National Healthcare Safety Network Member's Meeting

APIC 2017

June 15, 2017

5:00-6:30 p.m.

Convention Center, Oregon Ballroom 202-203

Agenda

- Welcome – Dan Pollock
- Beta-testing of NHSN-Kent Lemoine
- NHSN Patient Safety Component Protocol Updates
  - General updates– Kathy Allen-Bridson
  - Central-line Associated Bloodstream Infection Updates-Kathy Allen-Bridson
  - Pneumonia updates- Cindy Gross
  - MDRO/CDI Updates- Denise Leaptrot
  - SSI Updates- Denise Leaptrot
- CDA – Amy Webb
- Patient Safety Component Analysis Updates – Maggie Dudeck
- Long-Term Care Facilities Component Update- Jeneita Bell
- Training update – Kathy Allen-Bridson
- NHSN Reconsent – Maggie Dudeck
- Questions – All

Welcome

Dr. Daniel Pollock

NHSN Beta Testing

Kent Lemoine

NHSN Annual Beta Release for 8.8

- This year we are supporting a 2-week beta testing period prior to full production release.
- Beta testing will be supported from 10/23/2017 until 11/3/2017.
- “Dummy data” will be populated in the beta environment every morning after a purge of all data submitted the previous day.
- More details will be provided in the coming months via newsletters and direct communications with volunteer beta users.
- To participate, please contact us at NHSNBeta@cdc.gov.

Patient Safety Component General Updates

Kathy Allen-Bridson

Anticipated 2018 General Updates for Patient Safety Component Protocols

- “i.e.”-(Latin: id est [that is]) replaced with “specifically”
- “e.g.” –(Latin: exempli gratia [for example]) replaced with “for example”
- New wording: “If the date of specimen collection is on or after the date the signed consent for organ procurement is obtained, an event identified using the specimen culture result or microbiologic non-culture based diagnostic test result should not be reported as an HAI. The patient should, however, still be included in device and patient day denominator data collection.”

Anticipated 2018 General Updates for Patient Safety Component Protocols

- Additional signs/symptoms for IAB criterion 3 to better reflect cholangitis
  - Hypotension
  - Elevated transaminase level(s)

Central Line-associated Bloodstream Event (CLABSI) Update

Kathy Allen-Bridson

Anticipated 2018 CLABSI Protocol Updates

- Additional patient conditions which will not be considered CLABSIs; specific documentation will be required
  - Epidermylosis bullosa
  - Munchhausen by Proxy
- Additional organisms excluded from cause of CLABSI
  - Enterohemorrhagic *E. coli*

Anticipated 2018 CLABSI Protocol Updates

- Updating of Common Commensals list
  - Pathogens Working Group decided to add 130 organisms to the CC list (and 1 organism was removed)
    - 669 organisms will be on the CC list for 2018 (compared to 540 for 2017)
    - Most were Gram-positive rods (diphtheroids / noncorynebacterial coryneforms)
    - List of Genera on the next slide

Genera added to Common Commensals List

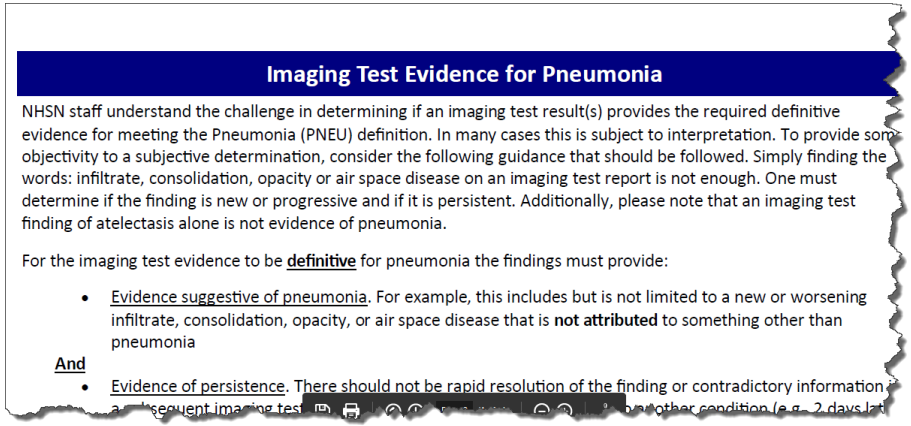
- Actinomyces
- Arthrobacter
- Cellulomonas
- Cellulosimicrobium
- Exiguobacterium
- Janibacter
- Kytococcus
- Leifsonia
- Microbacterium (Aureobacterium)
- Oerskovia
- Paenibacillus
- Roseomonas (Teichococcus)
- Rothia
- Turicella
- Virgibacillus

Pneumonia and VAE Update

Cindy Gross

Pneumonia (PNEU) Imaging Test Evidence Determination

- Guidance provided in the March NHSN Newsletter https://www.cdc.gov/nhsn/pdfs/newsletters/nhsn-nl-mar-2017.pdf



Imaging Test Evidence for Pneumonia

NHSN staff understand the challenge in determining if an imaging test result(s) provides the required definitive evidence for meeting the Pneumonia (PNEU) definition. In many cases this is subject to interpretation. To provide some objectivity to a subjective determination, consider the following guidance that should be followed. Simply finding the words: infiltrate, consolidation, opacity or air space disease on an imaging test report is not enough. One must determine if the finding is new or progressive and if it is persistent. Additionally, please note that an imaging test finding of atelectasis alone is not evidence of pneumonia.

For the imaging test evidence to be **definitive** for pneumonia the findings must provide:

- Evidence suggestive of pneumonia. For example, this includes but is not limited to a new or worsening infiltrate, consolidation, opacity, or air space disease that is **not attributed** to something other than pneumonia

And

- Evidence of persistence. There should not be rapid resolution of the finding or contradictory information

- Anticipated 2018 PNEU protocol updates

Definitive Imaging Test Evidence of Pneumonia

- Challenging to determine if an imaging test results provide the required **definitive evidence** for meeting the Pneumonia (PNEU) definition
- Simply finding the words: infiltrate, consolidation, opacity or air space disease on an imaging test report is not enough
- Findings must be new or progressive and persistent.
- Atelectasis, pleural effusion, pulmonary edema are not evidence of pneumonia.

Definitive Imaging Test Evidence of Pneumonia

New or worsening finding

- infiltrate, consolidation, cavitation, pneumatoceles (≤ 1year) or alternate descriptors “air-space disease”, “focal opacification”, “patchy areas of increased density”
- **not attributed** to something other than pneumonia

And

Evidence of persistence

- no indication of rapid resolution
- no subsequent indication the finding is attributable to another condition (for example, 2 days later the imaging result indicates the opacification is attributed to pulmonary edema)

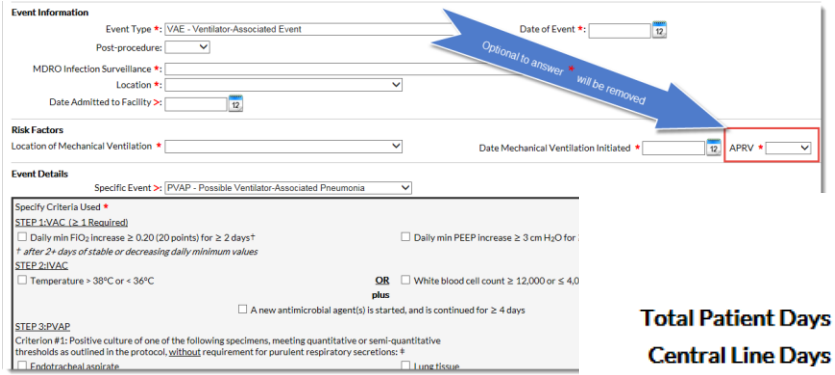
What if findings are not definitive?

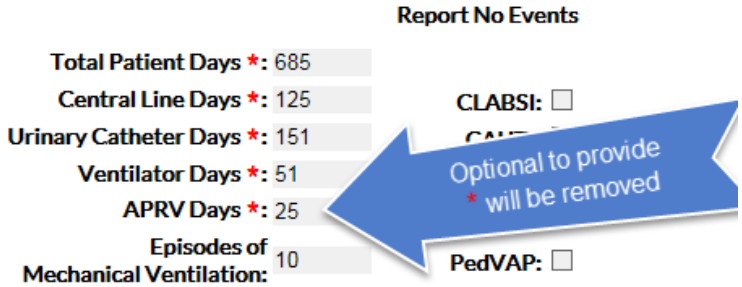
- Infiltrate vs. atelectasis ????
- Opacity may represent pneumonia or congestive heart failure ???
- Look for further delineation that the finding is suggestive of pneumonia and that there is persistence.
  - Subsequent imaging test with more conclusive evidence for pneumonia

    OR
  - Clinical correlation in the medical record such that the physician is indicating his/her interpretation of the non-definitive imaging test is representative of pneumonia and there is treatment for pneumonia

Anticipated 2018 VAE Protocol Updates

- VAE identified in a patient on APRV or related modes of mechanical ventilation
  - Optional requirement to indicate as such on the VAE Form
  - Optional to collect APRV days as a denominator





PedVAE

- Available in NHSN January 2019
- PedVAE field testing currently being conducted

SSI Update

Denise Leaptrot

GI - GIT 1 Anticipated 2018 Protocol Update

GIT-Gastrointestinal tract infection (esophagus, stomach, small and large bowel, and rectum) excluding gastroenteritis, appendicitis, and C. difficile infection

Anticipated update: GIT criterion 1 to allow blood as an element when there is evidence of gastrointestinal tract infection.

