

Sentri7™

Surgical Site Infections and Standardized Infection Ratios

Presented by:

Tom Jordan, RN, BS

**Director of Infection
Prevention**

Sentri7



Webinar Overview – SSIs & SIRs

- **Brief review of CMS (Medicare) impact on reporting of SSIs and other HAIs**
 - Including tidbits for your “C” suite
- **Review of SSIs**
 - Key definitions
 - SSI entry into NHSN
 - Surgical Procedure submission into SSI
- **Overview of SSI SIRs**

Federally Mandated Reporting

Collection of Surgical Site Infection (SSIs) for the FY 2014 payment determination will begin in 2012.



Value Based Purchasing

- **CMS has aggressively adopted a Value Based Purchasing model.**
- **CMS is transforming from a passive payer for services to a prudent (pay for performance) purchaser of services, paying not just for quantity of services but for quality as well.**
- **No longer rewarding JUST for data submission.**

The CMS Roadmap to P4P

Up to 4% of CMS payment “at risk” by 2013

	FY09	FY10	FY11	FY12	FY13
Value-Based Purchasing (VBP)	<ul style="list-style-type: none"> CMS implemented its Value-Based Purchasing (VBP) program in FY09 (10/1/08)¹ 		<ul style="list-style-type: none"> HHS Secretary required to deliver national strategy and priorities to improve health care quality by 1/1/2011² 	<ul style="list-style-type: none"> HHS required to submit report on expanding HACs beyond hospitals to other providers by 1/1/2012² 	<ul style="list-style-type: none"> 1% VBP reduction in CMS payment on ALL MS-DRGs based on failure to attain or improve hospital performance² 1% reduction in CMS payment on ALL MS-DRGs for readmission rates on AMI, CHF, & PN above expected²
Hospital Readmission Rates					
Hospital-Acquired Conditions (HACs)	<ul style="list-style-type: none"> CMS selected 10 categories of HACs to no longer receive higher incremental reimbursement if not present on admission (POA)¹ 	<ul style="list-style-type: none"> No HACs added to IPPS in FY10 			
Hospital Inpatient Quality Reporting Program (formerly RHQDAPU)	<ul style="list-style-type: none"> 2% P4R reduction¹ in CMS annual payment update for failure to report on RHQDAPU hospital quality measures: <ul style="list-style-type: none"> - Outcome - Process of care - Structure - Patient satisfaction 			<ul style="list-style-type: none"> 10 new RHQDAPU measures, including catheter related BSI, UTI and 6 other HAC-related measures² 	<ul style="list-style-type: none"> 3 new RHQDAPU measures, including CLABSI, SSI and one AMI-related HHS to provide confidential HAC reports to hospitals in the top quartile on HAC rates²
TOTAL CMS Payment at Risk*	2%	2%	2%	2%	4%

Patients who develop HAI pneumonia have a much higher risk of readmission with pneumonia within 30 days of discharge.



The CMS Roadmap to P4P

Up to 5.25% of CMS payment "at risk" by 2014

	FY09	FY10	FY11	FY12	FY13	FY14
Value-Based Purchasing (VBP)	CMS implemented its Value-Based Purchasing (VBP) program in FY09 (10/1/08) ¹		• HHS Secretary required to deliver national strategy and priorities to improve health care quality by 1/1/2011 ²	• HHS required to submit report on expanding HACs beyond hospitals to other providers by 1/1/2012 ²	• 1% VBP reduction in CMS payment on <u>ALL</u> MS-DRGs based on failure to attain or improve hospital performance ²	• 1.25% reduction in CMS payment based on VBP quality measures and incentives ²
Hospital Readmission Rates					• 1% reduction in CMS payment on ALL MS-DRGs for readmission rates on AMI, CHF, & PN above expected ²	• 2% reduction in CMS payment on ALL MS-DRGs for readmission rate on AMI, CHF & PN above expected ²
Hospital-Acquired Conditions (HACs)	CMS selected 10 categories of HACs to no longer receive higher incremental reimbursement if not present on admission (POA) ¹	• No HACs added to IPPS in FY10	→			
Hospital Inpatient Quality Reporting Program (formerly RHQDAPU)	2% P4R reduction ¹ in CMS annual payment update for failure to report on RHQDAPU hospital quality measures: - Outcome - Process of care - Structure - Patient satisfaction	→		• 10 new RHQDAPU measures, including catheter related BSI, UTI and 6 other HAC-related measures ²	• 3 new RHQDAPU measures, including CLABSI, SSI and one AMI-related • HHS to provide confidential HAC reports to hospitals in the top quartile on HAC rates ²	• HHS to add efficiency measures, incl. risk-adjusted Medicare spending per beneficiary ²
TOTAL CMS Payment at Risk*	2%	2%	2%	2%	4%	5.25%

The CMS Roadmap to P4P

Up to 7.5% of CMS payment "at risk" by 2015

	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Value-Based Purchasing (VBP)	CMS implemented its Value-Based Purchasing (VBP) program in FY09 (10/1/08) ¹		• HHS Secretary required to deliver national strategy and priorities to improve health care quality by 1/1/2011 ²	• HHS required to submit report on expanding HACs beyond hospitals to other providers by 1/1/2012 ²	• 1% VBP reduction in CMS payment on <u>ALL</u> MS-DRGs based on failure to attain or improve hospital performance ²	• 1.25% reduction in CMS payment based on VBP quality measures and incentives ²	• 1.5% reduction in CMS payment based on VBP quality measures and incentives ²
Hospital Readmission Rates					• 1% reduction in CMS payment on ALL MS-DRGs for readmission rates on AMI, CHF, & PN above expected ²	• 2% reduction in CMS payment on ALL MS-DRGs for readmission rate on AMI, CHF & PN above expected ²	• 3% reduction in CMS payment on ALL MS-DRGs for readmission rates on AMI, CHF, PN, & COPD, CABG, PTCA and other vascular ²
Hospital-Acquired Conditions (HACs)	CMS selected 10 categories of HACs to no longer receive higher incremental reimbursement if not present on admission (POA) ¹	• No HACs added to IPPS in FY10					• 1% reduction in CMS payment for ALL MS-DRGs for hospitals with HAC incidence rates in top quartile ²
Hospital Inpatient Quality Reporting Program (formerly RHQDAPU)	2% P4R reduction ¹ in CMS annual payment update for failure to report on RHQDAPU hospital quality measures: - Outcome - Process of care - Structure - Patient satisfaction			• 10 new RHQDAPU measures, including catheter related BSI, UTI and 6 other HAC-related measures ²	• 3 new RHQDAPU measures, including CLABSI, SSI and one AMI-related • HHS to provide confidential HAC reports to hospitals in the top quartile on HAC rates ²	• HHS to add efficiency measures, incl. risk-adjusted Medicare spending per beneficiary ²	• HHS to publicly report HAC rates for all hospitals on Hospital Compare website² • Future measures under consideration for RHQDAPU include VAP, MDRO and CDAD
TOTAL CMS Payment at Risk*	2%	2%	2%	2%	4%	5.25%	7.5%

