

## 2011 Statewide NHSN Surgical Site Infection and Standardized Infection Ratio Trainings!

In preparation of the IPPS 2012 rule for Surgical Site Infection NHSN reporting, Infectious Disease Epidemiology Section of the Louisiana Office of Public Health is offering 2011 NHSN Trainings, which will focus on Surgical Site Infections and the Standardized Infection Ratio. The trainings are specifically aimed for infection preventionists, but may also interest hospital leadership and other stakeholders. To register, visit <https://www.surveymonkey.com/s/2011nhsntraining>. The registration deadline is **Friday, August 26<sup>th</sup>**. Participants in the September 6<sup>th</sup> training are asked to bring a bag lunch so we may work through the lunch hour. For questions, contact [Erica.Washington@LA.GOV](mailto:Erica.Washington@LA.GOV).

Date	Time	Location	Address
Tuesday, September 6th	9:30 a.m. until 2:00 p.m.	Jefferson Parish East Bank Regional Library	4747 West Napoleon Avenue, Metairie, 70001
Thursday, September 22nd	8:00 a.m. until 12:30 p.m.	Region 6 Office of Public Health	5604-B Coliseum Boulevard, Alexandria, 71303
Tuesday, September 27th	8:00 a.m. until 12:30 p.m.	Region 8 Office of Public Health	1650 DeSiard St., Monroe, 71201

## Summary Table of Surgical Site Infections Core Measures for IPPS 2012 Discharges

7 Specific Surgical Procedures:	Corresponding NHSN Procedure Code:
Coronary Artery Bypass Graft	CBGB, CBGC
Other Cardiac Surgery	CARD
Hip Arthroplasty	HPRC
Knee Arthroplasty	KPRC
Colon Surgery	COLO
Hysterectomy	HYST, VHYS
Vascular Surgery	VSHN, PVBV, CEA, AVSD, AAA

\* The information in this table was not compiled by the Centers for Disease Control and Prevention. Official information will be disseminated upon release.

### Bookmark These Links!

- Louisiana HAI Resource Center: <http://1.usa.gov/oECy09>
- CMS Hospital Inpatient Quality Reporting Program: <http://bit.ly/nZfzHB>
- NHSN Enrollment Requirements for CMS Reporting: <http://1.usa.gov/bsqx4k>
- Partnership for Patients Webinar Series: <http://bit.ly/lAgwOB>

## NHSN Infectious Disease Epidemiology Group PS Confer Rights Template

The National Healthcare Safety Network (NHSN) [2011 Consent Agreement](#) allows CDC to provide state health departments of health with information that identifies the healthcare facilities that participate in NHSN. Existing NHSN reporters prior to the 2011 agreement underwent a re-consent process to acknowledge the update of the purposes of NHSN.

In addition to providing state health departments with the names of NHSN reporters, CDC is also able to provide state agencies with facility-specific NHSN Patient Safety Component and Healthcare Personnel Safety adverse event and prevention practice adherence data.

The IDEpi NHSN Group (#15156) is in the process of creating "Confer Rights Templates", wherein Louisiana facilities are invited to participate in our confidential state healthcare-associated infections analysis in accordance with the new functions of the Network. Through this process, facilities have the option of accepting the template of rights to complete data sharing with IDEpi.

Facilities are able to review the template upon their NHSN login and click the Accept button at the bottom of the page if they agree to share requested data with the Group. Facilities can use the Back button if they choose not to accept the template, preventing the Group from accessing requested. Please note: facilities that are members of the group are not able to view each other's data. The complete Confer Rights Template document is available at <http://1.usa.gov/n02KUX>.



Learn more about this free service, training, and enrollment at [www.cdc.gov/nhsn](http://www.cdc.gov/nhsn)



# 2011 National APIC Conference: Louisiana's Great Representation in Baltimore!

The national Association for Professionals in Infection Control and Epidemiology (APIC) 2011 Conference was held from June 27<sup>th</sup> to 29<sup>th</sup> in Baltimore, MD. Representatives from each of the three Louisiana APIC chapters attended the conference.

Connie DeLeo (Baton Rouge General, River Region Chapter) and Linda B. Polo (St. Tammany Parish Hospital, Greater New Orleans Chapter) each received 2011 APIC Chapter Leadership Awards. Additionally, Dr. Deione Reed is serving as chair of the APIC Minority Health Section.

