National Healthcare Safety Network Members’ Meeting

APIC 2019

June 13, 2019
5:00-6:30 p.m.
Location: Pennsylvania Convention Center, 109AB
Agenda

- Welcome – Maggie Dudeck
- Training and Education Update - Katherine Allen-Bridson
- Federal Register Notice Pilot - Katherine Allen-Bridson
- MDRO/CDI Update - Denise Leaptrot
- Surgical Site Infection Update - Vicki Russo
- Central Line-associated Bloodstream Infection Update - LaTasha Powell
- Neonatal and Pediatric Work - Susan Cali
- Analysis Updates - Maggie Dudeck
- Antimicrobial Use & Resistance Module Updates - Amy Webb
- Clinical Document Architecture Updates - Ahmed Tahir
- Long-term Care Facility Component Updates - Angel Anttila
Coming Soon!
Neonatal Late Onset Sepsis
### NHSN Participation – as of June 10, 2019

<table>
<thead>
<tr>
<th>Facility Type</th>
<th># of Active, Enrolled Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care Hospitals</td>
<td>4,700</td>
</tr>
<tr>
<td>Critical Access Hospitals</td>
<td>1,282</td>
</tr>
<tr>
<td>Long Term Acute Care Hospitals</td>
<td>471</td>
</tr>
<tr>
<td>Inpatient Rehab Facilities</td>
<td>363</td>
</tr>
<tr>
<td>Outpatient Dialysis Facilities, Home Peritoneal Dialysis</td>
<td>7,509</td>
</tr>
<tr>
<td>Ambulatory Surgery Centers</td>
<td>4,639</td>
</tr>
<tr>
<td>Long Term Care Facilities</td>
<td>2,995</td>
</tr>
<tr>
<td>TOTAL</td>
<td>21,959</td>
</tr>
</tbody>
</table>
2017 National and State HAI Progress Report

- https://www.cdc.gov/hai/data/portal/progress-report.html

Nationally, among acute care hospitals, the highlights in this report include:

- About 9% statistically significant decrease in CLABSI between 2016 and 2017
  - Largest decrease in wards (10%)
- About 5% statistically significant decrease in CAUTI between 2016 and 2017
  - Largest decrease in ICU (8%)
- About 3% statistically significant decrease in VAE between 2016 and 2017
- About 1% statistically significant decrease in SSI related to the 10 select procedures tracked in the report between 2016 and 2017.
  - The 10 select procedures are Surgical Care Improvement Project (SCIP) procedures. For a list of the SCIP procedures, please see: https://health.gov/hcq/pdfs/ssi2012.pdf [PDF – 2 pages]
- No significant changes in abdominal hysterectomy SSIs
- No significant changes in colon surgery SSIs
- About 8% statistically significant decrease in MRSA bacteremia between 2016 and 2017
- About 13% statistically significant decrease in *C. difficile* infections between 2016 and 2017
2017 National and State HAI Progress Report

- Also available via the Patient Safety Atlas: https://gis.cdc.gov/grasp/PSA/HAIreport.html

National Data for Acute Care Hospitals, Year 2017

**CLABSI**
- U.S. hospitals reported a significant decrease in CLABSI between 2016 and 2017.
- Among the 2,337 hospitals in U.S. with enough data to calculate an SIR, 9% had an SIR significantly higher (worse) than 0.51, the value of the national SIR.

**CAUTI**
- U.S. hospitals reported a significant decrease in CAUTI between 2016 and 2017.
- Among the 2,589 hospitals in U.S. with enough data to calculate an SIR, 11% had an SIR significantly higher (worse) than 0.88, the value of the national SIR.

**CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS**
When a tube is placed in a large vein and not put in correctly or kept clean, it can become a way for germs to enter the body and cause deadly infections in the blood.

