

Clostridium difficile Infection Surveillance

Last Updated 2017

Basics of Infection Prevention
Healthcare-Associated Infections Program
Center for Health Care Quality
California Department of Public Health



Objectives

- Review CDI surveillance methods and definitions
- Discuss importance of accurate data collection
- Demonstrate how to report CDI data to in National Healthcare Safety Network (NHSN)
- Discuss NHSN data analysis and feedback to staff

Perform CDI Surveillance to Assess Prevention Progress – Primary Strategy

- LabID method is the nationally-recognized quality measure for the surveillance of CDI (NQF endorsed)
- Requires no clinical review or further evaluation of positive lab finding
- Include ALL *C. difficile* toxin-positive tests from inpatients, ED patients, and 24-hour observation patients

CDI LabID Surveillance

NHSN algorithm categorizes CDI cases according to the admission date and specimen collection dates entered

Community-Onset (CO)	For Inpatient surveillance, a LabID event collected ≤ 3 days after admission to the facility (i.e., days 1, 2, 3 or admission)
Healthcare Facility-Onset (HO)	LabID event collected > 3 days after admission to the facility (on or after day 4)
Community-Onset Healthcare Facility - Associated (CO-HCFA)	LabID event collected from a patient who was discharged from the facility ≤ 4 weeks prior to current date of stool specimen collection

NHSN Patient Safety Manual: Chapter 12

CDI LabID Surveillance Data Collection

- Important data to collect for NHSN SIR calculation
 - Annual Survey data
 - Date of admission
 - Date of specimen collection
 - Location at time of collection
- Do not enter a repeat specimen from the same location if less than 14 days since last positive specimen
- If the patient is transferred to a new location and a new specimen is positive in less than 14 days since the last specimen – REPORT it

CDI LabID Surveillance, continued

- NHSN also tracks if CDI case is new or recurrent
 - Considered **recurrent** if >2 weeks and ≤ 8 weeks after last CDI event reported for that patient
- All CDI cases should be identified and entered into NHSN
 - There is no advantage to not identifying and entering all CDI cases into NHSN

NHSN Patient Safety Manual: Chapter 12

Interpreting CDI Surveillance Data

- Differences/changes in laboratory testing method and patient populations make it difficult to compare CDI rates over time in the same hospital or among different hospitals
- NHSN analysis applies risk adjustment for:
 - Type of laboratory test*
 - Community onset CDI
 - Hospital size *
 - Facility Type*
 - Medical school affiliation*
 - Number of ICU beds*
 - Reporting from ED or 24 hour observation unit

* Data in the hospital Annual Survey

NHSN: A Guide to the SIR

<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>

NHSN: A Guide to the SIR

THE NHSN STANDARDIZED INFECTION RATIO (SIR)

A Guide to the SIR

Updated July 2017. Please see [Page 2](#).

- How to interpret SIR
- How SIR is calculated
- Risk adjustment factors for specific HAI



NHSN: A Guide to the SIR

<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>

LabID Event Protocol MDRO / CDI Module

- All CDI specimens are reported for facility including emergency departments (ED) and 24 hour observation units
- Attribute the infection to the location where the specimen was **collected**
 - unless admitted from another affiliated outpatient location and admitted on the same calendar day – then attribute infection to the admitting unit
- For denominator, enter monthly facility wide patient days, admissions, and ED and 24 hour observation encounters (i.e. visits)

MDRO/CDI LabID Event Calculator

- Help users learn how to accurately apply MDRO/CDI LabID Event algorithms
- Assist users to make the correct MDRO & CDI LabID Event determinations
- Note: California hospitals are required to report CDI from inpatient, ED and 24 hour observation locations

National Healthcare Safety Network (NHSN)

MDRO & CDI LabID Event Calculator

Enter a Reporting Plan...

Choose an organism to track:

Select
MRSA
MSSA
VRE
CephR-Klebsiella
CRE-Ecoli
CRE-Klebsiella
MDR-Acinetobacter
CDIF-C. difficile

☐ All Specimen Types ☐ Blood Specimens Only

☒ Use Generic Locations ☐ Type In Your Own

Choose a reporting month: Select Choose a reporting year: Select

Next...