1. Patient has one of the following:
    a. an abscess or other evidence of gastrointestinal tractinfection on gross anatomic or histopathologic exam.
    b. abscess or other evidence of gastrointestinal tract infection on gross anatomic or histopathologic exam

    AND

    organism(s) identified from blood 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). The organism(s) identified in the blood must contain at least one MBI organism. See Appendix A of the BSI protocol.

Gender of patients who undergo abdominal hysterectomy (HYST) procedures

- Change to protocol and business rules are forthcoming that will remove business rules limiting the gender of patients for specific operative procedures, e.g. HYST

- At this time, gender “female” or “other” are available gender options.

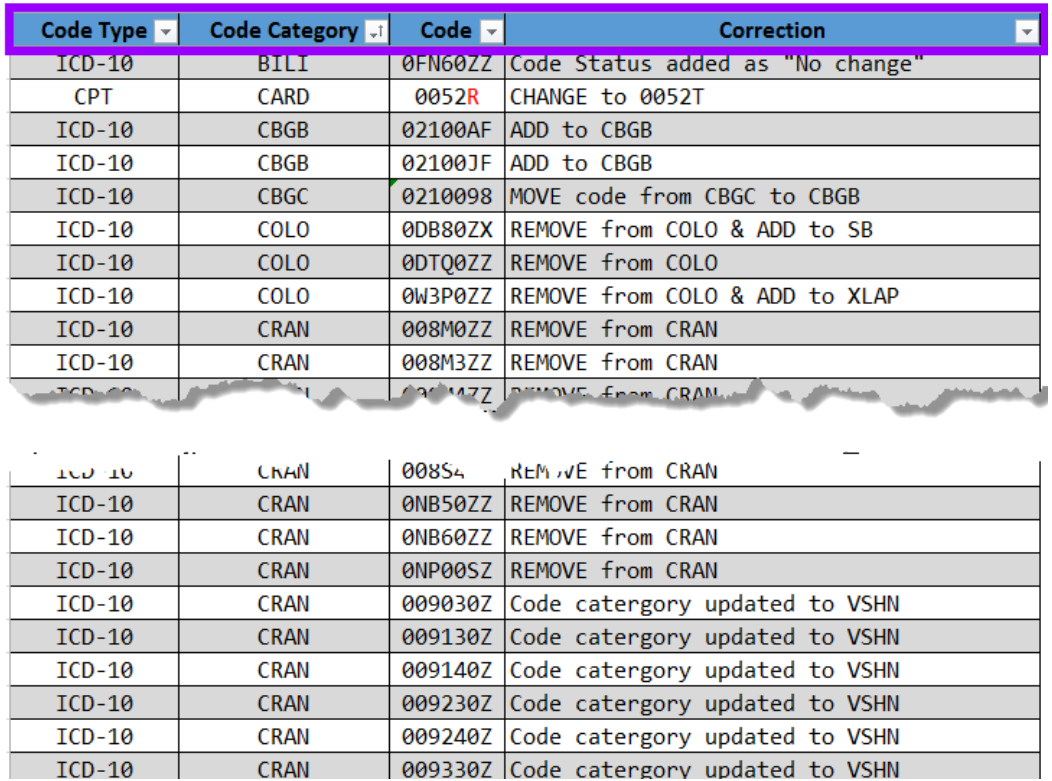
- Anticipate this change will be in NHSN release scheduled for December 2017 - will go into effect January 1, 2018.

Operative Procedure Code Update

A list of the operative procedure code corrections was sent via email.

Summary includes

- type of code
- code category
- procedure code
- specific correction



Code Type	Code Category	Code	Correction
ICD-10	BILI	0FN60ZZ	Code Status added as "No change"
CPT	CARD	0052R	CHANGE to 0052T
ICD-10	CBGB	02100AF	ADD to CBGB
ICD-10	CBGB	02100JF	ADD to CBGB
ICD-10	CBGC	0210098	MOVE code from CBGC to CBGB
ICD-10	COLO	0DB80ZX	REMOVE from COLO & ADD to SB
ICD-10	COLO	0DTQ0ZZ	REMOVE from COLO
ICD-10	COLO	0W3P0ZZ	REMOVE from COLO & ADD to XLAP
ICD-10	CRAN	008M0ZZ	REMOVE from CRAN
ICD-10	CRAN	008M3ZZ	REMOVE from CRAN
ICD-10	CRAN	008S4	REMOVE from CRAN
ICD-10	CRAN	0NB50ZZ	REMOVE from CRAN
ICD-10	CRAN	0NB60ZZ	REMOVE from CRAN
ICD-10	CRAN	0NP00SZ	REMOVE from CRAN
ICD-10	CRAN	009030Z	Code catergory updated to VSHN
ICD-10	CRAN	009130Z	Code catergory updated to VSHN
ICD-10	CRAN	009140Z	Code catergory updated to VSHN
ICD-10	CRAN	009230Z	Code catergory updated to VSHN
ICD-10	CRAN	009240Z	Code catergory updated to VSHN
ICD-10	CRAN	009330Z	Code catergory updated to VSHN

The list is titled *“2017 Compendium of Code Corrections”* and posted in the Supporting Materials section of the SSI webpage.

Operative Procedure Code Update, cont.

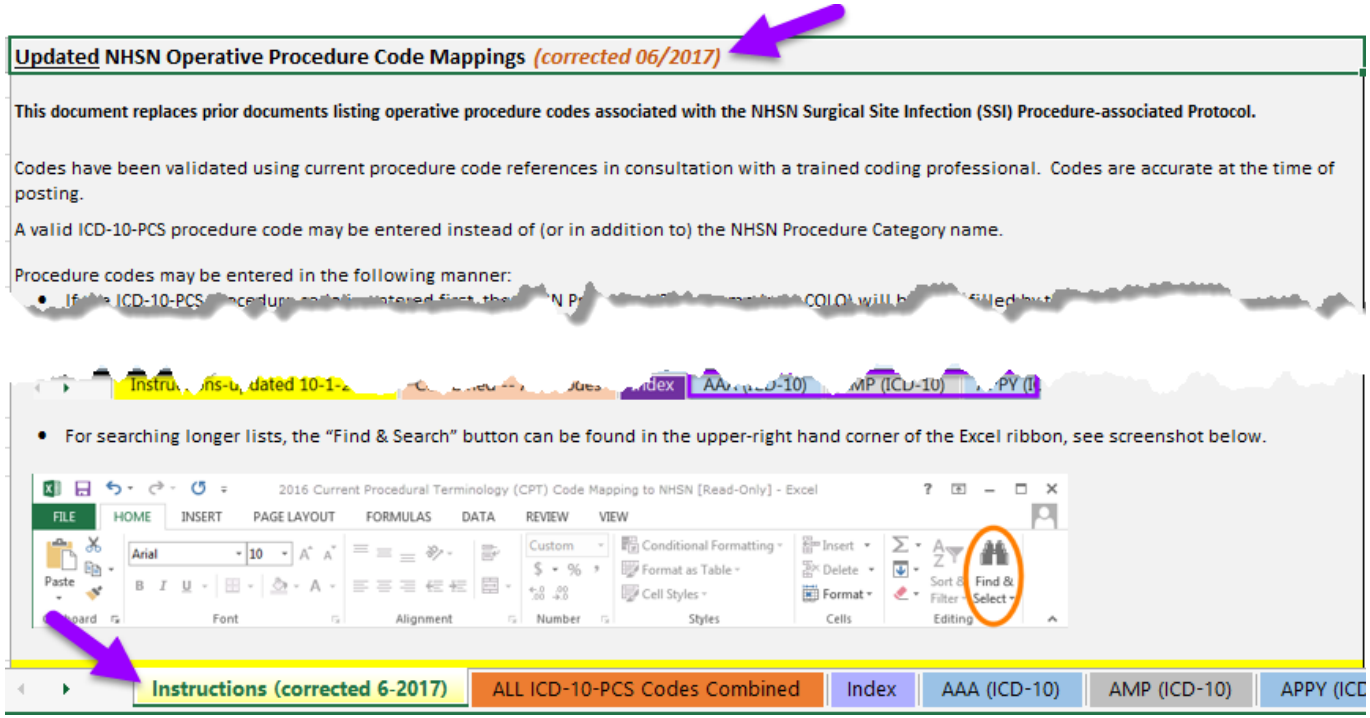
Examples of code corrections and the necessary corrections users should make:

Code Type	Code Category	Code	Correction	Necessary Corrections to be made by the user
ICD-10	BILI	0FN60ZZ	Code Status added as "No change"	No action necessary
CPT	CARD	0052R	CHANGE to 0052T	If your facility has procedures coded with **CARD CPT code 0052T** and CARD is included in your Monthly Reporting Plan. **Your facility will need to ENTER these procedures into NHSN.**
ICD-10	COLO	0DB80ZX	REMOVE from COLO & ADD to SB	If your facility entered procedures coded with **ICD-10-PCS code 0DB80ZX** into NHSN as COLOs, REMOVE these procedure records. **This code has been reassigned to the SB procedure category.** If SB is included in your Monthly Reporting Plan these procedure records should be EDITED and the procedure category changed to SB and SAVED.
ICD-10	COLO	0DTQ0ZZ	REMOVE from COLO	If your facility entered procedures coded with **ICD-10-PCS code 0DTQ0ZZ** into NHSN as COLOs, REMOVE these procedure records. **This code has been removed from the COLO procedure category.**
CPT	HYST	58570	ADD to HYST	If your facility has procedures coded with **HYST CPT code 58570** and these procedures are not included in your HYST data starting Jan 1, 2017 your facility will need to ENTER these procedures into NHSN. **This code has been added to the HYST.**

Operative Procedure Code Update, cont.

Corrected procedure code documents will be posted on the NSHN SSI webpage.