**CATHETER-ASSOCIATED URINARY TRACT INFECTIONS**
When a urinary catheter is not put in correctly, not kept clean, or left in a patient for too long, germs can travel through the catheter and infect the bladder and kidneys.
NHSN Training and Education

Katherine Allen-Bridson
NHSN Available Training – Overview

- 2019 NHSN Training Archived Webstream Videos - available now!
  - CLABSI, CAUTI, VAE, pedVAE, PNEU, LabID Events, SSI, Analysis, AUR, Validation, and OPC sessions, as well as an introduction to the upcoming Neonatal Component

- Quick Learns
  - 5 – 15 minute videos addressing specific NHSN topics

- Self-paced Interactive Trainings - CBTs
  - Self-paced activity with detailed protocol information, step-by-step examples of form completion, practice questions, and case study examples
  - Available for: Device and Procedure-associated Modules, MDRO/CDI LabID Events, Outpatient Procedure Component, Dialysis Event, and Biovigilance
National Healthcare Safety Network (NHSN) Training

Our mission is to offer learning opportunities in a variety of formats that enhance the knowledge and skills of NHSN facility- and group-level participants and their partners in order that they may effectively use the data obtained from the surveillance system to improve patient and healthcare personnel safety.

Objectives

- Convey NHSN data collection methods, submission requirements, and analysis options to participants so that they may acquire, submit, and disseminate high quality, actionable data.
- Prepare participants to use the NHSN reporting application accurately and efficiently.
- Enhance participants' and their partners' understanding of data quality and the value of adverse event monitoring.
- Encourage collaboration among participants and partners to improve the patient and healthcare personnel safety across the spectrum of care.

Resources for Users New to NHSN
Self-paced training for new NHSN enrollment and existing facility set-up.

NHSN Educational Roadmap
A guided tour of NHSN training materials and information.

NHSN Analysis
Self-paced training for introductory and advanced NHSN analysis.

Continuing Education
Free CE available for all NHSN education course work.

Request CDC Led Training
Webinar / In-person training policy and request.

NHSN Educational Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Patient Safety Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Biovigilance Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Healthcare Personnel Safety Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Dialysis Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Long-term Care Facility Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Outpatient Procedure Component
Self-paced Interactive Trainings, Annual Training Videos and Quick Learns

NHSN Home
http://www.cdc.gov/nhsn/training/
2019 NHSN Live Training: Slidesets and Webstream Videos

National Healthcare Safety Network (NHSN) Training

Continuing Education

NHSN Web streaming / Webinar Events

National Healthcare Safety Network provides online access to educational content. This process includes registration for a course on the website, completing the course posttest and assessment, and printing or completing this process online.

Expiration
You must submit your answers online before the stated expiration date. Please check each course for expiration dates.

NHSN Training Videos

Presentations from the annual NHSN live training hosted at CDC are recorded and posted as archived videos. You can view the presentations on how to identify, report, and analyze VAE, PedVAE, CAUTI, CLABSI, Secondary bloodstream infection (BSI) and site-specific infections, SSI, MRSA bacteremia and C. difficile labID events, as well as presentations on validation of healthcare-associated infection data and data quality, reporting and analysis of antibiotic use and resistance data, the Outpatient Procedure Component (OPC), and information on the upcoming NHSN Neonatal Component.

Overview

General NHSN Definitions for 2019 – May 2019
- YouTube Link (Video – 52 min)
- Slideset [PDF – 5 MB]

Internal Data Validation and Data Quality – May 2019
- YouTube Link (Video – 29 min)
- Slideset [PDF – 1 MB]

AJC NHSN Case Study Session – May 2019
- YouTube Link (Video – 44 min)
- Slideset [PDF – 1 MB]
2019 Self-paced Interactive Trainings

Self-paced Interactive Trainings

Training courses that are self-paced and computer-based. The online courses provide instructional slides with detailed graphics, screen shots with step-by-step examples of form completion for instructional purposes, practice questions, and case study examples. Hyperlinks to the forms, protocols and NHSN manual are available throughout the course and available for printing if needed.