The CMS Roadmap to P4P

Up to 8% of CMS payment “at risk” by 2017

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
Value-Based Purchasing (VBP)	CMS implemented its Value-Based Purchasing (VBP) program in FY09 (10/1/08) ¹		• HHS Secretary required to deliver national strategy and priorities to improve health care quality by 1/1/2011 ²	• HHS required to submit report on expanding HACs beyond hospitals to other providers by 1/1/2012 ²	• 1% VBP reduction in CMS payment on ALL MS-DRGs based on failure to attain or improve hospital performance ²	• 1.25% reduction in CMS payment based on VBP quality measures and incentives ²	• 1.5% reduction in CMS payment based on VBP quality measures and incentives ²	• 1.75% reduction in CMS payment based on VBP quality measures and incentives ²	• 2% reduction in CMS payment based on VBP quality measure and incentives ²
Hospital Readmission Rates					• 1% reduction in CMS payment on ALL MS-DRGs for readmission rates on AMI, CHF, & PN above expected ²	• 2% reduction in CMS payment on ALL MS-DRGs for readmission rate on AMI, CHF & PN above expected ²	• 3% reduction in CMS payment on ALL MS-DRGs for readmission rates on AMI, CHF, PN, & COPD, CABG, PTCA and other vascular ²		
Hospital-Acquired Conditions (HACs)	CMS selected 10 categories of HACs to no longer receive higher incremental reimbursement if not present on admission (POA) ¹	• No HACs added to IPPS in FY10					• 1% reduction in CMS payment for ALL MS-DRGs for hospitals with HAC incidence rates in top quartile ²		
Hospital Inpatient Quality Reporting Program (formerly RHQDAPU)	2% P4R reduction ¹ in CMS annual payment update for failure to report on RHQDAPU hospital quality measures: - Outcome - Process of care - Structure - Patient satisfaction			• 10 new RHQDAPU measures, including catheter related BSI, UTI and 6 other HAC-related measures ²	• 3 new RHQDAPU measures, including CLABSI, SSI and one AMI-related • HHS to provide confidential HAC reports to hospitals in the top quartile on HAC rates ²	• HHS to add efficiency measures, incl. risk-adjusted Medicare spending per beneficiary ²	• HHS to publicly-report HAC rates for all hospitals on Hospital Compare website² • Future measures under consideration for RHQDAPU include VAP, MDRO and CDAD		
TOTAL CMS Payment at Risk*	2%	2%	2%	2%	4%	5.25%	7.5%	7.75%	8%

Worse Than We Thought?

A study published in **April, 2011** in the journal ***Health Affairs*** found *that on average*

- **1 in 3 patients** admitted into a hospital suffer a medical error or adverse event – *nearly 10 times greater than previously believed.*
- On any given day, about **1 in every 20** patients is affected by an infection related to hospital care.
- On average, **1 in 7** Medicare beneficiaries is harmed in the course of care, costing the government an estimated \$4.4 billion every year.
- Nearly **1 in 5 Medicare patients discharged from the hospital is readmitted within 30 days** – that's approximately 2.6 million seniors at a cost of over \$26 billion every year.

IHI TO CMS

Donald Berwick, MD, Administrator, CMS

- Administrator, CMS
- Former President and CEO of the Institute for Healthcare Improvement (IHI)



HHS Announces National Patient Safety Initiative in April 2011

Partnership for Patients: Better Care, Lower Costs

- *A new public-private partnership that will help improve the quality, safety and affordability of health care for all Americans.*
- *Leaders of hospitals, employers, health plans, physicians, nurses, and patient advocates along with State and Federal governments.*
- *Help save 60,000 lives by stopping millions of preventable injuries and complications in patient care over the next three years*
- *Potential to save up to \$35 billion, including up to \$10 billion for Medicare.*
- *Over the next ten years, reduce costs to Medicare by about \$50 billion and result in billions more in Medicaid savings.*

HHS Partnership for Patients: Better Care, Lower Costs

The two goals of this new partnership are:

#1 - *Keep patients from getting injured or sicker.*

By the end of 2013:

- **Decrease preventable HACs by 40% compared to 2010.**
 - *This translates to 1.8 million fewer injuries and more than 60,000 lives saved over the next three years.*

#2 - *Help patients heal without complication.*

By the end of 2013:

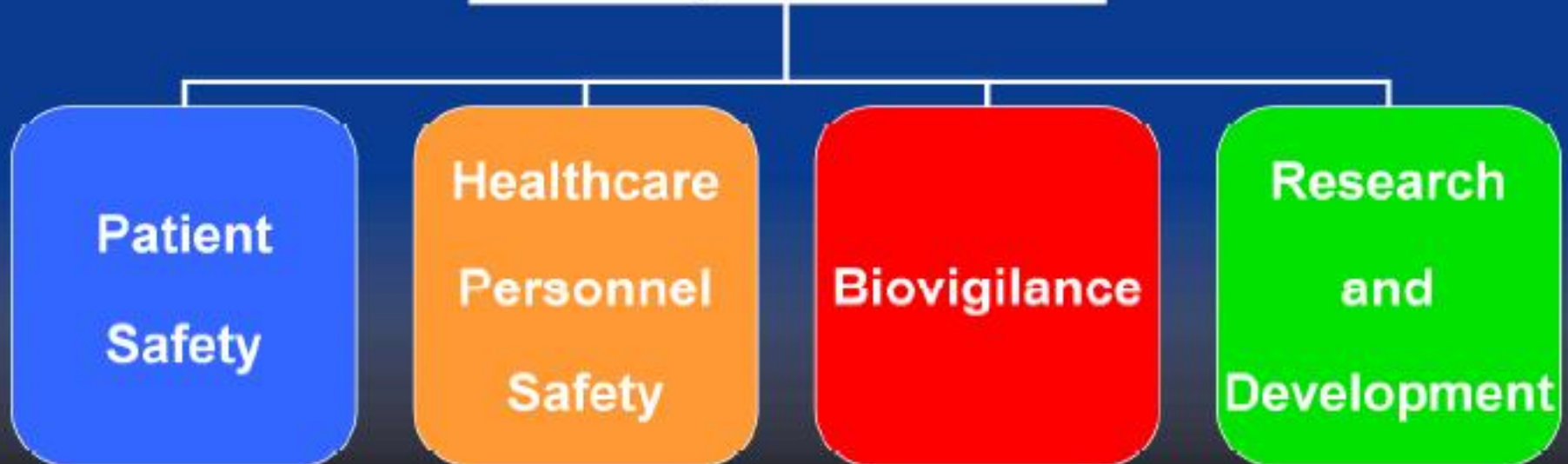
- **Reduce hospital readmissions by 20% compared to 2010.**
 - *This translates to 1.6 million patients recovering from illness without suffering a preventable complication requiring re-hospitalization within 30 days of discharge.*

<http://www.healthcare.gov/center/programs/partnership>

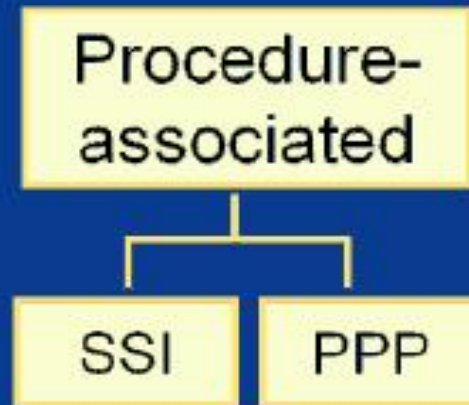


NHSN Structure

NHSN
National Healthcare
Safety Network



Patient Safety Component Modules



SSI

Surgical site infection

PPP

Post-procedure pneumonia

NHSN Operative Procedure

- An NHSN operative procedure is a procedure**
- 1) that is performed on a patient who is an NHSN inpatient or an NHSN outpatient; and**
 - 2) takes place during an operation (defined as a single trip to the operating room (OR) where a surgeon makes at least one incision through the skin or mucous membrane, including laparoscopic approach, and closes the incision before the patient leaves the OR; and**
 - 3) that is included in Table 1.**

For Table 1, go to:

<http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf>

NHSN Inpatient vs. Outpatient

- **NHSN Outpatient:** A patient whose date of admission to the healthcare facility and date of discharge are the same calendar day.
- **NHSN Inpatient:** A patient whose date of admission to the healthcare facility and the date of discharge are different calendar days.



SSI – Superficial Incisional Site

Definition

A superficial incisional SSI must meet the following criterion:

Infection occurs within 30 days after the operative procedure
and

involves only skin and subcutaneous tissue of the incision

and



SSI – Superficial Incisional Site

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

Superficial Incisional SSIs

Two types

1. Superficial Incisional Primary (SIP)

NOTE: There are two specific types of superficial incisional SSIs:

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)

Deep Incisional SSI

A deep incisional SSI must meet the following criterion:

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



Deep Incisional SSI

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
- a 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 ($>38^{\circ}$ 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.

Deep Incisional SSI

NOTE: There are two specific types of deep surgical incisional SSIs:

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)

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)

Reporting Instructions

Classify infection that involves both superficial and deep incision sites as deep incisional SSI.

Report culture specimen from a deep incision as ID (incisional drainage).

SSI – Organ/Space

An organ/space SSI involves any part of the body, excluding the skin incision, fascia, or muscle layers, that is opened or manipulated during the operative procedure.

Specific sites are assigned to organ/space SSI to further identify the location of the infection. An example is appendectomy with subsequent subdiaphragmatic abscess, which would be reported as an organ/space SSI at the intraabdominal specific site (SSI-IAB).

SSI – Organ/Space

- 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



SSI – 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



SSI – Organ/Space

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

Definition of Transplant

Human Cells

Tissues

Organs

Cellular or tissue based products placed via grafting, infusion, or transfer

Examples of Transplants:

- **Heart valves**
- **Organs**
- **Ligaments**
- **Bone**
- **Blood vessels**
- **Skin**
- **Corneas**
- **bone marrow cells**

Transplants – Autologous or Allograft

- **Autologous or “autograft” transplants that originate from the patient’s own body.**
- **Non-autologous or “allograft” transplants are derived from another human body, either a donor cadaver or a live donor.**



Surgical Implant

A nonhuman-derived object, material, or tissue that is permanently placed in a patient during an operative procedure and is not routinely manipulated for diagnostic or therapeutic purposes.

Examples include:

porcine or synthetic heart valves, mechanical heart, metal rods, mesh, sternal wires, screws, cements, and other devices.