Corrected documents can be readily identified by a 06-2017 date



MDRO/CDI Update

Denise Leaptrot

Should users submit all positive specimens that may qualify as LabID events to NHSN?

- Polled users during 2016 as to whether they were in favor of submitting all positive specimens for LabID events and letting NHSN determine which qualify as LabID events.

- Poll conducted during annual training, APIC spring update and APIC national conference.
- Results:
- In Favor = 54%
- Not In Favor = 46%

Clinical Document Architecture (CDA) Update

Amy Webb

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"/>
        <patient>
            <name>
                <family>last</family>
                <given>first</given>
                <given>mid</given>
            </name>
            <administrativeGenderCode codeSystem="2.16.840.1.113883.5.1" code="F"/>
            <birthTime value="19951209"/>
```

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
  - 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
- **NEW!** Hemovigilance
  - HV Denom

Future CDAs

- Planned for January 2018
  - Update for Dialysis numerator
  - Update for Hemovigilance denominator
- Planned for January 2019
  - (new!) Ventilator Associated Event (VAE)
  - (new!) Healthcare Personnel Influenza Vaccination Summary
  - Update for BSI numerator
- Planned for January 2020
  - Update for Summary's: ICU, NICU, SCA, MDRO, Dialysis (Add Report No Event)
  - Update for Dialysis numerator

CDA Imports as a Percentage of All Reports Submitted to NHSN, Jun 30, 2016 - Feb 28, 2017

NHSN Numerator Data	
Bloodstream Infections (BSIs)	36%
Urinary Tract Infections (UTIs)	35%
Surgical Site Infections (SSIs)	27%
Laboratory Identified Events (LabID Events)	50%
Dialysis Events (DEs)	51%

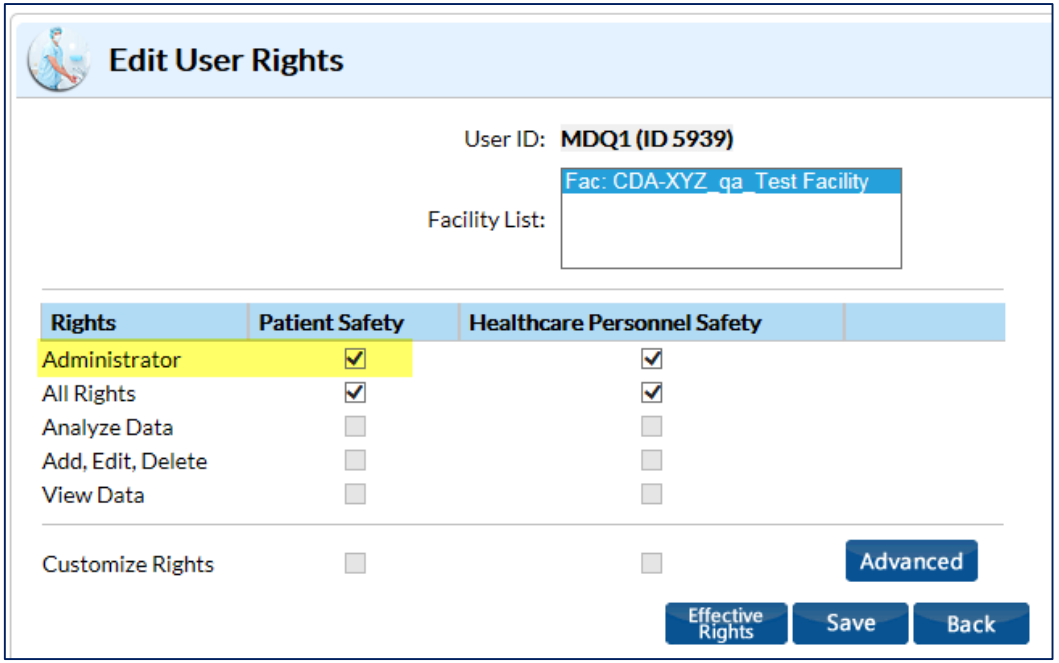
NHSN Denominator Data	
ICU/Other Summary	20%
SCA/ONC Summary	22%
NICU Summary	20%
Surgical Procedure	19%
MDRO Summary	6%
Dialysis Denominator	40%

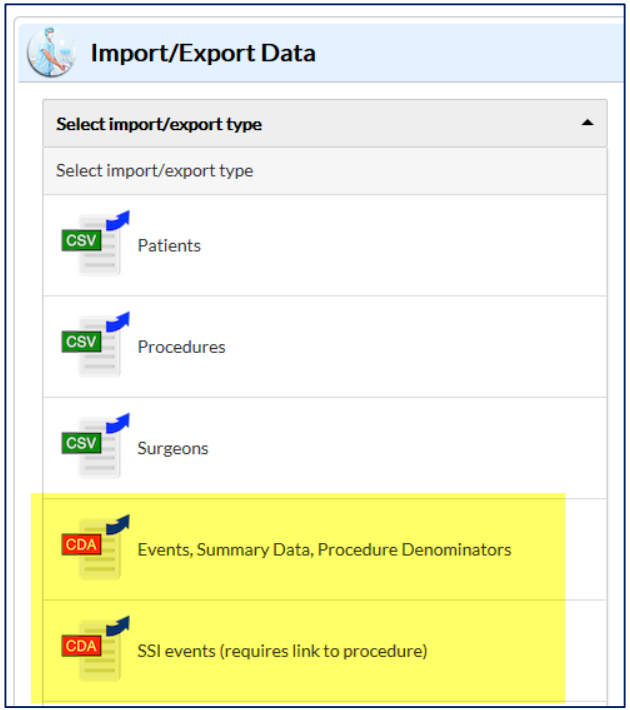
DIRECT CDA Automation

- Over 5,150 facilities from 13 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

