means that 97% of all reporting NICUs in that birthweight category had a rate at or below this one.
- The p-value indicates that the difference in these two incidence density rates is statistically significant ( $p = 0.0158$ ).

# Interpreting CLABSI Rates



Location	Birth Wt Code	CLA BSI Count	Central Line Days	CLA BSI Rate	NHSN CLAB Pooled Mean	Incidence Density p-value #1	Incidence Density Percentile #1	Patient Days	CL Util Ratio	NHSN Line DU Pooled Mean	Proportion p-value #1	Proportion Percentile #1
NICU3	A	0	248	0.0	6.4	0.2049	10	552	0.45	0.32	0.0000	68
NICU3	B	4	214	18.7	4.4	0.0158	97	549	0.39	0.31	0.0000	65
NICU3	C	1	240	4.2	4.8	0.6764	54	730	0.33	0.23	0.0000	67
NICU3	D	0	162	0.0	4.2	0.5068	50	490	0.33	0.17	0.0000	79
NICU3	E	0	61	0.0	3.1	0.8277	50	335	0.18	0.21	0.0893	66

- There were 549 patient days reported for this birthweight category in the NICU during this time period.
- Dividing 214 (central line days) by 549 yields a device utilization ratio of 0.39.
- When compared to the NHSN mean device utilization ratio of 0.31, this NICU's device utilization ratio for birthweight category B is at the 65th percentile, which means that 65% of all reporting NICUs in this birthweight category had a ratio at or below this one.
- The p-value indicates that the difference in these two ratios is statistically significant ( $p < 0.00001$ ).



Information on CLABSI protocol and forms:

[http://www.cdc.gov/nhsn/psc\\_da.html](http://www.cdc.gov/nhsn/psc_da.html)

Questions: [nhsn@cdc.gov](mailto:nhsn@cdc.gov)



# Procedure-associated Module: Protocols and Definitions

Division of Healthcare Quality Promotion

**SAFER • HEALTHIER • PEOPLE™**



# Target Audience

- This training is designed for those who will collect and analyze Patient Safety Component data or enroll a hospital into NHSN

This includes the following:

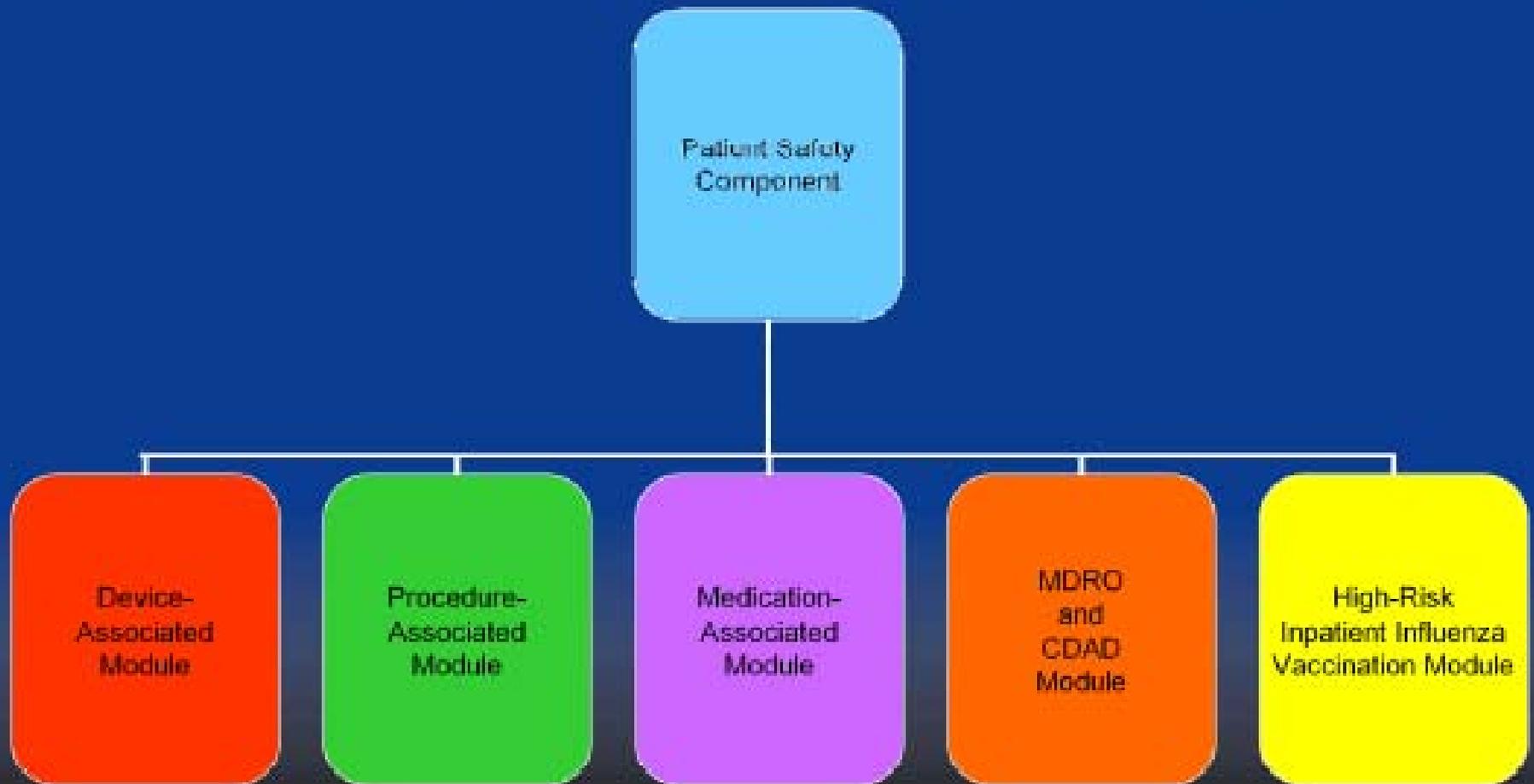
- NHSN Facility Administrator
- Patient Safety Primary Contact
- Infection Control Professional (ICP)
- Epidemiologist
- Microbiologist
- Pharmacist
- Data entry staff



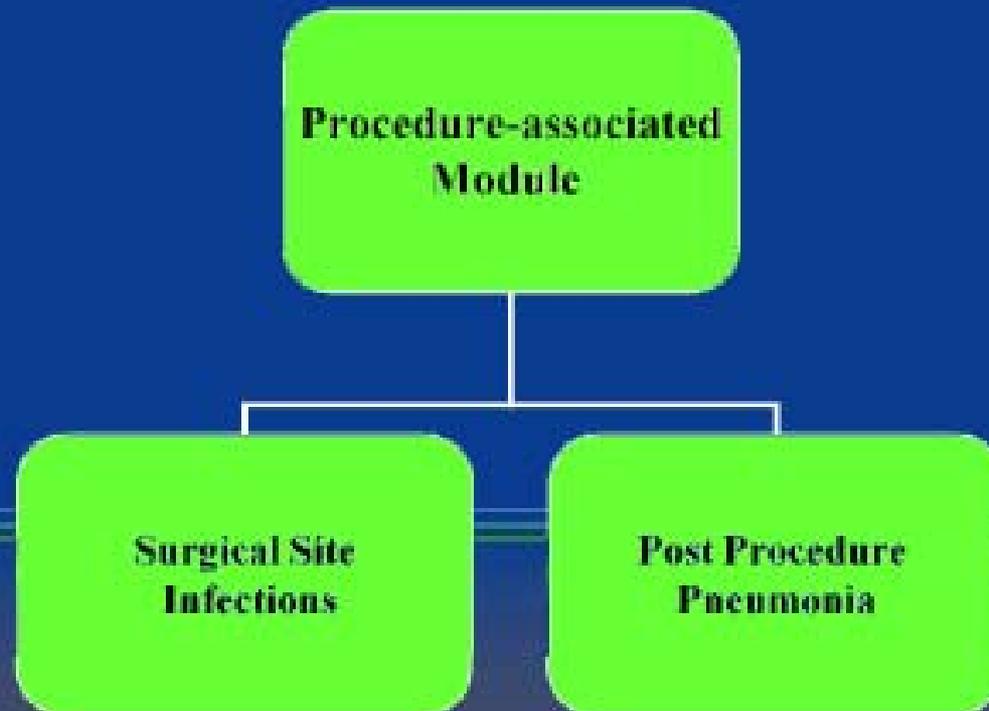
# Objectives

1. Describe the NHSN Procedure-associated Module
2. Review key terms and definitions of infection and data fields used for reporting surgical site infection (SSI) and post-procedure pneumonia (PPP) events
3. Define the rates obtained using this module

# National Healthcare Safety Network (NHSN)



# Procedure-associated Module Components





# NHSN Surveillance Methodology

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



# Procedure-associated Module Protocol

- First, choose which procedures\* will be monitored during the month
  - Indicate the procedure category
  - Indicate whether the procedure was performed on inpatients only, or outpatients only, or both in- and outpatients
  - Example: Cholecystectomy procedures (CHOL) for in- and outpatients (BOTH)

\*Currently, the only procedures included in the protocol are “NHSN Operative Procedures”



# Procedure-associated Module Protocol

- Second, for the procedure(s) selected, choose which events will be monitored
  - Surgical site infections (SSI)
  - Post-procedure pneumonia (PPP)



# Monthly Reporting Plan



- When following the Procedure-associated module, enter the procedures and events into the Monthly Reporting Plan
- Remember, the Monthly Reporting Plan informs CDC which modules a facility is following during a given month
- A facility must enter a Plan for every month of the year, even those in which no modules are followed
- A facility may enter data only for months in which Plans are on file

# Monitoring of Device- and Procedure-associated Events

**Device-Associated Module**

Locations	CLA	BSI	DI	VAP	CAUTI
2 EAST - HEM/Onc	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SICU - SURGICAL ICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NICU3 - LEVEL 3 NICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OUTDIAL - OUTPATIENT DIALYSIS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Rows Clear All Rows Copy from Previous Month

---

**Procedure-Associated Module**

Procedures	SSI	Post-procedure PNEU
CRAN - Craniotomy	IN - Inpatient	IN - Inpatient
CHOL - Gallbladder surgery	BOTH - In and outpatient	
HPRO - Hip prosthesis	IN - Inpatient	



# NHSN Operative Procedure

- An operative procedure ...
  - Is performed on a patient who is an NHSN inpatient or an NHSN outpatient
  - Takes place during an operation where a surgeon makes a skin or mucous membrane incision (including laparoscopic approach) and primarily closes the incision before the patient leaves the operating room
  - Is represented by an NHSN operative procedure code



# NHSN Operative Procedures

- Each NHSN operative procedure category consists of a group of ICD-9-CM codes

Example: CBGB (CABG with chest and donor site incisions) = ICD-9 codes 36.10 – 36.14, 36.19

- When monitoring a specific NHSN operative procedure category, all the ICD-9 codes within that category that are done in your facility must be followed



# NHSN Inpatient

- A patient whose date of admission to the healthcare facility and the date of discharge are different calendar days



# NHSN Outpatient

- A patient whose date of admission to the healthcare facility and date of discharge are the same calendar day



# Operating Room

- A patient care area that meets the American Institute of Architects (AIA) criteria for an operating room
  - May include an operating room, c-section room, interventional radiology room, or cardiac cath lab
- 
-



# Examples of SSI Data Sources

- Microbiology reports
- Infection control rounds on nursing units
- Pharmacy reports for antimicrobial use
- Temperature chart
- Operating room report of surgeries
- Use post-discharge surveillance methods for SSI



# Examples of SSI - Postdischarge Sources

- Readmission to hospital
- Emergency Department or Clinic records
- Health care system/HMO may have pharmacy records for antimicrobial agents
- Surgeon surveys – phone or mail
- Patient surveys – less reliable



# Superficial Incisional SSI

Infection occurs within 30 days after the operative procedure  
and  
involves only skin and subcutaneous tissue of the incision  
and

patient has at least one of the following:

- purulent drainage from the superficial incision.
- organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision.
- at least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat, and superficial incision is deliberately opened by surgeon, and is culture-positive or not cultured. A culture-negative finding does not meet this criterion.
- diagnosis of superficial incisional SSI by the surgeon or attending physician.



# Deep Incisional SSI



Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operative procedure

and

involves deep soft tissues (e.g., fascial and muscle layers) of the incision

and

patient has at least one of the following:

- purulent drainage from the deep incision but not from the organ/space component of the surgical site
- deep incision spontaneously dehisces or is deliberately opened by a surgeon and is culture-positive or not cultured when the patient has at least one of the following signs or symptoms: fever ( $>38^{\circ}\text{C}$ ), or localized pain or tenderness. A culture-negative finding does not meet this criterion.
- an abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination
- diagnosis of a deep incisional SSI by a surgeon or attending physician.



# Definitions

- Superficial Incisional Primary (SIP) – a superficial incisional SSI that is identified in the primary incision in the patient that has had an operation with one or more incisions (e.g., C-section incision or chest incision for CBGB)
- Deep Incisional Primary (DIP) – a deep incisional SSI that is identified in a primary incision in the patient that has had an operation with one or more incisions



# Definitions

- Superficial Incisional Secondary (SIS) - a superficial incisional SSI that is identified in the secondary incision in the patient that has had an operation with more than one incision (e.g., donor site [leg] incision for CBGB)
- Deep Incisional Secondary (DIS) - a deep incisional SSI that is identified in the secondary incision in the patient that has had an operation with more than one incision (e.g., donor site [leg] incision for CBGB)

# Organ /Space SSI



Infection occurs within 30 days after the operative procedure if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operative procedure

and

infection involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure

and

patient has at least one of the following:

- purulent drainage from a drain that is placed through a stab wound into the organ/space
- organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space
- an abscess or other evidence of infection involving the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiologic examination
- diagnosis of an organ/space SSI by a surgeon or attending physician.



# Organ/Space SSI

- Specific sites are assigned to organ/space SSI to further identify the location of the infection
- Example: Report appendectomy with subsequent subdiaphragmatic abscess as an organ/space SSI at the intraabdominal specific site (SSI-IAB)

# Specific Sites of an Organ/Space SSI



<b>BONE</b>	Osteomyelitis	<b>JNT</b>	Joint or bursa
<b>BRST</b>	Breast abscess or mastitis	<b>LUNG</b>	Other infections of the respiratory tract
<b>CARD</b>	Myocarditis or pericarditis	<b>MED</b>	Mediastinitis
<b>DISC</b>	Disc space	<b>ORAL</b>	Oral cavity
<b>EAR</b>	Ear, mastoid	<b>OREP</b>	Other reproductive tract
<b>EMET</b>	Endometritis	<b>OUTI</b>	Other urinary tract
<b>ENDO</b>	Endocarditis	<b>SA</b>	Spinal abscess without meningitis
<b>EYE</b>	Eye, other than conjunctivitis	<b>SINU</b>	Sinusitis
<b>GIT</b>	GI tract	<b>UR</b>	Upper respiratory tract
<b>IAB</b>	Intraabdominal, NOS	<b>VASC</b>	Arterial or venous
<b>IC</b>	Intracranial, brain abscess or dura	<b>VCUF</b>	Vaginal cuff



# SSI Numerator Data

- Use Surgical Site Infection (SSI) form for each SSI that is identified during the month
- Indicate the specific site of the SSI
  - SIP
  - DIP
  - SIS
  - DIS
  - Organ/Space

# Completed SSI Form

NHSN <small>National Healthcare Safety Network</small>		Surgical Site Infection (SSI)		OMB No. 0938-0105 Exp. Date: 09-30-2012	
*required for saving **required for completion Facility ID:		Event #:			
*Patient ID: <b>1131353</b>		Social Security #:			
Secondary ID:					
Patient Name, Last: <b>Green</b>		First: <b>Kelly</b>			
Middle:					
*Gender: F <input type="radio"/> <b>M</b> <input checked="" type="radio"/>		*Date of Birth: <b>04/13/62</b>			
Ethnicity (Specify):		Race (Specify):			
*Event Type: <b>SSI</b>		*Date of Event: <b>10/25/09</b>			
*NHSN Procedure Code: <b>COLD</b>		ICD-9-CM Procedure Code:			
*Date of Procedure: <b>10/12/09</b>		*Outpatient Procedure: <b>Yes</b> <input checked="" type="radio"/> No <input type="radio"/>			
*MDRO Infection Surveillance: <input type="checkbox"/> Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module <input checked="" type="checkbox"/> No, this event's pathogen & location are <b>not</b> in-plan for the MDRO/CDAD Module					
*Date Admitted to Facility: <b>10/11/09</b>		Location:			
<b>Event Details</b>					
*Specific Event:					
<input type="checkbox"/> Superficial Incisional Primary (SIP)		<input checked="" type="checkbox"/> Deep Incisional Primary (DIP)			
<input type="checkbox"/> Superficial Incisional Secondary (SIS)		<input type="checkbox"/> Deep Incisional Secondary (DIS)			
<input type="checkbox"/> Organ/Space (specify site): _____					
*Specify Criteria Used (check all that apply):					
<b>Signs &amp; Symptoms</b>			<b>Laboratory</b>		
<input type="checkbox"/> Purulent drainage or material			<input checked="" type="checkbox"/> Positive culture		
<input checked="" type="checkbox"/> Pain or tenderness			<input type="checkbox"/> Not cultured		
<input type="checkbox"/> Localized swelling					



# Pathogen Data

- List up to 3 pathogens for each SSI identified (in rank order of importance)
- For each pathogen, complete information about antimicrobial susceptibilities
- Only certain bug/drug combinations are required, but up to 20 drugs can be listed with susceptibilities

# Completed SSI Pathogen Form



## Surgical Site Infection (SSI) Form

CMS No. 0130-0005  
Exp. Date: 03-31-2008

Page 2 of 2

Pathogen #	Gram-positive Organisms
_____	<del>Acinetobacter spp. (neof)</del>
_____	<del>Enterococcus faecalis</del>
_____	<del>Enterococcus faecium</del>
<b>1</b>	<b>Staphylococcus aureus</b> CLIND S <input checked="" type="checkbox"/> R I    DAPTO S <input checked="" type="checkbox"/> I N    ERYTH S <input checked="" type="checkbox"/> R Y    GENT S <input checked="" type="checkbox"/> R I    LNZ S <input checked="" type="checkbox"/> I N    OX S <input checked="" type="checkbox"/> R N    QUIDAL S <input checked="" type="checkbox"/> I N    RIF S <input checked="" type="checkbox"/> I R N    THZ S <input checked="" type="checkbox"/> R    VANC S <input checked="" type="checkbox"/> I R N
Pathogen #	Gram-negative Organisms
_____	<del>Acinetobacter spp. (neof)</del>
_____	<del>Acinetobacter spp.</del>
_____	<del>Enterobacter spp. (neof)</del>
_____	<del>Moraxella catarrhalis</del>

# Completed SSI Data Entry Screen



Patient

Event

Add

Find

Incomplete

Procedure

Summary Data

Import/Export

Analysis

Surveys

Users

Facility

Group

Log Out

Event 2487143 saved successfully.