*required for saving **required for completion	
Facility ID:	Event #:
*Patient ID:	Social Security #:
Secondary ID:	
Patient Name, Last:	First: Middle:
*Gender: F M	*Date of Birth:
Ethnicity (Specify):	Race (Specify):
*Event Type: SSI	*Date of Event:
*NHSN Procedure Code:	ICD-9-CM Procedure Code:
*Date of Procedure:	*Outpatient Procedure: Yes No
*MDRO Infection Surveillance: <input type="checkbox"/> Yes, this event's pathogen & location are in-plan for the MDRO/CDAD Module	
<input type="checkbox"/> No, this event's pathogen & location are not in-plan for the MDRO/CDAD Module	
*Date Admitted to Facility:	Location:
Event Details	
*Specific Event:	
<input type="checkbox"/> Superficial Incisional Primary (SIP)	<input 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):	
Signs & Symptoms	
<input type="checkbox"/> Purulent drainage or material	<input type="checkbox"/> Pain or tenderness
<input type="checkbox"/> Localized swelling	<input type="checkbox"/> Redness
<input type="checkbox"/> Heat	<input type="checkbox"/> Fever
<input type="checkbox"/> Incision deliberately opened by surgeon	<input type="checkbox"/> Wound spontaneously dehisces
<input type="checkbox"/> Abscess	<input type="checkbox"/> Hypothermia
<input type="checkbox"/> Apnea	<input type="checkbox"/> Bradycardia
<input type="checkbox"/> Lethargy	<input type="checkbox"/> Cough
<input type="checkbox"/> Nausea	<input type="checkbox"/> Vomiting
<input type="checkbox"/> Dysuria	<input type="checkbox"/> Other evidence of infection found on direct exam, during surgery, or by diagnostic tests*
<input type="checkbox"/> Other signs & symptoms*	
*Detected: <input type="checkbox"/> A (During admission) <input type="checkbox"/> P (Post-discharge surveillance) <input type="checkbox"/> R (Readmission)	
*Secondary Bloodstream Infection: Yes No	
**Died: Yes No	SSI Contributed to Death: Yes No
Discharge Date:	*Pathogens Identified: Yes No *If Yes, specify on page 2

Pathogen #	Gram-positive Organisms											
_____	Coagulase-negative staphylococci (specify): _____	VANC	SIR N									
_____	<i>Enterococcus faecalis</i>	AMP	DAPTO	LNZ	PENG	VANC						
_____	<i>Enterococcus faecium</i>	AMP	DAPTO	LNZ	PENG	QUIDAL	VANC					
_____	<i>Staphylococcus aureus</i>	CLIND	DAPTO	ERYTH	GENT	LNZ	OX	QUIDAL	RIF	TMZ	VANC	SIR N
Pathogen #	Gram-negative Organisms											
_____	<i>Acinetobacter</i> spp. (specify)	AMK	AMPSUL	CEFEP	CEFTAZ	CIPRO	GENT	IMI	LEVO	MERO	PIPTAZ	TOBRA
_____	<i>Escherichia coli</i>	AMK	CEFEP	CEFOT	CEFTAZ	CEFTRX	CIPRO	IMI	LEVO	MERO		
_____	<i>Enterobacter</i> spp. (specify)	AMK	CEFEP	CEFOT	CEFTAZ	CEFTRX	CIPRO	IMI	LEVO	MERO		
_____	<i>Klebsiella oxytoca</i>	AMK	CEFEP	CEFOT	CEFTAZ	CEFTRX	CIPRO	IMI	LEVO	MERO		
_____	<i>Klebsiella pneumoniae</i>	AMK	CEFEP	CEFOT	CEFTAZ	CEFTRX	CIPRO	IMI	LEVO	MERO		
_____	<i>Serratia marcescens</i>	AMK	CEFEP	CEFOT	CEFTAZ	CEFTRX	CIPRO	IMI	LEVO	MERO		
_____	<i>Pseudomonas aeruginosa</i>	AMK	CEFEP	CEFTAZ	CIPRO	IMI	LEVO	MERO	PIP			
_____	<i>Stenotrophomonas maltophilia</i>	TMZ	SIR N									
Pathogen #	Other Organisms											
_____	Organism 1 (specify)	Drug 1	Drug 2	Drug 3	Drug 4	Drug 5	Drug 6	Drug 7	Drug 8	Drug 9		
_____	Organism 2 (specify)	Drug 1	Drug 2	Drug 3	Drug 4	Drug 5	Drug 6	Drug 7	Drug 8	Drug 9		
_____	Organism 3 (specify)	Drug 1	Drug 2	Drug 3	Drug 4	Drug 5	Drug 6	Drug 7	Drug 8	Drug 9		



Denominator for Procedure

CMS No. 0920-0800
Exp. Date: 09-30-2012

* required for saving

Facility ID:	Procedure #:
*Patient ID:	Social Security #:
Secondary ID:	
Patient Name, Last:	First: Middle:
*Gender: F M	*Date of Birth:
Ethnicity (specify):	Race (specify):
Event Type: PROC	*NHSN Procedure Code:
*Date of Procedure:	ICD-9-CM Procedure Code:

Procedure Details

*Outpatient: Yes No	*Duration: _____ Hours _____ Minutes
*Wound Class: C CC CO D U	*General Anesthesia: Yes No
ASA Score: 1 2 3 4 5	*Emergency: Yes No
*Trauma: Yes No	*Endoscope: Yes No
Surgeon Code: _____	
*Implant: Yes No	*Non-autologous Transplant: Yes No

CSEC:		
*Height: _____ feet _____ inches (circle one) _____ meters	*Weight: _____ lbs / kg (circle one)	*Duration of Labor: _____ hours *Estimated Blood Loss: _____ ml

Circle one: FUSN RFUSN	
*Spinal Level: (check one)	*Diabetes Mellitus: Yes No
<input type="checkbox"/> Atlas-axis	*Approach/Technique: (check one)
<input type="checkbox"/> Atlas-axis/Cervical	<input type="checkbox"/> Anterior
<input type="checkbox"/> Cervical	<input type="checkbox"/> Posterior
<input type="checkbox"/> Cervical/Dorsal/Dorsolumbar	<input type="checkbox"/> Anterior and Posterior
<input type="checkbox"/> Dorsal/Dorsolumbar	<input type="checkbox"/> Lateral transverse
<input type="checkbox"/> Lumbar/Lumbosacral	<input type="checkbox"/> Not specified
<input type="checkbox"/> Not specified	

*HPRO: (check one) _____ Total Primary _____ Partial Primary _____ Total Revision _____ Partial Revision
*KPRO: (check one) _____ Primary (Total) _____ Revision (Total or Partial)

Custom Fields

Innovative Approach to Time Consuming NHSN Data Entry



Youngest hospital volunteer ever spends 10 to 20 hours per month entering NHSN data for a busy infection prevention program.