APIC's mission is to improve health and patient safety by reducing risks of infection and other adverse outcomes. APIC advances its mission through education, research, consultation, collaboration, public policy, practice guidance and credentialing. To learn more, visit [www.apic.org](http://www.apic.org).



Leslie Kelt (center) and Linda B. Polo (right) of St. Tammany Parish Hospital accept an award from Kimberly-Clark Health Care at the 2011 APIC Conference.

## Writing an Effective Abstract

As a healthcare facility, you may be interested in conducting prevention studies through your works with the Comprehensive Unit-Based Safety Program (CUSP) or the state-led prevention collaboratives. Your evidence-based, data-driven analysis to interventions may be useful to other facilities, and may bring your organization national recognition through APIC or other organizations. Read here for helpful tips for writing abstracts, as sourced from <http://1.usa.gov/oxTXV7>:

- Follow the format and directions on the Web site – one study found that only 17% of submitted abstracts followed all directions.
- Be clear and concise! This same study found that rejected abstracts were less concise than accepted abstracts; provide only the information needed to make your point.
- Don't just cut and paste sentences from your research paper into your abstract; writing that is appropriate for long papers is often too complicated for abstracts.
- We require that you present findings in your abstract (do not say that results will be discussed or forthcoming).
- Identify your key messages about your rationale for your work, the methods, and the conclusions before you write. Know what is really important and unique about your project what you did, why you did it, what you learned.
- Write in the active voice, e.g., "We tested men who have sex with men (MSM) seen at the San Francisco Municipal Sexually Transmitted Disease (STD) Clinic" vs. "MSM seen at the San Francisco Municipal STD Clinic were tested."
- Avoid jargon and explain uncommon acronyms.
- Double check spelling, grammar, punctuation, and all numbers.
- And most important after writing your abstract, look at the review criteria. How would you score your abstract?

## Review of Surgical Site Infection (SSI) Definitions

1. **Superficial Incisional Primary (SIP)** – a superficial incisional SSI that is identified in the primary incision in a patient that has had an operation with one or more incisions (e.g., C-section incision or chest incision for CBGB)
2. **Superficial Incisional Secondary (SIS)** – a superficial incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision (e.g., donor site [leg] incision for CBGB)
3. **Deep Incisional Primary (DIP)** – a deep incisional SSI that is identified in a primary incision in a patient that has had an operation with one or more incisions (e.g., C-section incision or chest incision for CBGB)
4. **Deep Incisional Secondary (DIS)** – a deep incisional SSI that is identified in the secondary incision in a patient that has had an operation with more than one incision (e.g., donor site [leg] incision for CBGB)
5. An **organ/space SSI** must meet one of the following criteria:
  - 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.

## Premier, Inc. Surgical Site Infection Reporting Q&A

The following is an excerpt from a Premier, Inc. question-and-answer document, published January 2011. The full article may be found at the following URL: <http://bit.ly/ngjHDK>

SSI reporting via NHSN to the Center for Medicare and Medicaid Services (CMS) Hospital Inpatient Quality Reporting Program is scheduled to begin 2012. The scope of that reporting has not yet been specified. The SSI measure currently endorsed by the National Quality Forum (NQF) calls for public reporting of only deep incisional and organ/space SSI detected during admission or upon readmission to the index facility. The NQF endorsed measure is cited in the federal rule that calls for SSI reporting via NHSN to the CMS quality reporting program. An updated version of that measure currently is under review by NQF and is a candidate for endorsement in early 2011. The SSI rates published in the last NHSN Report (2006 – 2008 data) include all sites of SSI, however, new multivariable risk models using only the subset of SSI (deep incisional and organ/space SSI detected during admission or upon readmission to the index facility) will be used to calculate SIRs for operative procedure categories under the CMS pay-for-reporting program.

# The Standardized Infection Ratio (SIR) Made Simple

In HAI data analysis, the SIR compares the actual number of HAIs reported with the baseline U.S. experience (i.e., NHSN aggregate data are used as the standard population), adjusting for several risk factors that have been found to be significantly associated with differences in infection incidence. In other words, an SIR greater than 1.0 indicates that more HAIs were observed than predicted, accounting for differences in the types of patients followed; conversely, an SIR less than 1.0 indicates that fewer HAIs were observed than predicted.