Mandatory fields marked with \*

Fields required for record completion marked with \*\*

Fields required when in Plan marked with >

[Print P](#)

## Patient Information [HELP](#)

Facility ID\*: DHQP Memorial Hospital (10000)

Event #: 2487143

Patient ID\*: 36912

Social Security #:

Secondary ID:

Last Name: Green

First Name: Kelly

Middle Name:

Gender\*: M - Male

Date of Birth\*: 03/11/1962

Ethnicity: NOHISP - Not Hispanic or Not Latino

Race:  American Indian/Alaska Native

Asian

Black or African American

Native Hawaiian/Other Pacific Islander

White

## Event Information [HELP](#)

Event Type\*: SSI - Surgical Site Infection Date of Event\*: 10/25/2009

NHSN Procedure Code\*: COLO - Colon surgery

ICD-9-CM Code: Outpatient\*: N - No

# Completed SSI Data Entry Screen



Discharge Date:

Pathogens Identified \*:  If Yes, specify below ->

**Pathogens**

Pathogen 1:  \* 10 drugs required

Drug	Result
<input type="text" value="OX - Oxacillin"/>	<input type="text" value="R - Resistant"/>
<input type="text" value="DAPTO - Daptomycin"/>	<input type="text" value="N - Not Tested"/>
<input type="text" value="CLIND - Clindamycin"/>	<input type="text" value="R - Resistant"/>
<input type="text" value="GENT - Gentamicin"/>	<input type="text" value="R - Resistant"/>
<input type="text" value="ERYTH - Erythromycin"/>	<input type="text" value="R - Resistant"/>
<input type="text" value="LNZ - Linezolid"/>	<input type="text" value="N - Not Tested"/>
<input type="text" value="QUIDAL - Quinupristin/dalfopristin"/>	<input type="text" value="N - Not Tested"/>
<input type="text" value="RIF - Rifampin"/>	<input type="text" value="S - Susceptible"/>
<input type="text" value="TMZ - Trimethoprim/sulfamethoxazole"/>	<input type="text" value="S - Susceptible"/>
<input type="text" value="VANC - Vancomycin"/>	<input type="text" value="S - Susceptible"/>

Pathogen 2:



# Data Sources for Denominators - Procedures

- Operating room record review -  
patient medical record
- OR logs
- ICD-9-CM procedure codes



# SSI Denominator Data



- Complete a Denominator for Procedure form for each procedure that is selected for surveillance
  - Example: If you are monitoring APPY, complete a Denominator for Procedure form for every patient that has an appendectomy during the month



# SSI Denominator Data

- Some operative procedures have more than one incision
  - Example: CBGB in which an incision to harvest a donor vessel is made that is separate from the primary incision
- Record these procedures only one time – there is no separate procedure code for the donor harvest site



# Duration

- Record the hours and minutes between the skin incision and skin closure
- Do not record anesthesia time
- If the patient goes to the OR more than once during the same admission and another procedure is performed through the same incision within 24 hours of the original incision, report the combined duration of operation for both procedures



# Wound Classification



- **Clean (I)**

- Uninfected wound, no inflammation; respiratory, alimentary, genital, or uninfected urinary tracts not entered; primarily closed; closed drainage, if needed

- **Clean contaminated (II)**

- Respiratory, alimentary, genital, or urinary tracts entered under controlled conditions and without unusual contamination; include operations on biliary tract, appendix, vagina, oropharynx



# Wound Classification Cont'd.



- **Contaminated (III)**

- Open, fresh, accidental wounds; major breaks in sterile technique or gross spillage from GI tract; includes incisions into acute, nonpurulent inflamed tissues

- **Dirty / Infected (IV)**

- Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera



# ASA\* Class



- 1 = Normally healthy patient
- 2 = Patient with mild systemic disease
- 3 = Patient with severe systemic disease that is not incapacitating
- 4 = Patient with an incapacitating systemic disease that is a constant threat to life
- 5 = Moribund patient not expected to survive for 24 hours with or without operation

\*American Society of Anesthesiologists



# Endoscope

- If the entire operative procedure was performed using an endoscope/ laparoscope, select “Yes”
- Otherwise select “No”
- For CBGB, if the donor vessel was harvested using a laparoscope, select “Yes”



# Implant

- A nonhuman-derived implantable foreign body (e.g., prosthetic heart valve, hip prosthesis) that is permanently placed in a patient during an NHSN operative procedure and is not routinely manipulated for diagnostic or therapeutic purposes
- Screws, wires, and mesh that are left in place are considered implants



# Non-autologous Transplant

- Transplant: Human cells, tissues, organs, or cellular- or tissue-based products that are placed into a human recipient via grafting, infusion, or transfer. Examples include: heart valves, organs, ligaments, bone, blood vessels, skin, corneas, and bone marrow cells.
  - *Autologous* or “autograft” transplants are products that originate from the patient’s own body.
  - *Non-autologous* or “allograft” transplants are tissues or other products derived from another human body, either a donor cadaver or a live donor.



## More ...

- **Emergency**
  - Nonelective, unscheduled operative procedure
- **Trauma**
  - Operative procedure performed because of blunt or penetrating injury to patient
- **General anesthesia**
  - Administration of drugs or gases that enter the general circulation and affect the central nervous system to render the patient pain-free, amnesic, unconscious, and often paralyzed with relaxed muscles



# Surgeon Code

- Optional field
- Select the code of the surgeon who performed the principal operative procedure

# Completed Denominator for Procedure Form



- Patient
- Event
- Procedure
  - Add
  - Find
  - Incomplete
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
- Facility
- Group
- Log Out

Mandatory fields marked with \*

Fields required when in Plan marked with >

## Patient Information [HELP](#)

Facility ID*: DHQP Memorial Hospital (10000)	Procedure #: 2487362
Patient ID*: 36912	
Social Security #:	Secondary ID:
Last Name: Green	First Name: Kelly
Middle Name:	
Gender*: M - Male	Date of Birth*: 03/11/1962
Ethnicity: NOHISP - Not Hispanic or Not Latino	
Race: <input type="checkbox"/> American Indian/Alaska Native	<input type="checkbox"/> Asian
<input checked="" type="checkbox"/> Black or African American	<input type="checkbox"/> Native Hawaiian/Other Pacific Islander
<input type="checkbox"/> White	

## Procedure Information [HELP](#)

NHSN Procedure Code\*: COL0 - Colon surgery

ICD-9-CM Code:

Procedure Date\*: 10/12/2009 **Procedure Linked**

# Completed Procedure Data Entry Screen



## Event

### Procedure

- Add
- Find
- Import
- Incomplete

### Summary Data

### Analysis

### Survey

### Users

### Facility

### Group

### Log Out

Mandatory fields marked with \*

[Print PDF Form](#)

Fields required when in Plan marked with >

### Patient Information

Facility ID\*: DHQP MEMORIAL HOSPITAL (ID 10018)

Procedure #: 6237

Patient ID\*: 457801

[Reassign](#)

[Find Procedures for Patient](#)

Social Security #:

Secondary ID:

Last Name: Jackson

First Name: Gerald

Middle Name:

Gender\*: M - Male

Date of Birth\*: 11/06/1945



### Procedure Information

NHSN Procedure Code\*: CARD - Cardiac surgery

ICD-9-CM Code:

Procedure Date\*: 06/08/2006

[Link to Event](#)

Procedure Linked

### Procedure Details

# Completed Procedure Data Entry Screen- Cont'd.



Code:

Procedure Date\*:   Procedure Linked

---

**Procedure Details**

Outpatient\*:  Duration (Hrs: Mins)\*:  ;

Wound Class\*:  General Anesthesia\*:

ASA Class\*:

Emergency\*:  Trauma\*:  Endoscope\*:

Surgeon Code:  Multiple Procedures\*:

---

**Custom Fields**

---

**Comments**



na

# SSI Rate

$$\text{SSI Rate} = \frac{\text{\# SSI in patients during specified time}^*}{\text{\# operations during specified time}} \times 100$$

\* Stratify by:

- Type of NHSN operative procedure
- NNIS basic or modified risk index



# NHSN Basic Risk Index



- For each patient that has a specific NHSN procedure, assign a risk index based on the following

Operation > duration cut point	1 point
Wound class III or IV	1 point
ASA score $\geq 3$	1 point



# Example of Assigning Risk Index Categories

Elements	Pt #1	Pt #2	Pt #3
Operation > duration cut point	Y	N	Y
Wound class	IV	I	II
ASA score	4	1	1
NHSN Risk Index category	3	0	1

# Surgical Patient Component SSI Rates by Operation & Risk Index



Table 24. SSI rates<sup>a</sup> following inpatient coronary artery bypass graft procedure, by risk index category and specific site, PA module, 2006 through 2007

Infection site	0		1		2,3	
	No. SSI	Rate	No. SSI	Rate	No. SSI	Rate
<b>Secondary (donor site)</b>						
Superficial incisional	1	0.10	362	0.77	266	1.69
Deep incisional	1	0.10	288	0.61	211	1.34
Deep incisional	0	0.00	74	0.16	55	0.35
<b>Primary (chest site)</b>						
Superficial incisional	2	0.20	1037	2.19	501	3.19
Deep incisional	1	0.10	451	0.95	197	1.26
Deep incisional	1	0.10	315	0.67	162	1.03
Organ/space	0	0.00	271	0.57	142	0.90
<b>Total</b>	<b>3</b>	<b>0.30</b>	<b>1399</b>	<b>2.96</b>	<b>767</b>	<b>4.88</b>

NOTE. Denominators for the risk categories are as follows: category 0 = 1000; category 1 = 4729; category 2,3 = 15,706.

CABG, coronary artery bypass graft with primary (chest) and secondary (donor) incisions.

<sup>a</sup>Per 100 operations.



# PPP Numerator Data

- Hospital-associated pneumonia that occurs in a post-operative inpatient
- Using the Pneumonia form, indicate the type and date of operative procedure
- Indicate the specific type of pneumonia
  - **PNU1** – Clinically defined pneumonia
  - **PNU2** – Pneumonia with common bacterial pathogens
  - **PNU3** -Pneumonia in immunocompromised patients



# PPP Numerator Data

- Indicate presence or absence of ventilator, secondary BSI, death
- Do not conduct post-discharge surveillance, report those detected only during initial hospitalization
- Do not report PPP following outpatient operative procedures



# Pathogen Data

- List up to 3 pathogens for each PPP identified (in rank order of importance)
- For each pathogen, complete information about antimicrobial susceptibilities
- Only certain bug/drug combinations are required but up to 20 drugs can be listed with susceptibilities



# Completed PNEU Form

*Patient ID: 203768	Social Security #:
Secondary ID:	
Patient Name, Last: Green	First: Kelly
Middle:	
*Gender: <input checked="" type="radio"/> F <input type="radio"/> M	*Date of Birth:
Ethnicity (Specify):	Race (Specify):
*Event Type: PNEU	*Date of Event: 9/30/09
*Post-procedure PNEU: <input checked="" type="radio"/> Yes <input type="radio"/> No	Date of Procedure: 9/12/09
NHSN Procedure Code:	ICD-9-CM Procedure Code:
*MDRO Infection Surveillance: <input type="checkbox"/> Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Mo	
<input checked="" type="checkbox"/> No, this event's pathogen & location are <b>not</b> in-plan for the MDRO/CDAD	
*Date Admitted to Facility:	*Location:
Risk Factors	
*Ventilator: <input checked="" type="radio"/> Yes <input type="radio"/> No	Location of Device Insertion: RIJ
Date of Device Insertion: 9/12/2009	
*For NICU only: Birth weight: _____ grams	
Event Details	
*Specific Event: <input checked="" type="checkbox"/> PNU1 <input type="checkbox"/> PNU2 <input type="checkbox"/> PNU3	*Immunocompromised: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
*Specify Criteria Used: (check all that apply)	
X-Ray	
<input checked="" type="checkbox"/> New or progressive and persistent infiltrate	<input type="checkbox"/> Consolidation
	<input type="checkbox"/> Cavitation
	<input type="checkbox"/> Pneumatoceles (in



# Completed PPP Data Entry Screen



## Summary Data

- Analysis
- Survey
- Users
- Facility Group
- Log Out

### Patient Information

Facility ID\*: DHQP MEMORIAL HOSPITAL (ID 10018) Event #: 6235

Patient ID\*: 457801 [Reassign](#) [Find Events for Patient](#)

Social Security #:

Secondary ID:

Last Name:  First Name:

Middle Name:

Gender\*:  Date of Birth\*:

### Event Information

Event Type\*:  Date of Event\*:

Post-procedure >:

NHSN Procedure Code\*:

ICD-9-CM Code:

Procedure Date\*:  [Link to Procedure](#) *Event is not Linked*

Location\*:

# Completed PPP Data Entry Screen- Cont'd.

## Risk Factors

Ventilator\*:

## Event Details

Specific Event\*:

Secondary Bloodstream Infection >:

Died \*\*:

Discharge Date:

Pathogens Identified >:  If Yes, specify below ->

## Pathogens

Pathogen 1:  \*9 drugs required

### Drug

### Result

# Completed PPP Data Entry Screen- Cont'd.

MERO - Meropenem

N - Not Tested

LEVO - Levofloxacin

R - Resistant

PIP/IAZ - Piperacillin/tazobactam

R - Resistant

Add Rows

Pathogen 2:

Pathogen 3:

## Custom Fields

INTUBATION: 06/08/2006

INTUBATOR: PETERS

## Comments

# Non- autologous Transplant Patient Procedure



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

NHSN - National Healthcare Safety Network

| NHSN Home | My NHSN | Contact Us | Help | Log Out

- NHSN Home**
- Reporting Plan
- Patient
- Event
- Procedure
  - Add
  - Find
  - Manage
- Summary Data
- Import/Export
- Analysis
- Surveys
- Users
- Facility
- Group
- Log Out

Jumped into Ochsner Memorial Hospital (0010000) at 08/07/09.  
Facility Ochsner Memorial Hospital (0010000) is following the 00 component.

## View Procedure

Mandatory fields marked with \*

Print PDF Form

Fields required when in Plan marked with >

### Patient Information [View](#)

Facility ID*: Ochsner Memorial Hospital (00000)	Procedure #: 2517777
Patient ID*: 046000	
Social Security #:	Secretary ID:
Last Name: Green	First Name: Kelly
Middle Name:	
Gender*: M - Male	Date of Birth*: 03/11/1968
Ethnicity:	
Race: <input type="checkbox"/> American Indian/Alaska Native <input type="checkbox"/> Asian	<input type="checkbox"/> Native Hawaiian/Other Pacific Islander
<input checked="" type="checkbox"/> Black or African American	<input type="checkbox"/> White

### Procedure Information [View](#)

NHSN Procedure Code*: C00.0 - Colon surgery
ICD-9-CM Code:
Procedure Date*: 08/12/2009    Procedure is not Linked

### Procedure Details [View](#)

Outpatient*: <input type="checkbox"/> No	Duration (Hrs:Min)*: 0 : 5	
Wound Class*: CC - Clean-contaminated	General Anesthesia*: <input type="checkbox"/> Yes	
ASA Class*: 3 - Patient with severe systemic disease not incapacitating		
Emergency*: <input type="checkbox"/> No	Trauma*: <input type="checkbox"/> No	Endoscope*: <input type="checkbox"/> No
Surgeon Code: 123 - <del>Bugby, David</del> <del>Multiple Procedures</del>	<input type="checkbox"/> No	
Implant*: <input type="checkbox"/> No	Non-autologous Transplant*: <input checked="" type="checkbox"/> Yes	

### Custom Fields [View](#)

TIMING OF EVENTS

### Comments [View](#)

Save    Delete    Add

# Outpatient Surgery Procedure



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NHSN - National Healthcare Safety Network

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[NHSN Home](#)

[Reporting Plan](#)

[Patient](#)

[Event](#)

[Procedure](#)

- Add
- Find
- Incomplete

[Summary Data](#)

[Import/Export](#)

[Analysis](#)

[Surveys](#)

[Users](#)

[Facility](#)

[Group](#)

[Log Out](#)

Logged into DHQP Memorial Hospital (ID 10000) as GLORIA.  
Facility DHQP Memorial Hospital (ID 10000) is following the P3 component.

## View Procedure

[Print PDF Form](#)

Mandatory fields marked with \*

Fields required when in Plan marked with >

### Patient Information [@NHSP](#)

Facility ID\*: DHQP Memorial Hospital (10000)

Procedure #: 2517912

Patient ID\*: 24609

Social Security #:

Secondary ID:

Last Name: Redd

First Name: Wally

Middle Name:

Gender\*: M - Male

Date of Birth\*: 04/13/1946

Ethnicity:

Race:  American Indian/Alaska Native  
 Black or African American  
 White

Asian  
 Native Hawaiian/Other Pacific Islander

### Procedure Information [@NHSP](#)

NHSN Procedure Code\*: COL0 - Colon surgery

ICD-9-CM Code:

Procedure Date\*: 05/04/2009 *Procedure is not Linked*

### Procedure Details [@NHSP](#)

Outpatient\*:  Yes Duration (Hrs:Min)\*: : 50

Wound Class\*: CC - Clean-contaminated General Anesthesia\*: Y - Yes

AGA Class\*: 2 - Patient with mild systemic disease

Emergency\*: N - No Trauma\*: N - No Endoscope\*: Y - Yes

Surgeon Code: 0400 - Beckwith, Jonas Multiple Procedures\*: N - No

Implant\*: Y - Yes Non-autologous Transplant\*: N - No



# PPP Rate

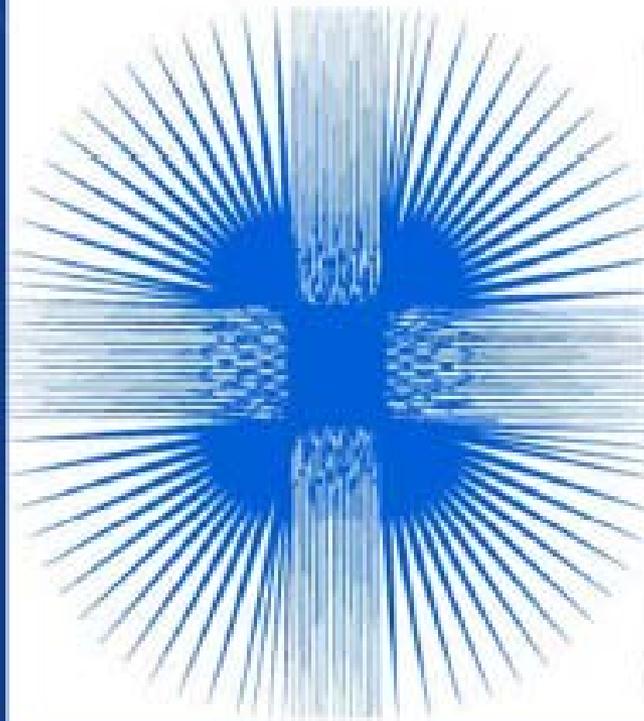
$$\text{PPP Rate}^* = \frac{\text{\# PPP identified}}{\text{\# of operative procedures}} \times 100$$

\* Stratify by type of NHSN operative procedure



# References

- For more information about these topics, refer to the NHSN website
  - *NHSN Manual: Patient Safety Component Protocol* located at
    - <http://www.cdc.gov/nhsn/>
      - Tables of instruction for completing all forms
      - Key terms
      - Operative procedure codes
  - NHSN data collection forms



# NHSN

National Healthcare  
Safety Network

—<http://www.cdc.gov/nhsn/>

# Multidrug-Resistant Organism (MDRO) and *Clostridium difficile*-Associated Disease (CDAD) Module

## Training Course Section:

## MDRO Infection Surveillance

### Target Audience

This training session is designed for those who will collect and analyze multidrug-resistant organism (MDRO) disease data in the MDRO and CDAD Module of NHSN. This may include:

- NHSN Facility Administrator
- Patient Safety Primary Contact
- Infection Preventionist
- Epidemiologist
- Microbiologist
- Professional Nursing Staff
- Trained Support Staff



You should complete the *NHSN Overview* prior to viewing this training!