Add Event



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

NHSN - National Healthcare Safety Network

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[NHSN Home](#)

Reporting Plan

Patient

Event

[Add](#)

[Find](#)

[Incomplete](#)

Procedure

Summary Data

Import/Export

Analysis

Surveys

Users

Facility

Group

Log Out

Logged into CDA Pharmacy One (ID 16256) as TJORDAN.
Facility CDA Pharmacy One (ID 16256) is following the PS 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 #: 4763106

Patient ID*:

Social Security #:

Secondary ID:

Last Name:

First Name:

Middle Name:

Gender*:

Date of Birth*:

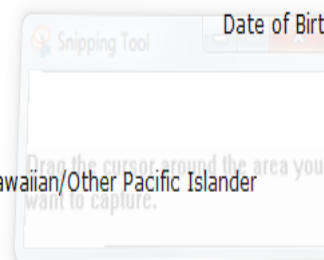
Ethnicity:

Race: American Indian/Alaska Native Asian

Black or African American

Native Hawaiian/Other Pacific Islander

White



Add Procedure



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

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Logged into CDA Pharmacy One (ID 16256) as TJORDAN.
Facility CDA Pharmacy One (ID 16256) is following the PS component.

Add Procedure

[Print PDF Form](#)

Mandatory fields marked with *
Fields required when in Plan marked with >

Patient Information

Facility ID*: CDA Pharmacy One (ID 16256) ▼

Procedure #: 4755274

Patient ID*:

Social Security #:

Secondary ID:

Last Name:

First Name:

Middle Name:

Gender*:

Date of Birth*:

Ethnicity:

- Race: American Indian/Alaska Native Asian
 Black or African American Native Hawaiian/Other Pacific Islander
 White

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

NHSN Operative Procedure Categories

NHSN Operative Procedure Categories – FY 2010 Update

Legacy Code	New Code	Operative Procedure	Description	ICD-9-CM Codes
AAA	2105-5	Abdominal aortic aneurysm repair	Resection of abdominal aorta with anastomosis or replacement	38.34, 38.44, 38.64
AMP	2126-1	Limb amputation	Total or partial amputation or disarticulation of the upper or lower limbs, including digits	84.00-84.19, 84.91
APPY	2108-9	Appendix surgery	Operation of appendix (not incidental to another procedure)	47.01, 47.09, 47.2, 47.91, 47.92, 47.99
AVSD	2102-2	Shunt for dialysis	Arteriovenostomy for renal dialysis	39.27, 39.42
BILI	2109-7	Bile duct, liver or pancreatic surgery	Excision of bile ducts or operative procedures on the biliary tract, liver or pancreas	50.0, 50.12, 50.14, 50.21-50.23, 50.25, 50.26, 50.29, 50.3, 50.4, 50.61, 50.69, 51.31-51.37, 51.39,

<http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf>

Link Event to a Procedure

How to Link an Event to a Procedure

Before you can link an in-plan event to a procedure, the procedure must be entered or imported in NHSN first. In addition, the patient information on the event screen must match all of the patient information on the procedure record.

1. If you are entering an SSI:
After you have entered the date of event, click the "Link/Unlink to Procedure" button.

If you are entering an event other than an SSI:
After you have indicated that the event is a Post-procedure event, click the "Link/Unlink to Procedure" button.


CDC Location Label
Location Description
LOCATIONS
Operating Rooms

Cardiac Catheterization
Room/Suite

A room or rooms in a hospital equipped for the performance of heart catheterizations for diagnostic or therapeutic purposes. Operating Room requirements for air changes, temperature, humidity and surfaces must be met.

Cesarean Section Room/Suite

A room or suite in a hospital equipped for the performance of obstetric and gynecologic surgeries and for the care of the neonate immediately after birth. Operating Room requirements for air changes, temperature, humidity and surfaces must be met.

Interventional Radiology

A room or suite in a hospital where diagnostic or therapeutic radiologic procedures on outpatients and/or inpatients occurs. Operating Room requirements for air changes, temperature, humidity and surfaces must be met.

Operating Room/Suite

A room or suite in a hospital equipped for the performance of surgical operations. Requirements for air changes, temperature, humidity and surfaces must be met.

SSI SIRs – Key Points

- **The previous SSI SIRs were based on the basic risk index and published risk-stratified SSI rates.**
- **The new SSI SIRs will use improved risk adjustment calculated through logistic regression modeling.**
- **Each risk factor's contribution will vary according to its significant association with risk.**
- **2006 – 2008 data is used as the baseline**
- **SIRs are calculated only if the number of expected HAIs (numExp) is greater than or = to 1**

SSIs to be Excluded from SIRs

- **All superficial incisional secondary (SIS) SSIs**
- **All deep incisional secondary (DIS) SSIs**



SSI SIR Calculation

- **The SIR is calculated by dividing the number of observed infections by the number of expected infections.**
- **For a given operative procedure category, the number of expected infections, in the context of statistical prediction, is derived from a logistic regression model using a baseline time period.**
- **The baseline for the SIR calculations uses 2006-2008 data, and therefore SSI SIRs are calculated for procedure data in 2009 and forward.**

2006 – 2008 Data

AJIC major articles

National Healthcare Safety Network (NHSN) report: Data summary for 2006 through 2008, issued December 2009