Manually Importing CDAs

- For importing all CDA file types (except AU & AR), user must have Administrator rights!



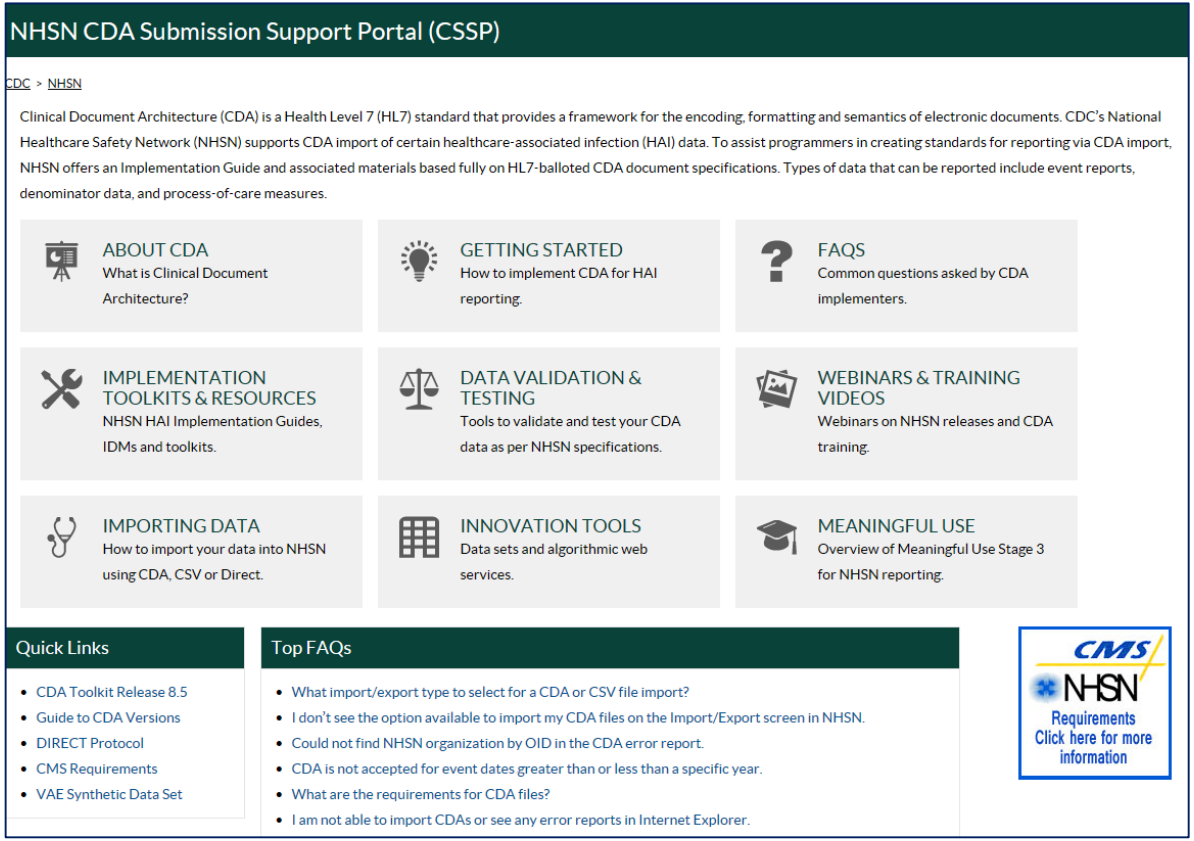


Updating/Replacing Data via CDA

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

CDA Submission Support Portal

- Direct link
- Vendors & facilities
- New & experienced



NHSN & Meaningful Use Stage 3

- NHSN AUR Module option for public health registry reporting in MU 3
- Monthly data for both AU and AR Option required
- AUR data can be submitted via CDA only

- **Important note**: AUR Module is **only** part of NHSN that qualifies for MU 3

- NHSN facility guidance: https://www.cdc.gov/nhsn/pdfs/cda/MU3-Facility-Guidance.pdf

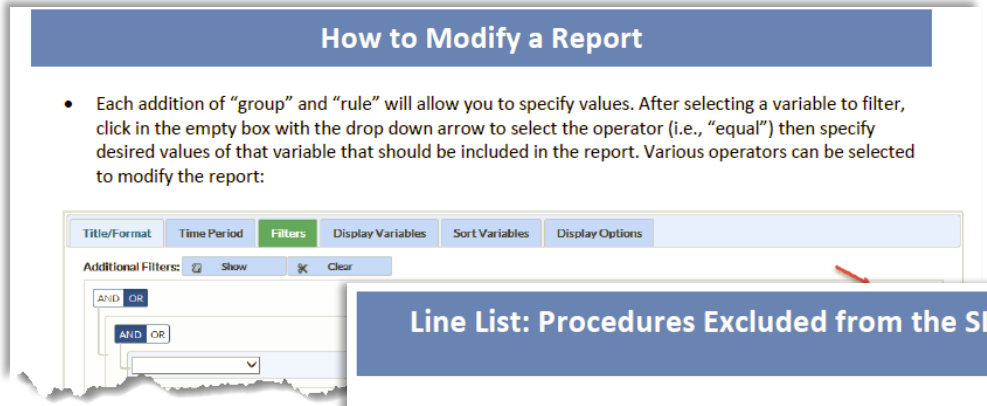
PS Analysis Updates

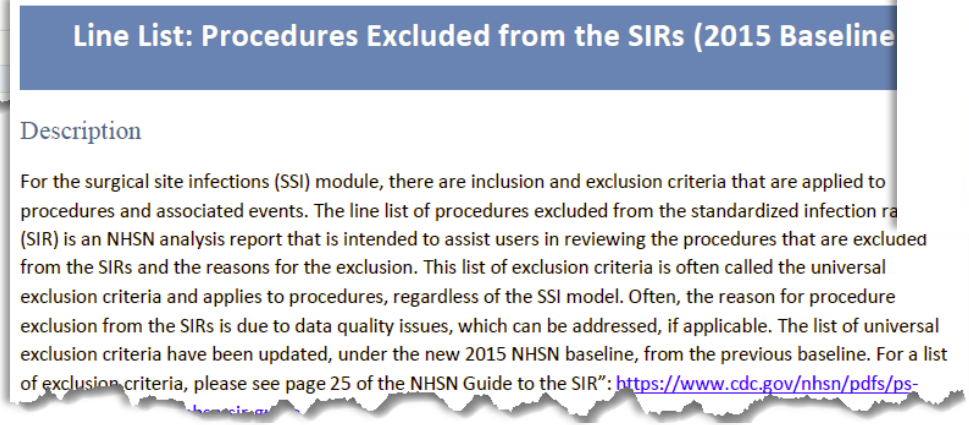
Maggie Dudeck

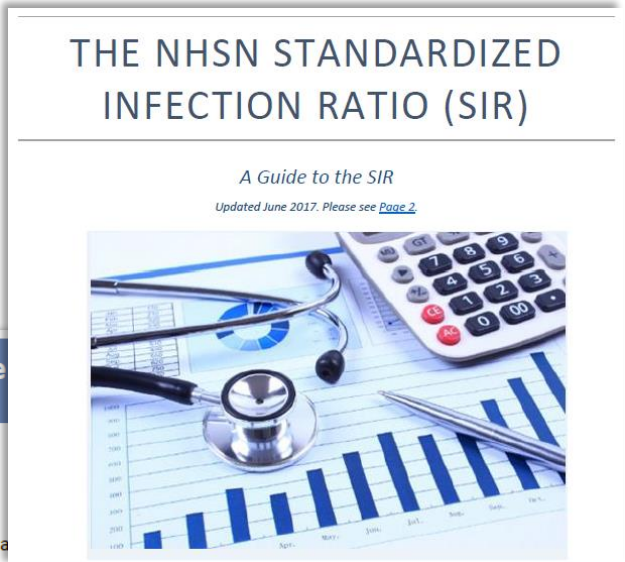
New and Updated Analysis Resources

- Updated Quick Reference Guides

https://www.cdc.gov/nhsn/ps-analysis-resources/reference-guides.html



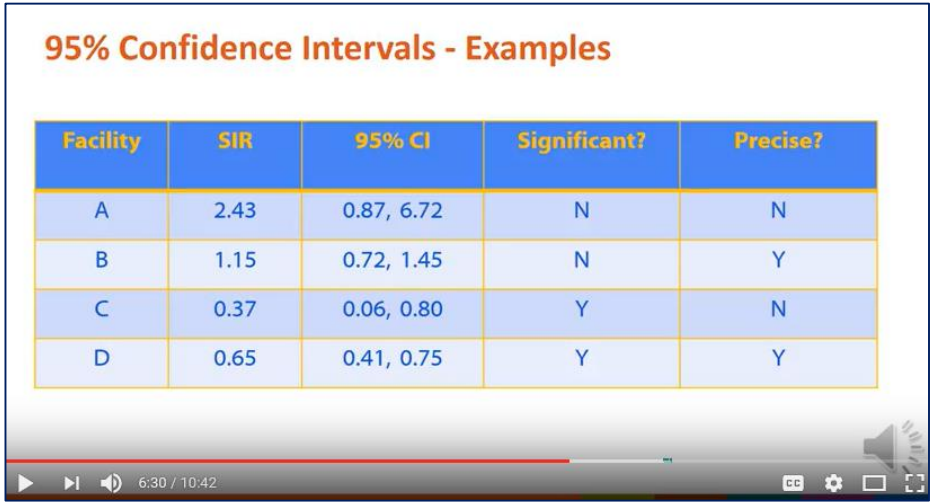




New and Updated Analysis Resources

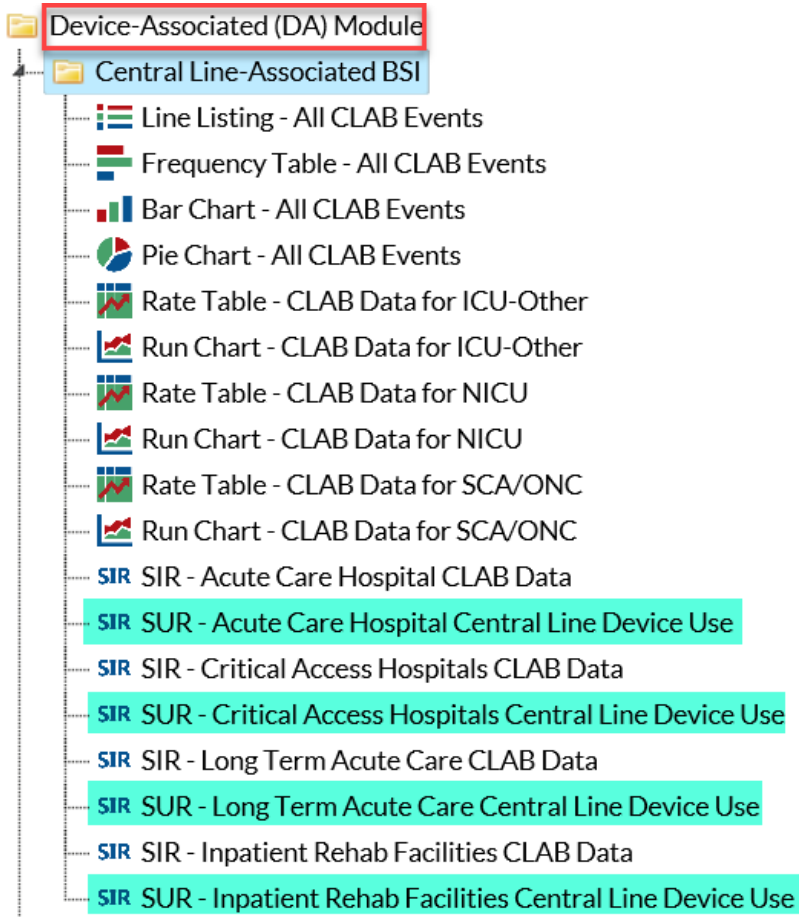
- NEW! Quick Learn: Basic Statistics for NHSN Analysis

https://www.cdc.gov/nhsn/training/analysis/index.html



NEW!

- Similar to the SIR – a scalable, risk-adjusted measure
- SUR Reports will be found in the Device-Associated Module
  - There are SURs for central line, urinary catheter, and ventilator utilization
  - Each facility type SUR report is found under the same facility type's SIR report



National Healthcare Safety Network

SUR for Central Line Device Use for Acute Care Hospitals (2015 baseline) - By OrgID

As of: June 7, 2017 at 2:41 PM

Date Range: BS2_CLAB_RATESALL summaryYM 2016M01 to 2016M03

orgID=10018 CCN=12345 medType=M

orgID	summaryYQ	numCLDays	numPredDDays	SUR	SUR_pval	SUR95CI
10018	2016Q1	315	100.483	3.135	0.0000	2.803, 3.496

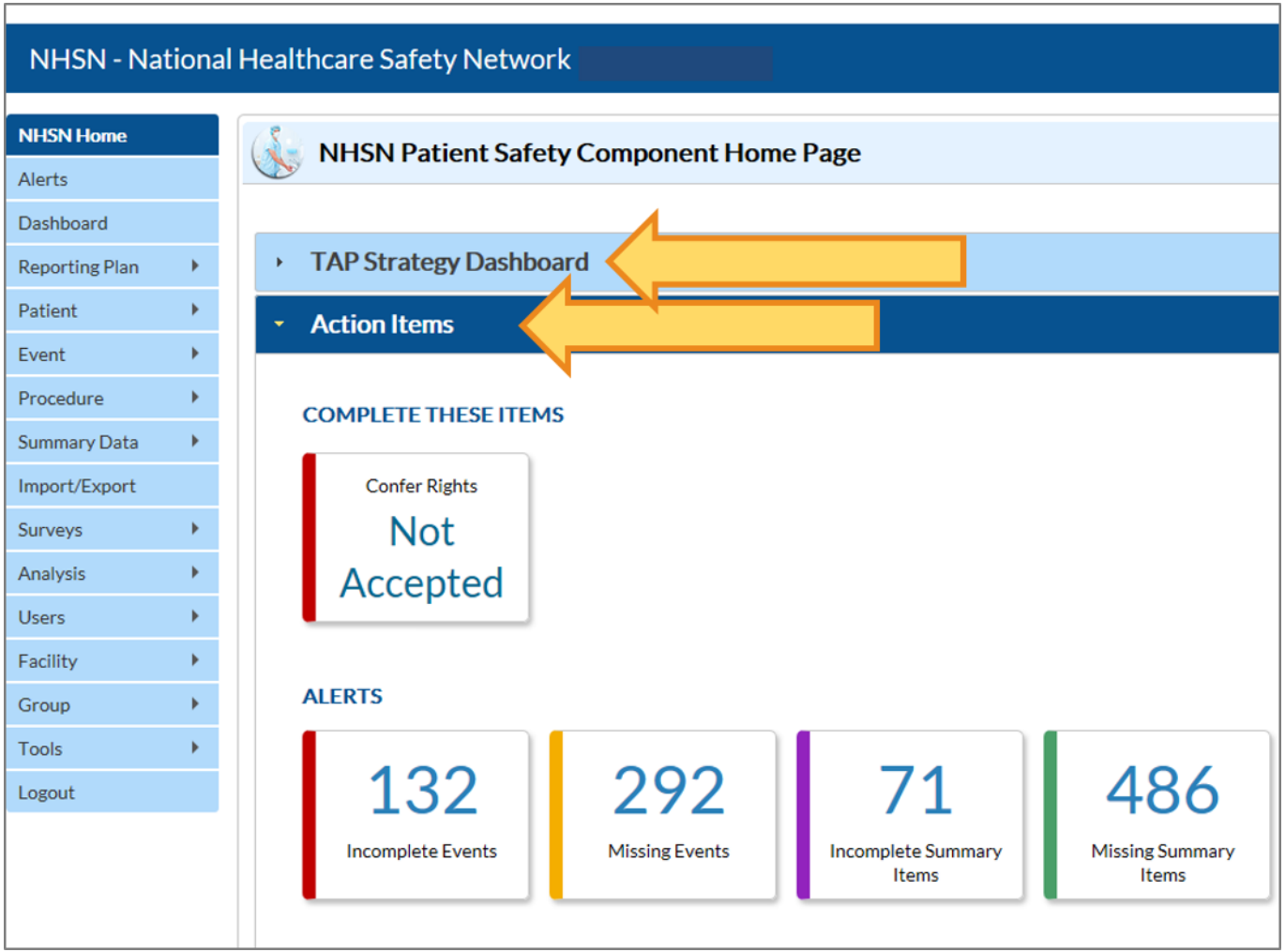
1. This report includes central line utilization data from acute care hospitals for 2015 and forward.
