

---

# Reporting SSI to the National Healthcare Safety Network

Roza Tammer, MPH, CIC  
HAI Reporting Epidemiologist



Oregon  
Health  
Authority

# Primary audiences

- Oregon acute-care, critical access, and long-term acute care hospitals who are
  - Newly reporting surgical site infections (SSI) to the National Healthcare Safety Network (NHSN) at the facility level
  - Need a refresher regarding reporting SSI to NHSN
  - Training new infection preventionists to report SSI to NHSN

# Objectives

- Define SSI and the public health significance of these infections
- Review reporting requirements for SSI in Oregon
- Understand the key steps to reporting SSI in NHSN
- Access guidance documents and reporting forms
- Locate resources to complete self-guided training
- List ways to connect with Oregon's Healthcare-Associated Infections (HAI) Program

# What is an SSI?

- A post-surgical infection that occurs at the part of the body where an NHSN Operative Procedure took place
- NHSN Operative Procedure
  - Included in NHSN procedure code mapping
  - At least one incision is made, or reoperation via an incision left open from a prior procedure
  - Takes place in an operating room
- Characterized in NHSN by depth of infection and whether infection is at a primary or secondary incision site
  - Superficial infections involve the skin only; other surgical site infections are more serious and can involve tissues under the skin, organs, or implanted material
  - Identified at site of primary incision, or secondary incision in patients with more than one incision

# What is an SSI?

- SSI can occur at any surgical site; six types of SSI are reportable to the Oregon Health Authority (OHA)
  - Knee replacement (KPRO)
  - Hip replacement (HPRO)
  - Abdominal hysterectomy (HYST)
  - Colon surgery (COLO)
  - Laminectomy (LAM)
  - Coronary artery bypass graft with donor site incision (CBGB)

# SSI risk and prevention

- Population at risk
  - Patients undergoing surgery
  - Patient factors, including diabetes, smoking, older age, obesity
  - Surgical or post-surgical care, including length of procedure and skin preparation
- Prevention strategies
  - Hand hygiene, hair removal, appropriate personal protective equipment (PPE), antimicrobial prophylaxis, skin preparation

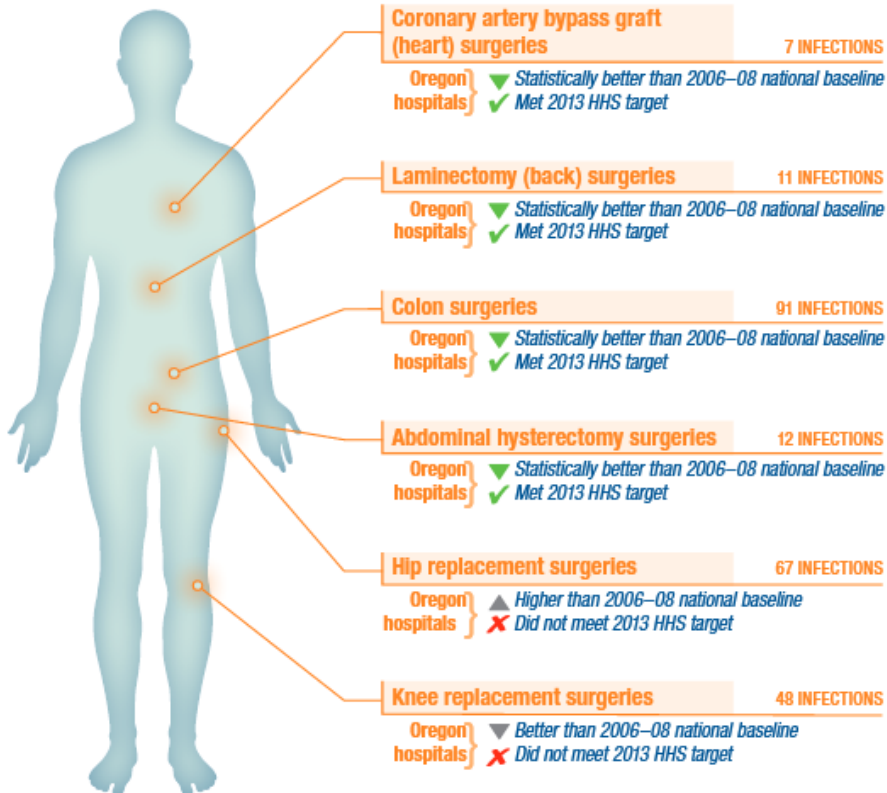
# SSI in the U.S. and Oregon

- Burden of disease
  - One of the most common HAIs and most frequent cause of unplanned post-surgical hospital admissions
  - Estimated approximately 157,500 SSIs and 8,205 associated deaths occur in the U.S. each year
- Benchmarks
  - The Oregon Health Authority (OHA) compares Oregon hospital data to two national benchmarks, both standardized infection ratios (SIR)
    - 2013 U.S. Department of Health and Human Services (HHS) target SIR for acute care hospital HAI prevention: 0.75
    - 2014 national SIRs established by NHSN – vary by procedure type (0.53-0.98)
  - Both benchmarks have been updated to assess data reported for 2017 and later

# SSI in Oregon - 2016

## Surgical site infections (SSIs)

A surgical site infection (SSI) occurs when germs enter a surgical wound during or after surgery. The data below are for deep incisional and organ/space SSIs, which are detected upon index admission or readmission, only.





# Reporting SSI in Oregon

- Legislative context
  - Established by OAR 333-018
- Oregon SSI reporting requirement (updated 2011)
  - All hospitals (acute-care, critical access, long-term acute care)
  - Procedure-based (CBGB, LAM, HYST, COLO, HPRO, KPRO)
- Exemptions for SSI reporting will not be offered starting 2019
  - Previously, facilities with <20 of a given procedure type per year could request an exemption to reporting this procedure to OHA
  - June 2018 HAI Advisory Committee (HAIAC) meeting: Vote to remove exemptions based on HAI Program staff proposal
  - All applicable facilities must report all SSI data for 2019 forward

HAI MEASUREMENT TYPE	HOSPITALS AND LONG-TERM ACUTE CARE HOSPITALS <sup>1</sup>	
	CMS Requirements (date requirement enacted) <sup>2</sup>	OREGON Requirements (date requirement enacted) <sup>3,4</sup>
SSI	Colon surgery, inpatient (2012) Abdominal hysterectomy, inpatient (2012)	Colon surgery, inpatient (2011) Abdominal hysterectomy, inpatient (2011) Coronary artery bypass graft surgery, inpatient (2009)/CBGB only (as of 2011) Knee prosthesis procedure, inpatient (2009) Hip prosthesis procedure, inpatient (2011) Laminectomy, inpatient (2011)