MDRO & CDI LabID Event Calculator

<https://nhsn.cdc.gov/nhsntraining/labid-calculator/mdrolabidcalc.html>



Add Monthly MDRO/CDI Summary Data to NHSN



MDRO and CDI Prevention Process and Outcome Measures Monthly Monitoring

Setting: Inpatient Total Facility Patient Days ★: 5927 Total Facility Admissions ★: 1247

Setting: Outpatient Total Facility Encounters:

If monitoring MDRO in a FACWIDE location, then subtract all counts from patient care units with unique CCNs(IRF and IPF) from Totals:

MDRO Patient Days ★: 4874 MDRO Admissions ★: 1100 MDRO Encounters:

If monitoring *C. difficile* in a FACWIDE location, then subtract all counts from patient care units with unique CCNs(IRF and IPF) as well as NICU and Well Baby counts from Totals:

CDI Patient Days ★: 4570 CDI Admissions ★: 1007 CDI Encounters:

- **Total facility patient days**
- **Total facility admissions**
- **Total facility MDRO patient days** (Facility Pt Days minus units with unique CCN such as IRF and IPF)
- **Total facility MDRO patient admissions** (Facility Pt Days minus units with unique CCN such as IRF and IPF)
- **CDI Patient Days** (Facility Pt Days minus NICU/Well baby and units with unique CCN such as IRF and IPF)
- **CDI Patient Admissions**(Facility Pt Days minus NICU/Well baby and units with unique CCN such as IRF and IPF)
- ED and 24 hour Observation encounters entered separately

Add Monthly MDRO/CDI Summary Data to NHSN -2

NHSN Home

[Reporting Plan](#)[Event](#)[Procedure](#)[Summary Data](#)[Surveys](#)[Analysis](#)[Logout](#)

MDRO and CDI Prevention Process and Outcome Measures Monthly Monitoring

Location Code *: OBSERVATION UNIT

Month *: January

Year *: 2017

General

Setting: Inpatient Total Patient Days :

Setting: Outpatient Total Encounters *: 306

Location Code *: ED - ED

Month *: January

Year *: 2017

General

Setting: Inpatient Total Patient Days :

Setting: Outpatient Total Encounters *: 5737

- Enter ED and 24 hour Observation encounters separately

Add CDI Event to NHSN

NHSN Home

Alerts

Dashboard

Reporting Plan ▶

Patient ▶

Event ▶

Procedure ▶

Summary Data ▶

Import/Export

Surveys ▶

Analysis ▶

Users ▶

Facility ▶

Group ▶

Logout



Add Event

Mandatory fields marked with *

Fields required for record completion marked with **

Fields required when in Plan marked with >

Add

Event Information

Event Type *: LABID - Laboratory-identified MDRO or CDI Event ▼

Date Specimen Collected *: 10/01/2017 6

Specific Organism Type *: CDIF - C. difficile ▼

Outpatient *: N - No ▼

Specimen Body Site/Source *: DIGEST - Digestive System ▼

Specimen Source *: STOOL - Stool specimen ▼

Date Admitted to Facility *: 10/01/2017 6

Location *: 2 WEST - M/S ICU

Date Admitted to Location *: 10/01/2017 6

Has patient been discharged from your facility in the past 4 weeks? *: Y - Yes ▼

Date of last discharge from your facility *: 9/28/2017 6

Has the patient been discharged from another facility in the past 4 weeks?: ▼

Documented evidence of previous infection or colonization with this specific organism type from a previously reported LabID Event in any prior month?: ▼

Enter all CDI events

- Inpatient
- ED
- 24 hour observation

NHSN CDI Analysis Reports

NHSN Home

- Alerts
- Dashboard
- Reporting Plan
- Patient
- Event
- Procedure
- Summary Data
- Import/Export
- Surveys
- Analysis**
- Users
- Facility
- Group
- Logout

Analysis Reports

Expand All Collapse All Search

- Device-Associated (DA) Module
- Procedure-Associated (PA) Module
- HAI Antimicrobial Resistance (DA+PA Modules)
- Antimicrobial Use and Resistance Module
- MDRO/CDI Module - LABID Event Reporting
 - All LabID Events
 - All MRSA LabID Events
 - All MSSA LabID Events
 - All C. difficile LabID Events

Generate Data Sets

Reports

Statistics Calculator

- Line Listing for All CDIF LabID Events
- Frequency Table for All CDIF LabID Ever
- Bar Chart for All CDIF LabID Events
- Pie Chart for All CDIF LabID Events
- Rate Tables for CDIF LabID Data
- SIR - ACH CDI FacwideIN LabID Data**
 - Run Report
 - Modify Report
 - Export Data Set