2. The SUR is only calculated if number of predicted device days (numPredDDays) is >= 1. Lower bound of 95% Confidence Interval only calculated when number of observed device days > 0.
3. The predicted device utilization days is calculated based on national aggregate NHSN data from 2015. It is risk adjusted for CDC location, hospital beds, medical school affiliation type, and facility type.

- **SUR** = # observed device days **/** # of predicted device days
- The # of predicted device days is calculated using a logistic regression model

*Disclaimer: The SUR report pictured above is based on fictitious data

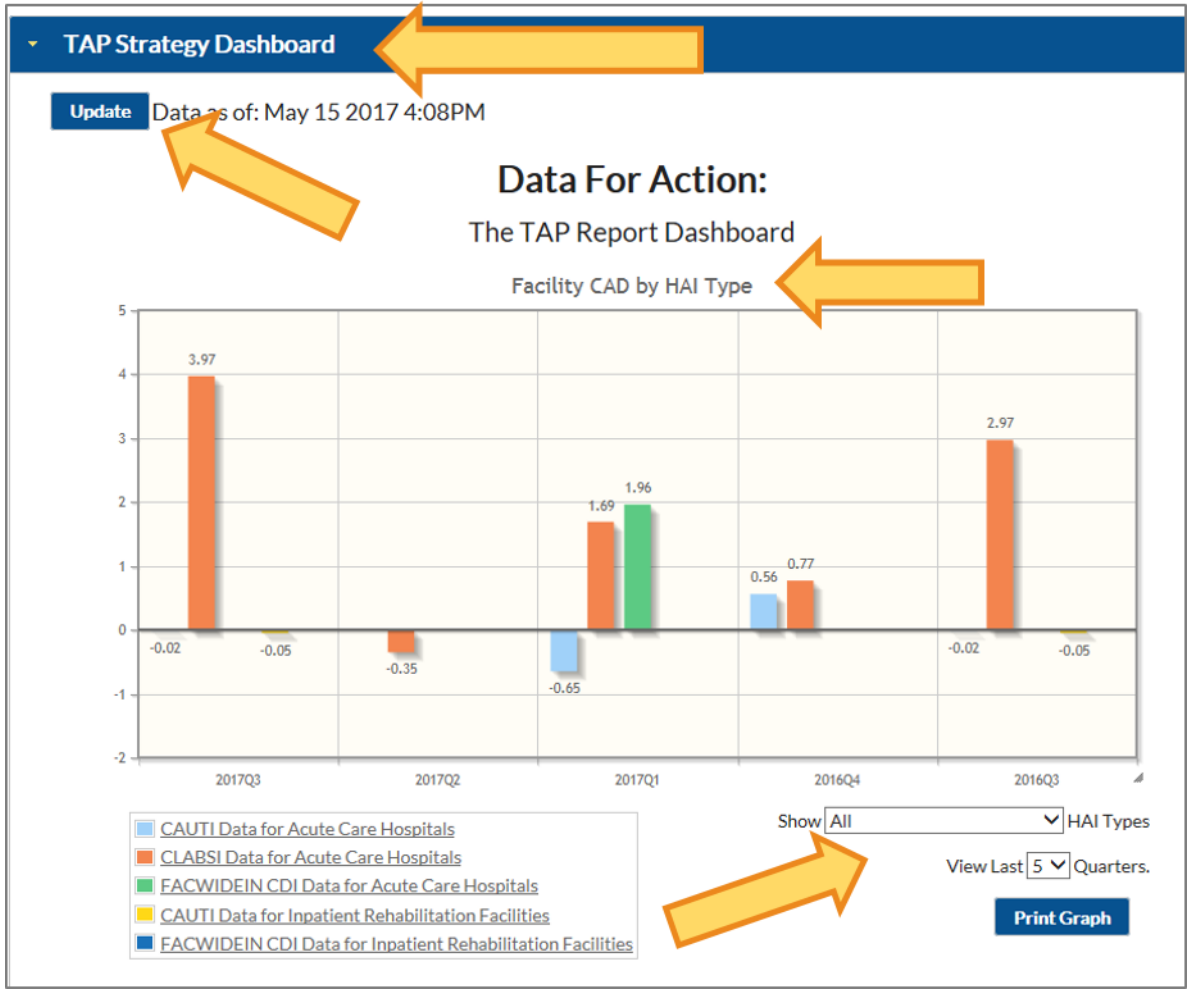
Targeted Assessment for Prevention (TAP) Dashboard

- New feature in NHSN launching June 2017
- Facilities will see TAP report data on their NHSN home screen
  - Data auto-populated after signing into NHSN
  - Users can generate new analysis datasets directly from the TAP dashboard


NHSN - National Healthcare Safety Network
NHSN Home
Alerts
Dashboard
Reporting Plan
Patient
Event
Procedure
Summary Data
Import/Export
Surveys
Analysis
Users
Facility
Group
Tools
Logout
NHSN Patient Safety Component Home Page
TAP Strategy Dashboard
Action Items
COMPLETE THESE ITEMS
Confer Rights
Not Accepted
ALERTS
132
Incomplete Events
292
Missing Events
71
Incomplete Summary Items
486
Missing Summary Items

Dashboard

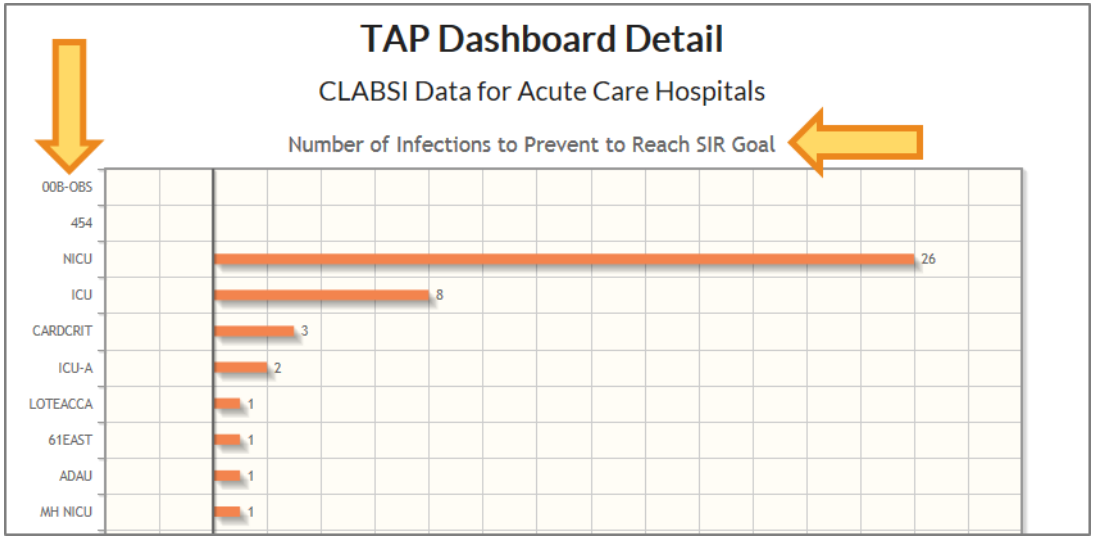
- Dataset generation
- Bar graph showing facility-level CADs for each HAI type
  - CADs use 2020 HHS Action Plan Goals
- Display and print options
- Detail view by selecting HAI Type



2020 HHS Action Plan: https://health.gov/hcq/prevent-hai-measures.asp

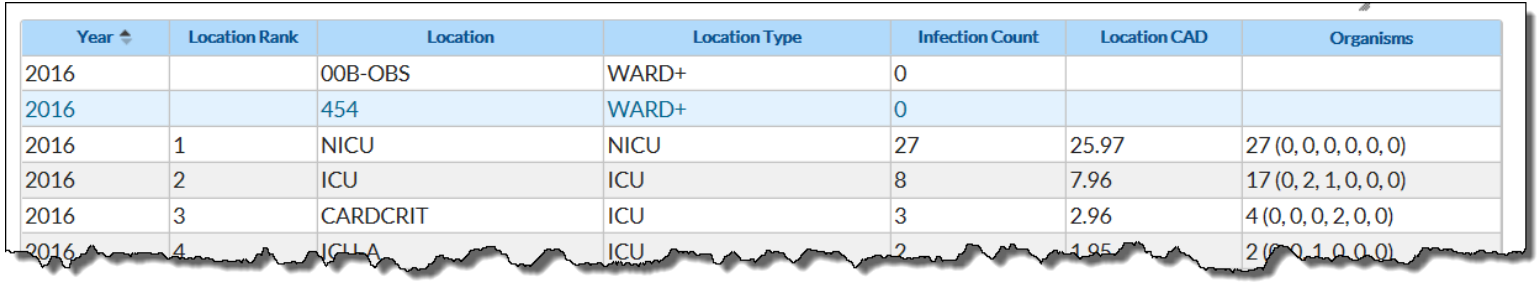
TAP Dashboard Detail View

- Clicking on an HAI-specific bar will take user to a location-specific CAD graph
  - CAD rounded to the next whole number



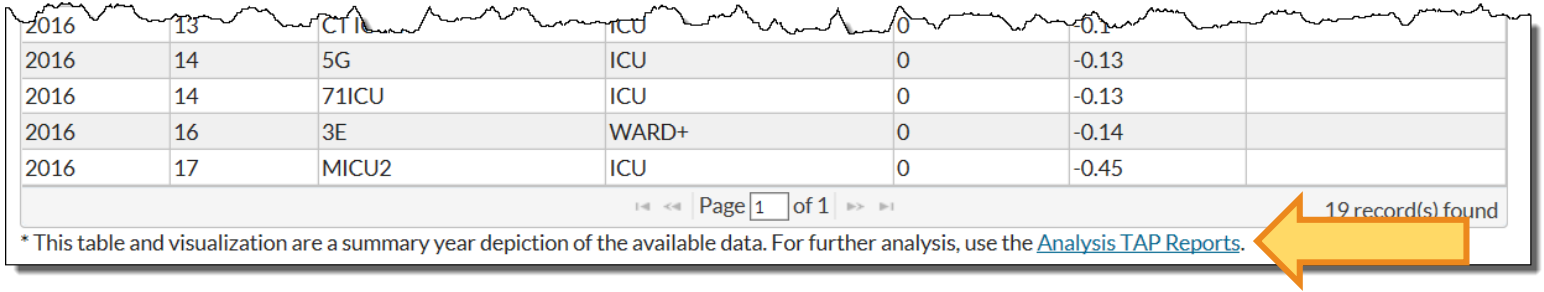
TAP Dashboard Detail View

- Location ranking table under the graph (CAUTI and CLABSI)



Year	Location Rank	Location	Location Type	Infection Count	Location CAD	Organisms
2016		00B-OBS	WARD+	0		
2016		454	WARD+	0		
2016	1	NICU	NICU	27	25.97	27 (0, 0, 0, 0, 0, 0)