Device-associated Module

- Introduction to Device-associated Module Training [CBT – 60 min]
- CLABS| Training [CBT – 60 min]
- CAUTI Training [CBT – 60 min]
- Ventilator Associated Pneumonia [CBT – 60 min]
- CLIP Training [CBT – 60 min]
- Ventilator-associated Events Part 1 [CBT – 60 min]
- Ventilator-associated Events Part 2 [CBT – 60 min]

NEW – Ventilator-associated Events and Outpatient Procedure Component

Coming soon – PedVAE and LOS/MEN
NHSN Continuing Education

https://www.cdc.gov/nhsn/training/continuing-edu.html

- Continuing Education is available for Self-paced Interactive Training and is pending for Archived Webstreaming Training
- CE available: CNE, CEU, CME, CPH

National Healthcare Safety Network provides online access to complete the continuing education (CE) certificate process. This process includes registration for a course on the CDC Training and Continuing Education Online system, completing the course posttest and assessment, and printing of the CE certificate. To receive CE, participants must complete this process online.

Expiration
You must submit your answers online before the stated expiration date to be eligible to receive continuing education credit. Please check each course for expiration dates.

Obtaining Continuing Education for NHSN Training Events
1. Once you completed viewing the courses, go to CDC Training and Continuing Education Online.
   a. If you have not registered as a participant, click on New Participant to create a user ID and password; otherwise click on Participant Login and login.
   b. If you have registered in this system before, please use the same login name and password. This will ensure an accurate transcript.
2. Once you have logged in, you will be on the Participant Services page. Click on Search and Register. Then click on the second option keyword search and enter the course number. You can only register and enter one course at a time.
3. Click on the course title (at the bottom of the page). The course information page will come up. Scroll down to Register Here. Click on the type of CE that you would like to receive and then Submit. Three demographic questions will come up. Complete the questions and then Submit.
Quick Learns

NHSN Quick Learns are 5-15 minute learning resources addressing specific NHSN topics. The Quick Learns may define a specific part of a protocol or deliver approaches for data analysis within the NHSN application.


Quick Learns Coming Soon...
- SAAR Part 1
- SAAR Part 2
- Tapping into HAI Prevention Targeted Assessment for Prevention (TAP) Strategy Using Data for Action
NHSN Educational Roadmaps

http://www.cdc.gov/nhsn/training/roadmap

- NHSN Educational Roadmaps for each NHSN component updated for 2019
- Tools to improve your comprehension of NHSN surveillance definitions, reporting, and analysis
- Guided tour of the NHSN training materials and information – from the basics to more advanced training for each individual component and protocol
Decennial 2020 - Charting the Future of Prevention

- 6th International Conference on Healthcare Associated Infections
  Marriott Marquis, Atlanta, GA
  March 26 – 30, 2020

- Co-Hosted By SHEA & CDC
Federal Register Notice

- **2019 Request for Information Pilot Tests**
  - February 15-April 15, 2019
  - Bloodstream Infection (BSI)
  - Outpatient Procedure Component
  - Healthcare-associated Bacteremia
  - April 15-May 31, 2019
  - Surgical Site Infection surveillance
  - Requiring billing code data for surgical procedures
  - >45 submissions
Plan

- Use software to collate input by topic, criteria, issue
- Identify themes, quantify
- Considerations:
  - Scientific merit
  - Feasibility for surveillance
    - Objectivity
    - Accessibility of necessary data by all facilities
    - Simplicity of definitional update
    - Juice is worth the squeeze
Modification Considerations

- Division of Healthcare Quality Promotion/Surveillance Branch
  - Operational decisions
  - Slippery slope
  - Opportunities for gaming

- External Working Groups
  - More comprehensive definitional reviews
  - Subject matter experts
  - Literature reviews
Types of User Communications/Concerns/Requests

- **CLABSI**
  - Exclusion Requests/Clinical vs. surveillance
    - Unique and “Unique” scenarios
    - Patient populations
    - Diagnostic testing modalities
    - NHSN timeframes
- Healthcare-onset Bacteremia
- Outpatient Procedure Component
Timeline

- Earliest incorporation of modifications - January 2021
- Complex modifications - January 2022
MDRO/CDI Update

Denise Leaptrot
Clostridioides difficile = C. difficile = C. Diff = CDI or CD
No change to MDRO/CDI reporting guidance or definitions

- Clarification note added for CDI multistep testing, pg. 12-24
- Multistep testing occurs on **same** unformed stool specimen.