Jonathan R. Edwards, MStat, Kelly D. Peterson, BBA, Yi Mu, PhD, Shailendra Banerjee, PhD, Katherine Allen-Bridson, RN, BSN, CIC, Gloria Morrell, RN, MS, MSN, CIC, Margaret A. Dudeck, MPH, Daniel A. Pollock, MD, and Teresa C. Horan, MPH
Atlanta, Georgia

*Published by the Association for Professionals in Infection Control and Epidemiology, Inc.
(Am J Infect Control 2009;37:783-805.)*

2006 – 2008 Data

Table 1. NHSN hospitals contributing data used in this report

Hospital type	N	(%)
Children's	38	(2.5)
General, including acute, trauma, and teaching	1389	(89.9)
Long-term acute care	27	(1.7)
Military	9	(0.6)
Oncology	8	(0.5)
Orthopedic	8	(0.5)
Psychiatric	8	(0.5)
Rehabilitation	17	(1.1)
Surgical	1	(0.1)
Veterans Affairs	31	(2.0)
Women's	4	(0.3)
Women's and children's	5	(0.3)
Total	1545	(100)

2006 – 2008 Data

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 [†]	No. of procedures	No. of SSI	Pooled mean	Percentiles					
								10%	25%	50% (median)	75%	90%	
Inpatient procedures													
AAA	Abdominal aortic aneurysm repair	217	0, 1	41	(18)	1465	31	2.12					
AAA	Abdominal aortic aneurysm repair	217	2, 3	39	(6)	480	31	6.46					
AMP	Limb amputation	81	0, 1	15	(8)	560	7	1.25					
AMP	Limb amputation	81	2, 3	16	(8)	854	26	3.04					
APPY	Appendix surgery	81	0, 1	31	(22)	5211	60	1.15	0.00	0.00	0.60	1.23	2.76
APPY	Appendix surgery	81	2, 3	27	(9)	663	23	3.47					
AVSD	AV shunt for dialysis	112	0, 1, 2, 3	16	(8)	868	11	1.27					
BILI	Bile duct, liver or pancreatic surgery	321	0, 1	14	(7)	595	48	8.07					
BILI	Bile duct, liver or pancreatic surgery	321	2, 3	11	(4)	293	40	13.65					
BRST	Breast surgery	196	0	22	(9)	1478	14	0.95					
BRST	Breast surgery	196	1	21	(11)	1422	42	2.95					
BRST	Breast surgery	196	2, 3	15	(5)	236	15	6.36					
CARD	Cardiac surgery	306	0, 1	150	(124)	21,555	238	1.10	0.00	0.00	0.49	1.64	2.60
CARD	Cardiac surgery	306	2, 3	145	(83)	7130	131	1.84	0.00	0.00	1.24	3.25	4.71
CBGB	Coronary bypass with chest and donor incision	301	0	135	(4)	1738	6	0.35					
CBGB	Coronary bypass with chest and donor incision	301	1	292	(264)	91,007	2319	2.55	0.00	0.65	1.90	3.45	5.37
CBGB	Coronary bypass with chest and donor incision	301	2	285	(228)	30,204	1288	4.26	0.00	1.33	3.08	5.81	8.70
CBGB	Coronary bypass with chest and donor incision	301	3	48	(0)	106	9	8.49					
CBGC	Coronary bypass graft with chest incision	286	0, 1	246	(110)	8771	120	1.37	0.00	0.00	0.00	2.47	4.55
CBGC	Coronary bypass graft with chest incision	286	2, 3	218	(37)	2888	66	2.29	0.00	0.00	0.00	2.80	6.89
CEA	Carotid endarterectomy	124	0, 1, 2, 3	36	(26)	4536	15	0.33	0.00	0.00	0.00	0.50	1.12
CHOL	Gallbladder surgery	99	0	96	(61)	6481	15	0.23	0.00	0.00	0.00	0.00	0.86
CHOL	Gallbladder surgery	99	1	95	(60)	5726	35	0.61	0.00	0.00	0.00	0.97	2.06
CHOL	Gallbladder surgery	99	2, 3	92	(28)	2445	42	1.72	0.00	0.00	0.00	3.23	4.73

Appendix D: Predictive Risk Factors from the All SSI† Logistic Regression Models

NHSN Operative Procedure [‡]	Risk Factor(s) - ALL SSIs
AAA	duration
AMP	duration, hospital bed size*
APPY	emergency, gender, hospital bed size*, wound class
AVSD	age
BILI	asa, duration, hospital bed size*
BRST	asa, duration, hospital bed size*
CBGB/C	age, asa, duration, gender, hospital bed size*
CARD	age, asa, duration
CHOL	age, asa, duration, endoscope, wound class
COLO	age, anesthesia, asa, duration, endoscope, medical school affiliation*, hospital bed size*, wound class
CRAN	age, asa, duration, hospital bed size*, trauma
CSEC	age, anesthesia, asa, BMI, duration, emergency, labor, wound class
FUSN	approach, asa, diabetes, duration, medical school affiliation*, spinal level, trauma, wound class
FX	age, asa, duration, hospital bed size*, outpatient
GAST	asa, duration, emergency
HER	age, asa, duration, gender, outpatient
HPRO	age, anesthesia, asa, duration, total/partial/revision, hospital bed size*, trauma
HYST	age, anesthesia, asa, duration, endoscope, hospital bed size*
KPRO	age, anesthesia, asa, duration, gender, revision, hospital bed size*, trauma
KTP	age, asa, duration, hospital bed size*
LAM	anesthesia, asa, duration, endoscope
LTP	age, duration, emergency
NECK	duration
NEPH	duration
OVRY	asa
PRST	duration
PVBY	age, asa, duration, gender, medical school affiliation*
REC	duration, endoscope, gender, wound class
RFUSN	approach, diabetes, duration
SB	duration, hospital bed size*
THOR	duration, hospital bed size*
THYR	age
VHYS	age, asa, duration, medical school affiliation*
VSHN	age, medical school affiliation*, hospital bed size*, wound class
XLAP	age, duration, hospital bed size*

*These risk factors originate from the Patient Safety Annual Facility Survey.