2016	2	ICU	ICU	8	7.96	17 (0, 2, 1, 0, 0, 0)
2016	3	CARDCRIT	ICU	3	2.96	4 (0, 0, 0, 2, 0, 0)
2016	4	ICU A	ICU	2	1.95	2 (0, 0, 1, 0, 0, 0)

- Direct link TAP Reports in the Analysis Reports section of NHSN



2016	13	CT IC	ICU	0	-0.1	
2016	14	5G	ICU	0	-0.13	
2016	14	71ICU	ICU	0	-0.13	
2016	16	3E	WARD+	0	-0.14	
2016	17	MICU2	ICU	0	-0.45	

Page 1 of 1 — 19 record(s) found

* This table and visualization are a summary year depiction of the available data. For further analysis, use the Analysis TAP Reports.

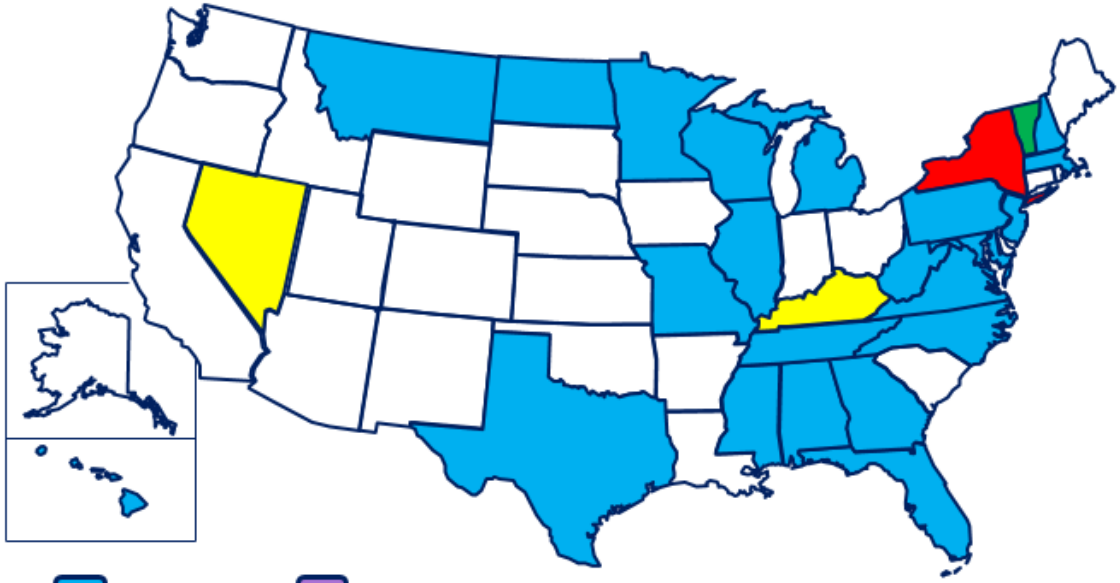
A Few Reminders About TAP Reports in NHSN

- Acute care hospital TAP reports include data from critical access hospitals
  - Use the “Modify Report” option to select facility type
- TAP reports will show CLABSI + CAUTI data from all locations
- Groups will see three tables in their TAP Reports:
  - 1. Overall cumulative CAD for the Group
  - 2. Facility rankings within the Group
  - 3. Location rankings within each facility (CLABSI + CAUTI)
- Group TAP Report guidance documents are included in resource packet
- *Make sure your Group has requested access to annual survey data on the Define Rights template*

Long-Term Care Update

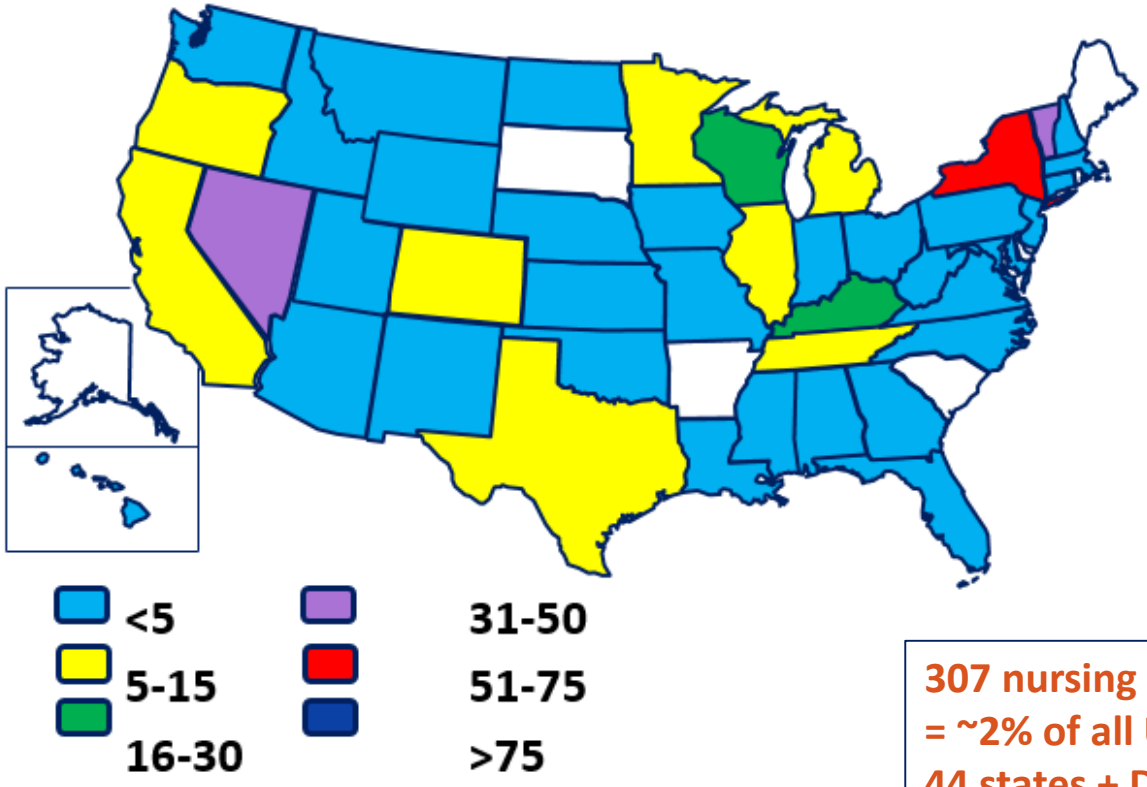
Angela Anttila

NHSN Enrolled Nursing Homes by State, August 2013



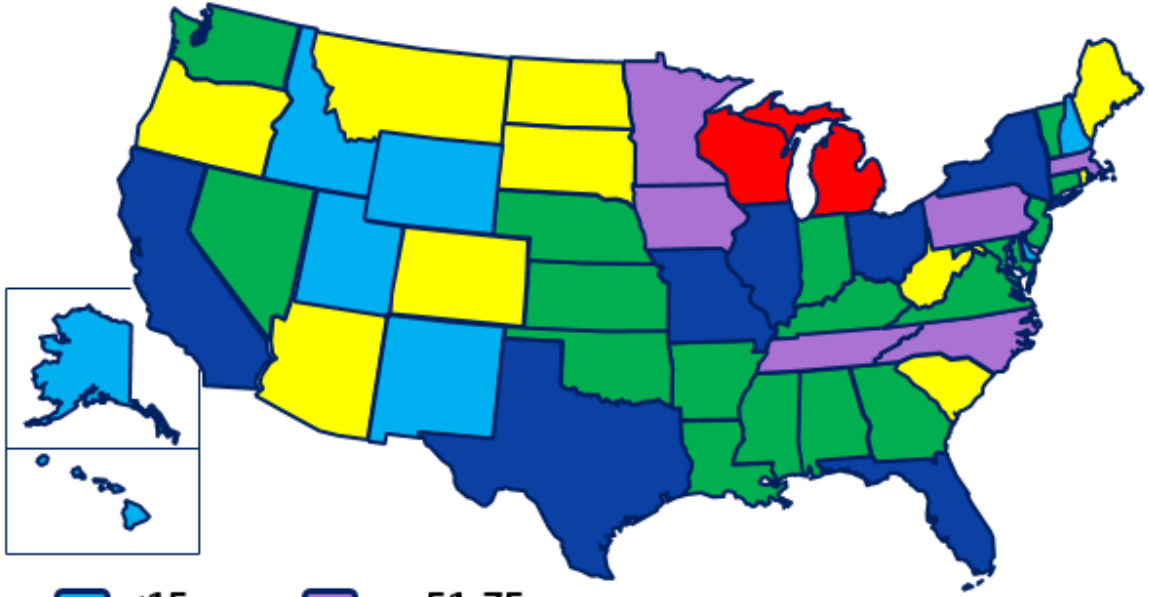
130 nursing homes
25 states

NHSN Enrolled Nursing Homes by State, June 2016



307 nursing homes
= ~2% of all US NHs
44 states + DC

NHSN Enrolled Nursing Homes by State, April 2017



*Scale has changed

2,709 nursing homes =
18% of all US NHs
50 states + DC and PR

CMS *C. difficile* Reporting and Reduction Project, 2016-2018

- New project for CMS-funded QIN-QIO programs working with nursing homes – launched at end of May 2016
- Primary driver for increase in Long Term Care Facility Component participation
- Goal to recruit 15% (~2300 NHs) to enroll and report into the NHSN
  - 2,999 nursing homes expressed interest in participation
  - ~2,300 enrolled between June 2016 and April 2017