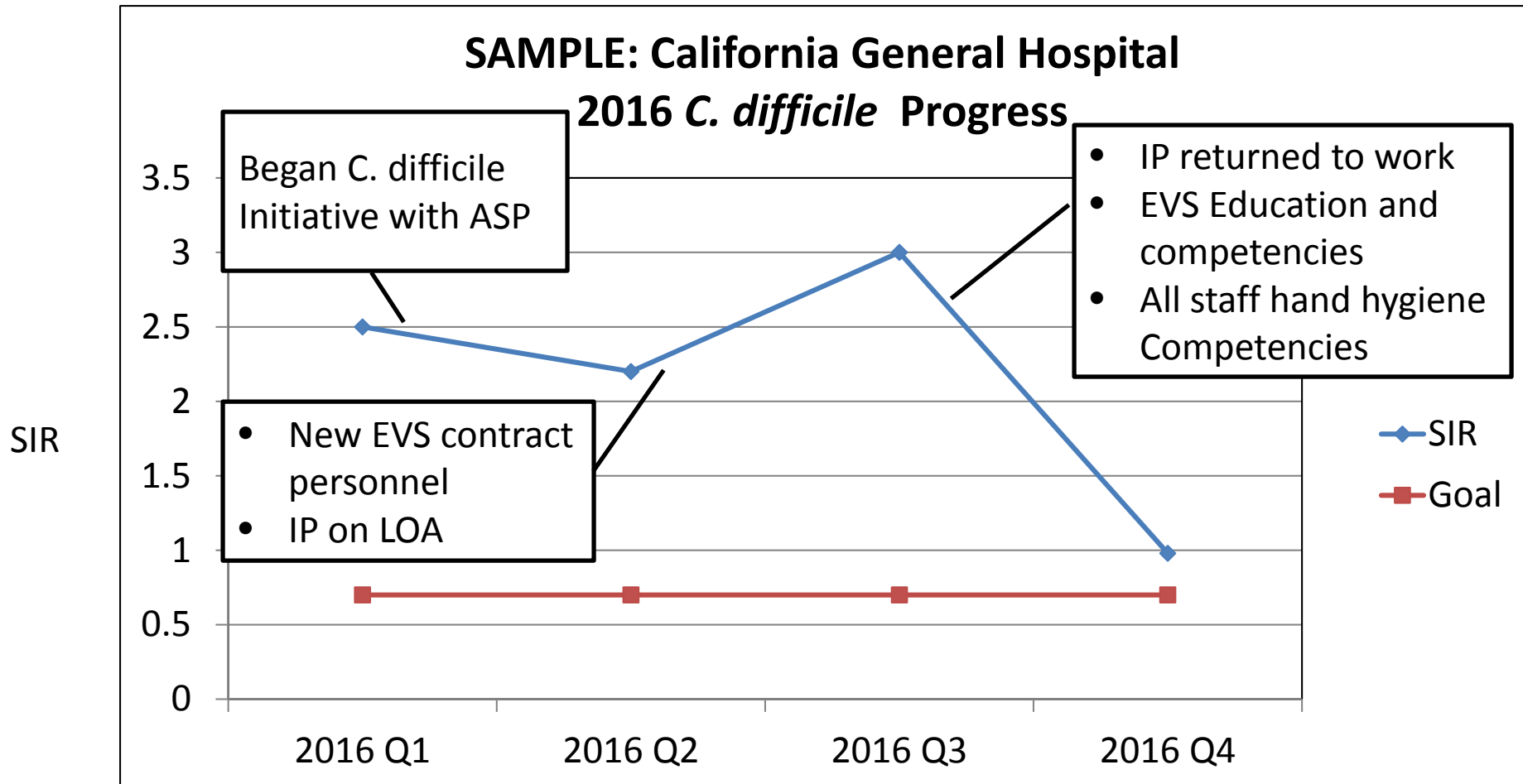
- Generate data set prior to creating a report
- Choose report according to need
 - SIR report- Your incidence compared to expected incidence
 - TAP report – Number of events that needed to be prevented to reach facility targeted goal

Targeted Assessment for Prevention (TAP) Reports - CDI

Number of Beds	Patient Days	COHCFA Prevalence	CDIF Facility Incident HO LabID Event Count	CDIF Facility Incident HO LabID Number Expected	Facility CAD	SIR
354	60059	0.14	61	55.034	22.48	1.108

- Identifies the **number of infections that needed to be prevented** to reach targeted goal (CAD)

Track CDI Progress Over Time



CDI Surveillance Summary

- Report all CDI-positive stool specimens o NHSN
- Accurate denominator summary data are necessary for accurate calculation of CDI SIR analysis
 - Admission date
 - Specimen collection date
 - Patient location at time of specimen collection
 - Facility Annual Survey
- Perform surveillance and feedback CDI SIR with adherence monitoring results to all units and leadership

Questions?

For more information,
please contact any
HAI Program Team member

Or email

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