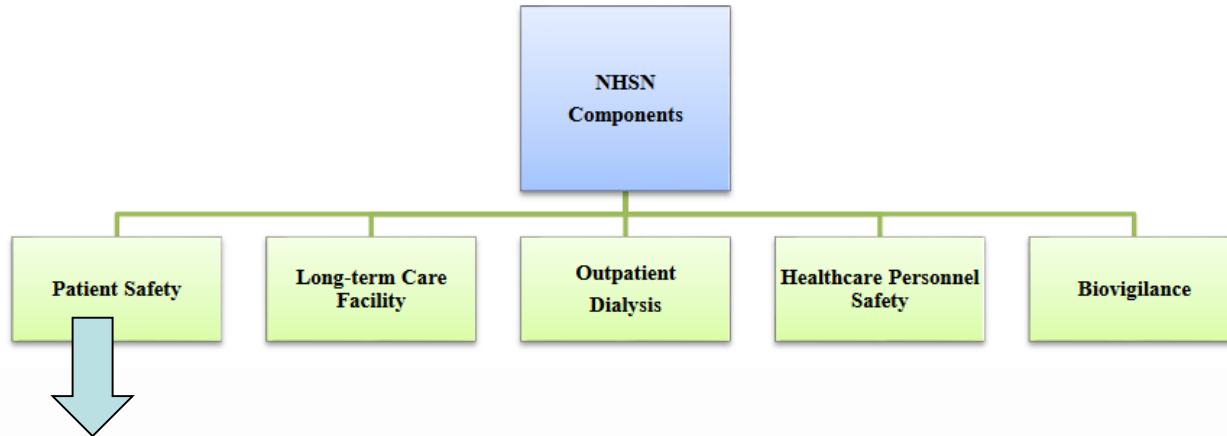
[arcweb.sos.state.or.us/pages/rules/oars\\_300/oar\\_333/333\\_018.html](http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_333/333_018.html)

<https://www.oregon.gov/oha/PH/DiseasesConditions/CommunicableDisease/ReportingCommunicableDisease/Documents/ReportingPosters/poster-hai.pdf>

# Key steps to reporting SSI

- Setup
  - Enroll in the Patient Safety Component (PSC) in NHSN
  - Ensure facility users have access and rights
  - Join the State of Oregon NHSN group
  - Facility location mapping - look at the required locations and review old mapped locations
  - Check that your confer rights template is up to date
- Ongoing reporting
  - Enter monthly reporting plans
  - Identify and report denominator data (procedures)
  - Identify and report numerator data (infections)
- Review alerts and data

# Activate the Patient Safety Component




- Component enrollment lets facilities access and report certain data in NHSN
- Can only be done by the NHSN Facility Administrator
- Since all Oregon hospitals report laboratory-identified (LabID) MRSA and *Clostridium difficile* infection (CDI) events, all are already enrolled in the PSC.

# Review your confer rights template

- Ensure your facility has accepted the most recent confer rights template
  - If not, your facility will be notified upon login (Confer Rights Not Accepted alert)
  - Click the link under Group Name to view requested data and accept the template
- Make sure you are looking at the correct group (State of Oregon)

## Confer Rights Not Accepted List

 Define rights have been changed or new locations have been added affecting the Group below. You may accept new rights or leave the group. Click the Group Name to view and accept new rights.

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

Displaying 1 - 1 of 1

[Group Name](#)

[Group ID](#)

[Status](#)

[Status Date](#)

[Paul's Test Group](#)

10676

Not Accepted

Apr 27 2011 3:06PM

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

Displaying 1 - 1 of 1

# Review your confer rights template

Checked “N/A” boxes next to required procedures mean those data will not be shared with the group, and should only be checked if your facility does not perform these procedures

<input checked="" type="checkbox"/>	In	January	2009	To			SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			CBGB - Coronary bypass w/ chest & donor incisions					
<input checked="" type="checkbox"/>	In	January	2009	To	December	2010	SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			CBGC - Coronary bypass graft with chest incision					
<input checked="" type="checkbox"/>	In	January	2009	To			SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			KPRO - Knee prosthesis					
<input checked="" type="checkbox"/>	In	January	2011	To			SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			COLO - Colon surgery					
<input checked="" type="checkbox"/>	In	January	2011	To			SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			HPRO - Hip prosthesis					
<input checked="" type="checkbox"/>	In	January	2011	To			SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			HYST - Abdominal hysterectomy					
<input checked="" type="checkbox"/>	In	January	2011	To			SSI - Surgical Site Infection	Setting: <input checked="" type="checkbox"/> IN <input type="checkbox"/> OUT
			Procedure:					
			LAM - Laminectomy					



# Ensure user access and rights

- If your facility has newly enrolled in the PSC, the NHSN Facility Administrator must make sure at least one user may access it
- New users may be added, or existing users may be given access to the PSC
- For all users intended to access the PSC, be sure that “Patient Safety” box is checked under “Edit User Rights” and save

The screenshot shows the NHSN Home menu on the left, with 'Users' circled in red. The main content area displays the 'Edit User Rights' table, which has columns for 'Rights', 'Patient Safety', 'Healthcare Personnel Safety', and 'Biovigilance'. A red arrow points to the 'Patient Safety' checkbox for the 'All Rights' row, which is checked. Another red arrow points to the 'Save' button at the bottom right of the table.

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"/>
Add, Edit, Delete	<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"/>

Buttons: Effective Rights, Save, Back, Advanced

# Review mapped locations



- Review all mapped locations in your facility
  - Review “Facility” “Locations” and hit “Find” to create a list of all mapped locations.
- Review all existing mapped locations to ensure they are accurate
  - Define acuity of care and type of service to ensure mapped accurately
  - Edit, add, delete as needed; re-map as applicable and add to monthly reporting plan
  - Incorrectly mapped locations will impact the completeness of the data you report and the accuracy of your data analyses
- Recommendation is to review locations annually and whenever changes that may impact mapping are anticipated

# Enter/edit monthly reporting plans

- Reporting plans allow NHSN users to inform CDC which data is going to be reported by the facility
  - Each month must have its own plan
  - Plans can be copied and pasted from one month to another
- Each component has its own plan
- “Off plan” surveillance is data only for facility use, and will not be shared with CMS/OHA or included in NHSN reports/publication
- PDF version of plan and table of instructions are useful to review
- Accuracy of plans can impact ability to enter/edit/access data as well as ensure complete reporting and alert function



## Instructions for Completion of the Patient Safety Monthly Reporting Plan Form (CDC 57.106)

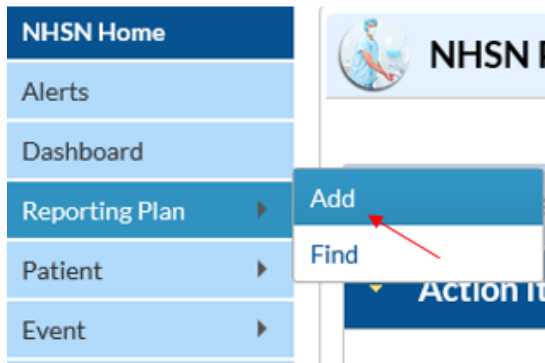
Data Field	Instructions for Form Completion
Facility ID #	The NHSN-assigned facility ID will be auto-entered by the computer.
Month/Year	Required. Enter the month and year for the surveillance plan being recorded; use MM/YYYY format.
No NHSN Patient Safety Modules Followed this Month	Conditionally required. Check this box if the facility does <u>not</u> plan to follow any of the NHSN Patient Safety Modules during the month and year selected. Checking this box will mean that no data will be shared on the facility's behalf for CMS quality reporting programs.
<b>Device-Associated Module</b>	
Locations	Conditionally required. If the facility plans to follow device-associated events, enter the location codes for those facility locations where patients are housed overnight and from which denominator data