## MDRO and CDAD Module

The following documents and forms will be discussed in this training. You may wish to PRINT these to follow along.

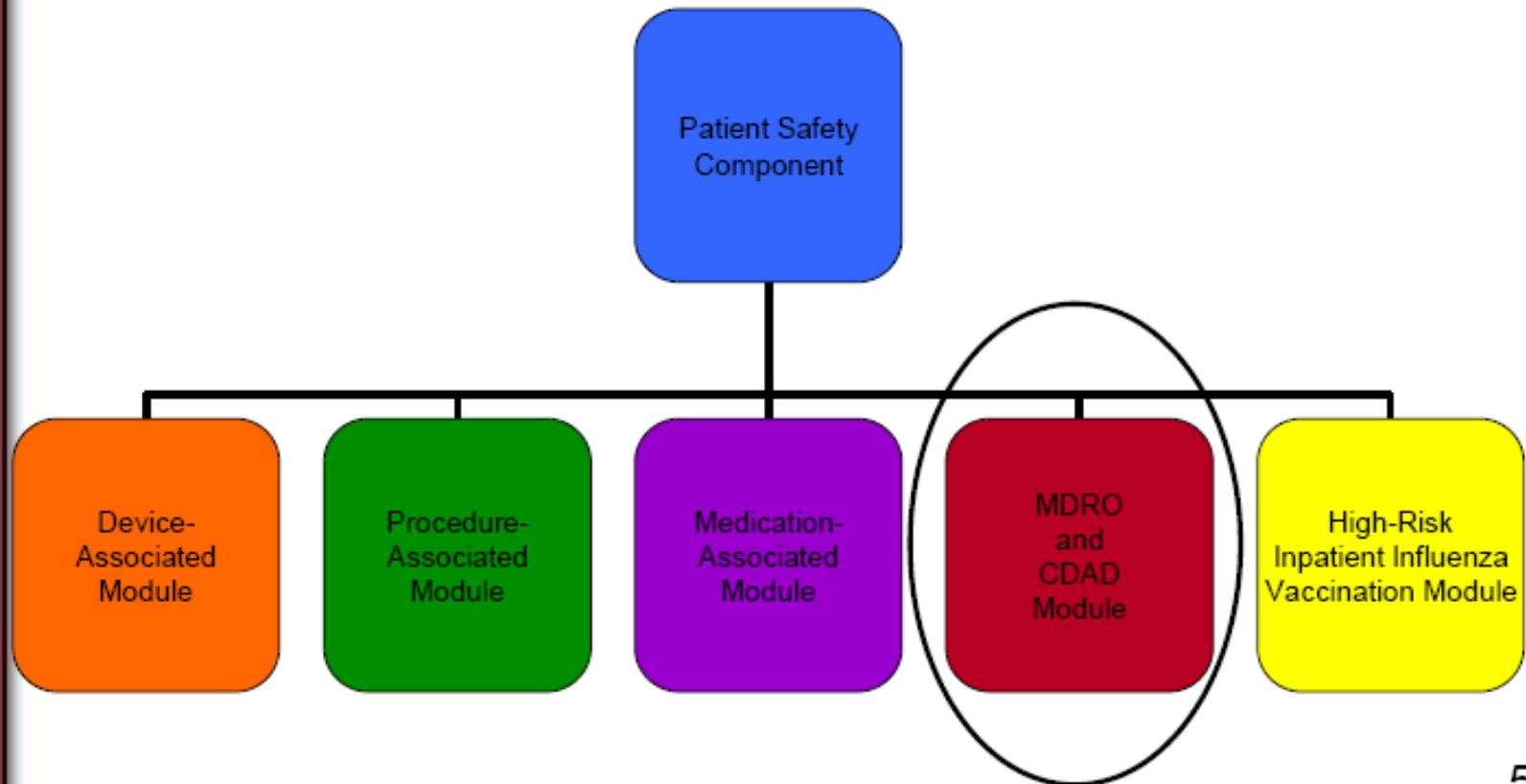
- 1) **MDRO and CDAD Module Protocol**  
- [http://www.cdc.gov/ncidod/dhqp/nhsn\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html)
- 2) **Instructions for Completion of MDRO/CDAD forms**  
- [http://www.cdc.gov/ncidod/dhqp/nhsn\\_instruct\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_instruct_MDRO_CDAD.html)
- 3) **CDC Definitions for Nosocomial Infections document**  
- <http://www.cdc.gov/ncidod/dhqp/pdf/NNIS/NosInfDefinitions.pdf>
- 4) **Patient Safety Monthly Reporting Plan**  
- [http://www.cdc.gov/ncidod/dhqp/forms/A\\_PSReportPlan\\_BLANK.pdf](http://www.cdc.gov/ncidod/dhqp/forms/A_PSReportPlan_BLANK.pdf)
- 5) **MDRO or CDAD Infection Event form**  
- [http://www.cdc.gov/ncidod/dhqp/forms/57\\_126\\_MDROInfectionEvent.pdf](http://www.cdc.gov/ncidod/dhqp/forms/57_126_MDROInfectionEvent.pdf)
- 6) **Specific NHSN infection event forms (BSI, UTI, SSI, PNEU)**  
- [http://www.cdc.gov/ncidod/dhqp/nhsn\\_PSforms.html](http://www.cdc.gov/ncidod/dhqp/nhsn_PSforms.html)
- 7) **MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form**  
- [http://www.cdc.gov/ncidod/dhqp/forms/57\\_127\\_MDROMonthlyReporting.pdf](http://www.cdc.gov/ncidod/dhqp/forms/57_127_MDROMonthlyReporting.pdf)

### Objectives

- Review the structure of the MDRO and CDAD\* Module within the Patient Safety Component of NHSN
- Describe the rationale for monitoring MDROs in NHSN
- Describe the methodology, protocols, and definitions used in data collection and reporting of MDRO Infection Surveillance

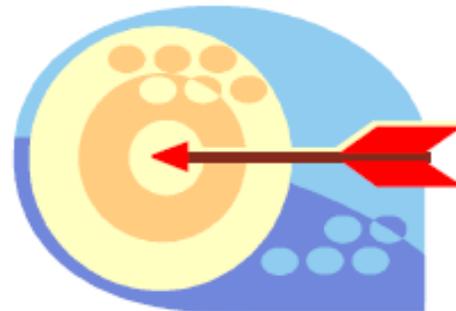
\**C. difficile* Infection (CDI) is discussed in the CDAD training slide set

# National Healthcare Safety Network (NHSN)



### Goal of MDRO and CDAD Module

- o Monitoring of MDRO and *C. difficile* infection (CDI) will help to evaluate local trends and changes in the occurrence of these pathogens and related infections.
- o This module will provide a mechanism for facilities to report and analyze MDRO and CDI data, in order to inform infection control staff of the impact of targeted prevention efforts.



### Resistant Organisms Monitored

- Methicillin-Resistant *Staphylococcus aureus* (MRSA) (option w/ Methicillin-Susceptible *S. aureus* (MSSA))
- Vancomycin-Resistant *Enterococcus* spp. (VRE)
- Multidrug-Resistant (MDR) *Klebsiella* spp.
- Multidrug-Resistant (MDR) *Acinetobacter* spp.



### Background



Why these organisms:

- The identified organisms have increased in prevalence in US hospitals over the last three decades
- These organisms have important implications for patient safety
- Options for treating patients with these infections are often extremely limited
- MDRO infections are associated with increased lengths of stay, costs, and mortality

### Reporting Options

-Infection Surveillance

-Laboratory-Identified (LabID) Event

-Prevention Process Measures:

-Monitoring Adherence to Hand Hygiene

-Monitoring Adherence to Gown and Gloves Use

-Monitoring Adherence to Active Surveillance Testing

-Active Surveillance Testing (AST) Outcome Measures

One of these  
two options is required  
for participation in MDRO!

See: [LabID Event Training](#)

See: [Prevention  
Process Measures  
and Active  
Surveillance  
Testing Outcome  
Measures Training](#)

# **MDRO Infection Surveillance**

### Purpose

- To provide infection incidence rates for the MDRO being monitored
- Infection incidence rate = number of infections by MDRO type/number of patient days x 1000



### Reporting

Surveillance for all NHSN-defined healthcare-associated infections (HAI) caused by at least one MDRO in at least one selected inpatient facility location for at least three months in a calendar year.

A NHSN Healthcare-Associated Infection (HAI) is a localized/systemic condition resulting from an adverse reaction to the presence of an infectious agent or its toxin. There must be no evidence that the infection was present or incubating at the time of hospital admission.



- For a complete list of NHSN HAI definitions go to:
  - - <http://www.cdc.gov/ncidod/dhqp/pdf/NNIS/NosInfDefinitions.pdf>

### AJIC major articles

#### **CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting**

Teresa C. Horan, MPH, Mary Andrus, RN, BA, CIC, and Margaret A. Dudeck, MPH  
Atlanta, Georgia

#### BACKGROUND

population for which clinical sepsis is used has been re-  
stricted to patients 16 year old. Another example is

### MDRO Definitions:

- **MRSA:** *S. aureus* testing oxacillin resistant; or positive from molecular testing for *mecA* and PBP2a
- **MSSA** (option): *S. aureus* testing oxacillin susceptible or intermediate, or negative from molecular testing for *mecA* and PBP2a
- **VRE:** Any *Enterococcus* spp. testing resistant to vancomycin
- **MDR-Klebsiella:** *Klebsiella* spp. testing intermediate or resistant to ceftazidime or ceftriaxone

### MDRO Definitions: (continued)

**MDR-*Acinetobacter***: *Acinetobacter* spp. resistant to all agents tested within at least 3 antimicrobial classes, including  $\beta$ -lactams, carbapenems, aminoglycosides, and fluoroquinolones

- $\beta$ -lactams: ampicillin/sulbactam, piperacillin/tazobactam, cefepime, ceftazidime
- Carbapenems: imipenem, meropenem
- Aminoglycosides: amikacin, gentamicin, tobramycin
- Fluoroquinolones: ciprofloxacin, levofloxacin

### Other Requirements

- At least three months in a calendar year for MDRO\*
  - Months do not have to be sequential



*January*



*March*



*July*

- Reporting Methods
  - A. Facility-wide by location
  - B. Selected locations
- Settings - Inpatient locations:
  - ICUs
  - Specialty Care Areas
  - Neonatal ICUs
  - Other inpatient care areas

*Reminder!*

**\*At least 6 months for participation in NHSN Patient Safety Component**

### Reporting Methods

#### **A. Facility-Wide by Location:**

Report separately from all locations of a facility.  
Separate denominators (patient days) for all locations.

#### **B. Selected Locations:**

Report separately from 1 or more specific locations of a facility.  
Separate denominators (patient days) for each location.

Examples of each are shown on the next two slides.

### A. Facility-Wide by Location



MICU

+



SCA

+



Med-Surg



Surgical

+



SICU

+



NICU

## B. Selected Locations



**MICU**



**SCA**



**Med-Surg**



**Surgical**



**SICU**



**NICU**

### Reporting Forms

- Patient Safety Monthly Reporting Plan (Form 57.106)
  - Informs CDC of what you plan to report for the month
- Infection Event forms
  - Numerator: one form per infection
    - Primary bloodstream infection (Form 57.108)
    - Pneumonia (Form 57.111)
    - Urinary tract infection (Form 57.114)
    - Surgical site infection (Form 57.120)
    - Other NHSN-defined HAIs
      - MDRO & CDAD event (Form 57.126)
- MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form (Form 57.127)
  - Denominator: total patient days per location

### Example



In August 2008, DHQP Memorial Hospital infection preventionist, Betty Brown, initiated surveillance for MRSA infections in two patient care areas of the hospital: MICU and SICU.

Because Betty has chosen to monitor infections in two selected patient care areas, the reporting method she has chosen is:

#### B. Selected locations

The next slide shows an example of the front and back of the Patient Safety Monthly Reporting Plan that Betty completed at the beginning of August.

# MDRO Infection Surveillance

## Patient Safety Monthly Reporting Plan

\* required for saving

Facility ID: 9999

\*Month/Year: **08** / **2008**

No NHSN Patient Safety Modules Followed this Month

### Device-Associated Module

### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Incidence	Prevalence	Lab ID Event	HH	GG
<u>MICU</u>	<u>MRSA</u>	<b>X</b>	Adm	All	<input type="checkbox"/>				
			Both	NHx					
<u>SICU</u>	<u>MRSA</u>	<b>X</b>	Adm	All	<input type="checkbox"/>				
			Both	NHx					
<u>    </u>	<u>    </u>	<input type="checkbox"/>	Adm	All	<input type="checkbox"/>				
			Both	NHx					



### Example (continued)



During August, Betty identified MRSA infections in 2 patients in MICU. One patient had a skin and soft tissue infection. For this patient Betty completed the MDRO and CDAD event form. The next two slides show how she completed the form. Detailed instructions for completing each form field can be found in the Tables of Instructions.

**Instructions for Completion of MDRO/CDAD forms**

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_instruct MDRO CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_instruct_MDRO_CDAD.html)

# MDRO Infection Surveillance

## MDRO or CDAD Infection Event

* required for saving		** required for completion	
Facility ID: <b>9999</b>		Event #: <b>333</b>	
*Patient ID: <b>A081234</b>		Social Security #:	
Secondary ID:			
Patient Name, Last:		First:	Middle:
*Gender: <input checked="" type="radio"/> M <input type="radio"/> F		*Date of Birth: <b>04/12/1942</b>	
Ethnicity (Specify):		Race (Specify):	
Event Details			
*Event Type: <b>SST</b>		*Date of Event:	
[For Event Type = BSI, PNEU, SSI, or UTI use the event specific form]		<b>08/27/2008</b>	
*Post Procedure Event: Yes <input type="radio"/> No <input checked="" type="radio"/>		Date of Procedure:	
*MDRO/CDAD Infection: <b>Yes</b> No		NHSN Procedure Code:	ICD-9-CM Procedure Code:
*Specific Organism Type: (Select up to 3)			
<input checked="" type="checkbox"/> MRSA <input type="checkbox"/> MSSA <input type="checkbox"/> VRE <input type="checkbox"/> MDR-Klebsiella <input type="checkbox"/> MDR-Acinetobacter <input type="checkbox"/> C. difficile			
*Date Admitted to Facility: <b>08/04/2008</b>		*Location <b>MICU</b>	
*Specific Event Type (only used for CDC defined events):		<b>DECU</b>	
*Specify Criteria Used (check all that apply)			



# MDRO Infection Surveillance

\*Specify Event Type (only use those of CDC defined event types)

\*Specify Criteria Used (check all that apply)

Signs & Symptoms

- Abscess
- Apnea
- Vomiting
- Bradycardia
- Redness
- Cough
- Dysuria
- Fever
- Acute onset of diarrhea (liquid stools for > 12 hours)
- Purulent drainage or material
- Pain or tenderness
- New onset/change in sputum, increased secretions or increased suctioning
- Localized swelling
- Persistent microscopic or gross blood in stools
- Wheezing, rales or rhonchi
- Other evidence of infection found on direct exam, during surgery or by diagnostic testing<sup>+</sup>
- Other signs and symptoms <sup>+</sup>
- Heat
- Hypotension
- Hypothermia
- Lethargy
- Nausea
- Suprapubic tenderness

Laboratory or Diagnostic Testing

Blood culture:  Positive  Negative or Not done

Other culture:  Positive  Not done

- Positive Gram stain when culture is negative or not done
- >15 colonies cultured from IV cannula tip using semiquantitative culture method
- Positive culture of pathogen
- Positive culture of skin contaminant
- Other positive laboratory tests
- Radiographic evidence of infection

Clinical Diagnosis

- Physician diagnosis of this event type<sup>+</sup>
- Physician institutes appropriate antimicrobial therapy<sup>+</sup>

<sup>+</sup> Per specific event criteria

---

Classification

\*Secondary Bloodstream Infection: Yes  No

\*\*Died: Yes  No

Discharge Date: \_\_\_/\_\_\_/\_\_\_

Event contributed to death? Yes  No

\*Pathogens Identified:  Yes  No  
(If Yes, specify on page 2)

---

<b>1</b>	<i>Staphylococcus aureus</i>	CLIND <input checked="" type="checkbox"/> SIRN	DAPTO <input checked="" type="checkbox"/> SIRN	ERYTH <input checked="" type="checkbox"/> SIRN	GENT <input checked="" type="checkbox"/> SIRN	LNZ <input checked="" type="checkbox"/> SIRN	OX <input checked="" type="checkbox"/> SIRN	QUIDAL <input checked="" type="checkbox"/> SIRN	RIF <input checked="" type="checkbox"/> SIRN	TMZ <input checked="" type="checkbox"/> SIRN	VAN <input checked="" type="checkbox"/> SIRN
----------	------------------------------	---	---	---	--	---	--	--	---	---	---



AJIC Horan, Andrus, and Dudeck

June 2008 311

**Table 1. CDC/NHSN major and specific types of health care-associated infections**

<b>UTI</b>	<b>Urinary tract infection</b>	
	SUTI	Symptomatic urinary tract infection
	ASB	Asymptomatic bacteriuria
	OUTI	Other infections of the urinary tract
<b>SSI</b>	<b>Surgical site infection</b>	
	SIP	Superficial incisional

**Table 1. Continued**

<b>EENT</b>	<b>Eye, ear, nose, throat, or mouth infection</b>	
	CONJ	Conjunctivitis
	EYE	Eye, other than conjunctivitis
	EAR	Ear, mastoid
	ORAL	Oral cavity (mouth, tongue, or gums)
	SINU	Sinusitis
	UR	Upper respiratory tract, pharyngitis,

	CSEP	bloodstream infection Clinical sepsis
<b>PNEU</b>	<b>Pneumonia</b>	
	PNU1	Clinically defined pneumonia
	PNU2	Pneumonia with specific laboratory findings
	PNU3	Pneumonia in immunocompromised patient

**SST**

**Skin and soft tissue infection**

	SKIN	Skin
	ST	Soft tissue
	<b>DECU</b>	<b>Decubitus ulcer</b>
	UMB	or mastitis Omphalitis
	PUST	Pustulosis
	CIRC	Newborn circumcision

**Bj** **Bone and joint infection**

BONE Osteomyelitis

### Surveillance Definitions of HAI Infections

#### SST-SKIN AND SOFT TISSUE INFECTION

##### SKIN-Skin

Skin infections must meet at least 1 of the following criteria:

1. Patient has purulent drainage, pustules, vesicles, or boils.
2. Patient has at least 2 of the following signs or symptoms with no other recognized cause: pain or tenderness, localized swelling, redness, or heat

and

at least 1 of the following:

- a. organisms cultured from aspirate or drainage from affected site; if organisms are normal skin flora (ie, diphtheroids [*Corynebacterium* spp], *Bacillus* [not *B anthracis*] spp, *Propionibacterium* spp, coagulase-negative staphylococci [including *S epidermidis*], viridans group streptococci, *Aerococcus* spp, *Micrococcus* spp), they must be a pure culture
- b. organisms cultured from blood
- c. positive antigen test performed on infected tissue or blood (eg, herpes simplex, varicella zoster, *H influenzae*, *N meningitidis*)
- d. multinucleated giant cells seen on microscopic examination of affected tissue
- e. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG)

#### DECU-Decubitus ulcer, including both superficial and deep infections

Decubitus ulcer infections must meet the following criterion:

Patient has at least 2 of the following signs or symptoms with no other recognized cause: redness, tenderness, or swelling of decubitus wound edges

and

at least 1 of the following:

- a. organisms cultured from properly collected fluid or tissue (see Comments)
- b. organisms cultured from blood

C

### Example (continued)



Another patient in MICU during the monitoring month had a primary bloodstream infection due to MRSA that was associated with a central line. Because there is a specific NHSN form for this infection event, Betty completed the Primary BSI event form. The next slides show how she completed the form. Detailed instructions for completing each form field can be found in the Tables of Instructions at the back of the Patient Safety protocol.