## Annual NHSN Report

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	No. of locations*	No. of CLABSIs	Central line-days	Pooled mean	Percentile				
					10%	25%	50% (median)	75%	90%
Critical care units									
Burn	35	390	70,932	5.5	0.0	1.2	3.1	7.5	11.8
Medical cardiac	228 (211)	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	362,288	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 (690)	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	2.3	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*	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

## Example CLABSI Rate Table Hospital A

Type of Location	# CLABSIs	# Central line-days	CLABSI Rate	NHSN Rate	p-Value	Expected # of CLABSIs
Coronary	2	380	5.26	2.1	0.09	0.80
Cardiothoracic	1	257	3.89	1.4	0.15	0.36
Medical	3	627	4.78	2.4	0.11	1.15
Med/Surg, major teaching	2	712	2.81	2.0	0.32	1.42
<b>Total</b>	<b>8</b>	<b>1976</b>	<b>4.05</b>	<b>----</b>	<b>----</b>	<b>3.73</b>

$$\text{Expected Number} = 380 * (2.1 / 1,000) = 380 * 0.0021 = 0.8$$

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$$\text{Standardized Infection Ratio (SIR)} = \text{Observed} / \text{Expected} = 8 / 3.73 = 2.14$$

**p-Value >0.05:** SIR is non-significant and the observed difference could be due to chance.

**p-Value <0.05:** SIR is significant, and the estimate is either higher or lower than the national data.

### 95% Confidence Interval

**Example:** SIR = 1.5, 95% CI (0.9-1.6). p-Value = 0.062.

**Interpretation** → The SIR shows we saw about 50% more infections in this unit than expected, however because the 95% C.I. includes 1.0 and the p-Value is greater than 0.05, the results are non-significant and the observed difference could be due to chance.

### 95% Confidence Interval

**Example:** SIR=0.8, 95% CI (0.7-1.0). p-Value=0.08.

**Interpretation** → The SIR shows we saw 20% fewer infections than expected; however, the results are non-significant because the p-value is greater than 0.05 and the 95%CI includes 1.0.

### 95% Confidence Interval

**Example:** SIR=0.76, 95%CI (0.4-0.9), p-Value=0.041.

**Interpretation** → we saw 24% fewer infections than expected. The results are significant because our p-Value is less than 0.05 and our confidence interval doesn't include 1.0.

The **Standardized Infection Ratio** is a summary statistic used to track HAIs over time. It adjusts for patients of varying risk within each facility, and compares the actual number of HAIs reported within the baseline U.S. experience (i.e., NHSN aggregate data are used as the standard population), adjusting for several risk factors that have been found to be significantly associated with differences in infection incidence.

The calculation is simply the ratio of Observed to Expected infections, which creates the risk-adjusted summary measure. It's used to compare overall HAI rates or any two patient cohorts, groups, or hospitals.

To calculate (O), sum the number of HAIs among a group. To calculate (E), use the appropriate aggregate, risk-adjusted rate data taken from the NHSN report for the given period of time.

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



CDC NHSN e-Newsletter. *What is a standardized infection ratio (SIR)?* Updated Dec 2010. Accessed 29 June 2011. Available at <http://1.usa.gov/kY5roK>.



## **Tips for completing the National Healthcare Safety Network (NHSN) Central Line-Associated Blood Stream Infection (CLABSI) Monthly Reporting Plan**

The purpose of submitting a Monthly Reporting Plan is to inform the NHSN at The Centers for Disease Control and Prevention (CDC) which Patient Safety modules a facility is reporting data for during a given month.

### **General Tips:**

- A facility must enter a Monthly Reporting Plan for every month of the year. A facility may enter data only for months in which a Monthly Reporting Plan has been submitted.
- Use drop down menus to update the Monthly Reporting Plan, choosing the locations, modules, procedures and events to be followed for the month. NOTE: remember to include all adult, pediatric, and neonatal ICUs.
- A Monthly Reporting Plan cannot be generated for CLABSI events until facility-specific locations are added through the NHSN website.
- CLABSI data will not be reported from NHSN to CMS unless the CLABSI checkbox is selected on the Monthly Reporting Plan for each applicable location.
- Report CLABSI events and appropriate summary or denominator data indicated on the Monthly Reporting Plan to the CDC within 30 days of the end of the month.

**Note:** NHSN will not share with CMS data that are not part of the Hospital Inpatient Quality Reporting Program requirements.