[https://www.cdc.gov/nhsn/pdfs/pscmanual/3psc\\_monthlyreportingplancurrent.pdf](https://www.cdc.gov/nhsn/pdfs/pscmanual/3psc_monthlyreportingplancurrent.pdf)  
[https://www.cdc.gov/nhsn/forms/instr/57\\_106.pdf](https://www.cdc.gov/nhsn/forms/instr/57_106.pdf)



# Enter/edit monthly reporting plans

- Select Reporting Plan and Add



### Add Monthly Reporting Plan

Mandatory fields marked with \*

Facility ID \*: NHSN State Users Test Facility #2 (ID 15165) ▼

Month \*: ▼

Year \*: ▼

No NHSN Patient Safety Modules Followed this Month

Device-Associated Module

	Locations	CLABSI	VAE	CAUTI	CLIP	PedVAP (<18 years)
🗑️	▼	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Row Clear All Rows Copy from Previous Month

# Enter/edit monthly reporting plans

- Ensure that the procedure codes for all procedures for which SSI surveillance is required are represented under “Procedures”

Mandatory fields marked with \*

Facility ID \*: NHSN State Users Test Facility #1 (ID 15164)

Month \*: January

Year \*: 2017

No NHSN Patient Safety Modules Followed this Month

## Procedure-Associated Module

	Procedures	SSI
	COLO - Colon surgery	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>
	CBGB/CBGC - Coronary artery bypass graft	IN: <input checked="" type="checkbox"/>
	LAM - Laminectomy	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>
	HYST - Abdominal hysterectomy	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>
	HPRO - Hip prosthesis	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>
	KPRO - Knee prosthesis	IN: <input checked="" type="checkbox"/> OUT: <input type="checkbox"/>

Add Row Clear All Rows Copy from Previous Month

## Procedure-Associated Module

	Procedures	SSI
		IN: <input type="checkbox"/> OUT: <input type="checkbox"/>

Add Row Clear All Rows Copy from Previous Month

## Procedure-Associated Module

	Procedures	SSI
		IN: <input type="checkbox"/> OUT: <input type="checkbox"/>
Add	AAA - Abdominal aortic aneurysm repair	nth
	AMP - Limb amputation	
Anti	APPY - Appendix surgery	
	AVSD - AV shunt for dialysis	
	BILI - Bile duct, liver or pancreatic surgery	Antimicrobial Use
	BRST - Breast surgery	
	CARD - Cardiac surgery	<input type="checkbox"/>
Add	CBGB/CBGC - Coronary artery bypass graft	nth
	CEA - Carotid endarterectomy	
	CHOL - Gallbladder surgery	
Multi	COLO - Colon surgery	
	CRAN - Craniotomy	
	CSEC - Cesarean section	Locations
	FUSN - Spinal fusion	(In) <input type="checkbox"/>
	FX - Open reduction of fracture	
	GAST - Gastric surgery	
	HER - Herniorrhaphy	AST-Eligible
	HPRO - Hip prosthesis	<input type="checkbox"/>
	HTP - Heart transplant	
	ER - EMERGENCY ROOM	

# Report denominator data

- Procedures are entered on the Denominator for Procedure form
- Data collection and reporting based on billing codes
  - ICD-10
  - CPT
- For every month in which no procedures are performed, resolve the “Missing Procedures” alert by checking “No Procedures Performed”
- PDF version of denominator reporting form and table of instructions are useful to review



Form Approved  
OMB No. 0920-0666  
Exp. Date: 01/31/2021  
www.cdc.gov/nhsn

## Denominator for Procedure

Page 1 of 2 \*required for saving

Facility ID	Procedure #:	
*Patient ID:	Social Security #:	
Secondary ID:	Medicare #:	
Patient Name, Last:	First:	Middle:
*Gender: F M Other	*Date of Birth:	
Ethnicity (Specify):	Race (Specify):	
Event Type: PROC	*NHSN Procedure Code:	
*Date of Procedure:	ICD-10-PCS or CPT Procedure Code:	
<b>Procedure Details</b>		
*Outpatient: Yes No	*Duration: ____ Hours ____ Minutes	
*Wound Class: C CC CO D	*General Anesthesia: Yes No	
ASA Score: 1 2 3 4 5	*Emergency: Yes No	
*Trauma: Yes No	*Scope: Yes No	*Diabetes Mellitus: Yes No
*Height: ____ feet ____ inches	*Closure Technique: Primary Other than primary	
(choose one) ____ meters	Surgeon Code: _____	
*Weight: ____ lbs/kg (circle one)		
CSEC: *Duration of Labor: ____ hours		

[https://www.cdc.gov/nhsn/forms/57.121\\_DenomProc\\_BLANK.pdf](https://www.cdc.gov/nhsn/forms/57.121_DenomProc_BLANK.pdf)  
[https://www.cdc.gov/nhsn/forms/instr/57\\_121.pdf](https://www.cdc.gov/nhsn/forms/instr/57_121.pdf)

# Report denominator data

Supporting Materials

## 2018 Operative Procedure Code Documents

The documents listed below should be used for procedures performed in 2018.

- **Update!** [ICD-10-PCS Procedure Code Mapping to NHSN Operative Procedure Codes](#) [XLSX - 611K]
- **Update!** [Current Procedural Terminology \(CPT\) Procedure Code Mapping to NHSN Operative Procedure Codes](#) [XLSX - 313K]
- Additional Guidance for use with NHSN Operative Procedure Codes
  - **Update!** [ICD-10-PCS & CPT Codes – Guidance for HPRO & KPRO Procedure Details](#) [XLSX - 46K]

This guidance document may be used for completing the NHSN procedure details for HPRO –

hip arthroplasty and/or KPRO – Knee arthroplasty operations.

- [FUSN ICD-10-PCS Codes – Guidance for Spinal Level and](#)

This supplemental guidance may be used to complete the entries in the Operative Procedure Details section for FUSN procedures.

- [ICD-10 CM Diabetes Diagnostic Codes](#) [XLSX - 15K]
- [ICD-10-CM/PCS Codes for ‘prior infection at hip or knee joint’](#) [XLSX - 20K]

ICD-10-CM codes included in this spreadsheet are acceptable for use as “Diabetes Mellitus” for completing the NHSN Operative Procedure Details section.

- Document detailing changes made to the 2017-2018 operative procedure codes.