[http://www.cdc.gov/ncidod/dhqp/pdf/nhsn/NHSN\\_Manual\\_PatientSafetyProtocol\\_CURRENT.pdf](http://www.cdc.gov/ncidod/dhqp/pdf/nhsn/NHSN_Manual_PatientSafetyProtocol_CURRENT.pdf)

*required for saving    **required for completion	
Facility ID: <b>9999</b>	Event #:
*Patient ID: <b>123456</b>	Social Security #:
Secondary ID:	
Patient Name, Last: <b>Jones</b>	First: <b>Tom</b> Middle:
*Gender: F <input type="radio"/> M <input checked="" type="radio"/>	*Date of Birth: <b>12/05/1941</b>
Ethnicity (specify): <b>Not Latino</b>	Race (specify): <b>White</b>
*Event Type: BSI	*Date of Event: <b>08/12/2008</b>
Post-procedure BSI: Yes <input type="radio"/> No <input checked="" type="radio"/>	Date of Procedure:
NHSN Procedure Code:	ICD-9-CM Procedure Code:
*MDRO Infection: Yes <input checked="" type="radio"/> No <input type="radio"/>	*Date Admitted to Facility: <b>08/03/2008</b> *Location: <b>MICU</b>
<b>Risk Factors</b>	
*If ICU/Other locations, Central line: Yes <input checked="" type="radio"/> No <input type="radio"/>	Location of Device Insertion: <u><b>MICU</b></u>
*If Specialty Care Area, Permanent central line: Yes <input type="radio"/> No <input type="radio"/> Temporary central line: Yes <input type="radio"/> No <input type="radio"/>	
*If NICU, Non-umbilical Central line: Yes <input type="radio"/> No <input type="radio"/> Umbilical catheter: Yes <input type="radio"/> No <input type="radio"/> Birth weight (grams):	Date of Device Insertion: <b>08/05/2008</b>
<b>Event Details</b>	
*Specific Event:	
<input checked="" type="checkbox"/> Laboratory-confirmed	<input type="checkbox"/> Clinical sepsis

## MDRO Infection Surveillance

\*Specify Criteria Used:

Signs & Symptoms (check all that apply)

- Any patient                      ≤1 year old
- Fever                               Fever
- Chills                                 Hypothermia
- Hypotension                       Apnea
- Bradycardia

Laboratory (check one)

- Recognized pathogen from one or more blood cultures
- Common skin contaminant from ≥2 blood cultures
- Blood culture not done or no organisms detected in blood

Clinical Diagnosis (CSEP only)

- Physician institutes appropriate antimicrobial therapy

\*\*Died:    Yes     No

BSI Contributed to Death:    Yes    No

Discharge Date: **08/27/2008**

\*Pathogens Identified:     Yes    No    \*If Yes, specify on page 2

<b>1</b>	<i>Staphylococcus aureus</i>	<b>CLIND</b> S <input checked="" type="radio"/> R N	<b>DAPTO</b> S <input checked="" type="radio"/> R N	<b>ERYTH</b> S <input checked="" type="radio"/> R N	<b>GENT</b> S <input checked="" type="radio"/> R N	<b>LNZ</b> S <input checked="" type="radio"/> R N	<b>OX</b> S <input checked="" type="radio"/> R N	<b>QUIDAL</b> S <input checked="" type="radio"/> R N	<b>RIF</b> S <input checked="" type="radio"/> R N	<b>TMZ</b> S <input checked="" type="radio"/> R N	<b>VANC</b> S <input checked="" type="radio"/> R N
Pathogen #	Gram-negative Organisms										

### Example (continued)



At the end of the month, Betty completed her MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form as shown on the next slide. This form indicates her patient day denominator(s) for the month. Because denominators are collected by location she should complete one form for each location that has been monitored, so she would also complete this form for SICU. Denominators should be reported for any location selected for monitoring even if no infections were identified during the monitoring month.

## MDRO Infection Surveillance

### MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

OMB No. 0920-0666  
Exp. Date: 03-31-2011

Page 1 of 2

\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #:   9999   \*Month:  08  \*Year:  2008  \*Location Code:  MICU 

Setting: Inpatient \*\*Days<sup>§</sup>:  180  \*\* Admissions<sup>§</sup>:                     

Setting: Outpatient (or Emergency Room) \*\*Encounters:                     

#### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<span style="color: red;">X</span>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



### Form Fields Review

- Required fields indicated by asterisk \*
- Your facility decides which patient identifiers to use. Patient ID should be unique to that patient and the same for all visits (most facilities use Medical Record Number)
- Event type and specific event type codes are described in NHSN surveillance criteria
  - Signs, symptoms, and laboratory results must conform to the definition
- Date of Event is the date when the first clinical evidence of the infection was noted, or the date the specimen used to make or confirm the diagnosis was collected, whichever comes first
- If the infection occurs in a patient within 48 hours of transfer from another location, attribute to the transferring location, not the current location of the patient (“transfer rule”)
- All MDRO events must be laboratory confirmed

### Let's Review!



MDROs monitored in this module include:

- Methicillin-Resistant *Staphylococcus aureus* (MRSA)  
(option w/ Methicillin-Susceptible *S. aureus* (MSSA))
- Vancomycin-Resistant *Enterococcus* spp. (VRE)
- Multidrug-Resistant (MDR) *Klebsiella* spp.
- Multidrug-Resistant (MDR) *Acinetobacter* spp.



### Let's Review!

- ✓ MDRO Infection Surveillance is conducted in inpatient locations
- ✓ Either MDRO Infection Surveillance or LabID Event reporting is required in at least one location for participation in the MDRO Module.
- ✓ Two reporting methods can be used for Infection Surveillance:
  - ✓ A. Facility-wide by location
  - ✓ B. Selected locations
- ✓ MDRO Infection Surveillance must be conducted for 3 months in the calendar year but the months do not have to be sequential
- ✓ The NHSN Patient Safety Component requires at least 6 months of reporting in a calendar year



### Let's Review!



3) At the end of the month, Betty completed the denominator form for each location she monitored

### Questions and Answers



1. If I am also following other events in the NHSN Patient Safety Component such as ventilator-associated pneumonia (VAP) and have a patient with VAP that is due to an MDRO I am monitoring do I have to complete two forms?

*Answer: No, you would only complete the infection event form (Pneumonia) and circle "Yes" for the MDRO Infection question on the form. Be sure to include the results of the antibiogram on the back of the form.*

### Questions and Answers



2. If I choose reporting method A: facility-wide by location, do I have to complete a denominator form for each location?

*Answer: Yes, because even though you are monitoring the entire facility, you need separate denominators for each location*

## MDRO and CDAD Module

### SUMMARY

Table 1. Reporting Choices for MDRO and CDAD Module

Reporting Choices	MRSA or MRSA/MSSA	VRE	<i>Klebsiella</i> spp.	<i>Acinetobacter</i> spp.
	Method	Method	Method	Method
Infection Surveillance (*Location Specific for $\geq 3$ months) Choose $\geq 1$ organism	A, B	A, B	A, B	A, B

## Custom Fields

- Alphanumeric fields – labels and dates
- Available with each form
- User can customize the data being collected and submitted (i.e. additional information)

### References

Centers for Disease Control and Prevention (CDC)  
– National Healthcare Safety Network (NHSN) –

Home Page:

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

Document Library (main link to all specific forms):

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_documents.html](http://www.cdc.gov/ncidod/dhqp/nhsn_documents.html)

MDRO and CDAD Module:

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html)

# Multidrug-Resistant Organism (MDRO) and *Clostridium difficile*-Associated Disease (CDAD) Module

## Training Course Section:

*C. difficile* Infection Surveillance  
and  
*C. difficile* LabID Event Reporting

## C. *Difficile* Infection

### Target Audience

This training session is designed for those who will collect and analyze *Clostridium difficile* Infection data in the MDRO and CDAD Module of NHSN. This may include:

- NHSN Facility Administrator
- Patient Safety Primary Contact
- Infection Preventionist
- Epidemiologist
- Microbiologist
- Professional Nursing Staff
- Trained Support Staff



Reminder!

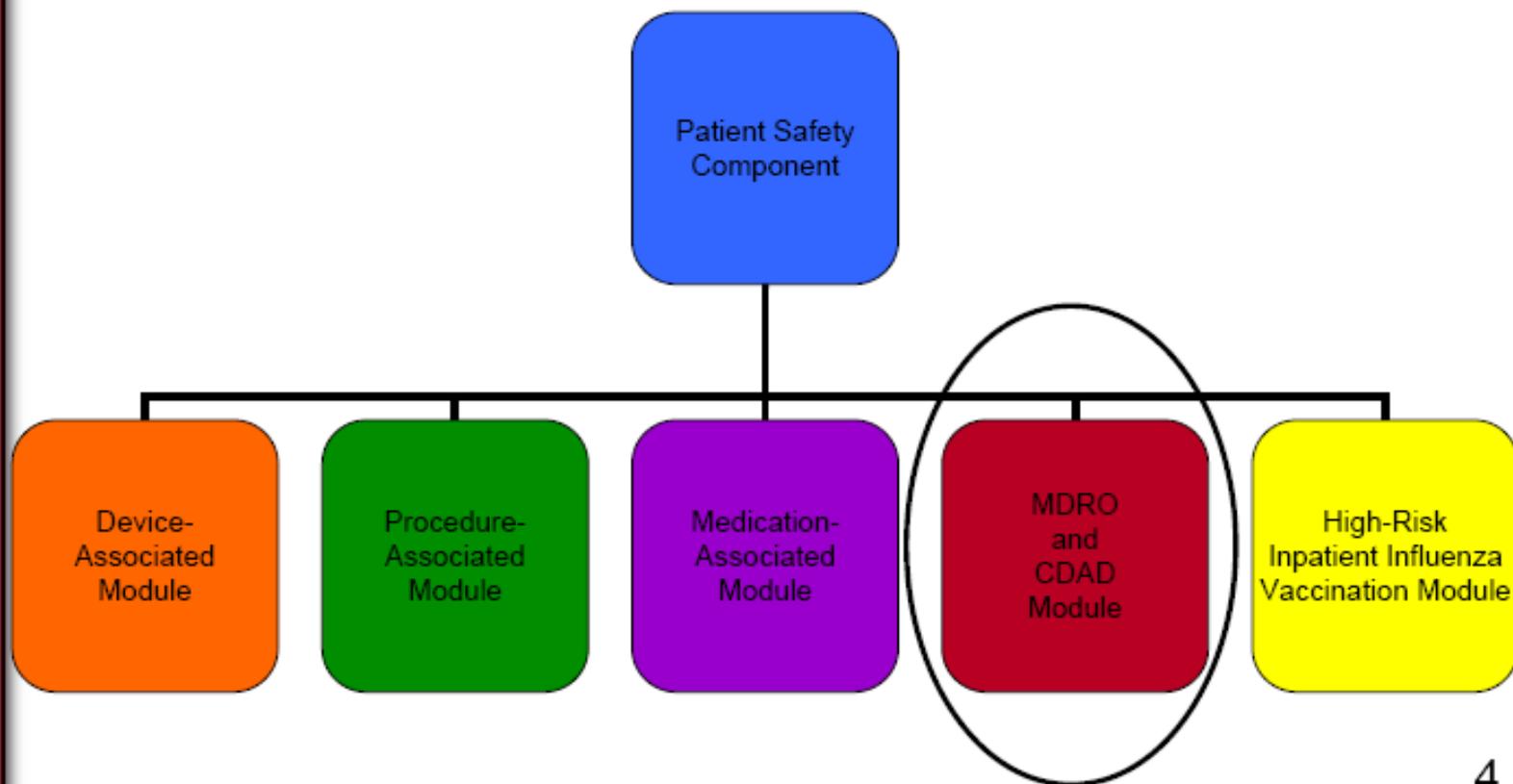
You should have previously viewed the NHSN Overview to help with your understanding of this training.

## *C. Difficile* Infection

### Objectives

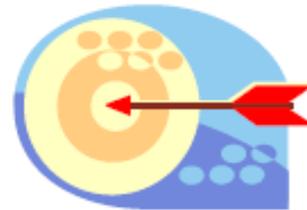
- Review the structure of the MDRO and CDAD Module within the Patient Safety Component of NHSN
- Describe the rationale for monitoring *C. difficile* infection in NHSN
- Describe the methodology, protocols, and definitions used in data collection and reporting under the CDAD Infection Surveillance and CDAD LabID Event Reporting in NHSN

## National Healthcare Safety Network (NHSN)



### Goal of MDRO and CDAD Module

- o Monitoring of MDRO & *C. difficile* infection (CDI) will help to evaluate local trends and changes in the occurrence of these pathogens and related infections.
- o This module will provide a mechanism for facilities to report and analyze MDRO and CDI data, in order to inform infection control staff of the impact of targeted prevention efforts.



The term CDI is replacing CDAD. Both terms represent the same illness and will be used interchangeably as we transition this module to the newer terminology



UPDATE

### Background



Why monitor *Clostridium difficile* Infection?

- *C. difficile* infection has increased in prevalence in U.S. hospitals over the last three decades
- *C. difficile* has important implications for patient safety
- Options for treating patients with *C. difficile* are often extremely limited
- *C. difficile* infections are associated with increased lengths of stay, costs, and mortality

## C. Difficile Infection

### Reporting Options

- Infection Surveillance
- Proxy Infection Measures:
  - Laboratory-Identified (LabID) Event

If you choose to monitor *C. difficile* infection you must select at least one of these two reporting options

- Prevention Process Measures:
  - Monitoring Adherence to Hand Hygiene
  - Monitoring Adherence to Gown and Gloves Use

See: Prevention Process Measures and AST Outcome Measures Training Slides

- Monitoring Adherence to Active Surveillance Testing
- Active Surveillance Testing (AST) Outcome Measures

Not used for *C. difficile*

## *C. Difficile* Infection

The following documents and forms will be discussed in this training. You may wish to PRINT these to follow along.

- 1) **MDRO and CDAD Module Protocol**  
- [http://www.cdc.gov/ncidod/dhqp/nhsn\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html)
- 2) **CDC Definitions for Nosocomial Infections document**  
- <http://www.cdc.gov/ncidod/dhqp/pdf/NNIS/NosInfDefinitions.pdf>
- 3) **Patient Safety Monthly Reporting Plan**  
- [http://www.cdc.gov/ncidod/dhqp/forms/A\\_PSReportPlan\\_BLANK.pdf](http://www.cdc.gov/ncidod/dhqp/forms/A_PSReportPlan_BLANK.pdf)
- 4) **MDRO or CDAD Infection Event form**  
- [http://www.cdc.gov/ncidod/dhqp/forms/57\\_126\\_MDROInfectionEvent.pdf](http://www.cdc.gov/ncidod/dhqp/forms/57_126_MDROInfectionEvent.pdf)
- 5) **Laboratory-Identified MDRO or CDAD Event form**  
- [http://www.cdc.gov/ncidod/dhqp/forms/57\\_128\\_LabIDEvent.pdf](http://www.cdc.gov/ncidod/dhqp/forms/57_128_LabIDEvent.pdf)
- 6) **MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form**  
- [http://www.cdc.gov/ncidod/dhqp/forms/57\\_127\\_MDROMonthlyReporting.pdf](http://www.cdc.gov/ncidod/dhqp/forms/57_127_MDROMonthlyReporting.pdf)

# Infection Surveillance

### Reporting

Surveillance for all NHSN-defined healthcare-associated infections (HAI) caused by *C. difficile* in at least one selected inpatient location for at least 3 months in a calendar year.



A NHSN Healthcare-Associated Infection (HAI) is a localized/systemic condition resulting from an adverse reaction to the presence of an infectious agent or its toxin. There must be no evidence that the infection was present or incubating at the time of hospital admission. *C. difficile* infections must meet NHSN-defined criteria for gastroenteritis or gastrointestinal tract infections

## C. *Difficile* Infection Surveillance

### Required Reporting

- Select at least one location in the healthcare facility
- Report at least three months\* in a calendar year (months do not have to be sequential)

Reporting Methods: A. Facility-wide by location or B. Selected locations

Settings - Inpatient locations:

- 1) ICUs
- 2) Specialty Care Areas
- 3) Other inpatient care areas  
[No surveillance in Neonatal ICUs]



*Reminder!*

**\*At least six months for participation in NHSN Patient Safety Component**

### NHSN Reportable Infections for *C. Difficile*

- GI-GE: Gastrointestinal System Infection-Gastroenteritis
- GI-GIT: Gastrointestinal System Infection-Gastrointestinal Tract
- CDAD Complications:  
Severe CDI in patient within 30 days after CDI symptom onset and at least one of the following:
  - Admission to ICU for CDAD complications
  - Surgery for CDAD complications
  - Death caused by CDAD within 30 days after symptom onset and during hospital admission
- If the patient develops both GI-GE and GI-GIT report only GI-GIT using the date of onset as that of GI-GE *C. difficile* infection.

### Complete list of NHSN HAI definitions

Available at this Website:

- <http://www.cdc.gov/ncidod/dhqp/pdf/NNIS/NosInfDefinitions.pdf>

### AJIC major articles

#### **CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting**

Teresa C. Horan, MPH, Mary Andrus, RN, BA, CIC, and Margaret A. Dudeck, MPH  
Atlanta, Georgia

BACKGROUND

population for which clinical sepsis is used has been re-  
stricted to patients 16 year old. Another example is

### Reporting Methods

#### **A. Facility-Wide by Location:**

Report separately from all locations of a facility.