- CDC in collaboration with CMS and the national project team have developed a portfolio of training resources to support NHSN enrollment efforts

Nursing Home Prevalence Survey: Assessment of Infections & Use of Antibiotics

- Project begin April 2017, goal to recruit up to 200 NH/SNFs in 10 EIP sites
- EIP staff to collect data from resident charts and other facility records on
  - Healthcare associated infections – revised McGeer definitions
  - Antibiotics administered
    - Assess how antibiotics are used
- Project information will be used to
  - Develop HAI and antibiotic use interventions in LTC
  - Inform infection tracking efforts: NHSN LTCF Component
  - Identify how best to support antibiotic stewardship in LTC

For more project information go to: www.cdc.gov/hai/eip/antibiotic-use.html

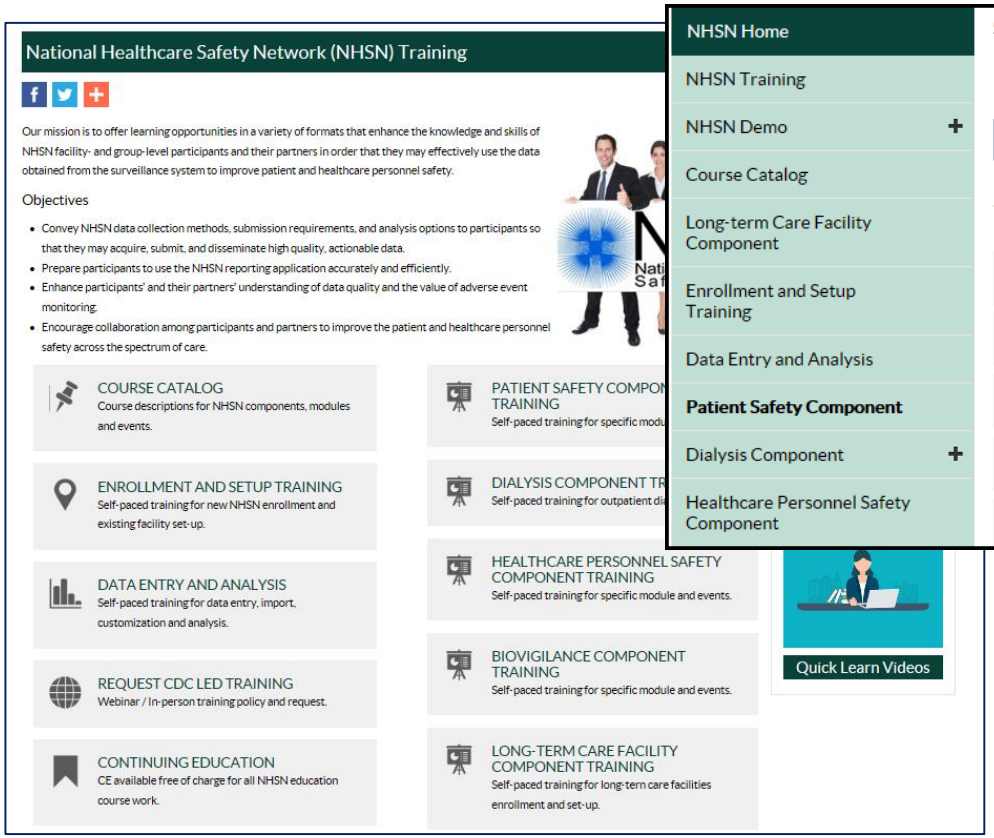
Training Update

Katherine Allen-Bridson

Available Training – Overview

- Quick Learns
  - 5 – 10 minute videos addressing specific NHSN topics
- Self-paced Interactive Trainings - CBTs
  - Self-paced slides with detailed graphics, screen shots of step-by-step examples of form completion for instructional purposes, practice questions, and case study examples.
  - Available for: Device and Procedure-associated Modules, MDRO/CDI LabID, Dialysis Event, and Biovigilance
  - More coming soon! (e.g., LTCF, Analysis)
- 2017 NHSN Training Archived Webstream Videos - available now!
  - LTCF, CLABSI, CAUTI, VAE, LabID Events, SSI, Analysis, and AUR sessions
- In-Person Training – February 26-March 2, 2018
  - The training course will provide information on CMS reporting, definition and protocol clarification, interactive case studies, analysis, validation, and any updates in reporting for 2018.
  - Webstreaming will be available for those not attending in-person

NHSN Training Website: http://www.cdc.gov/nhsn/training/



- ❑ **Home Training Page**
- ❑ **Archived Webstreaming Events**
- ❑ **Quick Learns**
- ❑ **Self-paced Interactive Trainings**

2017 Quick Learns

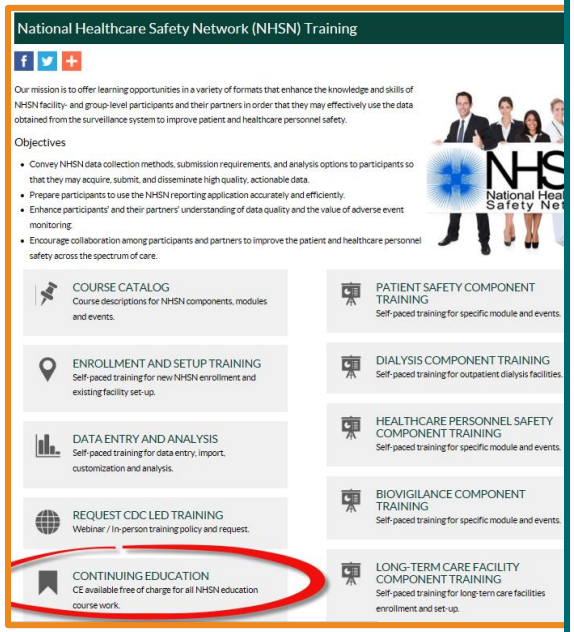
Quick Learns Coming Soon…

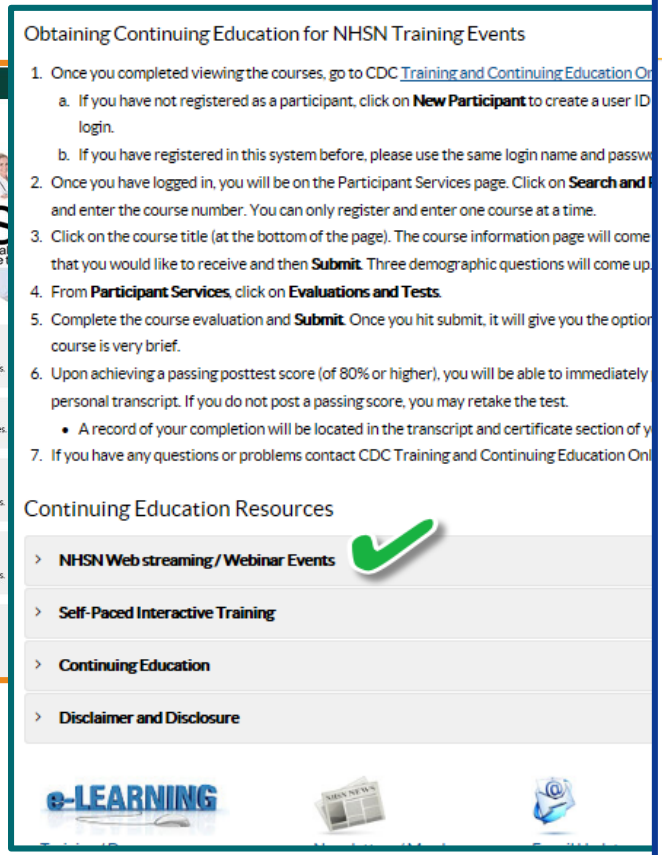
- NHSN Definition and Rules Changes