- **Update!** [Summary of 2017-2018 Code Changes](#) [XLSX]

This document identifies changes made to the codes 2017-2018 operative procedure codes. It should not be used for identifying NHSN operative procedures or SSI events.

- Identify applicable procedures
  - ICD-10
  - CPT
- OR records and billing data

COLO--Colon surgery - Incision, resection, or anastomosis of the large intestine; includes large-to-small and small-to-large bowel anastomosis; see REC for rectal operations			
Procedure Code Category	ICD-10-PCS Codes	Procedure Code Descriptions	Code Status
COLO	0DBLFZZ	Excision of Transverse Colon, Via Natural or Artificial Opening With Percutaneous Endoscopic Assistance	Add
COLO	0DBMFZZ	Excision of Descending Colon, Via Natural or Artificial Opening With Percutaneous Endoscopic Assistance	Add
COLO	0DBNFZZ	Excision of Sigmoid Colon, Via Natural or Artificial Opening With Percutaneous Endoscopic Assistance	Add
COLO	0D1607L	Bypass stomach to Transverse Colon with Autologous Tissue Substitute, Open Approach	No Change
COLO	0D160JL	Bypass stomach to Transverse Colon with Synthetic Substitute, Open Approach	No Change

# Report denominator data

NHSN - National Healthcare Safety

NHSN Home

Alerts

Dashboard

Reporting Plan ▶

Patient ▶

Event ▶

Procedure ▶ **Add**  
Find  
Incomplete

Summary Data ▶

Import/Export

Surveys ▶

Analysis ▶

Logout

- Select Procedure and Add
- Enter procedure and Save

### Add Procedure

Mandatory fields marked with \*

Fields required when in Plan marked with >

**Patient Information**

Facility ID \*: NHSN State Users Test Facility #1 (ID 15164) ▼

Patient ID \*:  Find Find Procedures for Patient

Secondary ID:

Last Name:

Middle Name:

Gender \*: ▼

Ethnicity: ▼

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

**Procedure Information**

NHSN Procedure Code \*:  ▼

Select button for system used

ICD-10 PCS

CPT Code

Procedure Date \*:  24 Link/Unlink to Event

**Procedure Details**

Outpatient \*: ▼ Duration (Hrs:Mins) \*:  :

Wound Class \*: ▼ General Anesthesia \*: ▼

ASA Score: ▼

# Identify numerator data

- Active surveillance
  - Admission, readmission, ED, and OR logs
  - Patient charts for signs and symptoms of SSI
  - Lab, X-ray, other diagnostic test reports
  - Nurse or physician notes
  - Discuss with primary care staff on ICUs and wards
- Post-discharge surveillance
  - Surgeon or patient surveys by mail or phone
  - Review of postoperative clinic records
  - Line list of all readmissions or ED admissions with diagnosis
  - ICD-10-CM diagnosis codes for infection
  - Notification between facilities

# Report numerator data

- SSI events are reported on the Surgical Site Infection form
- PDF version of numerator reporting form and table of instructions are useful to review
- Protocols provide definitions, guidelines, and reporting criteria
- For every month in which no SSI events are identified, resolve the “Missing Procedure-Associated Events” alert



Form Approved  
OMB No. 0923-0596  
Exp. Date: 01/31/2021  
www.cdc.gov/nhsn

## Surgical Site Infection (SSI)

Page 1 of 4

*required for saving **required for completion	
Facility ID:	Event #:
*Patient ID:	Social Security #:
Secondary ID:	Medicare #:
Patient Name, Last:	First: Middle:
*Gender: F M Other	*Date of Birth:
Ethnicity (Specify):	Race (Specify):
*Event Type: SSI	*Date of Event:
*NHSN Procedure Code:	ICD-10-PCS or CPT Procedure Code:
*Date of Procedure:	*Outpatient Procedure: Yes No
*MDRO Infection Surveillance:	
<input type="checkbox"/> Yes, this infection's pathogen & location are in-plan for Infection Surveillance in the MDRO/CDI Module	
<input type="checkbox"/> No, this infection's pathogen & location are not in-plan for Infection Surveillance in the MDRO/CDI Module	
*Date Admitted to Facility:	Location:
<b>Event Details</b>	
*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): _____	
*Infection present at the time of surgery (PATOS): <input type="checkbox"/> Yes <input type="checkbox"/> No	

[https://www.cdc.gov/nhsn/forms/57.120\\_SSI\\_BLANK.pdf](https://www.cdc.gov/nhsn/forms/57.120_SSI_BLANK.pdf)  
[https://www.cdc.gov/nhsn/forms/instr/57\\_120.pdf](https://www.cdc.gov/nhsn/forms/instr/57_120.pdf)

# Report numerator data

- Select Event and Add

NHSN - National Healthcare Safety

NHSN Home  
Alerts  
Dashboard  
Reporting Plan  
Patient  
Event  
Procedure  
Summary Data  
Import/Export  
Surveys  
Analysis  
Logout

Add Event  
Add  
Find  
Incomplete

### Add Event

Mandatory fields marked with \*  
Fields required for record completion marked with \*\*  
Fields required when in Plan marked with >

**Patient Information**

Facility ID \*: NHSN State Users Test Facility #1 (ID 15164) v  
Patient ID \*:  Find Find Events for Patient  
Secondary ID:   
Last Name:   
Middle Name:   
Gender \*:   
Ethnicity:   
Race:  American Indian/Alaska Native  Asian  
 Black or African American  Native Hawaiian/Other Pacific Islander  
 White

Event #:   
Social Security #:   
Medicare #:   
First Name:   
Date of Birth \*:  7

**Event Information**

Event Type \*:  Date of Event \*:  7

**Custom Fields**

**Comments**

Save Back



# Report numerator data

- Select SSI – Surgical Site Infection as Event Type
- Select appropriate code under NHSN Procedure Code
- Enter data and Save

**NHSN - National Healthcare Safety Network**

**NHSN Home**

- Alerts
- Dashboard
- Reporting Plan ▶
- Patient ▶
- Event ▶
- Procedure ▶
- Summary Data ▶
- Import/Export
- Surveys ▶
- Analysis ▶
- Logout

**Add Event**

Mandatory fields marked with \*

Fields required for record completion

Fields required when in Plan mode

**Patient Information**

Facility ID \*: [ ]

Patient ID \*: [ ]

Secondary ID: [ ]

Last Name: [ ]

Middle Name: [ ]

Gender \*: [ ]

Ethnicity: [ ]

Race: **SSI - Surgical Site Infection**

Event Information

Event Type \*: [ ]

BJ - Bone and Joint Infection  
 BSI - Bloodstream Infection  
 CLIP - Central Line Insertion Practices  
 CNS - Central Nervous System  
 CVS - Cardiovascular  
 EENT - Eye, Ear, Nose and Throat  
 GI - Gastrointestinal  
 LABID - Laboratory-identified MDRO or CDI Event  
 LRI - Lower Respiratory Infection  
 PNEU - Pneumonia  
 REPR - Reproductive Tract  
 SSI - Surgical Site Infection  
 SST - Skin and Soft Tissue  
 UTI - Urinary Tract Infection  
 VAE - Ventilator-Associated Event