**CD-positive laboratory assay:**
A positive laboratory test result for *C. difficile* toxin A and/or B, (includes molecular assays [PCR] and/or toxin assays) tested on an unformed stool specimen (must conform to the container)

*OR*
A toxin-producing *C. difficile* organism detected by culture or other laboratory means performed on an unformed stool sample (must conform to the container).

**Note:**
- When using a multi-step testing algorithm for CDI **on the same unformed stool specimen**, the finding of the last test performed on the specimen that is documented in the patient medical record will determine if the CDI positive laboratory assay definition is met.
Updated format for FacWideIN Denominator Data

- **Line 1:** Counts from all inpatient locations in the facility
- **Line 2:** Counts from all inpatient locations in the facility except CMS-certified Rehab and Psych units (formerly labeled MDRO row 2)
- **Line 3:** Counts from all inpatient locations in the facility except CMS-certified Rehab and Psych units, NICUs, and well-baby units (formerly CDI row 3)

<table>
<thead>
<tr>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line 1:</strong> Setting: Inpatient  Total Facility Patient Days *: 1514  Total Facility Admissions *: 1514</td>
</tr>
<tr>
<td><strong>Line 2:</strong> If your facility has a CMS-certified rehab unit (IRF) or CMS-certified psych unit (IPF), please subtract these counts from Patient Days *: 1000  Admissions *: 1000</td>
</tr>
<tr>
<td><strong>Line 3:</strong> If your facility has a CMS-certified IRF, CMS-certified IPF, NICU, or Well Baby Unit, please subtract those counts from Patient Days *: 200  Admissions *: 100</td>
</tr>
</tbody>
</table>
SSI Update

Victoria Russo
Chapter 17 – Spinal Abscess/Infection (SA)

- Title “Spinal Abscess without Meningitis” (SA) has been renamed to “Spinal Abscess/infection” (SA) to be inclusive of infections where “abscess” is not documented.
  - “purulent material” added to criterion 1 as possible source of organism identification
  - SA criteria include “infection” in addition to “abscess”
  - SSI Reporting Instruction will continue to state: Report as SA if meningitis (MEN) and spinal abscess/infection (SA) are present together after operation
Central Line-associated Bloodstream Infection

LaTasha Powell
<table>
<thead>
<tr>
<th>CLABSI Exclusion</th>
<th>Exclusion Field Marked Yes or No</th>
<th>Central Line Field Marked Yes or No</th>
<th>Exclusion Reporting Requirement in 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracorporeal life support (ECMO)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>• ECMO present &gt;2 days on BSI DOE and in place on the DOE or the day before</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>• NOT present &gt; 2 days on BSI DOE, or NOT present on DOE or day before</td>
<td>N</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>Ventricular assist device (VAD)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>• VAD present &gt;2 days on BSI DOE and in place on the DOE or the day before</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>• NOT present &gt; 2 days on BSI DOE, or NOT present on DOE or day before</td>
<td>N</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>Epidermolysis Bullosa (EB)</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>Munchausen’s syndrome by proxy (MSBP)</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>Patient self-injection</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>Pus at vascular site</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
<tr>
<td>Group B Streptococcus BSI-1st 6 days of life</td>
<td>Y</td>
<td>Y</td>
<td>Required</td>
</tr>
</tbody>
</table>
Neonatal and Pediatric Work