†All SSI = superficial incision, deep incisional, and organ/space SSI detected during admission, readmission, or

Appendix D (cont'd.): Predictive Risk Factors from the Complex A/R SSI[^] Logistic Regression Models

NHSN Operative Procedure [†]	Risk Factor(s) – Complex A/R SSIs [^]
AAA	duration, wound class
APPY	emergency, gender, hospital bed size*, wound class
AVSD	age
BILI	asa, duration, hospital bed size*
BRST	asa, duration, hospital bed size*
CBGB/C	age, asa, duration, gender, medical school affiliation*, age-gender (interaction)
CARD	age, duration, emergency
CHOL	age, asa, duration, hospital bed size*
COLO	age, asa, duration, endoscope, medical school affiliation*, hospital bed size*, wound class
CRAN	age, duration, hospital bed size*
CSEC	age, anesthesia, asa, BMI, duration, labor, hospital bed size*, wound class
FUSN	approach, asa, diabetes, duration, medical school affiliation*, spinal level
FX	age, duration, hospital bed size*
GAST	age, duration
HER	age, asa, duration, gender, hospital bed size*
HPRO	age, anesthesia, asa, duration, total/partial/revision, medical school affiliation*, hospital bed size*, trauma
HYST	age, asa, duration, hospital bed size*
KPRO	age, asa, duration, gender, revision, medical school affiliation*, hospital bed size*, trauma
KTP	asa, duration
LAM	asa, duration, medical school affiliation*, hospital bed size*
LTP	age, duration
NECK	duration
PVBY	age, asa, duration, medical school affiliation*
REC	duration, gender, hospital bed size*
RFUSN	duration
SB	duration, hospital bed size*
THOR	duration
VHYS	age, duration, medical school affiliation*
VSHN	age, medical school affiliation*, hospital bed size*, wound class
XLAP	duration

*These risk factors originate from the Patient Safety Annual Facility Survey.

[^]Includes only inpatient procedures and deep incisional and organ/space SSIs identified during admission or readmission to the facility, as defined in the NHSN Manual.

SSI SIR Options in NHSN

What SSI SIR options are available?

There are eight different SSI SIR output options available – four output options by procedure and four output options by surgeon.

Procedure-Associated Module

All Procedure-Associated Events

SSI

CDC Defined Output

Line Listing - All SSI Events	Run	Modify
Frequency Table - All SSI Events	Run	Modify
Bar Chart - All SSI Events	Run	Modify
Pie Chart - All SSI Events	Run	Modify
SIR - Complex AR SSI Data by Procedure	Run	Modify
SIR - Complex AR SSI Data by Surgeon	Run	Modify
SIR - In-plan Complex AR SSI data by Procedure	Run	Modify
SIR - In-plan Complex AR SSI data by Surgeon	Run	Modify
SIR - All SSI Data by Procedure	Run	Modify
SIR - All SSI Data by Surgeon	Run	Modify
SIR - In-plan All SSI Data by Procedure	Run	Modify
SIR - In-plan All SSI data by Surgeon	Run	Modify
Line Listing - Incomplete Procedures for SSI SIR	Run	Modify

Each SSI SIR output option will produce SIRs by half-year (summaryYH) for 2009 and forward. The following tables will be included with each output option:

- Overall SIR
- SIR for each procedure
- SIR for each procedure, by outpatient (Y or N) (All SSI SIRs only)
- Incomplete and Custom Procedures not Included in SIR

The Complex AR SIRs will include only inpatient procedures and Deep Incisional and Organ/Space SSIs that were identified during admission (A) or readmission to your facility (R), as defined in the NHSN Manual.

The In-Plan SIRs will include only those procedures that were included in your monthly reporting plans.











[NHSN Home](#)

Logged into CDA Pharmacy One (ID 16256) as TJORDAN.
Facility CDA Pharmacy One (ID 16256) is following the PS component.

[Reporting Plan](#)[Patient](#)[Event](#)[Procedure](#)[Summary Data](#)[Import/Export](#)[Analysis](#)[Generate Data Sets](#)[Output Options](#)[Statistics Calculator](#)[Surveys](#)[Users](#)[Facility](#)[Group](#)[Log Out](#)

Patient Safety Component

Analysis Output Options

-  Device-Associated Module
-  Procedure-Associated Module
-  MDRO/CDAD Module - Infection Surveillance
-  MDRO/CDAD Module - LABID Event Reporting
-  MDRO/CDAD Module - Process Measures
-  MDRO/CDAD Module - Outcome Measures
-  Vaccination Module
-  Advanced
-  My Custom Output
-  Published Output



Logged into CDA Pharmacy One (ID 16256) as TJORDAN.
Facility CDA Pharmacy One (ID 16256) is following the PS component.

- NHSN Home**
- Reporting Plan**
- Patient**
- Event**
- Procedure**
- Summary Data**
- Import/Export**
- Analysis**
 - Generate Data Sets
 - Output Options
 - Statistics Calculator
- Surveys**
- Users**
- Facility**
- Group**
- Log Out**


Patient Safety Component



Analysis Output Options

- Device-Associated Module
- Procedure-Associated Module
 - All Procedure-Associated Events
 - SSI
 - CDC Defined Output

Line Listing - All SSI Events	<input type="button" value="Run"/> <input type="button" value="Modify"/>
Frequency Table - All SSI Events	<input type="button" value="Run"/> <input type="button" value="Modify"/>
Bar Chart - All SSI Events	<input type="button" value="Run"/> <input type="button" value="Modify"/>
Pie Chart - All SSI Events	<input type="button" value="Run"/> <input type="button" value="Modify"/>
SIR - Complex AR SSI Data by Procedure	<input type="button" value="Run"/> <input type="button" value="Modify"/>
SIR - Complex AR SSI Data by Surgeon	<input type="button" value="Run"/> <input type="button" value="Modify"/>
SIR - In-plan Complex AR SSI data by Procedure	<input type="button" value="Run"/> <input type="button" value="Modify"/>
SIR - In-plan Complex AR SSI data by Surgeon	<input type="button" value="Run"/> <input type="button" value="Modify"/>
SIR - All SSI Data by Procedure	<input type="button" value="Run"/> <input type="button" value="Modify"/>