Separate denominators (patient days, admissions) for all locations.

#### **B. Selected Locations:**

Report separately from 1 or more specific locations of a facility.

Separate denominators (patient days, admissions) for each location.

### A. Facility-Wide by Location



MICU

+



SCA

+



Med-Surg



Surgical

+



SICU



## C. *Difficile* Infection Surveillance

### B. Selected Locations



MICU



SCA



Med-Surg



Surgical



SICU



NICU

Reporting Forms

- 1) Patient Safety Monthly Reporting Plan
- 2) MDRO or CDAD Infection Event form
  - Numerator – one form per infection
- 3) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form
  - Denominator – total patient days per location

## C. *Difficile* Infection Surveillance



### Example

Betty Brown, our infection preventionist at DHQP Memorial Hospital, initiated an infection surveillance program for *C. difficile* infection in MICU, SICU, and PICU in August 2008.

Because she is performing surveillance in 3 areas of her facility, the reporting method she has chosen is:

B. Selected locations

The next slide shows an example of how she completed her monthly reporting plan

## C. Difficile Infection Surveillance

### Patient Safety Monthly Reporting Plan

OMB No. 0920-0666  
Exp. Date: 03-31-2011

\* required for saving

Facility ID: 9999

\*Month/Year: **08** / **2008**

No NHSN Patient Safety Modules Followed this Month

#### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Incidence	Prevalence	Lab ID Event	HH	GG
<b>MICU</b>	<b>C. diff</b>	<b>X</b>	Adm Both	All NHx	<input type="checkbox"/>				
<b>SICU</b>	<b>C. diff</b>	<b>X</b>	Adm Both	All NHx	<input type="checkbox"/>				
<b>PICU</b>	<b>C. diff</b>	<b>X</b>	Adm Both	All NHx	<input type="checkbox"/>				
				All		<input type="checkbox"/>		<input type="checkbox"/>	



### Example (cont)

During the monitoring month Betty identified a patient in MICU with gastroenteritis due to *C. difficile* that had not been present when the patient was admitted to the hospital.

The next slides show how Betty completed her NHSN form. Detailed instructions for completing each field on the form are contained in the Tables of Instructions. Note that there are additional questions concerning ICU admission for CDAD complications and surgery.



## MDRO or CDAD Infection Event

* required for saving		** required for completion	
Facility ID: <b>9999</b>		Event #: <b>333</b>	
*Patient ID: <b>A081234</b>		Social Security #:	
Secondary ID:			
Patient Name, Last:		First:	Middle:
*Gender: <input checked="" type="radio"/> M <input type="radio"/> F		*Date of Birth: <b>04/12/1942</b>	
Ethnicity (Specify):		Race (Specify):	
<b>Event Details</b>			
*Event Type: <b>GI</b> [For Event Type = BSI, PNEU, SSI, or UTI use the event specific form]		*Date of Event: <b>08/27/2008</b>	
*Post Procedure Event: Yes <input type="radio"/> No <input checked="" type="radio"/>		Date of Procedure:	
MDRO/CDAD Infection: <b>Yes</b> No	NHSN Procedure Code:	ICD-9-CM Procedure Code:	
*Specific Organism Type: (Select up to 3)			
<input type="checkbox"/> MRSA <input type="checkbox"/> MSSA <input type="checkbox"/> VRE <input type="checkbox"/> MDR- <i>Klebsiella</i> <input type="checkbox"/> MDR- <i>Acinetobacter</i> <input checked="" type="checkbox"/> <i>C. difficile</i>			
*Date Admitted to Facility: <b>08/04/2008</b>		*Location <b>MICU</b>	
*Specific Event Type (only used for CDC defined events): <b>GE</b>			
Specific Organism Lineage (if applicable):			



## C. Difficile Infection Surveillance

Event Type: \_\_\_\_\_ (used for CDC defined events):

Specify Criteria Used (check all that apply)

### Signs & Symptoms

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> Abscess     | <input type="checkbox"/> Heat                  |
| <input type="checkbox"/> Apnea       | <input type="checkbox"/> Hypotension           |
| <input type="checkbox"/> Vomiting    | <input type="checkbox"/> Hypothermia           |
| <input type="checkbox"/> Bradycardia | <input type="checkbox"/> Lethargy              |
| <input type="checkbox"/> Redness     | <input type="checkbox"/> Nausea                |
| <input type="checkbox"/> Cough       | <input type="checkbox"/> Suprapubic tenderness |
| <input type="checkbox"/> Dysuria     |  |
| <input type="checkbox"/> Fever       |  |
- Acute onset of diarrhea (liquid stools for > 12 hours)
- Purulent drainage or material
- Pain or tenderness
- New onset/change in sputum, increased secretions or increased suctioning
- Localized swelling
- Persistent microscopic or gross blood in stools
- Wheezing, rales or rhonchi
- Other evidence of infection found on direct exam, during surgery or by diagnostic testing<sup>1</sup>
- Other signs and symptoms<sup>1</sup>

### Laboratory or Diagnostic Testing

- Blood culture:  Positive  Negative or Not done
- Other culture:  Positive  Not done
- Positive Gram stain when culture is negative or not done
- >15 colonies cultured from IV cannula tip using semiquantitative culture method
- Positive culture of pathogen
- Positive culture of skin contaminant
- Other positive laboratory tests
- Radiographic evidence of infection

### Clinical Diagnosis

- Physician diagnosis of this event type<sup>1</sup>
- Physician institutes appropriate antimicrobial therapy<sup>1</sup>
- + Per specific event criteria

### *Clostridium difficile*-Associated Disease

\*Admitted to ICU for CDAD complications: Yes  No

\*Surgery for CDAD complications: Yes  No

\*Secondary Bloodstream Infection: Yes  No

\*\*Died: Yes  No

Event contributed to death? Yes  No

Discharge Date: \_\_\_/\_\_\_/\_\_\_

\*Pathogens Identified:  Yes  No  
If Yes, specify on page 2 →

Pathogen #

Other Organisms

1

Organism 1  
(specify)

C. diff

Drug 1

S I R N

Drug 2

S I R N

## AJIC major articles

### CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting

Teresa C. Horan, MPH, Mary Andrus, RN, BA, CIC, and Margaret A. Dudeck, MPH  
Atlanta, Georgia

#### BACKGROUND

population for which clinical sepsis is used has been restricted to patients 21 year old. Another example is

**Table 1. CDC/NHSN major and specific types of health care-associated infections**

<b>UTI</b>	<b>Urinary tract infection</b>	
	SUTI	Symptomatic urinary tract infection
	ASB	Asymptomatic bacteriuria
	OUTI	Other infections of the urinary tract
<b>SSI</b>	<b>Surgical site infection</b>	
	SIP	Superficial incisional primary SSI
	SIS	Superficial incisional secondary SSI
	DIP	Deep incisional p
	DIS	Deep secondary SSI
	Organ/space	Organ/space SSI. Indicate specific type:
		• BONE • LUNG

**Table 1. Continued**

<b>EENT</b>	<b>Eye, ear, nose, throat, or mouth infection</b>	
	CONJ	Conjunctivitis
	EYE	Eye, other than conjunctivitis
	EAR	Ear, mastoid
	ORAL	Oral cavity (mouth, tongue, or gums)
	SINU	Sinusitis
	UR	Upper respiratory tract, pharyngitis, laryngitis, epiglottitis
<b>GI</b>	<b>Gastrointestinal system infection</b>	
	GE	Gastroenteritis
	GIT	Gastrointestinal (GI) tract
	HEP	Hepatitis
	IAB	Intraabdominal, not specified elsewhere
	NEC	Necrotizing enterocolitis

## C. Difficile Infection Surveillance

### GI-GASTROINTESTINAL SYSTEM INFECTION

#### GE-Gastroenteritis

Gastroenteritis must meet at least 1 of the following criteria:

1. Patient has an acute onset of diarrhea (liquid stools for more than 12 hours) with or without

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vomiting or fever ( $>38^{\circ}\text{C}$ ) and no likely noninfectious cause (eg, diagnostic tests, therapeutic regimen other than antimicrobial agents, acute exacerbation of a chronic condition, or psychologic stress).

2. Patient has at least 2 of the following signs or symptoms with no other recognized cause: nausea, vomiting, abdominal pain, fever ( $>38^{\circ}\text{C}$ ), or headache

and

at least 1 of the following:

- a. an enteric pathogen is cultured from stool or rectal swab
- b. an enteric pathogen is detected by routine or electron microscopy
- c. an enteric pathogen is detected by antigen or antibody assay on blood or feces
- d. evidence of an enteric pathogen is detected by cytopathic changes in tissue culture (toxin assay)
- e. diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen.

GIT-Gastrointestinal tract (esophagus, stomach, small and large bowel, and rectum) excluding gastroenteritis and appendicitis

Gastrointestinal tract infections, excluding gastroenteritis and appendicitis, must meet at least 1 of the following criteria:

1. Patient has an abscess or other evidence of infection seen during a surgical operation or histopathologic examination.
2. Patient has at least 2 of the following signs or symptoms with no other recognized cause and compatible with infection of the organ or tissue involved: fever ( $>38^{\circ}\text{C}$ ), nausea, vomiting, abdominal pain, or tenderness

and

at least 1 of the following:

- a. organisms cultured from drainage or tissue obtained during a surgical operation or endoscopy or from a surgically placed drain
- b. organisms seen on Gram's or KOH stain or multinucleated giant cells seen on microscopic examination of drainage or tissue obtained during a surgical operation or endoscopy or from a surgically placed drain
- c. organisms cultured from blood
- d. evidence of pathologic findings on radiographic examination
- e. evidence of pathologic findings on endoscopic examination (eg, *Candida* esophagitis or proctitis).

### Example (cont)



At the end of the month, Betty completed her Prevention Process and Outcome Measures Monthly Monitoring form that includes her denominators. A separate form for each unit that is monitored should be completed.

Because she is performing infection surveillance her denominator is patient days. Even though she did not identify any *C. difficile* infections in SICU or PICU, she completed a denominator form for each of those units, also.

## C. Difficile Infection Surveillance

### MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

OMB No. 0920-0666  
Exp. Date: 03-31-2011

Page 1 of 2

\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #: 9999    \*Month: 08    \*Year: 2008    \*Location Code: MICU

Setting: Inpatient    \*\*Days<sup>§</sup>: 180    \*\* Admissions<sup>§</sup>: \_\_\_\_\_

Setting: Outpatient (or Emergency Room)    \*\*Encounters: \_\_\_\_\_

#### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Process Measures (Optional)

##### Hand Hygiene

\*\* Performed: \_\_\_

\*\* Indicated: \_\_\_

##### Gown and Gloves

\*\* Used: \_\_\_

\*\* Indicated: \_\_\_

# LabID Event Reporting

### Purpose

- To calculate proxy measures of CDI events, exposures, and healthcare acquisition, facilities may choose to monitor Laboratory-identified (LabID) CDI Events. The main proxy measures are included in a table at the end of this presentation
- This monitoring method enables a facility to rely almost exclusively on data obtained from the laboratory (i.e. proxy measures)



## C. Difficile LabID Event

### Definitions

**Laboratory-Identified (LabID) Event:** Any non-duplicate CDI-positive lab assay.

**CDI-positive Lab Assay:** Positive lab assay for *C. difficile* toxin A and/or B, or toxin-producing organism detected from stool culture or other lab means

**Duplicate *C. difficile*-positive test:** CDI-positive assay from same patient within 2 weeks of previous positive assay.



### Required Minimum Reporting

- All non-duplicate CDI-positive lab assays per patient per month
- At least three consecutive months in a calendar year



March



April



May

- *C. difficile* testing performed routinely in lab, only on unformed (conforming to the shape of the container) stool samples



## Requirements

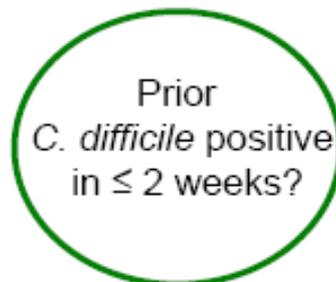
- Reporting Methods: A. Facility-wide by location  
B. Selected locations  
C. Overall facility-wide
- Settings: 1) Inpatient locations  
2) Outpatient locations – where care provided to patients post-discharge OR prior to admission
- No Neonatal Intensive Care Units (NICU)
- No outpatient dialysis centers

### Identifying a LabID Event

Testing on unformed  
stool sample



Positive for  
*C. difficile*



YES

Duplicate test



**Not LabID Event**

Not  
*C. difficile*

NO

**Not LabID Event**

 <b>Laboratory-identified MDRO or CDAD Event</b> <small>OMB No. 0928-0090 Exp. Date: 03-31-2011</small>	
<small>*required for saving</small>	
Facility ID:	Event #:
*Patient ID:	Social Security #:
Secondary ID:	
Patient Name, Last:	First: Middle:
*Gender: M F	*Date of Birth:
Ethnicity (Specify):	Race (Specify):
<b>Event Details</b>	
*Event Type: <u>LabID</u>	*Date Specimen Collected:
<small>*Specific Organism Type: (Check one)</small>	
<input type="checkbox"/> MRSA <input type="checkbox"/> MSSA <input type="checkbox"/> VRE <input type="checkbox"/> MDR- <i>Klebsiella</i> <input type="checkbox"/> MDR- <i>Acinetobacter</i> <input type="checkbox"/> <i>C. difficile</i>	

## C. Difficile LabID Event

### C. Overall Facility-Wide

Patient Days = 2950, Admissions = 300, Encounters = 700



MICU



OP dialysis



Med-Surg



PICU



ER



SICU



NICU

## Reporting Forms

- 1) Patient Safety Monthly Reporting Plan
- 2) Laboratory-Identified MDRO or CDAD Event form
  - Numerator – one form per LabID Event
- 3) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form

Denominators:

- IP locations - total patient days, admissions
- OP locations - encounters per location

## C. Difficile LabID Event



### Example

Bob Jones, our infection preventionist at Tynytown Memorial Hospital wants to monitor *C. difficile* in MICU, SICU, and PICU. Because his is a small facility and he is the only person performing surveillance, he has chosen LabID Event reporting because it is less labor intensive than infection surveillance. He will be able to use his laboratory data to identify cases.

Because he is performing surveillance in 3 areas of the facility, the reporting method he has chosen is:

B. Selected locations

The next slide shows how he completed his monthly reporting plan.

## C. Difficile LabID Event

### Patient Safety Monthly Reporting Plan

\* required for saving

Facility ID: 9999

\*Month/Year: 08 / 2008

No NHSN Patient Safety Modules Followed this Month

Out Date:

#### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Incidence	Prevalence	Lab ID Event	HH	GG
<u>MICU</u>	<u>C. diff</u>	<input type="checkbox"/>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>
<u>SICU</u>	<u>C. diff</u>	<input type="checkbox"/>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>
<u>PICU</u>	<u>C. diff</u>	<input type="checkbox"/>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>

Adm  All  HH  GG

### Example (cont)



At the end of the surveillance month, Bob identified one patient in PICU with a positive LabID Event for *C. difficile*. This was the only unique (non-duplicate) specimen identified positive for this patient.

The next slide shows how Bob completed the LabID Event form.

## C. Difficile LabID Event

 <b>Laboratory-identified MDRO or CDAD Event</b> <span style="float: right;">Exp. Date: 03-31-2011</span>	
*required for saving	
Facility ID: <b>9999</b>	Event #: <b>445</b>
*Patient ID: <b>A086789</b>	Social Security #:
Secondary ID:	
Patient Name, Last:	First: Middle:
*Gender: M <input type="radio"/> F <input checked="" type="radio"/>	*Date of Birth: <b>11/06/2000</b>
Ethnicity (Specify):	Race (Specify):
Event Details	
*Event Type: LabID	*Date Specimen Collected: <b>08/27/2008</b>
*Specific Organism Type: (Check one)	
<input type="checkbox"/> MRSA <input type="checkbox"/> MSSA <input type="checkbox"/> VRE <input type="checkbox"/> MDR- <i>Klebsiella</i> <input type="checkbox"/> MDR- <i>Acinetobacter</i> <input checked="" type="checkbox"/> <i>C. difficile</i>	
*Outpatient: Yes <input type="radio"/> No <input checked="" type="radio"/>	*Specimen Source: <b>Unformed stool</b>
*Date Admitted to Facility: <b>08/14/2008</b>	*Location: <b>PICU</b> *Date Admitted to Location: <b>08/14/2008</b>
*Documented prior evidence of previous infection or colonization with this specific organism type? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Required for CDAD (Optional for MDRO)	
*Has patient been discharged from your facility in the past 3 months? Yes <input type="radio"/> No <input checked="" type="radio"/>	
*Date of last discharge from your facility:	



### Example (cont)



At the end of the month, Bob completed his Prevention Process and Outcome Measures Monthly Monitoring form to indicate the denominators for each location he monitored. Note that he entered both admissions and patient days for the location.

Because LabID Event reporting is recommended for at least 3 consecutive months in the same location, Bob will continue to perform CDI surveillance in MICU, SICU, and PICU in September and October.

## MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

OMB No. 0920-0668  
Exp. Date: 03-31-2011

Page 1 of 2

\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #: 9999    \*Month: 08    \*Year: 2008    \*Location Code: PICU

Setting: Inpatient    \*\*Days<sup>§</sup>: 565    \*\* Admissions<sup>§</sup>: 27

Setting: Outpatient (or Emergency Room)    \*\*Encounters: \_\_\_\_\_

### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

### Process Measures (Optional)

**Hand Hygiene**

**Gown and Gloves**



## C. Difficile LabID Event

LabID Event reporting for *C. difficile* can also be performed overall facility-wide in both in and outpatient locations. This means that single denominators are reported for the entire facility. However, even if performing overall facility-wide, NICU and outpatient dialysis centers should not be included. Make sure you remove NICU patient days and admissions from your inpatient denominators and outpatient dialysis visits from your encounters.

The next two slides show an example of the reporting plan and monthly monitoring form for this type of reporting.



## Patient Safety Monthly Reporting Plan

OMB No. 0920-0666  
Exp. Date: 03-31-2011

\* required for saving

Facility ID: 9999

\*Month/Year: 08 / 2008

No NHSN Patient Safety Modules Followed this Month

### MDRO and CDAD Module

Locations	Setting (Circle one)	Specific Organism Type	LabID Event
ALL	In Out <b>Both</b>	<b>C. diff</b>	<b>X</b>
ALL	In Out Both	_____	<input type="checkbox"/>
ALL	In Out Both	_____	<input type="checkbox"/>
ALL	In Out Both	_____	<input type="checkbox"/>

Process and Outcome Measures

## MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

OMB No. 0920-0666  
Exp. Date: 03-31-2011

Page 1 of 2

\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #: **9999**    \*Month: **\_08\_**    \*Year: **\_2008\_**    \*Location Code: **ALL (IN/OUT)**

Setting: Inpatient    \*\*Days<sup>§</sup>: **\_7,127\_**    \*\* Admissions<sup>§</sup>: **2,359**\_\_\_\_\_

Setting: Outpatient (or Emergency Room)    \*\*Encounters: **\_9,803\_**\_\_\_\_\_

### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

### Process Measures (Optional)

**Hand Hygiene**

**Gown and Gloves**



## C. Difficile LabID Event

When a LabID Event is identified for an outpatient, complete the same event form as that used for an inpatient. Make sure you circle “Yes” to the Outpatient question. An example of the form is shown on the next slide.