**Event Information**

Event Type \*: SSI - Surgical Site Infection

NHSN Procedure Code \*: [ ]

Procedure Date \*: [ ]

MDRO Infection Surveillance \*: [ ]

Location: [ ]

Date Admitted to Facility >: [ ]

**Event Details**

Specific Event >: [ ]

Infection present at the time of surgery \*: [ ]

Detected >: [ ]

Secondary Bloodstream Infection >: **COLO - Colon surgery**

Died \*\*: [ ]

Discharge Date: [ ]

Pathogens Identified >: [ ]

**Custom Fields**

AAA - Abdominal aortic aneurysm repair  
 AMP - Limb amputation  
 APPY - Appendix surgery  
 AVSD - AV shunt for dialysis  
 BLI - 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  
 COLO - Colon surgery  
 CRAN - Craniotomy  
 CSEC - Cesarean section  
 FUSN - Spinal fusion  
 FX - Open reduction of fracture  
 GAST - Gastric surgery  
 HER - Hemiorrhaphy  
 HPRO - Hip prosthesis

# Report numerator data

- Enter Event Information and Event Details
- Enter data and Save

## Event Details

Specific Event >:

Infection present at the time of surgery \*:

Specify Criteria Used \* (check all that apply)

Signs & Symptoms (check all that apply)

Any patient

- Purulent drainage from affected area
- Pain or tenderness
- Swelling or inflammation
- Erythema or redness
- Heat
- Fever
- Incision deliberately opened/drained
- Wound spontaneously dehisces
- Abscess
- Sinus tract

<=1 year old

- Fever
- Hypothermia
- Apnea
- Bradycardia
- Lethargy
- Vomiting

Laboratory

- Organism(s) identified
- Culture or non-culture based testing not performed
- Organism(s) identified from blood specimen
- Organism(s) identified from >= 2 periprosthetic specimens
- Other positive laboratory tests
- Imaging test evidence of infection

Clinical Diagnosis

- Physician diagnosis of this event type
- Physician institutes appropriate antimicrobial therapy

# Report numerator data

- SSIs are categorized into five subtypes for each procedure
  - Each has different criteria that must be met
- Superficial incisional SSI
  - Superficial incisional primary (SIP)
  - Superficial incisional secondary (SIS)
- Deep incisional SSI
  - Deep incisional primary (DIP)
  - Deep incisional secondary (DIS)
- Organ/space SSI

# Example: Superficial incisional SSI

Criterion	Surgical Site Infection (SSI)
	<p><b>Superficial incisional SSI</b> Must meet the following criteria:</p>
	<p>Date of event for infection occurs within 30 days after any NHSN operative procedure (where day 1 = the procedure date)</p> <p><b>AND</b> involves only skin and subcutaneous tissue of the incision</p> <p><b>AND</b> patient has at least <u>one</u> of the following:</p> <ol style="list-style-type: none"> <li>purulent drainage from the superficial incision.</li> <li>organisms identified from an aseptically-obtained specimen from the superficial incision or subcutaneous tissue by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (for example, not Active Surveillance Culture/Testing (ASC/AST).</li> <li>superficial incision that is deliberately opened by a surgeon, attending physician** or other designee and culture or non-culture based testing is not performed.</li> </ol> <p><b>AND</b> patient has at least one of the following signs or symptoms: pain or tenderness; localized swelling; erythema; or heat.</p> <ol style="list-style-type: none"> <li>diagnosis of a superficial incisional SSI by the surgeon or attending physician** or other designee.</li> </ol>

# Example: Organ/space SSI

<p><b>Organ/Space SSI</b> Must meet the following criteria: Date of event for infection occurs within 30 or 90 days after the NHSN operative procedure (where day 1 = the procedure date) according to the list in <a href="#">Table 2</a> <b>AND</b> infection involves any part of the body deeper than the fascial/muscle layers, that is opened or manipulated during the operative procedure <b>AND</b> patient has at least <b>one</b> of the following:</p> <ul style="list-style-type: none"><li>a. purulent drainage from a drain that is placed into the organ/space (for example, closed suction drainage system, open drain, T-tube drain, CT guided drainage)</li><li>b. organisms are identified from fluid or tissue in the organ/space by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment (for example, not Active Surveillance Culture/Testing (ASC/AST).</li><li>c. an abscess or other evidence of infection involving the organ/space that is detected on gross anatomical or histopathologic exam, or imaging test evidence suggestive of infection.</li></ul> <p><b>AND</b> meets at least <b>one</b> criterion for a specific organ/space infection site listed in <a href="#">Table 3</a>. These criteria are found in the <a href="#">Surveillance Definitions for Specific Types of Infections</a> chapter.</p>
--

# Example: Organ/space SSI

- BJ – Bone and Joint Infection
  - BONE – Osteomyelitis
  - DISC – Disc space infection
  - JNT – Joint or bursa infection
  - PJI – Prosthetic joint infection

# Example: Organ/space SSI

## **PJI – Periprosthetic Joint Infection (for use as Organ/Space SSI following HPRO and KPRO only)**

Joint or bursa infections must meet at least ***one*** of the following criteria:

1. ***Two*** positive periprosthetic specimens (*tissue or fluid*) with at least one matching organism, identified by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment, for example, not Active Surveillance Culture/Testing (ASC/AST).
2. A sinus tract\* communicating with the joint identified on gross anatomic exam.
3. Having ***three*** of the following minor criteria:
  - a. elevated serum C-reactive protein (CRP; >100 mg/L) **and** erythrocyte sedimentation rate (ESR; >30 mm/hr.)
  - b. elevated synovial fluid white blood cell (WBC; >10,000 cells/ $\mu$ L) count **OR** “++” (*or greater*) change on leukocyte esterase test strip of synovial fluid
  - c. elevated synovial fluid polymorphonuclear neutrophil percentage (PMN% >90%)
  - d. positive histological analysis of periprosthetic tissue (>5 neutrophils (PMNs) per high power field)
  - e. organism(s) identified from a single positive periprosthetic specimen (*tissue or fluid*) by culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis and treatment ,for example, not Active Surveillance Culture/Testing (ASC/AST)

\* A sinus tract is defined as a narrow opening or passageway that can extend in any direction through soft tissue and results in dead space with potential for abscess formation.