- SSI Event Form for PATOS
- Significant Changes to the NHSN Patient Safety Component for 2017

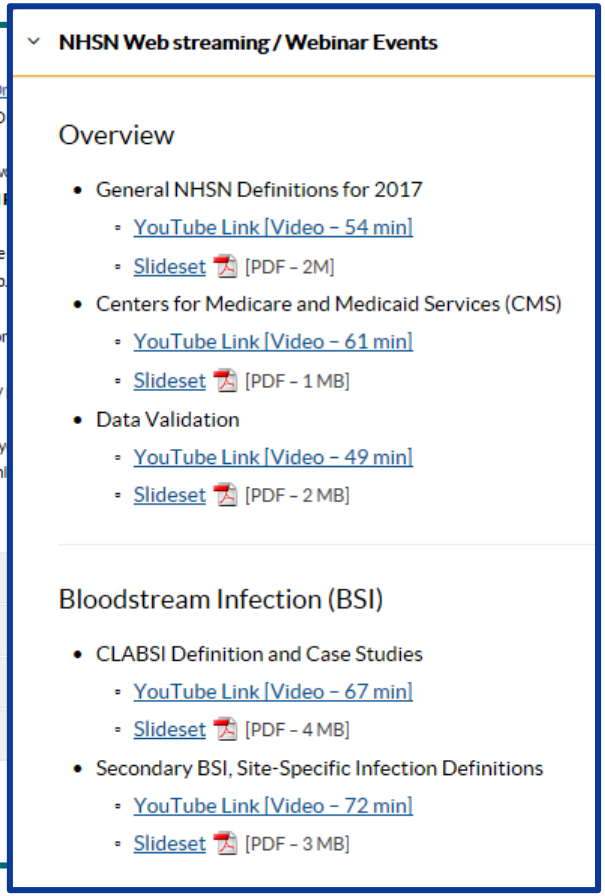
Quick Learns in the Works…

- Introductions to Analysis: Data Set
- Introductions to Analysis: Analysis Output
- Introductions to Analysis: CMS Reports
- Procedure Exclusion Criteria

2017 NHSN Live Training: Slidesets and Webstream Videos

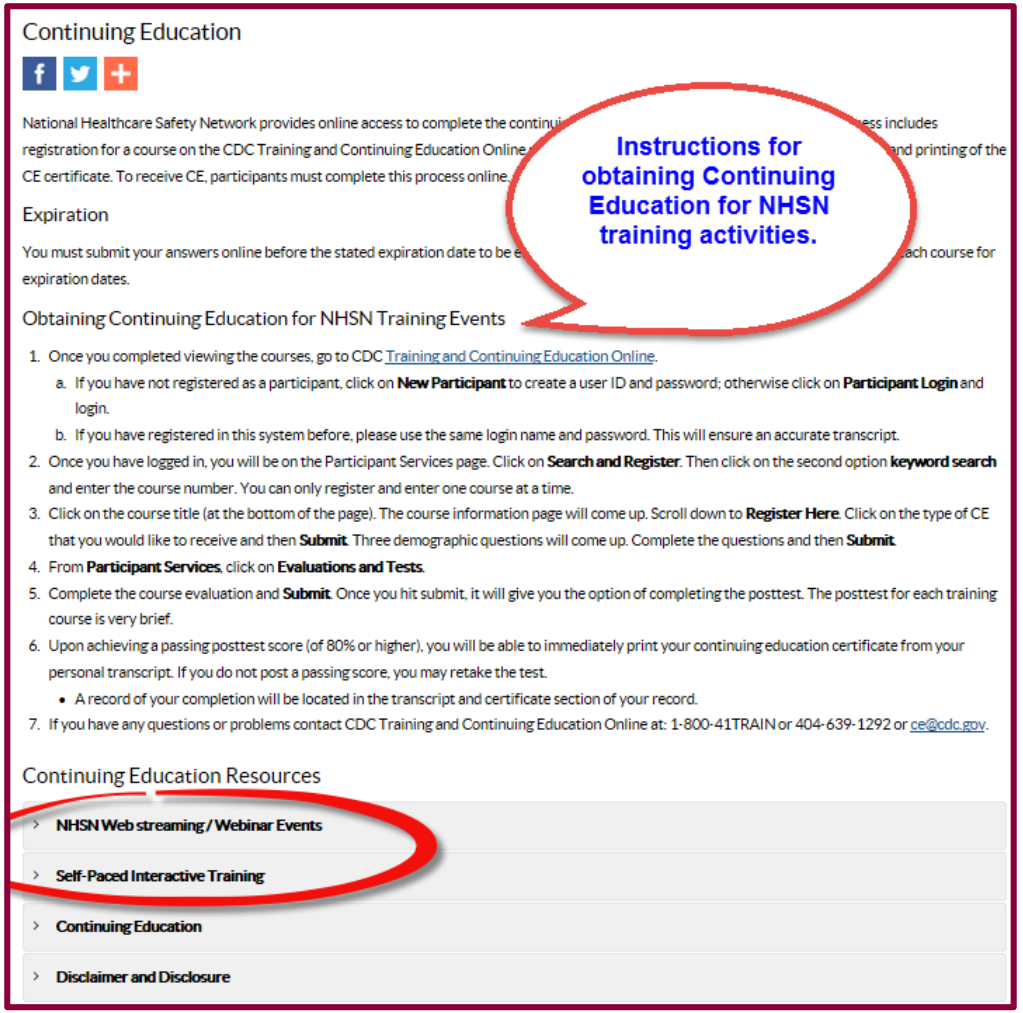






NHSN Continuing Education

- Continuing Education is available for Self-paced Interactive Training and Archived Webstreaming Training
- CE available: CNE, CEU, CME, CPH
- http://www.cdc.gov/nhsn/training/continuing-edu.html



THANK YOU!

- The NHSN team would like to thank you again for the valuable feedback provided in the NHSN Education and Training Needs Assessment!
- 1,069 NHSN Patient Safety Component users provided feedback
- Next Steps:
  - Incorporation of questions from those participating remotely via webstream during the 2017 NHSN Training
  - Website updates for increased navigability and user access to training activities and materials
  - Accessibility of in-person training

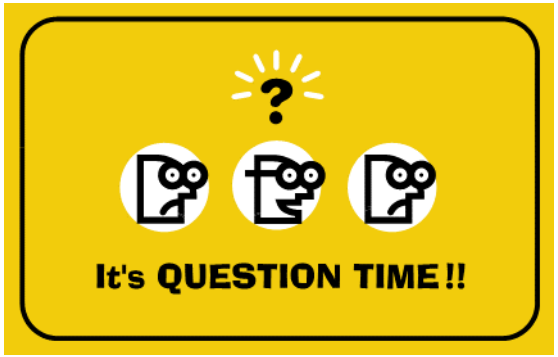
The NHSN Re-Consent is Coming!

All Primary Contacts will need to accept the updated Agreement to Participate and Consent form for each component by February 24th

The NHSN Re-consent Process

- Primary Contacts for each component will be able to review and accept the new consent form in the NHSN application in **December** when the annual NHSN update is released.
- All NHSN user facilities will need to accept the new Agreement to Participate and Consent (or "re-consent") by **February 24th**.
- If a component fails to re-consent by the deadline, its NHSN functionality will be suspended until the consent form is accepted by the primary contact.
- CDC will make every effort to communicate with users before and during the re-consent process to minimize any disruption to reporting.

Questions? Contact NHSN@cdc.gov



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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.