Susan Cali
Current Neonatal and Pediatric Work

- NHSN recognized the need to review neonatal and age-specific pediatric definitions
- Formed a workgroup of neonatal and pediatric specialists across the country. The group includes pediatric ID, neonatologists, pediatricians, pediatric infection preventionists, pediatric intensivists, and other pediatric specialists
- Approximately 40-45 participants
- Addressing site specific infection definitions in Chapter 17
- Will then move to LCBI, CAUTI, PNEU and SSI
Additions to Criteria

- Specific signs and symptoms that occur in neonatal and pediatric patients
- Specific health conditions that may need to be addressed
- Age-specific and not psychosocial specific
- Evidenced based criteria
- Must be objective
Neonatal Component

Susan Cali
Neonatal Component

- Late Onset Sepsis and Meningitis

- Possible Future modules
  - Early Onset Sepsis
  - Necrotizing Enterocolitis
Late Onset Sepsis/Meningitis
Definition of LOS/MEN Event

- A laboratory-confirmed bloodstream infection or a laboratory-confirmed meningitis caused by a fungal or bacterial organism in an eligible neonate who is older than day of life (DOL) 3 but younger than DOL 121 on the date of the event

- Eligible infant in a Level II/III, III and IV neonatal nurseries

- Electronic data capture and submission
Analysis Updates – PS Component

Maggie Dudeck
Improvements to Dataset Generation

- Current options include:
  - Data for 3 most recent full calendar years through current date; or
  - Include all data

Generate Patient Safety Analysis Data Sets

Datasets generated will include data for the 3 most recent full calendar years up until today’s date for the Patient Safety Component. To include all years check the box below.

For all other components, datasets generated will include all years. Note that any analysis options you run will be limited to the time period shown on the date range bar.

☐ Include all data reported to NHSN for this component within the parameters of rights conferred.
Improvements to Dataset Generation

- Improvements will be made to allow a user to select a specific time period
  - All datasets within that component will be constricted to that time period until datasets are regenerated with a different time period.

- **Additional updates for Group Users:**
  - Group users can select if they want to generate the Participation Alerts analysis datasets
SIR and SUR Percentiles

- SIR and SUR reports will be updated to include your facility’s percentile based on the National distributions in the National and State HAI Progress Report*
  - Based on facility type and HAI
  - Will be updated annually

**EXAMPLE:**

<table>
<thead>
<tr>
<th>orgID</th>
<th>Year</th>
<th>infCount</th>
<th>numPred</th>
<th>numCLDays</th>
<th>SIR</th>
<th>SIRpval</th>
<th>SIR 95CI</th>
<th>SIR_pctl</th>
</tr>
</thead>
<tbody>
<tr>
<td>10000</td>
<td>2017</td>
<td>2</td>
<td>2.63</td>
<td>2300</td>
<td>0.76</td>
<td>0.7726</td>
<td>0.127, 2.512</td>
<td>54</td>
</tr>
</tbody>
</table>

*National and State HAI Progress Reporting: [https://www.cdc.gov/hai/data/portal/progress-report.html](https://www.cdc.gov/hai/data/portal/progress-report.html)
Changes to CLABSI Numerators

- CLABSIs reported with an event date ≥ 1/1/2020 will be excluded from all CLABSI numerators (i.e., rates and SIRs) if patient has one of the following:

<table>
<thead>
<tr>
<th>Mucosal barrier injury (MBI)</th>
<th>Munchausen’s syndrome by proxy (MSBP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracorporeal membrane oxygenation (ECMO)</td>
<td>Patient self injection</td>
</tr>
<tr>
<td>Ventricular assist device (VAD)</td>
<td>Pus at vascular site</td>
</tr>
<tr>
<td>Epidermolysis Bullosa (EB)</td>
<td>Group B Strep within 6 days of life</td>
</tr>
</tbody>
</table>

2. Began with events reported in 2015 and forward
3. Began with events reported in 2019 and forward
Addition of Level IV NICU

- Currently, the NHSN definition of a Level III NICU includes both Level III and Level IV NICUs, as defined by the American Academy of Pediatrics.
- In the December 2019 release, NHSN will include a separate location code and designation for Level IV NICUs.
- Units mapped as Level IV NICU will be included in existing CLABSI and pedVAE reports.
  - This unit will be considered as a separate unit for future risk-adjustment efforts.
Save Incomplete Survey!