# Surveillance periods for SSI

**Table 2. Surveillance Periods for SSI Following Selected NHSN Operative Procedure Categories. Day 1 = the date of the procedure.**

30-day Surveillance			
Code	Operative Procedure	Code	Operative Procedure
AAA	Abdominal aortic aneurysm repair	LAM	Laminectomy
AMP	Limb amputation	LTP	Liver transplant
APPY	Appendix surgery	NECK	Neck surgery
AVSD	Shunt for dialysis	NEPH	Kidney surgery
BILI	Bile duct, liver or pancreatic surgery	OVRY	Ovarian surgery
CEA	Carotid endarterectomy	PRST	Prostate surgery
CHOL	Gallbladder surgery	REC	Rectal surgery
COLO	Colon surgery	SB	Small bowel surgery
CSEC	Cesarean section	SPLE	Spleen surgery
GAST	Gastric surgery	THOR	Thoracic surgery
HTP	Heart transplant	THYR	Thyroid and/or parathyroid surgery
HYST	Abdominal hysterectomy	VHYS	Vaginal hysterectomy
KTP	Kidney transplant	XLAP	Exploratory Laparotomy
90-day Surveillance			
Code	Operative Procedure		
BRST	Breast surgery		
CARD	Cardiac surgery		
CBGB	Coronary artery bypass graft with both chest and donor site incisions		
CBGC	Coronary artery bypass graft with chest incision only		
CRAN	Craniotomy		
FUSN	Spinal fusion		
FX	Open reduction of fracture		
HER	Herniorrhaphy		
HPRO	Hip prosthesis		
KPRO	Knee prosthesis		
PACE	Pacemaker surgery		
PVBY	Peripheral vascular bypass surgery		
VSHN	Ventricular shunt		








# Complete self-guided training

NHSN's Educational Roadmaps provide a guided tour to training materials/information



Welcome to the NHSN Educational Roadmaps. The NHSN Educational Roadmaps will provide a guided tour of the training materials and information needed to provide a solid foundation of NHSN – from the basics to more advanced training for each individual component or protocol. Below is a list of NHSN components, in each component is a selection of educational and supplemental materials and tools to improve your comprehension of NHSN surveillance definitions, reporting, and analysis (while supporting your work as an NHSN user). To begin this learning experience, select the component below. This training should be used after the enrollment/activation process. If you have not enrolled into NHSN please [enroll here](#).

Select Roadmap for a Component

-  Patient Safety Component  
Surveillance definitions, reporting, and analysis
-  Biovigilance Component  
Surveillance definitions, reporting, and analysis
-  Healthcare Personnel Safety Component  
Surveillance definitions, reporting, and analysis
-  Long-term Care Facility Component  
Surveillance definitions, reporting, and analysis
-  Dialysis Component  
Surveillance definitions, reporting, and analysis

<https://www.cdc.gov/nhsn/training/roadmap/index.html>

## PSC Training Basics

-  Chapter 1: NHSN Overview  [PDF - 300 KB]
-  Chapter 2: Identifying Healthcare-associated Infections (HAIs) in NHSN  [PDF - 1 MB]
-  Chapter 16: NHSN Key Terms  [PDF - 370 KB]
-  Introduction to Device Associated Module [CBT - 60 min]
-  Introduction to Procedure Associated Module [CBT - 60 min]
-  General NHSN Definitions for 2018 [Video - 59 min]
-  Chapter 3: Patient Safety Monthly Reporting Plan and Surveys  [PDF - 100 KB]
-  Chapter 15: CDC Location Labels and Location Descriptions  [PDF - 1 MB]

## PSC Module Training



### BSI EVENTS

Surveillance for Bloodstream Infections



### UTI EVENTS

Surveillance for Urinary Tract Infections



### SSI EVENTS

Surveillance for Surgical Site Infection Events



### VAE AND PNEU EVENTS

Surveillance for VAE, pedVAP and PNEU



### MDRO/C.DIFF EVENTS

Surveillance for C. difficile, MRSA and other drug resistant Infections



### CLIP EVENTS

Surveillance for Central Line Insertion Practice Adherence



### AUR DATA

Surveillance for Antimicrobial Use and Antimicrobial Resistance Options

## PSC Analysis Training



### ANALYSIS

Clicking on a component will provide

- Component-wide training basics
- Training materials for each module in the component
- Training materials for analysis

<https://www.cdc.gov/nhsn/training/roadmap/psc-roadmap.html>

## SSI – Surveillance for Surgical Site Infection Events



### SSI – Surveillance for Surgical Site Infection Events

-  [Chapter 9: Surgical Site Infection \(SSI\) Event](#)  [PDF - 1 MB]
-  [Chapter 17: CDC/NHSN Surveillance Definitions for Specific Types of Infections](#)  [PDF - 1 MB]
-  [Surgical Site Infection \(SSI\) Event 2018](#) [CBT - 60 min]
-  [Surgical Site Infections \(SSI\) Event Form – PATOS \(June 2017\)](#) [Video – 6 min]
-  [SSI Surveillance with Case Studies Part 1 – 2018](#) [Video – 59 min]
-  [SSI Surveillance with Case Studies Part 2 – 2018](#) [Video – 83 min]
-  [FAQs: Surgical Site Infections \(SSI\) Events](#)
-  [FAQs: Surgical Site Procedure Codes](#)
-  [Procedure Code Documents 2018](#)  
[Procedure Code Documents for Previous Years](#) [must open “Resources” menu to access documents]
-  [Surgical Site Infections \(SSI\) Event Form](#)  [PDF - 400 KB] (Print-only)  
[Table of Instructions](#)  [PDF - 400 KB]
-  [Denominator for Procedure Form](#)  [PDF - 300 KB] (Print-only)  
[Table of Instructions](#)  [PDF - 300 KB]
-  [Denominator for Custom Procedure Form](#)  [PDF - 300 KB] (Print-only)

# Analysis



## Phase 1: Getting Started with NHSN Analysis

Your first stop on the NHSN Analysis Roadmap is to understand the basic elements of the NHSN analysis features and basic statistics.



[Introduction to NHSN Analysis – 2018 \[Video – 50 min\]](#)



[Introduction to NHSN Analysis](#) [PDF – 4 MB]

Explanation of different analysis reports users can run and how to modify them



[General Tips and Tools for NHSN Analysis](#) [PDF – 150 KB]

Quick reminders to ensure optimal generation and interpretation of your data



[Basic Statistics for NHSN Analysis \[Video – 11 min\]](#)

Explanation of introductory statistical concepts to aid the interpretation of certain NHSN analysis reports

## Phase 2: Standardized Infection Ratio (SIR) for Reporting Purposes

Your next stop is to understand how to generate reports required for reporting purposes. Select the appropriate report for the specific HAI you'd like to run analyses for. These reports reflect the data and necessary criteria to comply with various Centers for Medicare and Medicaid Services (CMS) Quality Reporting Programs. For more information about how HAI data is risk adjusted to generate a specific SIR, please visit [NHSN's Guide to the SIR](#) [PDF – 3 MB].