Notice that for *C. difficile* LabID Events, two additional questions concerning patient admission to your facility must be answered.



## C. Difficile LabID Event



### Laboratory-identified MDRO or CDAD Event

OMB No. 0920-0996  
Exp. Date: 03-31-2011

\*required for saving

Facility ID: **9999**

Event #: **445**

\*Patient ID: **A086520**

Social Security #:

Secondary ID:

Patient Name, Last:

First:

Middle:

\*Gender: **M** F

\*Date of Birth: **09/06/1951**

Ethnicity (Specify):

Race (Specify):

#### Event Details

\*Event Type: LabID

\*Date Specimen Collected: **08/27/2008**

\*Specific Organism Type: (Check one)

MRSA

MSSA

VRE

MDR-*Klebsiella*

MDR-*Acinetobacter*

*C. difficile*

\*Outpatient: **Yes** No

\*Specimen Source: **Unformed stool**

\*Date Admitted to Facility:

\*Location: **GI Clinic**

\*Date Admitted to Location:

\*Documented prior evidence of previous infection or colonization with this specific organism type?

Yes **No**

#### Required for CDAD (Optional for MDRO)

\*Has patient been discharged from your facility in the past 3 months? **Yes** No

\*Date of last discharge from your facility: **06/15/2008**

Custom Fields

LabID Events Categorized through NHSN Calculations as:

- 1) Incident CDI Assay: CDI LabID Event from specimen obtained  $> 8$  weeks after most recent LabID Event.
- 2) Recurrent CDI Assay: CDI LabID Event from specimen obtained  $> 2$  weeks and  $\leq 8$  weeks after most recent LabID Event.

### \*LabID Events Further Categorized through NHSN Calculations:

- 1) Healthcare Facility-Onset (HO): LabID event from stool collected >3 days after admission to the facility (= on or after day 4)
- 2) Community-Onset (CO): LabID Event from stool collected from an outpatient or inpatient  $\leq 3$  days after admission to the facility (Day 1, 2 or 3 with date of admission as Day 1)
- 3) CO Healthcare Facility-Associated (CO-HCFA): CO LabID Event collected from a patient who was discharged from this facility  $\leq 4$  weeks prior to stool collection

\* See MDRO and CDAD Module Protocol for detailed descriptions of metrics

## C. Difficile Infection

### Proxy Measures Calculated Using C. Difficile Infection Surveillance and LabID Event Reporting

Specific Metrics	Exposure	Infection	Acquisition
<i>C. Difficile</i> Infection Incidence Rate		√	√
Facility CDI Healthcare Facility-Onset Incidence Rate		√	√
Facility CDI Combined Incidence Rate		√	√
Admission Prevalence Rate	√	√	
Overall Prevalence Rate	√	√	

## C. Difficile Infection

Table 1. Reporting Choices for C. difficile

Reporting Choices	C. difficile
	Method
Infection Surveillance (Location Specific for $\geq 3$ months) Choose $\geq 1$ organism	A, B <u>OR</u> LabID Event
<u>Proxy Infection Measures</u> Laboratory-Identified (LabID) Event	A, B, C
<u>Prevention Process Measures</u> Options: Hand Hygiene Adherence Gown and Gloves Use Adherence	B B



### Let's Review!

1. If your facility chooses to monitor CDI, either infection surveillance OR LabID Event reporting is required
2. *C. difficile* infection surveillance can be performed using Method A (facility-wide by location) and Method B (selected locations)
3. CDI LabID Event reporting can also be performed using Method C (overall facility-wide)
4. LabID Event reporting is recommended in the same facility location for at least 3 consecutive months
5. Infection surveillance should be reported for at least 3 calendar months in the reporting year, but months do not have to be sequential
6. NHSN reportable CDIs include gastroenteritis (GI-GE) and gastrointestinal tract infections (GI-GIT)

## Custom Fields

- Alphanumeric fields – labels and dates
- Available with each form
- User can customize the data being collected and submitted (i.e. additional information)

## References

Centers for Disease Control and Prevention (CDC)  
– National Healthcare Safety Network (NHSN) –

Home Page:

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

Document Library (main link to all specific forms):

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_documents.html](http://www.cdc.gov/ncidod/dhqp/nhsn_documents.html)

MDRO and CDAD Module:

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html)



Patient Safety Component  
**Monthly Reporting Plan**  
**Data Entry**  
**Linking**  
**Other Features**

Mary Andrus, BA, RN, CIC  
Division of Healthcare Quality Promotion

**SAFER • HEALTHIER • PEOPLE™**



# Target Audience

- This training is designed for those who will enter patient, event and procedure information into the Patient Safety Component of NHSN
- This may include:
  - NHSN Facility Administrator
  - Patient Safety Primary Contact
  - Infection Control Professional (ICP)
  - Epidemiologist
  - Data entry staff



# Objectives

- Identify the steps in entering a Monthly Reporting Plan into NHSN
- Indicate requirements for various types of data fields
- Demonstrate data entry into data fields in each type of NHSN record
- Describe how two or more records can be linked to form an association between them
- Display Help Messages within NHSN



# Monthly Reporting Plan

- Each facility must enter a Monthly Reporting Plan for every month of the year
- Events, procedures, and summary data cannot be entered for a month until a Plan is in place.
- Plan informs CDC which modules are followed for a given month



# Monthly Reporting Plan Options

- Specific plan
- “No Modules Followed” Plan

# Surveillance Plan Options



**A facility may choose to enter a specific plan...**

**Device-Associated Module**

Locations

	CLA	BSI	DI	VAP	CAUTI
2 EAST - HEM/ONC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SICU - SURGICAL ICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NICU3 - LEVEL 3 NICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OUTDIAL - OUTPATIENT DIALYSIS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Rows Clear All Rows Copy from Previous Month

---

**Procedure-Associated Module**

Procedures

CRAN - Craniotomy			
CHOL - Gallbladder surgery	BOTH - In and outpatient		
HPRO - Hip prosthesis	IN - Inpatient		

**For the Device-associated Module, choose the location you wish to monitor, then choose the devices to monitor**

# Surveillance Plan Options



## Device-Associated Module

Locations	CLA	BSI	DI	VAP	CAUTI
2 EAST - HEM/ONC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SICU - SURGICAL ICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NICU3 - LEVEL 3 NICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OUTDIAL - OUTPATIENT DIALYSIS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Rows

Clear All Rows

Copy from Previous Month

**Note that only outpatient dialysis locations can monitor Dialysis Incidents**

## Procedure-Associated Module

Procedures	SSI	Post-procedure PNEU
CRAN - Craniotomy	IN - Inpatient	IN - Inpatient
CHOL - Gallbladder surgery	BOTH - In and outpatient	
HPRO - Hip prosthesis	IN - Inpatient	

# Surveillance Plan Options



**For the Procedure-associated Module, first choose the operative procedure to follow**

**Device-Associated Module**

	CLA	BSI	DI	VAP	CAUTI
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

---

**Procedure Associated Module**

Procedures	SSI	Post-procedure PNEU
<input type="checkbox"/> CRAN - Craniotomy	<input type="checkbox"/> IN - Inpatient	<input type="checkbox"/> IN - Inpatient
<input type="checkbox"/> CHOL - Gallbladder surgery	<input type="checkbox"/> BOTH - In and outpatient	<input type="checkbox"/>
<input type="checkbox"/> HPRO - Hip prosthesis	<input type="checkbox"/> IN - Inpatient	<input type="checkbox"/>

# Surveillance Plan Options



**A facility may choose to enter a specific plan...**

**Device-Associated Module**

Locations	CLA	BSI	DI	VAP	CAUTI
2 EAST - HEM/ONC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SICU - SURGICAL ICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NICU3 - LEVEL 3 NICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OUTDIAL - OUTPATIENT DIALYSIS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Rows   Clear All Rows   Copy from Previous Month

**Then choose to follow inpatient procedures or outpatient procedures, or both.**

	SSI	Post-procedure PNEU
CRAN - Craniotomy	IN - Inpatient	IN - Inpatient
CHOL - Gallbladder surgery	BOTH - In and outpatient	
HPRO - Hip prosthesis	IN - Inpatient	



# Surveillance Plan Options



**Device-Associated Module**

Locations

	CLA	BSI	DI	VAP	CAUTI
2 EAST - HEM/ONC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SICU - SURGICAL ICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NICU3 - LEVEL 3 NICU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OUTDIAL - OUTPATIENT DIALYSIS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Rows Clear All Rows Copy from

**Procedure-Associated Module**

Procedures

	SSI	Post-procedure PNEU
CRAN - Craniotomy	IN - Inpatient	IN - Inpatient
CHOL - Gallbladder surgery	BOTH - In and outpatient	
HPRO - Hip prosthesis	IN - Inpatient	

**For the procedure(s) selected, indicate if you will follow Post-procedure Pneumonia**



# Surveillance Plan Options\*

**...or choose "No Modules Followed this Month"**

Mandatory fields marked with \*

Facility ID\*: DHQP Memorial Hospital (ID 10000)

Month\*: September

Year\*: 2005

No NHSN Patient Safety Modules Followed this Month

Save

Back

**•Remember that you must have a specific plan for at least 6 out of 12 months and submit data**



# General Information about Data Entry



- Data entered into NHSN is available to both CDC and to the facility as soon as it is saved.
  - No “transmission”
- Data can be edited after it is saved
  - Exceptions
    - Patient ID
    - Linked records
- Records can be deleted



# Types of Data Entered in NHSN



- Patient demographics
- Denominators
  - Summary data (device-associated)
  - Denominators for Procedures
- Events (e.g., CLABSI, VAP, SSI, etc.)
- Custom data

# Requirements for Data Fields



- Required:
  - Must be completed on every data field
  - A red asterisk (\*) appears next to the field label
- Conditionally required: when the requirement depends on one of these conditions
  - Response given in another field
  - Events identified in your Monthly Reporting Plan
- Optional:
  - NHSN does not require the data and the information will not be used (e.g., surgeon code)



# Adding a Patient

- Required fields
  - Patient ID
  - Gender
  - Date of Birth
- Conditionally required field:
  - Birthweight (only if neonate)
- Optional fields
  - Social security number
  - Patient name (first, middle, last)
  - Secondary ID



Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Add Patient

Mandatory fields marked with \*

### Patient Information

Facility ID\*:

Patient ID\*:

Social Security #:

Secondary ID:

Last Name:

First Name:

Middle Name:

Gender\*:

Date of Birth\*:

Birth Weight (grams):

# Finding a Patient entered Previously



NHSN 1.1.14 Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address http://acid-nhsn-app2:8081/nhsn1.1/nhsnMain.do



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

NHSN - National Healthcare Safety Network

| NHSN Home | My

NHSN Home

Reporting Plan

Patient

- Add
- Find
- Import

Event

Procedure

Summary Data

Analysis

Survey

Users

Facility

Group

Log Out

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
to access the features of the application.



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**Assurance of Confidentiality:** The information obtained in this surveillance system that would permit identification of an individual, or the institution in which the information is collected with a guarantee that it will be held in strict confidence, will be used only for the purposes for which it was collected, and will not otherwise be disclosed or released without the consent of the individual, or the institution in accordance with section 309(d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).



- Add
- Find
- Import

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Find Patient

- Enter search criteria and click Find
- Fewer criteria will return a broader result set
- More criteria will return a narrower result set

### Patient Information

Facility ID:

Patient ID:

Last Name:

First Name:

Social Security #:

Gender:

Secondary ID:





NHSN Home

Reporting Plan

Patient

[Add](#)

[Find](#)

[Import](#)

Event

Procedure

Summary Data

Analysis

Survey

Users

Facility

Group

Log Out

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## View Patient

Mandatory fields marked with \*

### Patient Information

Facility ID\*: Medical Center East (10000)

Patient ID\*: 67-442

Social Security #:

[View patient events/procedures](#)

Secondary ID:

Last Name: Kent

First Name: Clark

Middle Name:

Gender\*: M - Male

Date of Birth\*: 06/16/1952

Birth Weight (grams):

### Custom Fields



# Entering Denominators for Device-associated Events

- Adding summary data
- Finding summary data
- Editing/deleting summary data



# Device-associated Denominators

- Patient days
- Device days by type of unit





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[Log Out](#)

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
to access the features of the application.



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**Assurance of Confidentiality:** The information obtained in this surveillance system that would permit identification of an individual or institution is collected with a guarantee that it will be held in strict confidence, will be used only for the purpose for which it was collected, and will not be disclosed or released without the consent of the individual, or the institution in accordance with Section 309(d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).



NHSN Home

Reporting Plan

Patient

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Add

Find

Analysis

Survey

Users

Facility

Group

Log Out

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Add Patient Safety Summary Data

Summary Data Type:

- Device Associated - Intensive Care Unit / Other Locations
- Device Associated - Neonatal Intensive Care Unit
- Device Associated - Specialty Care Area
- Device Associated - Outpatient Dialysis - Census Form
- Medication Associated - AUR Microbiology Laboratory Data
- Medication Associated - AUR Pharmacy Data

**Different location types use different screens for entry of denominator (summary) data.**

**Choose the type of location**



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[Group](#)

[Log Out](#)

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Add Patient Safety Summary Data

Summary Data Type:

Continue

Back





[NHSN Home](#)

[Reporting Plan](#)

[Patient](#)

[Inpatient](#)

[Procedure](#)

[Summary Data](#)

[Add](#)

[Find](#)

[Analysis](#)

[Survey](#)

[Users](#)

[Quality](#)

[Setup](#)

[Logout](#)

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component:

## Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

Mandatory fields marked with \*

[Print PDF Form](#)

Facility ID\*: 10000 (Medical Center East)

Location Code\*: 3N-3 NORTH

Month\*: August

Year\*: 2008

Total Patient Days: 2005

Central Line: 2004

Urinary Catheter: 2003

Ventilator Days: 2002

2008

2005

2004

2003

2002

2001

**Choose the location code,  
the month and the year for  
the denominator data**

Save

Back



- NHSN Home
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
  - Add
  - Find
- Analysis
- Survey
- Users
- Facility
- Group
- Log Out

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

Mandatory fields marked with \*

**Facility ID\***:   
**Location Code\***:   
**Month\***:   
**Year\***:

**Total Patient Days\***:   
**Central Line Days\***:   
**Urinary Catheter Days\***:   
**Ventilator Days**:

**Required** fields are noted with a red asterisk (\*)  
These are fields that are identified in your Monthly Reporting Plan  
Fields without a red asterisk are not required, but can be entered



- NHSN Home**
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
  - Add
  - Find
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- Users
- Facility
- Group
- Log Out

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component

## Denominators for Intensive Care Unit (ICU)/ Other locations (not NICU or SCA)

Save of Summary Data successful. Note that data has been provided that is not required as part of the Facility's current plan for this month and year. Please consider expanding the current plan.

Mandatory fields marked with \*

[Print PDF Form](#)

<b>Facility ID*</b> : 10000 (Medical Center East)
<b>Location Code*</b> : 3N - 3 NORTH
<b>Month*</b> : August
<b>Year*</b> : 2006

**Total Patient Days\***: 435  
**Central Line Days\***: 212  
**Urinary Catheter Days\***: 161  
**Ventilator Days**: 54

 NHSN Home

Reporting Plan

Patient

Event

Procedure

Summary Data

▣ Add

▣ Find

Analysis

Survey

Users

Facility

Group

Log Out

Logged into Medical Center East (ID 10000) as MVA.

Facility Medical Center East (ID 10000) is following PS component.

## Add Patient Safety Summary Data

Summary Data Type:



- [NHSN Home](#)
- [Reporting Plan](#)
- [Patient](#)
- [Event](#)
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  - [Add](#)
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- [Analysis](#)
- [Survey](#)
- [Users](#)
- [Facility](#)
- [Group](#)
- [Log Out](#)

Logged into Medical Center East (ID 10000) as MVA.  
Facility Medical Center East (ID 10000) is following PS component.

## Neonatal Intensive Care Unit

Mandatory fields marked with \*

**Facility ID\***: 10000 (Medical Center East)

**Location Code\***:

**Month\***:

**Year\***:

**Remember, for each day, if a patient has both an umbilical line and a central line, only the umbilical line is counted**

Birth Wt.	Patient Days*	U/C Days	CL Days	Vent Days
<=750	<input type="text" value="81"/>	<input type="text" value="18"/>	<input type="text" value="24"/>	<input type="text" value="70"/>
751-1000	<input type="text" value="56"/>	<input type="text" value="20"/>	<input type="text" value="11"/>	<input type="text" value="38"/>
1001-1500	<input type="text" value="104"/>	<input type="text" value="28"/>	<input type="text" value="39"/>	<input type="text" value="86"/>
1501-2500	<input type="text" value="66"/>	<input type="text" value="30"/>	<input type="text" value="29"/>	<input type="text" value="44"/>
>2500	<input type="text" value="116"/>	<input type="text" value="76"/>	<input type="text" value="20"/>	<input type="text" value="81"/>



**SN Home**

- My Info
- Plan
  - Add
  - Find
- Patient
  - Add
  - Find
- Event
  - Add
  - Incomplete
  - Find
- Denominator Data
  - Procedure
    - Add
    - Incomplete
    - Find
  - Import Data
- Summary
  - Add
  - Find
- Survey
  - Add
  - Find
- Manage Users
  - Add
  - Find

Logged into DHQP Memorial Hospital (ID 10000) as MVA  
Facility: DHQP Memorial Hospital (ID 10000) is following PS component

## Add Patient Safety Summary Data

Summary Data Type:





Home

My Info

Plan

Add

Find

Patient

Add

Find

Event

Add

Incomplete

Find

Denominator Data

Procedure

Add

Incomplete

Find

Import Data

Summary

Add

Find

Survey

Add

Find

Manage Users

Add

Find

Logged into DHQP Memorial Hospital (ID 10000) as MVA  
Facility: DHQP Memorial Hospital (ID 10000) is following PS component

## Denominators for Specialty Care Area (SCA)

Mandatory fields marked with \*

[Print PDF Form](#)

Facility ID\*: 10000 (DHQP Memorial Hospital)

Location Code\*: 2 EAST - HEM/DNC

Month\*: August

Year\*: 2006

Total Patient Days\*: 221

Temporary Central Line Days\*: 106

Permanent Central Line Days\*: 28

Urinary Catheter Days: 81

Ventilator Days:

**For SCA locations, enter the number of permanent central lines separately from temporary central lines**

**Remember, for each day, if a patient has both a temporary and a permanent line, only the temporary line is counted**

# Adding an Event



## Add Event

Mandatory fields marked with \*

[Print PDF Form](#)

Fields required for record completion marked with \*\*

Fields required when in Plan marked with >

### Patient Information

Facility ID\*: DHQP Memorial Hospital (ID 10000) ▾

Event #: 272948

Patient ID\*: 33-222-00

Find

Find Events for Patient

Social Security #:

Secondary ID:

Last Name: Springsteen

First Name: Alvira

Middle Name:

Gender\*: F -Female ▾

Date of Birth\*: 06/26/1941



### Event Information

Event Type\*: UTI - Urinary Tract Infection ▾

Date of Event\*: 10/10/2006

Post-procedure\*: N-No ▾

Location\*: BURN UNIT ▾

Date Admitted to Facility\*: 10/03/2006



October, 2006						
<	<	Today	>	>		
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				
Select date						

### Risk Factors

Urinary Catheter\*: Y-Yes ▾

## Event Details

Specific Event\*:  ▼

Secondary Bloodstream Infection\*:  ▼

Died\*\*:  ▼

Discharge Date:  

Pathogens Identified\*:  ▼ If Yes, specify below ->

## Pathogens

Pathogen 1:  ▼ \*9 drugs required

### Drug

- ▼
- ▼
- ▼
- ▼
- ▼
- ▼
- ▼
- ▼
- ▼

### Result

- ▼
- ▼
- ▼
- ▼
- ▼
- ▼
- ▼
- ▼
- ▼

Pathogen 2:  ▼

# Find Event

- Enter search criteria and click Find
- Fewer criteria will return a broader result set
- More criteria will return a narrower result set

## Event Information

Facility ID:  

Event #:

Event Type:  

Location:  

Date of Event:   To:  

## Patient Information

Patient ID:

Last Name:

First Name:

Social Security #:

Secondary ID:



Logged into DHQP Memorial Hospital (ID 10000) as MYA.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Event List

First | Previous | Next | Last

Dis

<input type="checkbox"/>	Facility ID	Event #	Event Type	Event Date	Last Name	First Name	Location	Patient ID	Social Security #	Secondary ID	Con Sta
<input type="checkbox"/>	10000	<a href="#">272945</a>	UTI	10/10/2006	Springsteen	Alvira	BURN UNIT (BURN)	33-222-00			Y
<input type="checkbox"/>	10000	<a href="#">272946</a>	UTI	10/30/2006	Jacon	Timothy	BURN UNIT (BURN)	16-88-900			Y

First | Previous | Next | Last

Dis

# View Event

[Print](#)

Mandatory fields marked with \*

Fields required for record completion marked with \*\*

Fields required when in Plan marked with >

## Patient Information

Facility ID\*: DHQP Memorial Hospital (10000)

Event #: 272945

Patient ID\*: 33-222-00

Social Security #:

Secondary ID:

Last Name: Springsteen

First Name: Alvira

Middle Name:

Gender\*: F - Female

Date of Birth\*: 06/26/1941

## Event Information

Event Type\*: UTI - Urinary Tract Infection

Date of Event\*: 10/10/2006

Post-procedure\*: N - No

Location\*: BURN - BURN UNIT

Date Admitted to Facility\*: 10/03/2006

## Risk Factors

Urinary Catheter\*: Y - Yes

## Event Details

Specific Event\*: SUTI - Symptomatic bacteriuria

Secondary Bloodstream Infection\*: N - No

Died\*\*: N - No

Discharge Date:

Pathogens Identified\*: Y - Yes If Yes, specify below ->

## Pathogens

Pathogen 1: *EC - Escherichia coli* \*9 drugs required

Drug	Result
CEFOT - Cefotaxime	S - Susceptible

**All events entered into NHSN are available for review after being saved**



# Procedures

- An Operative Procedure Record is completed for each patient having a procedure selected for monitoring.
  - For example, if you wish to monitor HPROs during December, then a Denominator for Procedure record is completed for every patient that has the procedure.



# Procedures

- Add
- Find
- Import
- Link



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

NHSN - National Healthcare Safety Network

 NHSN Home

Reporting Plan

Patient

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Procedure

 Add 

 Find

 Import

 Incomplete

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Facility

Group

Log Out

Logged into Test Facility (ID 10036) as MVA9.  
Facility Test Facility (ID 10036) is following PS component.

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
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# Add a Procedure

[Print PDF Form](#)

Mandatory fields marked with \*

Fields required when in Plan marked with >

## Patient Information

Facility ID\*:

Procedure #: 275378

Patient ID\*:

Social Security #:

Secondary ID:

Last Name:

First Name:

Middle Name:

Gender\*:

Date of Birth\*:

## Procedure Information

NHSN Procedure Code\*:

ICD-9-CM Code:

Procedure Date\*:

*Procedure is not Linked*

## Procedure Details

Outpatient\*:  Duration (Hrs: Mins):  :

Wound Class>:  General Anesthesia>:

ASA Class>:

Emergency>:  Trauma>:  Endoscope>:

Surgeon Code:  Multiple Procedures>:

- Working from
- Patient
- Procedure
- Add
- Find
- Import
- Incomplete
- Primary Data
- Analysis
- View
- rs
- ility
- up
- Out

Mandatory fields marked  
Fields required when in P

**Patient Information**

Facility ID\*:  
Patient ID\*:  
Social Security #:  
Last Name:  
Middle Name:  
Gender\*:

**Procedure Information**

NHSN Procedure Code\*:  
ICD-9-CM Code:  
Procedure Date\*:

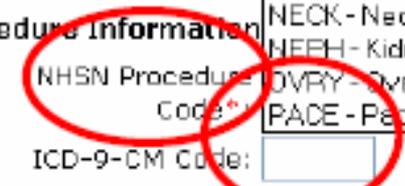
- AAA - Abdominal aortic aneurysm repair
- AMP - Limb amputation
- APPY - Appendix surgery
- AVSD - AV shunt for dialysis
- BIU - Bile duct, liver or pancreatic surgery
- BRST - Breast surgery
- CARD - Cardiac surgery
- CBGB - Coronary bypass w/ chest & donor incisions
- CBGC - Coronary bypass graft with chest incision
- CEA - Carotid endarterectomy
- CHOL - Gallbladder surgery
- COLD - Colon surgery
- CRAN - Craniotomy
- CSEC - Cesarean section
- FUSN - Spinal fusion
- FX - Open reduction of fracture
- GAST - Gastric surgery
- HER - Hemiorrhaphy
- HPRD - Hip prosthesis**
- HTP - Heart transplant
- HYST - Abdominal hysterectomy
- KPRO - Knee prosthesis
- KTP - Kidney transplant
- LAM - Laminectomy
- LTP - Liver transplant
- NECK - Neck surgery
- NEFH - Kidney surgery
- OVRY - Ovari
- PACE - Pacem

Select NHSN procedure from drop-down list

ICD-9-CM code is optional

re  
Print PDF For

Secondary ID:   
First Name:   
Date of Birth\*:  [Calendar icon]



Link to Event *Procedure is not Linked*

**Procedure Details**

Outpatient\*:  Duration (Hrs:Mins)>>:  :   
Wound Class>>:  General Anesthesia>>:   
ASA Class>>:   
Emergency>>:  Trauma>>:  Endoscope>>:   
Surgeon Code:  Multiple Procedures>>:

### Procedure Information

NHSN Procedure Code\*:

ICD-9-CM Code:

**Enter the cut time – incision to closure**

Procedure Date\*:

*Procedure is not Linked*

**Was this procedure done as an outpatient?**

### Procedure Details

Outpatient\*:   Duration (Hrs:Mins)>:  :

Wound Class>:   General Anesthesia>:

ASA Class>:

**Enter the wound Class: C, CC, CO, D, or U**

Endoscope>:

Multiple Procedures>:

Type of HPRO>:

### Procedure Information

NHSN Procedure Code\*:

ICD-9-CM Code:

**Patient ASA score (1-5)**



[Link to Event](#)

*Procedure is not Linked*

### Procedure Details

Outpatient\*:  Duration (Hrs:Mins)>:  :

Wound Class>:  General Anesthesia>:

ASA Class>:

Emergency>:  Trauma>:  Endoscope>:

Surgeon Code:  Multiple Procedures>:

Type of HPRO>:

**Was this an emergency? Unscheduled and nonelective**

**Is the surgery done due to blunt or penetrating trauma injury?**

**Was the procedure done using an endoscope?**



### Procedure Details

Outpatient\*:  Duration (Hrs:Mins)>:  :

General Anesthesia>:

Emergency>:  scope>:

Surgeon Code:  Multiple Procedures>:

Type of HPRO>:

**Choose the surgeon code/name from the drop-down list**

**Some procedures require additional information (like HPRO)**

**If more than one NHSN Operative Procedure is performed through the same incision, select "Yes"**



# Linking an Event to a Procedure

- The Procedure must be entered in the system before an event can be linked to it
- When an event is linked to a procedure, the data from the procedure will be automatically associated with the event
- Used primarily with SSI and PPP, but can be used with Device-associated Events also



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[Logout](#)

Logged into Test Facility (ID 10036) as MWA9.  
Facility Test Facility (ID 10036) is following PE component

## Add Event

[Print PDF Form](#)

Mandatory fields marked with \*

Fields required for record completion marked with \*\*

Fields required when in Plan marked with >

### Patient Information

Facility ID\*:

Event #: 275417

Patient ID\*:

Social Security #:

Secondary ID:

Last Name:

Middle Name:

Gender\*:

When the patient ID is entered, NHSN will automatically complete the demographic information for the patient

### Event Information

Event Type\*:

Post-procedure:

Location:

Date Admitted to Facility:

Select the Event Type from the drop-down list



**Event Information**

Event Type\*:

Date of Event\*:

NHSN Procedure Code\*:

ICD-9-CM Code:

Procedure Date\*:

[Link to Procedure](#)

*Event is not Linked*

Location:

Date Admitted to Facility>:



A list of procedures for that patient will appear

## Link Procedure List

No exact match was found. The following procedure(s) were found for the selected facility and patient.

Check the procedure to link this Event to and click Link

Patient ID: 93-3-333

First | Previous | Next | Last

Displaying 1 - 1 of 1

Link	Event #	NHSN Procedure Code	ICD-9-CM Code	Procedure Date	Linked Events
<input checked="" type="checkbox"/>	275413	HPRO		09/14/2006	

First | Previous | Next | Last

Displaying 1 - 1 of 1

Link

Back

Click in the box next to the appropriate procedure and then the link button.

# Linking an Event to a Procedure

The data related to the procedure will be automatically filled in

## Event Information

Event Type\*: SSI - Surgical Site Infection

Date of Event\*: 09/22/2006

NHSN Procedure Code\*:

Notice now that the Event has been Linked to the Procedure

ICD-9-CM Code:

Procedure Date\*: 09/14/2006

Link to Procedure

Event Linked

Location SICU - Surgical ICU

Date Admitted to Facility\*: 09/22/2006

You still need to enter the date of the SSI, the patient location and the patient date of admission

# Help Messages



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

NHSN - National Healthcare Safety Network

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Logged into Test Facility (ID: 10036) as MZAY.  
Facility Test Facility (ID: 10036) is following PS component.

## View Procedure

Mandatory fields marked with \*

[Print PDF Form](#)

Fields required when in Plan marked with >

### Patient Information

Facility ID *	Test Facility (10036)	Procedure #:	275413
Patient ID *	33-3-333	Secondary ID:	
Social Security #		First Name:	Sue
Last Name	Jones	Date of Birth *	04/12/1955
Middle Name			
Gender *	F - Female		

### Procedure Information

NHSN Procedure Code *	HPR0 - Hip prosthesis
ICD-9-CM Code	
Procedure Date *	09/14/2006 <i>Procedure is not Linked</i>

### Procedure Details

Outpatient *	N - No	Duration (Hrs: Mins) *	3 : 44
Wound Class *	C - Clean	General Anesthesia *	Y - Yes



# Questions?

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# National Healthcare Safety Network (NHSN)

Introduction to NHSN Analysis:  
Learning the Terminology

Training Session for NHSN Hospitals  
December 14, 2006

**SAFER • HEALTHIER • PEOPLE™**



# Agenda

- NHSN Home Page Overview
- Data Access Context
- Generating Analysis Data Sets
- Generating Output
- Output Types
- Modifying Output
- Demonstrate Analysis Capabilities
- Announcements
- Q & A



# Questions To Answer

- Where Do I Start?
- What Data Can I Access?
- How Can I Access My Data?
- How Can I Generate Output?
- What Output Can I Generate?
- Can I Customize My Output?
- Demo Analysis Capabilities
- Announcements
- Q & A



# Where Do I Start?

**Answer:** The NHSN Home Page

The NHSN Home Page displays facility and user information, available functions on the Nav Bar, and a series of selection boxes for the user to choose their context



## Welcome to the NHSN Landing Page

Select a facility and component,  
then click Submit to go to the Home Page.

User: JDE (ID 107)

Select facility/group from dropdown list:

Select facility within the above group:

Select component:



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**Context Selection Boxes**



- [NHSN Home](#)
- [Reporting Plan](#)
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- [Event](#)
- [Procedure](#)
- [Summary Data](#)
- [Analysis](#)
- [Survey](#)
- [Users](#)
- [Facility](#)
- [Group](#)
- [Log Out](#)

Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

← **Facility/User Information**

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
to access the features of the application.

← **Nav Bar**



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**Assurance of Confidentiality:** The information obtained 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 otherwise be disclosed or released without the consent of the individual, or the institution in accordance with Sections 304, 306 and 309 (d) of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).



# What Data Can I Access?

**Answer:** The data that has been entered by the users at your facility

In most cases, a user will have access to analyze all the data entered for a particular facility. The NHSN can be extended to accommodate restricted and/or group access which are considered Advanced topics.



# How Can I Access My Data?

**Answer:** A user can access facility data by generating analysis data sets and executing available output options.

A user generates their own set of analysis data sets by selecting **Generate Datasets** in the Analysis section of the Nav Bar. Next, a user can select **Output Options** to view available options.



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Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
to access the features of the application.



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**Assurance of Confidentiality:** The information obtained 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 otherwise 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)).

**First select this function to generate analysis data sets**



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Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Welcome to the NHSN Home Page.

Use the Navigation bar on the left  
to access the features of the application.



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**Assurance of Confidentiality:** The information obtained 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 otherwise 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)).

**First select this function to generate analysis data sets**

**Second select this function to view output options**



# Key Terms

- **Generate Datasets**: A function on the Nav Bar that allows a user to create one or more datasets to which that user has access.
- **Output Options**: a function on the Nav Bar that displays the output options available to a user.
- **Analysis Data Set**: A set of data of a particular type (e.g., Central Line-associated BSI events) created for a user to produce output.



# How Can I Generate Output?

**Answer:** A user can generate output by navigating the Analysis Output Options Treeview and clicking the **Run** button beside the desired output option.

To guide users, the output options have been organized by module with sub-sections that display like a branches of a tree. Hence, the term treeview is used to describe the output options page.



# Analysis Output Options Treeview

- Device-Associated Module
- Procedure-Associated Module
- Medication-Associated Module

These module-based sections of the Treeview allow a user to select output options by determining the module in which the interested data was collected. This is referred to as the “guided” context.



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Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Patient Safety Component

Analysis Output Options

- Device-Associated Module
- Procedure-Associated Module
- Medication-Associated Module
- Advanced
- My Custom Output
- Published Output

 **Collapsed Treeview**



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Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Patient Safety Component

Analysis Output Options

- Device-Associated Module
- Procedure-Associated Module
- Medication-Associated Module
- Advanced
- My Custom Output
- Published Output

**Covered in this  
Training Session**





# Key Terms

- **Treeview**: A hierarchical view of a list of items or options that can be collapsed or expanded
- **Output Option**: a specific option in the Analysis Output Option Treeview that can be executed.  
(e.g., Line Listing – Central Line-associated BSI Events)



# What Output Can I Generate?

**Answer:** A user can generate several types of output including line listings, frequency tables, pie charts, bar charts, rate tables, line plots, and control charts.

Each output option uses a specific analysis data set from which to produce output. When an output option is executed, the output will display in a separate browser window which can be printed or saved as a file on a local computer workstation.



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Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Patient Safety Component

Analysis Output Options

[Expand All](#)

[Collapse All](#)

- Device-Associated Module
  - All Device-Associated Events
  - Central Line-Associated BSI
  - Ventilator-Associated PNEU
  - Urinary Catheter-Associated UTI
  - Dialysis Incidents
- Procedure-Associated Module
- Medication-Associated Module
- Advanced
- My Custom Output
- Published Output



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Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Patient Safety Component

### Analysis Output Options

Expand All

Collapse All

Device-Associated Module

All Device-Associated Events

Central Line-Associated BSI

CDC Defined Output

Line Listing - All CLAB Events

Run Modify

Frequency Table - All CLAB Events

Run Modify

Bar Chart - All CLAB Events

Run Modify

Pie Chart - All CLAB Events

Run Modify

Rate Table - CLAB Data for ICU-Other

Run Modify

Control Chart - CLAB Data for ICU-Other

Run Modify

Rate Table - UCAB/CLAB Data for NICU

Run Modify

Control Chart - UCAB/CLAB Data for NICU

Run Modify

Rate Table - CLAB Data for SCA

Run Modify

Control Chart - CLAB Data for SCA

Run Modify



# Key Terms

- **CDC Defined Output**: A section of output options that have been created to help a user generate output of a particular type.
- **Output Type**: The type of output that will be generated when the Run button is clicked (e.g., line listing). The list of available output types will vary among the analysis data sets.



# Can I Customize My Output?

**Answer:** A user can customize output by clicking the **Modify** button beside the desired output option which will then display a page of design parameters that can be modified.

Each user has the option to execute the modified output option by clicking the **Run** button at the bottom of the design page and/or save the modified output option by clicking the **Save As** button.



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Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Line Listing

Analysis Data Set: **CLAB\_Events**

[Export Analysis Data Set](#)

### Modify Attributes of the Output:

Last Modified On: **11/27/2006**

Output Type:

Output Name:

Output Title:

### Select output format:

Output Format:

Use Variable Labels

**Select a time period or Leave Blank for Cumulative Time Period:**

Date Variable  Beginning  Ending

Enter Date variable/Time period at the time you click the Run button

---

**Specify Other Selection Criteria:**

[Show Criteria](#) [Column +](#) [Row +](#) [Clear Criteria](#)

| <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|
|                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |
|                      |                      |                      |                      |                      |

---

**Other Options:**

[Print Variable Reference List](#)

**Modify Variables To Display By Clicking:** [Modify List](#)

**Specify Sort Variables By Clicking:** [Modify List](#)

**Select Page by variable:**

Logged into DHQP Memorial Hospital (ID 10000) as JDE.  
Facility DHQP Memorial Hospital (ID 10000) is following PS component.

## Patient Safety Component

### Analysis Output Options

Expand All

Collapse All

#### Device-Associated Module

##### All Device-Associated Events

##### Central Line-Associated BSI

##### CDC Defined Output

Line Listing - All CLAB Events

Run

Modify

Frequency Table - All CLAB Events

Run

Modify

Bar Chart - All CLAB Events

Run

Modify

Pie Chart - All CLAB Events

Run

Modify

Rate Table - CLAB Data for ICU-Other

Run

Modify

Control Chart - CLAB Data for ICU-Other

Run

Modify

Rate Table - UCAB/CLAB Data for NICU

Run

Modify

Control Chart - UCAB/CLAB Data for NICU

Run

Modify

Rate Table - CLAB Data for SCA

Run

Modify

Control Chart - CLAB Data for SCA

Run

Modify

##### Custom Output

Rate Table - CLAB Data for ICU-Other

Run

Modify

Delete

My Custom Line Listing - All CLAB Events

Run

Modify

Delete



# Key Terms

- **Design Parameters**: A list of selection items that allows a user to customize output. The set of design parameters are slightly different for each Output Type.
- **Custom Output**: a section heading containing output options that have been created by a user to generate a particular type of output.