- The length of the PS annual survey has increased
  - Most questions are required
  - Currently, all required questions must be answered before saving

- In mid-2020, NHSN will allow saving of an incomplete PS survey
  - Data will be stored in a different database table until completed
  - **IMPORTANT:** NO survey data will be available in Analysis, including for risk adjustment, until entire survey is complete
  - Facilities will receive an Alert in NHSN until survey is complete
  - Groups will see incomplete survey alerts in Analysis
Update on PSC Data Quality Activities

- NEW Soft alert – if patient days = device days in a single location/month
Update on PSC Data Quality Activities (cont’d)

- Missing ED and/or 24-Observation Units from FACWIDEIN
  - ED and 24-Obs Units are required for MDRO/CDI FACWIDEIN LabID surveillance
  - Recent analysis and outreach targeted facilities with active ED and/or 24-Obs units, but no in-plan LabID reporting from these units
  - For details, please see:
    - MDRO/CDI chapter of NHSN PS Manual
    - Reminder in June 2019 NHSN Newsletter (coming soon)
Update on PSC Data Quality Activities (cont’d)

- NHSN analysts also regularly assess:
  - Outliers
  - Significant change within a facility in denominators and/or survey elements

- Measures required for CMS programs are prioritized, ahead of future deadlines
  - Facilities are contacted and asked to review and update data, if appropriate

- THANK YOU to all users who have responded to data quality outreach efforts!
AUR Module

- Within the Patient Safety Component
- Voluntary reporting except for MO (and soon TN)
- Can be used to satisfy a CMS’ Promoting Interoperability (aka Meaningful Use) Program requirement
Yearly Submission into the AU Option*

No. of Facilities Reporting or that have Reported AU Data

*As of June 1, 2019
Yearly Submission into the AR Option*

No. of Facilities Reporting or that have Reported AR Data

*As of June 1, 2019
Percentage of facilities reporting at least one month of data to NHSN's AR Option

*As of 6/1/2019
AU Option Updates

- New 2017 baseline SAARs now available!
  - New locations added
  - New antimicrobial groupings
  - New models

- Future:
  - Adding 6 new drugs for 2020 reporting
  - Adding new data quality analysis reports
  - Adding SAARs for neonatal locations
AR Option Updates

- Now: Updated drug panels for 2019
  - In line with CLSI testing recommendations
- Future:
  - Adding “Report No Events” check box
  - Updating reportable organisms
New & Updated Resources

- New resources posted!
  - 2019 Annual Training
  - AU case examples
  - Analysis quick reference guides

Surveillance for Antimicrobial Use: Antimicrobial Resistance Options

Resources for NHSN Users Already Enrolled

<table>
<thead>
<tr>
<th>Resource</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td></td>
</tr>
<tr>
<td>Protocols</td>
<td>+</td>
</tr>
<tr>
<td>Frequently Asked Questions</td>
<td>+</td>
</tr>
<tr>
<td>Data Validation</td>
<td>+</td>
</tr>
<tr>
<td>Data Collection Forms</td>
<td>+</td>
</tr>
<tr>
<td>Supporting Material</td>
<td>+</td>
</tr>
<tr>
<td>Analysis Resources</td>
<td>+</td>
</tr>
</tbody>
</table>
Tomorrow: 2:45-3:45!