### Acute Care Hospitals



[Using the "SIR – CLABSI Data for Hospital IQR" Output Option](#) [PDF – 250 KB]

# Complete self-guided training

- NHSN Materials for Enrolled Facilities
  - Training, Protocols, Data Collection Forms
  - Some resources may be provided more than once

The screenshot shows the NHSN website interface. On the left is a navigation menu with options like 'NHSN Login', 'About NHSN', 'Enroll Here', and 'Materials for Enrolled Facilities'. The main content area is titled 'Surveillance for Surgical Site Infection (SSI) Events' and includes social media icons, a breadcrumb trail, and a section for 'Resources for NHSN Users Already Enrolled'. This section contains expandable categories: Training, Protocols, Frequently Asked Questions, Data Collection Forms, CMS Supporting Materials, Supporting Materials, and Analysis Resources. Below this is a section for 'Resources to Help Prevent Infections'. Blue stars are placed over the 'Surveillance for SSI Events' menu item and the 'Training', 'Protocols', and 'Data Collection Forms' expandable categories.

## Resources for NHSN Users Already Enrolled

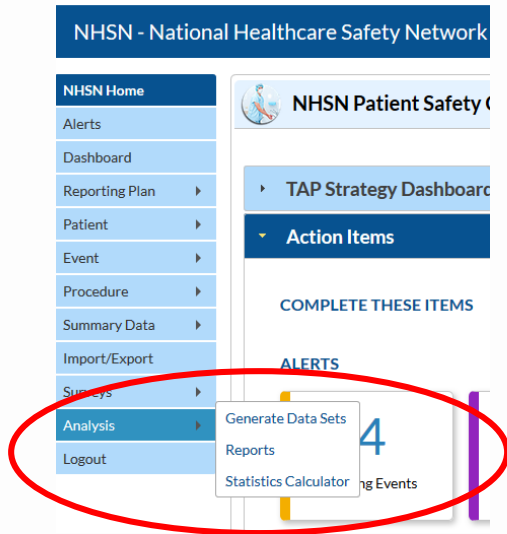
This screenshot displays the 'Training' resources for NHSN users already enrolled. It features a dropdown menu for 'Training' which lists several items:
 

- Surgical Site Infections (SSI) Training [CBT - 60 min]
- New!** SSI Surveillance and Case Studies Part 1 - 2018
  - YouTube Link [Video - 59 min]
  - Slideset [PDF - 11 MB]
- New!** SSI Surveillance with Case Studies Part 2 - 2018
  - YouTube Link [Video - 83 min]
  - Slideset [PDF - 11 MB]
- Patient Safety Component (PSC) Annual Survey - January 2016
  - YouTube Link [Video - 6 min]
- Surgical Site Infections (SSI) Event form for PATOS - June 2017
  - YouTube Link [Video - 6 min]

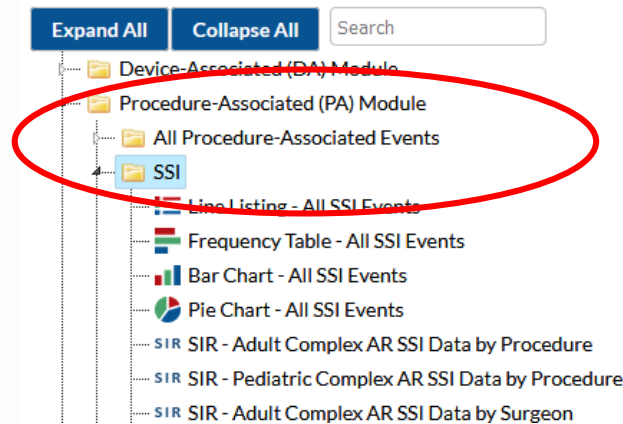
 Below the training list are sections for 'Additional Training' (including 'Introduction to Procedure-associated Module Training' and 'General NHSN Definitions for 2018'), 'Analysis Training' (including 'Analyzing SSI Data - 2018'), and 'Continuing Education' (including 'Obtaining Continuing Education for NHSN Training Events').

<https://www.cdc.gov/nhsn/acute-care-hospital/ssi/index.html>

# Review your SSI data

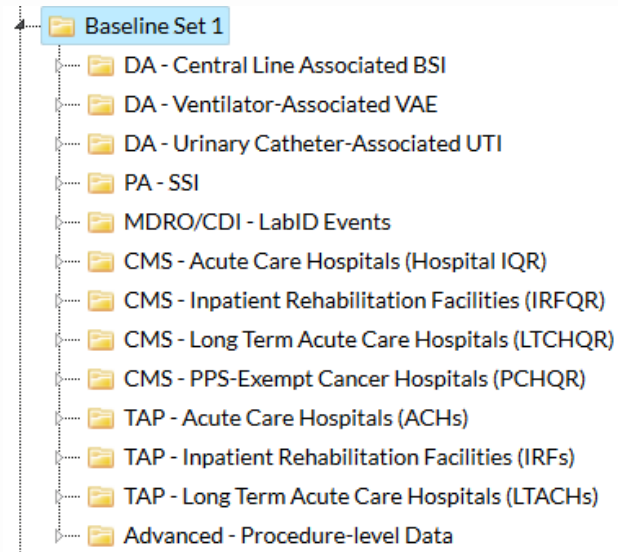
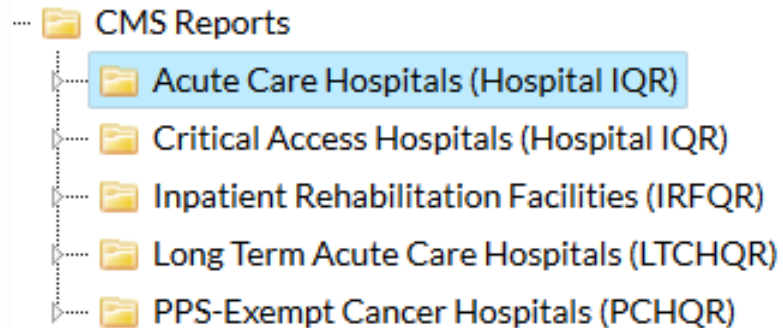


- In analyses, SSIs are always presented in the month the procedure was performed regardless of when event occurred
- Analysis > Generate Dataset
- Analysis > Reports
  - PA Module > All Procedure-Associated Events > SSI (2015 baseline)



# Review your SSI data

- CMS reports
  - SIR by facility type, based on IQR reporting
- BS1 provides SSI data under the original baseline



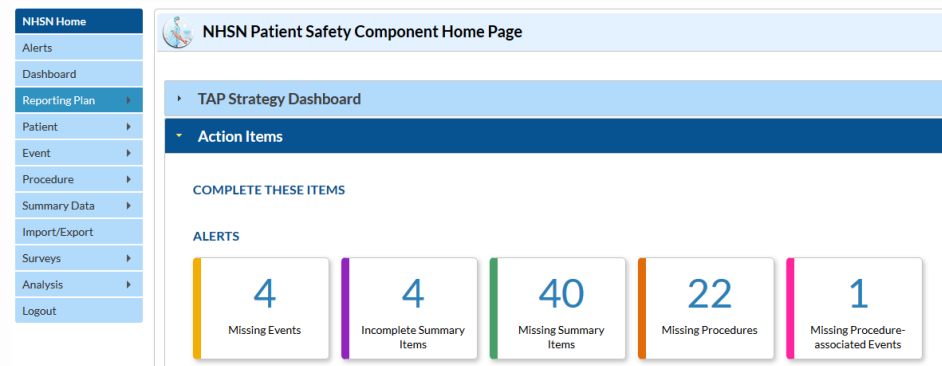
# Review your SSI data

- Reports can be customized to include specific subsets of data (custom date range, for example)
- Advanced options provide data by pathogen, location, additional line listing options