 SSI CDC Defined Output

 Line Listing - All SSI Events	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 Frequency Table - All SSI Events	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 Bar Chart - All SSI Events	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 Pie Chart - All SSI Events	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - Complex AR SSI Data by Procedure	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - Complex AR SSI Data by Surgeon	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - In-plan Complex AR SSI data by Procedure	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - In-plan Complex AR SSI data by Surgeon	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - All SSI Data by Procedure	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - All SSI Data by Surgeon	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - In-plan All SSI Data by Procedure	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 SIR - In-plan All SSI data by Surgeon	<input type="button" value="Run"/>	<input type="button" value="Modify"/>
 Line Listing - Incomplete Procedures for SSI SIR	<input type="button" value="Run"/>	<input type="button" value="Modify"/>

Surgeon Specific SIR

In the Procedure-Associated Module there is a new output option called SIR Table - SSI Data by Surgeon.

This option joins an existing option called "SIR Table - SSI Data by Procedure."

For both SIR options, they include only those procedures for which all of the elements of the risk index are non-missing and aggregate rate data exist.

This new option additionally requires the surgeon code field to be non-missing and will otherwise exclude procedures with missing values.

SIRs by Procedure and Surgeon

Procedure-Associated Module

All Procedure-Associated Events

SSI

CDC Defined Output

Line Listing - All SSI Events	Run	Modify
Frequency Table - All SSI Events	Run	Modify
Bar Chart - All SSI Events	Run	Modify
Pie Chart - All SSI Events	Run	Modify
SIR - Complex AR SSI Data by Procedure	Run	Modify
SIR - Complex AR SSI Data by Surgeon	Run	Modify
SIR - In-plan Complex AR SSI data by Procedure	Run	Modify
SIR - In-plan Complex AR SSI data by Surgeon	Run	Modify
SIR - All SSI Data by Procedure	Run	Modify
SIR - All SSI Data by Surgeon	Run	Modify
SIR - In-plan All SSI Data by Procedure	Run	Modify
SIR - In-plan All SSI data by Surgeon	Run	Modify
Line Listing - Incomplete Procedures for SSI SIR	Run	Modify

National Healthcare Safety Network

SIR for Complex AR SSI Data by Procedure - By OrgID

As of: May 23, 2011 at 11:24 PM

Date Range: All SIR_COMPLEXSSIPROC

orgid=16256

orgid	summaryYH	procCount	infCountComplex	numExpComplex	SIRComplex	SIRComplex_pval	SIRComplex95CI
16256	2010H1	4	0	0.037	-	-	
16256	2010H2	8	0	0.263	-	-	

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.

Excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs.

Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.

Source of aggregate data: 2006-2008 NHSN SSI Data

Data contained in this report were last generated on May 21, 2011 at 7:58 PM.

National Healthcare Safety Network

SIR for Complex AR SSI Data by Procedure - By OrgID/ProcCode

As of: May 23, 2011 at 11:24 PM

Date Range: All SIR_COMPLEXSSIPROC

orgid=16256

orgid	procCode	summaryYH	months	procCount	infCountComplex	numExpComplex	SIRComplex	SIRComplex_pval	SIRComplex95CI
16256	AAA	2010H1	1	3	0	0.030	-	-	
16256	AAA	2010H2	2	7	0	0.262	-	-	
16256	CARD	2010H1	1	1	0	0.008	-	-	
16256	CSEC	2010H2	1	1	0	0.001	-	-	

If infCount in this table is less than you reported, aggregate data are not available to calculate numExp.

Excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs.

Lower bound of 95% Confidence Interval only calculated if infCount > 0. SIR values only calculated if numExp >= 1.

Source of aggregate data: 2006-2008 NHSN SSI Data

Data contained in this report were last generated on May 21, 2011 at 7:58 PM.

National Healthcare Safety Network

Incomplete and Custom Procedures not Included in SIR

As of: May 23, 2011 at 11:24 PM

Date Range: All SIR_COMPLEXSSIPROC

orgID=16256

summaryYH	orgID	procCode	outpatient	procCount	infCountComplex
2010H2	16256	AAA	N	2	0
2010H2	16256	AMP	N	1	0
2010H1	16256	HPRO	N	1	0
2010H2	16256	KPRO	N	1	0
2010H2	16256	RFUS	N	1	0

Source of aggregate data: 2006-2008 NHSN SSI Data

Data contained in this report were last generated on May 21, 2011 at 7:58 PM.

Resource/Reference Links

NHSN SSI Procedure Manual: <http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf>

NHSN Key Terms: http://www.cdc.gov/nhsn/PDFs/pscManual/16pscKeyTerms_current.pdf

NHSN SSI Worksheet: http://www.cdc.gov/nhsn/forms/57.120_SSI_BLANK.pdf

NHSN Newsletter on measurement: http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_OCT_2010SE_final.pdf

NHSN E-mail Contact for questions: nhsn@cdc.gov

NHSN Library

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

NHSN Tables of Contents

http://www.cdc.gov/nhsn/PDFs/pscManual/14_Tables_of_Instructions.pdf

Email NHSN at: NHSN@cdc.gov

apic.org; cdc.gov

First State-Specific Healthcare-Associated Infections Summary Data Report CDC's National Healthcare Safety Network (NHSN) January-June, 2009, available at: <http://www.cdc.gov/HAI/statesummary.html>

2009 NHSN Report, available at: <http://www.cdc.gov/nhsn/PDFs/dataStat/2009NHSNReport.PDF>

For in-depth Analysis Training, please visit: <http://www.cdc.gov/nhsn/training.html>

For a Basic Analysis Quick Tips guide, please visit: <http://www.cdc.gov/nhsn/PDFs/AnalysisBasics.pdf>