### **Monthly Reporting Plan:**

Enter a Monthly Reporting Plan conforming to one or more of the modules of the Patient Safety Component. Ensure all required fields are complete and input the specific locations and data reported for the month. When the selections remain the same from the prior month, a **[Copy from Previous Month]** button is available.

The screenshot shows the NHSN web interface for adding a monthly reporting plan. The header includes the CDC logo and 'Department of Health and Human Services, Centers for Disease Control and Prevention'. The main title is 'Add Monthly Reporting Plan'. The form contains the following elements:

- Navigation:** NHSN Home, Reporting Plan (Add, Find), Patient, Event, Procedure, Summary Data, Import/Export, Analysis, Surveys, Users, Facility, Group, Log Out.
- Form Fields:**
  - Facility ID\*: Test Facility (11111) (dropdown menu)
  - Month\*: (dropdown menu)
  - Year\*: (dropdown menu)
  - No NHSN Patient Safety Modules Followed this Month
- Device-Associated Module:**
  - Locations: (dropdown menu)
  - CLA BSI DE VAP CAUTI CLIP: (checkboxes)
- Buttons:** Add Row, Clear All Rows, Copy from Previous Month (circled in red).

**Note:** To modify a Monthly Reporting Plan, select the Reporting Plan “Find” option on the left navigation and select the appropriate plan. In “View” mode for the plan, select the **[Edit]** button to make any necessary changes.

### CLABSI HAI Measure

The CLABSI HAI measure assesses the rate of laboratory-confirmed cases of central line-associated bloodstream infection among **all** adult, pediatric and neonatal intensive care unit (ICU) patients.

- Data collection begins with 1/1/11 events for the FY 2013 payment determination.

### The Reporting Program CLABSI Requirements

Hospitals must be enrolled in the National Healthcare Safety Network (NHSN) and use the CLABSI protocol to submit data elements needed to calculate the CLABSI measure.

- Hospitals with a signed the Notice of Participation indicating they participate in the Reporting Program do not need to sign a new Notice of Participation.
- **All** hospitals participating in the Reporting Program are required to:
  - Submit quarterly data if a hospital has an ICU, in which there were central line days.
  - Submit quarterly data if a hospital has an ICU, in which there were zero central line days.
  - Submit the required notice if a hospital does not have ICU beds.  
**NHSN enrollment is not required for hospitals that do not have ICU beds.** The required notification form, timing and where to submit will be announced as decisions are finalized. (effective 11/3/2010)

### NHSN Required Training \*

- Overview of NHSN
- CLABSI Protocol
- Enrollment
- Facility Start-up

*\*Existing NHSN hospitals are not required to revisit trainings already completed.*

### NHSN Enrollment Steps

- Review and Accept Rules of Behavior and Register the Facility
- Obtain Digital Certificate
- Complete Enrollment Forms
- Print, sign and return Consent Form

### NHSN Agreement to Participate and Consent

Lists the purposes, eligibility, requirements and confidentiality protections of NHSN participation and requires attestation of understanding via signature.

- Signatures of the Primary Contact(s) and a member of the hospital's chief executive leadership are required.
- During NHSN Enrollment, a link to the consent document will be emailed to the hospital for signature.
- For **existing** NHSN hospitals, a new consent document will be available for signature in December 2010. The new consent signature provides authority for NHSN to share data with CMS for the Reporting Program payment determination.

### NHSN Best Practices

#### CDC strongly recommends:

- Multiple users complete the required NHSN training
- Multiple users have access to the NHSN tool
- Monthly data submission

**Note:** User authentication is required for each user to access the NHSN tool. For additional information, please refer to the NHSN Training web site listed below.

#### QUESTIONS?

Direct questions regarding the CMS Quality Reporting Program requirements to, [hrpqiosc@iaqio.sdps.org](mailto:hrpqiosc@iaqio.sdps.org)

Direct questions regarding NHSN training, enrollment and submission to, [NHSN@cdc.gov](mailto:NHSN@cdc.gov) (CDC has indicated a response will be provided in 3 to 5 business days.)

#### ADDITIONAL RESOURCES!

##### Join NHSN

<http://www.cdc.gov/nhsn/cms-welcome.html>

##### NHSN Training

[http://www.cdc.gov/nhsn/cms-ipps-rule\\_training.html](http://www.cdc.gov/nhsn/cms-ipps-rule_training.html)

##### QualityNet Web Site

<http://qualitynet.org>