- Alerts

- Displayed upon login
- Can be found via navigation bar
- Resolve to improve data quality

- OHA's Internal Validation Guidance





# Review NHSN materials in AJIC

- NHSN publishes case studies in the American Journal of Infection Control (AJIC)
  - Open access
  - Case studies using current protocols
  - Provides questions, answers, and rationale for protocol application
  - Summaries of past case studies
- Links in June 2018 NHSN newsletter
  - June 2017 AJIC
  - December 2017 AJIC
  - May 2018 AJIC

# Participate in the HAIAC

- OHA's HAIAC is a multidisciplinary group of stakeholders including providers, consumers, insurers and experts that provide the HAI program with oversight and input regarding HAI surveillance and prevention
- Meetings occur quarterly
  - Remote option available
  - In person at 800 NE Oregon St., Portland, OR
- Anyone may attend and apply for vacant committee positions
- We are currently seeking to fill the following vacancies:
  - Healthcare Insurer Representative
  - Patient and Consumer Advocate/Representative
- Visit the website to see schedule and meeting materials

# Join the CDC's One & Only Campaign

## Who can be a member?

- Professional and nonprofit organizations
- Healthcare systems
- Provider groups
- Private companies

## What do members do?

- Raise awareness
- Share materials
- Receive updates
- Be recognized



To join, email [injectionsafety@cdc.gov](mailto:injectionsafety@cdc.gov)

# Subscribe to the CD Summary

- 2-page newsletter followed by short quiz for free CMEs
- Audience: licensed health care providers, public health and health care agencies, media representatives, medical laboratories, hospitals, those interested in epidemiology and public health



## TAKING A SHOT AT INJECTION SAFETY

<https://www.oregon.gov/oha/PH/DISEASES/CONDITIONS/COMMUNICABLEDISEASE/CDSUMMARYNEWSLETTER/Pages/index.aspx>

# Follow us on Facebook

<https://www.facebook.com/Oregon.aware>

**Prevent Infections in Your Patients**  
*Injection Safety is Every Provider's Responsibility*

**1 ONE NEEDLE,  
ONE SYRINGE,  
ONLY ONE TIME.**



Safe Injection Practices Coalition  
[www.ONEandONLYcampaign.org](http://www.ONEandONLYcampaign.org)

# Resources & references

- OHA resources
  - OAR: <https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=89>
  - Facebook: <https://www.facebook.com/Oregon.aware>
  - HAI Program Publications and Maps:  
<https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/Pages/Reports-and-Data.aspx>
  - HAI Reporting Poster:  
<https://www.oregon.gov/oha/PH/DiseasesConditions/CommunicableDisease/ReportingCommunicableDisease/Documents/ReportingPosters/poster-hai.pdf>
  - Exemptions Proposal Summary:  
[https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/Documents/haiac-meetings/2018/March\\_%2028\\_%202018\\_Meeting%20Materials.pdf](https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/Documents/haiac-meetings/2018/March_%2028_%202018_Meeting%20Materials.pdf)
  - CD Summary:  
<https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/CDSUMMARYNEWSLETTER/Pages/index.aspx>
  - HAIAC:  
<https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/PREVENTION/Pages/meetings.aspx>
  - Internal Validation Guidance:  
[https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/REPORTING/Documents/Hosp\\_HAI\\_Intern\\_Valid\\_Guide\\_2017.pdf](https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/REPORTING/Documents/Hosp_HAI_Intern_Valid_Guide_2017.pdf)

# Resources & references

- DHHS Action Plan: <https://health.gov/hcq/prevent-hai-action-plan.asp>
- CDC resources:
  - NHSN Protocols, forms, TOIs, and trainings:
    - <https://www.cdc.gov/nhsn/acute-care-hospital/ssi/index.html>
    - [https://www.cdc.gov/nhsn/forms/57.120\\_SSI\\_BLANK.pdf](https://www.cdc.gov/nhsn/forms/57.120_SSI_BLANK.pdf)
    - [https://www.cdc.gov/nhsn/forms/instr/57\\_120.pdf](https://www.cdc.gov/nhsn/forms/instr/57_120.pdf)
    - [https://www.cdc.gov/nhsn/forms/57.121\\_DenomProc\\_BLANK.pdf](https://www.cdc.gov/nhsn/forms/57.121_DenomProc_BLANK.pdf)
    - [https://www.cdc.gov/nhsn/forms/instr/57\\_121.pdf](https://www.cdc.gov/nhsn/forms/instr/57_121.pdf)
    - <https://www.cdc.gov/nhsn/pdfs/newsletters/nhsn-nl-jun18-508.pdf>
    - [https://www.cdc.gov/nhsn/PDFs/pscManual/15LocationsDescriptions\\_current.pdf](https://www.cdc.gov/nhsn/PDFs/pscManual/15LocationsDescriptions_current.pdf)
    - [https://www.cdc.gov/nhsn/pdfs/pscmanual/1psc\\_overviewcurrent.pdf](https://www.cdc.gov/nhsn/pdfs/pscmanual/1psc_overviewcurrent.pdf)
    - [https://www.cdc.gov/nhsn/pdfs/pscmanual/3psc\\_monthlyreportingplancurrent.pdf](https://www.cdc.gov/nhsn/pdfs/pscmanual/3psc_monthlyreportingplancurrent.pdf)
    - <https://www.cdc.gov/nhsn/pdfs/pscmanual/9pscsscicurrent.pdf>
    - <https://www.cdc.gov/nhsn/pdfs/training/2018/ssi-508.pdf>
    - [https://www.cdc.gov/nhsn/pdfs/training/enroll/nhsn\\_getting\\_started.pdf](https://www.cdc.gov/nhsn/pdfs/training/enroll/nhsn_getting_started.pdf)
    - <https://www.cdc.gov/nhsn/training/roadmap/psc/analysis.html>
    - <https://www.cdc.gov/nhsn/training/roadmap/psc-roadmap.html>
  - One & Only Campaign membership: <http://www.oneandonlycampaign.org/campaign-members>
  - HAI Progress report: <https://www.cdc.gov/HAI/pdfs/progress-report/hai-progress-report.pdf>

# Questions & discussion

Join our next Lunch & Learn webinar!

## Oregon's First Statewide Antibigram and Multidrug-Resistant Organism Highlights

October 9, 2018, 12pm-1pm

Register here:

<https://register.gotowebinar.com/register/26194057709597186>

Roza Tammer, MPH, CIC

(971) 673-1074

[Roza.p.tammer@state.or.us](mailto:Roza.p.tammer@state.or.us)