# Support

- Online help messages within NHSN
- Email: [nhsn@cdc.gov](mailto:nhsn@cdc.gov)
- Phone support:  
[800-893-0485](tel:800-893-0485) or [404-498-1250](tel:404-498-1250)
- Members website:  
[http://www.cdc.gov/ncidod/dhqp/nhsn\\_members.html](http://www.cdc.gov/ncidod/dhqp/nhsn_members.html)



# Questions?

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# Clinical Document Architecture (CDA) Import Function

na

Division of Healthcare Quality Promotion

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# Target Audience



- This training is designed for those who will submit NHSN event records using the NHSN import data function. These users might include an NHSN Facility Administrator or other qualified individuals within the facility.
- The records submitted are provided from the facility's infection control software system.



# Objectives

- Identify the steps in submitting records to NHSN via the NHSN Import Data function.
- Demonstrate import for the following events:
  - Bloodstream infection (CLABSI)
  - ICU denominator
  - Surgical Site infection
  - Procedure
- Describe how to link SSI and Procedure records can be linked to form an association between them
- Generate import result reports



# Information about the CDA ZIP File



- Before using the NHSN Import Data function, you must generate CDA zip files that contain the event and/or denominator records to be imported.
- In most cases, you can generate this file using an Export function provided by the Infection Control software that your use at your facility.
- For details on generating your CDA zip files, consult your Infection Control software vendor representative.

# Access the Import Function



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Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as MALBITZ.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## NHSN Patient Safety Component Home Page

Use the Navigation bar on the left to access the features of the application.

**Assurance of Confidentiality:** The information obtained in this surveillance system that would permit institution is collected with a guarantee that it will be held in strict confidence, will be used only for the otherwise be disclosed or released without the consent of the individual, or the institution in accordance of the Public Health Service Act (42 USC 242b, 242k, and 242m(d)).

**NHSN maintenance may occur nightly  
between 12am and 6am Eastern time.**



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In the left navigation panel. Select the Import/Export option.  
For NHSN login instructions, please see the Enrollment training slides  
(slide 49) on the NHSN web site: [www.cdc.gov](http://www.cdc.gov)

# Import Bloodstream Infections, Procedures or ICU summary event records



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## Import/Export Data

Import/Export Type:

Import/Export Type:

- Import Patients
- Import Surgeons
- Import Procedures (comma delimited)
- Import BSI events, Procedures, BSI Summary Data (CDA)
- Import SSI events (CDA)
- Export Data

In the Import/Export drop-down list, select Import BSI Events, Procedure or BSI Data (CDA).

# Import Bloodstream Infection, Procedure or ICU summary event records (Continued)



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Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Import/Export Data

Import/Export Type:

- Import Patients
- Import Surgeons
- Import Procedures (comma delimited)
- Import BSI events, Procedures, BSI Summary Data (CDA)
- Import SSI events (CDA)
- Export Data

BSI, Summary and Procedure records can be imported using a single zip file. However, you must import SSI records in a separate zip file after importing the associated Procedure event records.

# Import Bloodstream Infection, Procedure or ICU summary event records (Continued)



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Logged into DHQP MEMORIAL HOSPITAL (ID 10016) as MALBITZ.  
Entity: DHQP MEMORIAL HOSPITAL (ID 10016) is following the PC component.

## Import/Export Data

Import/Export Type:

Import BSI events, Procedures, BSI Summary Data (CDA)

Select Data file

**Click the Browse button. Using the browsing window, locate and select the applicable CDA zip file to be imported into NHSN.**

# Import Bloodstream Infection, Procedure or ICU summary event records (Continued)



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Logged into Parkview Hospital (ID 10235) as MALBITZ.  
Facility Parkview Hospital (ID 10235) is following the PS component.

## Import/Export Data

Import/Export Type:

Import BSI events, Procedures, BSI Summary Data (CDA)

Select Data file



Submit

Back

When the correct CDA sip filename displays in the Selected Data File field, click Submit. The import validation process begins.

# Import Bloodstream Infection, Procedure or ICU summary event records (Continued)



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Logged into Parkview Hospital (ID 10230) as MALEITZ.  
Facility Parkview Hospital (ID 10230) is following the PS component.

## Import BSI events, Procedures and/or Summary Data

### Records processed

Record Type	# of Records	# Passed
Events	1	1
Summary Data	0	0
Procedures	0	0

### Validation results

**Events**   Summary Data   Procedures

Event Type	Event Date	Patient ID	Location	Set ID	Status
BSI	06/17/2009	IDT6-BSIC	INSURGCC	2.16.840.1.113883.3.117.1.1.5.2.1.1.6994-31	Ready for Import



•After the import validation process has completed the validation of each CDA file, the system displays the information to you. At this point the records have not been imported into the NHSN application.

•If each record passed the validation rules for import, the Submit button is enabled.

•If any of the records did not pass validation rules, the Error Report button is enabled and the batch cannot be imported into the NHSN database.

• Click the applicable tab to view the records that are ready for import or which records failed validation

# Import Bloodstream Infection, Procedure or ICH summary event records



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Logged into Parkview Hospital (ID 10298) as MALBITZ  
Facility Parkview Hospital (ID 10298) is following the PS component.

## Import BSI events, Procedures and/or Summary Data

### Records processed

Record Type	# of Records	# Passed
Events	1	1
Summary Data	0	0
Procedures	0	0

### Validation results

Events

Summary Data

Procedures

Event Type	Event Date	Patient ID	Location	Set ID	Status
BSI	06/17/2009	IDT6-BSIC	INSURGCC	2.16.840.1.113883.3.117.1.1.5.2.1.1.6994-31	Ready for Import

Error Report

Submit

Cancel

•When the Submit button is enabled, click it. The records are imported into the NHSN database.

•If the Error Report button is enabled, click it. A PDF Error Report is generated that contains a detailed explanation for the failure. Send that PDF report to your Infection Control software vendor representative for resolution.

# Import Bloodstream Infection, Procedure or ICU summary event records (Continued)



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Logged into Parkview Hospital (ID 10235) as MALBITZ.  
Facility Parkview Hospital (ID 10235) is following the PS component.

Successfully imported all CDA document data (BSI\_cda\_import\_07\_16\_2009\_15\_25\_29.zip) into the NHSN Database.

[Report](#) [Back](#)

When the files that have passed validation have been successfully imported and saved in the NHSN database, this message indicating the report was successful displays.

You can generate a report that gives the details of the import process. If desired, click the Report button.

# Import Bloodstream Infection, Procedure or ICU summary event records (Continued)

## CDA Import Report

FACILITY ID: Parkview Hospital Date of Import: 19/09/2009 04:32:45 EDT

Summary:

Event ID	Total # attempted	Total # imported
Events	1	1
Summary Data	0	0
Procedures	0	0

All records loaded into the NHSN Application database.

ImportDetails - Successful

Line listing for each record imported successfully

Record #	Event Type	Event Date
2168401.1152853.517.1.1.52.1.1.4884.21	BSI	09/17/2009

ImportDetails - Failed

Line listing for each record loaded and failed the validation

Record #	Event Type	Event Date
No records are available to display in this section.		

Warnings:

Following file(s) are not valid CDA documents:

Unexpected Errors:

When you click the Error Report or Report button, a file in PDF format is generated and displayed. You can save, print and or email this file.

If the file shows errors, please send this PDF report to your Infection Control software vendor representative for troubleshooting.



# Import Surgical Site Infections Event Records and Link Event Records

The following information assumes that you are logged into the NHSN application, have accessed the NHSN Patient Safety Home Page, and have clicked the Import/Export button in the Navigation pane.

# Import SSI Events and Link Procedure events



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Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as MALBITZ.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Import/Export Data

Import/Export Type:

- Import Patients
- Import Surgeons
- Import Procedures (comma delimited)
- Import BSI events, Procedures, BSI Summary Data (CDA)
- Import SSI events (CDA)**
- Export Data

Before importing Surgical Site Infection (SSI) event records, ensure that you have imported the associated Procedure events records.  
In the Import/Export Type drop-down list, select Import SSI events (CDA).

# Import SSI Events and Link Procedure events (continued)



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Logged into DHQP MEMORIAL HOSPITAL (ID 10018) as MALBITZ.  
Facility DHQP MEMORIAL HOSPITAL (ID 10018) is following the PS component.

## Import/Export Data

Import/Export Type:

- Import Patients
- Import Surgeons
- Import Procedures (comma delimited)
- Import BSI events, Procedures, BSI Summary Data (CDA)
- Import SSI events (CDA)**
- Export Data

Browse for the applicable CDA zip file by clicking the Browse button.

Using the browsing window, locate and select the applicable CDA zip file to be imported into NHSN.

# Linking the SSI Events and Link Procedure events (continued)



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Logged into Parkview Hospital (ID 10235) as MALBITZ.  
Facility: Parkview Hospital (ID 10235) is following the PS component.

## Import SSI events

### Records processed

Record Type	# of Records	# Passed
Surgical Site Infections	1	1

### Validation results

Event Type	Event Date	Patient ID	Proc Code	Proc Date	Link	Proc ID	Set ID	Status
SSI	08/08/2009	IDT9-SSI36	HYST	07/10/2009		<a href="#">15857</a>	2.16.840.1.113883.3.117.1.1.5.2.1.1.5065-32	Ready for Import

When the correct CDA zip filename displays in the Selected Data File field, click Submit. The import validation process and linking process begins. The importation of an SSI record requires the linkage at the time of importation to its related procedure. Therefore, the procedure record must already be present in the NHSN database. The import process performs a search and matching of the procedure records and presents the user with a candidate procedure record for linkage to the SSI record being imported.

# Linking the SSI Events and Link Procedure events (continued)



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Logged into Parkview Hospital (ID 10235) as MALBITZ.  
Facility Parkview Hospital (ID 10235) is following the PS component.

## Import SSI events

### Records processed

Record Type	# of Records	# Passed
Surgical Site Infections	1	1

### Validation results

Event Type	Event Date	Patient ID	Proc Code	Proc Date	Link	Proc ID	Set ID	Status
SSI	08/08/2009	IDT9-SSI36	HYST	07/10/2009		<a href="#">15857</a>	2.16.840.1.113883.3.117.1.1.5.2.1.1.5065-32	Ready for Import

After the import validation has completed the validation of each record in the zip file, the system searches for and links the matched Procedure event record. At this point the records have not been imported into the NHSN database.

If the event record passed the validation rules for import and is linked correctly, validated records are shown and the Submit button is enabled.

If any of the records did not pass validation or a valid procedure link has not be made for each SSI event record, problem records are shown and the Error Report button is enabled. The batch of records cannot be imported into NHSN database.

# Linking the SSI Events and Link Procedure events (continued)



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Logged into Parkview Hospital (ID 10235) as MALBITZ.  
Facility Parkview Hospital (ID 10235) is following the PS component.

## Import SSI events

### Records processed

Record Type	# of Records	# Passed
Surgical Site Infections	1	1

### Validation results

Event Type	Event Date	Patient ID	Proc Code	Proc Date	Link	Proc ID	Set ID	Status
SSI	08/08/2009	IDT9-SSI36	HYST	07/10/2009		<a href="#">15857</a>	2.16.840.1.113883.3.117.1.1.5.2.1.1.5065-32	Ready for Import

Error Report

Submit

Cancel

Validate the correct record was linked to the procedure by clicking the blue Proc ID link.

# Linking the SSI Events and Link Procedure events (continued)

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Logged into Parkview Hospital (ID: 10235) as MALBITZ.  
Facility Parkview Hospital (ID: 10235) is following the PS component.

## View Event

Mandatory fields marked with \*  
Fields required when in Plan marked with >

### Patient Information [HELP](#)

Facility ID*	Parkview Hospital (10235)	Procedure #:	15857
Patient ID*	IDT9-SS136		
Social Security #:		Secondary ID:	
Last Name:	joySS136eventdateoutofplan	First Name:	test
Middle Name:			
Gender*	F - Female	Date of Birth*	08/19/1970
Ethnicity:			
Race:	American Indian/Alaska Native Black or African American White	Asian Native Hawaiian/Other Pacific Islander	

### Procedure Information [HELP](#)

NHSN Procedure Code*	HYST - Abdominal hysterectomy		
ICD-9-CM Code:			
Procedure Date*	07/10/2009	Procedure Linked	

### Procedure Details [HELP](#)

Outpatient*	N - No	Duration (Hrs:Min)*:	3 : 3
Wound Class*	CO - Contaminated	General Anesthesia*	Y - Yes
ASA Class*	3 - Patient with severe systemic disease not incapacitating		
Emergency*	Y - Yes	Trans*	Y - Yes
Endoscopy*	Y - Yes		

The Procedure record that is linked to the SSI record displays.

# Linking the SSI Events and Link Procedure events (continued)



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

NHSN - National Healthcare Safety Network (ISD-CLFT-NHSN1)

[NHSN Home](#) | [My Info](#) | [Contact us](#) | [Help](#) | [Log Out](#)

[NHSN Home](#)  
[Reporting Plan](#)  
[Event](#)  
[Procedure](#)  
[Primary Data](#)  
[Import/Export](#)  
[Analysis](#)  
[Keys](#)  
[Data](#)  
[Quality](#)  
[Reports](#)  
[Out](#)

Logged into Parkview Hospital (ID 10235) as MALBITZ.  
Facility Parkview Hospital (ID 10235) is following the PS component.

## Import SSI events

### Records processed

Record Type	# of Records	# Passed
Surgical Site Infections	1	1

### Validation results

Event Type	Event Date	Patient ID	Proc Code	Proc Date	Link	Proc ID	Set ID	Status
SSI	08/08/2009	IDT9-SSI36	HYST	07/10/2009		15857	2.16.840.1.113883.3.117.1.1.5.2.1.1.5065-32	Ready for Import

[Error Report](#)

[Submit](#)

[Cancel](#)



When the Submit button is enabled, click it. The SSI records are imported into the NHSN database.

If the Error Report button is enabled, click it. A PDF Error Report is generated that contains a detailed explanation for the failure. Send that PDF report to your Infection Control software vendor representative for resolution.



# Things to remember

- Please contact NHSH support at [NHSN@cdc.gov](mailto:NHSN@cdc.gov) for any issues that relate to use of the Import function
- Please contact your infection control software vendor support staff for error messages that appear on the Error Report produced by the import function.
- Each SSI record must be linked to its procedure prior to the acceptance of the SSI batch by NHSN.
- All records imported must fall within a previously entered monthly reporting plan. Therefore, no “out of plan” events are accepted into NHSN via the CDA import function.
- All local location entries must be made in NHSN prior to the first CDA import.



# **NHSN Confer Rights to Group Training Session**

**April 19, 2007**



# NHSN Data Sharing: Group

- A state health department can enroll as a Group in NHSN
- An NHSN facility joins the Group
- Facility gives access rights to certain of its data to the Group
- Group can analyze the data of its member facilities
- NHSN facilities in the Group cannot see one another's data



## New in this version

Allows the facilities to confer rights to the state or group in a more granular level than was previously available.

- By Plan status
- By Location
- By Date Range
- By Procedure/Setting
- By Event



# Training Demonstration

- View rights for Analysis
- View rights for Annual Survey
- View rights for Monthly reporting plan
- View rights for Patients w/Identifiers
- Confer “In-Plan” SSIs for COLOs in full year of 2007.
- Confer “In-Plan” SSIs for CBGBs in full year of 2007.
- Confer “In-Plan” SSIs for CBGCs in full year of 2007.
- Confer “In-Plan” BSI – Bloodstream Infection for CLA for ICUs in full year of 2007.
- Confer “In-Plan” BSI – Bloodstream Infection for CLA for NICUs in full year of 2007.

Logged into Medical Center East (ID 10000) as TCH.  
 Facility Medical Center East (ID 10000) is following PS component:

## Confer Rights-Patient Safety

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

Patient Safety

Healthcare Personnel Safety

General

View Options

Patient	<input checked="" type="checkbox"/> <input type="radio"/> With Identifiers <input checked="" 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
In	1	2007	to			BSI-Bloodstream Infection (CLA)
Location type:		Location:				
CC		ALL				
In	1	2007	to			SSI-Surgical Site Infection
Procedure:		Setting:				
CBGB- Coronary bypass w/ chest & donor incisions		In				
In	1	2007	to			SSI-Surgical Site Infection
Procedure:		Setting:				
CBGC- Coronary bypass graftwith chest incision		In				

Add Row

Clear All Rows

Copy Locations to Summary Data

Copy Procs to Denominator data

# Confer Rights to Group (cont.)

## Infections and other Events

Plan	Month	Year	to	Month	Year	Event
In	1	2007	to			BSI - Bloodstream Infection (CLA)
		Location type:		Location:		
		CC		ALL		
In	1	2007	to			SSI - Surgical Site Infection
		Procedure:		Setting:		
		CBGB - Coronary bypass w/ chest & donor incisions		In		
In	1	2007	to			SSI - Surgical Site Infection
		Procedure:		Setting:		
		CBGC - Coronary bypass graft with chest incision		In		

Add Row

Clear All Rows

Copy Locations to Summary Data

Copy Procs to Denominator data

## Summary Data for Events

Plan	Month	Year	to	Month	Year	Location Type	Location
In	1	2007	to			CC	ALL

Add Row

Clear All Rows

## Denominator Data for Events

Plan	Month	Year	to	Month	Year	Procedure	Setting
In	1	2007	to			CBGB - Coronary bypass w/ chest & donor incisions	In
In	1	2007	to			CBGC - Coronary bypass graft with chest incision	In

# Joining a Group for Training

On the navigation bar, click on “Group” and select “Join”. The Memberships screen will appear:

The screenshot shows the CDC NRSN (National Healthcare Safety Network) interface. The top navigation bar includes the CDC logo, the text 'Department of Health and Human Services Centers for Disease Control and Prevention', and links for 'NRSN Home', 'My Info', 'Contact Us', 'Help', and 'Log Out'. A secondary bar indicates the user is logged into 'DHQP MEMORIAL HOSPITAL (ID: 30018)' as 'MNGSEE' and shows the facility's PS component.

The left navigation menu includes: NRSN Home, Reporting Plan, Patient, Event, Procedure, Summary Data, Analysis, Surveys, Users, Facility, Group, Confer Rights, Join, Leave, Nominate, and Log Out.

The main content area is titled 'Memberships' and contains the following elements:

- A section titled 'Groups that have access to this facility's data' with an empty table and buttons for 'Confer Rights' and 'Leave Group(s)'.
- A section titled 'Enter ID and Password for this facility to join a new group' with input fields for 'Group ID:' and 'Group Joining Password:', and a 'Join Group' button.
- A 'Back' button at the bottom center.

Enter the '11167' for Group ID and 'join' as the password.