3509 - NHSN Antimicrobial Use Option - Implementation, Validation & Analysis

Friday, June 14  2:45 PM - 3:45 PM  Location: Pennsylvania Convention Center, 102AB  CE: 1.0

Primary Invited Speaker (CDC/NHSN)

Amy Webb, MPH, CHES
Public Health Analyst
Centers for Disease Control and Prevention
Nothing to disclose

Moderator(s)

Elizabeth Monsees, PhD, MBA, RN, CIC, FAPIC
Antibiotic Stewardship Program Manager
Children’s Mercy Hospital
Kansas City, Missouri
Nothing to disclose
Clinical Document Architecture (CDA) Update

Ahmed Tahir
Overview of CDA

- Stands for Clinical Document Architecture
- Standard format developed by HL7 (Health Level 7)
- Used for electronic reporting of data into NHSN
- XML programming language

```
<recordTarget>
  <patientRole>
    <id root="2.16.840.1.113883.3.117.1.1.5.1.1.1" extension="123456"/>
    <id root="2.16.840.1.113883.3.117.1.1.5.1.1.1" extension="2nd ID"/>
    <id root="2.16.840.1.113883.4.1" extension="546465465"/>
    <id root="2.16.840.1.113883.4.338" extension="465465465t"/>
  </patientRole>
  <patient>
    <names>
      <family>last</family>
      <given>first</given>
      <given>mid</given>
    </names>
    <administrativeGenderCode codeSystem="2.16.840.1.113883.5.1" code="F"/>
    <birthTime value="19951209"/>
  </patient>
</recordTarget>
```
Using CDA

- Many infection control/EHR software systems can create CDAs for NHSN import
  - NHSN does not rank, evaluate, or endorse any software vendor!
  - APIC maintained list of [HAI CDA Vendors](#)
  - SIDP maintained list of [AU CDA Vendors](#)

- Can also use “Homegrown” solutions to develop CDAs
NHSN Data Currently Accepted via CDA

- DA Module
  - CLABSI
  - CAUTI
  - CLIP
  - VAE
  - ICU/Other Denom
  - SCA/ONC Denom
  - NICU Denom

- PA Module
  - SSI
  - Procedures

- MDRO Module
  - LabID
  - MDRO Denom

- AUR Module
  - AU
  - AR Event
  - AR Denom

- Dialysis
  - Dialysis Event
  - Dialysis Denom

- Hemovigilance
  - HV Denom

- Healthcare Personnel Safety
  - Flu Summary
Future CDAs

- Planned for 2020
  - Neonatal Component
    - Late Onset Sepsis – event and summary
- Planned for 2021
  - Dialysis Event
  - NICU Summary
  - Antimicrobial Resistance (AR) Summary
    - Add “Report No Events” and summary data from outpatient locations
  - Outpatient Procedure Component
    - Same Day Outcome Measures (Event and Denominator)
    - Surgical Site Infection (SSI) Event
    - Denominator for Procedure
CDA Imports as a Percentage of All Reports Submitted to NHSN, Jan 1, 2018 - Dec 31, 2018

### NHSN Numerator Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloodstream Infections (BSIs)</td>
<td>47%</td>
</tr>
<tr>
<td>Urinary Tract Infections (UTIs)</td>
<td>44%</td>
</tr>
<tr>
<td>Surgical Site Infections (SSIs)</td>
<td>40%</td>
</tr>
<tr>
<td>Laboratory Identified Events (LabID Events)</td>
<td>62%</td>
</tr>
<tr>
<td>Dialysis Events (DEs)</td>
<td>73%</td>
</tr>
</tbody>
</table>

### NHSN Denominator Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU/Other Summary</td>
<td>25%</td>
</tr>
<tr>
<td>SCA/ONC Summary</td>
<td>30%</td>
</tr>
<tr>
<td>NICU Summary</td>
<td>26%</td>
</tr>
<tr>
<td>Surgical Procedure</td>
<td>33%</td>
</tr>
<tr>
<td>MDRO Summary</td>
<td>7%</td>
</tr>
<tr>
<td>Dialysis Denominator</td>
<td>54%</td>
</tr>
</tbody>
</table>
Manually Importing CDAs

- For importing all CDA file types, user must have Administrator rights!
- If only importing AU/AR, then you need either: custom rights, all rights, or administrator rights
DIRECT CDA Automation

- Over 6,400 facilities from 16 vendors using DIRECT
- “Automated” sending of CDA files from vendor/homegrown solution to NHSN
  - Facility must already be able to send CDAs to NHSN
  - Data sent securely using Health Information Services Provider (HISP)
  - Advantages:
    - Not required to log into each facility
    - Send data for multiple facilities at once
    - Notification of submission success/failure sent via email
- Learn more here: [DIRECT information](#)
Updating/Replacing Data via CDA

- Data uploaded via CDA can be easily updated or replaced
- Re-export from vendor software then re-upload into NHSN
  - Automatically updates version number in CDA file so NHSN knows which record to update
CDA Submission Support Portal

- CSSP

NHSN CDA Submission Support Portal (CSSP)

About NHSN
CDC's NHSN is the largest HAI reporting system in the U.S.

Data and Reports
See national and state reports using NHSN data.

Guidelines and Recommendations
Review CDC HAI prevention guidelines.

NHSN Member Login

New to NHSN? Enroll Facility Here
For first time facility enrollment.

Reporting and Surveillance for Enrolled Facilities
Training, protocols, forms, support materials, analysis resources and FAQs.

Group Users
View resources for group users.

CDA Submission Support Portal (CSSP)
Toolkits, FAQs, webinars and resources for feeling and validation for CDA implementers.
Long-Term Care Facility Component Updates

Angela Anttila
Save the Date! Annual LTCF Training

- July 9-11, 2019
- CDC campus in Atlanta, Georgia
- Variety of surveillance and prevention topics will be covered
- Onsite NHSN enrollment with SAMS identify proofing team!
  - Open to new users and long-term care facilities interested in joining NHSN
  - Identity verification and notary services offered on 7/9-7/10; receive SAMS grid card prior to leaving CDC on 7/11/19
  - Dedicated support to assist users through the process
Guided Enrollment for LTC Users!
Coming soon – LTC Dashboard!

- Interactive dashboard for quick graphic visualization of data entered into NHSN
- Currently, the dashboard shows data for:
  - MDRO/CDI module
  - HAI module (UTI)
  - Prevention Process Measures module
- Graphs are adjustable and easily printable to print or add into presentations
LTC Dashboard
LTC Dashboard

COMING SOON
LTC Dashboard

COMING SOON

Facility-Wide CDI LabID Event Rates

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Resident Days</th>
<th>Total CDI Count</th>
<th>Total CDI Rate</th>
<th>LO CDI Incidence Count</th>
<th>LO CDI Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018Q4</td>
<td>15765</td>
<td>1</td>
<td>0.63</td>
<td>1</td>
<td>0.63</td>
</tr>
<tr>
<td>2018Q1</td>
<td>15603</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>2018Q3</td>
<td>15533</td>
<td>2</td>
<td>1.27</td>
<td>2</td>
<td>1.27</td>
</tr>
<tr>
<td>2018Q2</td>
<td>15900</td>
<td>2</td>
<td>1.26</td>
<td>2</td>
<td>1.26</td>
</tr>
<tr>
<td>2018Q1</td>
<td>15600</td>
<td>3</td>
<td>1.92</td>
<td>3</td>
<td>1.92</td>
</tr>
</tbody>
</table>

1. Only completed monthly reports for each quarter are shown.
2. Total CDI equals the sum of community-onset (CDI) and long-term care facility-onset (LO CDI) labID events.
3. LO CDI Incidence equals number of LO CDI labID events. Excludes recurrent CDI events.
4. LO LabID Event is defined as specimen collected + 3 calendar days after date of current admission to the facility (specifically, on or after day 4).
5. LO Incidence Rate excludes Recurrent CDI LabID events.
6. Counts and rates exclude duplicate laboratory results.
For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.