

NHSN Quarterly Validation Call For State HAI Coordinators

Friday, January 11, 2019

2:00pm – 3:00pm EST

Today's Agenda

- Introduction – HAI Data Validation Team
- Tips for documenting validation errors
- Georgia sharing their experience with facility recruitment
- Colorado sharing their experience with Dialysis validation
- Question & Answer Session
- Wrap-up

Introduction

- NHSN HAI Validation Team
 - Suparna Bagchi, MSPH, DrPH, HAI Validation Lead
 - iyj9@cdc.gov
 - Bonnie Norrick, MT(ASCP), EdM, CIC, CPHQ
 - ojd8@cdc.gov
 - Jennifer Watkins, RN, BSN, MPH
 - nub7@cdc.gov

Quarterly HAI Validation Calls

- Purpose
 - To provide a forum where state health departments (SHDs) can share their HAI Data Validation results and experiences with their colleagues
- Objectives
 - NHSN will provide SHDs with HAI data validation guidance
 - SHDs will present their successes and challenges with data validation
 - NHSN and SHDs will build a collaborative sharing of validation methodologies and tools
 - SHDs will seek guidance from and provide feedback to the NHSN HAI Data Validation team

2018 Validation Guidance and Toolkits

- 2018 External and Internal Validation Guidance and Toolkits are posted
 - <https://www.cdc.gov/nhsn/validation/index.html>
- 2018 External Validation Guidance
 - New facility selection methodology based on CAD method
 - Entire guidance document reformatted for ease of use
 - Updated directions on obtaining data from NHSN application
 - MRATs updated and reformatted
- 2018 Internal Validation Guidance
 - Addition of Data Quality checklists

How NHSN Uses Validation Results

- Health Departments reporting validation results allows NHSN to
 - Identify specific areas where users lack understanding and application of definitions
 - Clarify the definitions eliminating ambiguity
 - Develop training materials to address specific concerns during the NHSN annual training, via webinars or newsletters

Devil in the Details

- COLO SSI validations
 - 363 events misclassified; 109 provided a reason for the misclassification across 9 states
 - “Case didn’t meet criteria”
 - “Case met criteria, not reported”
 - “Case missed during surveillance”
 - “Clinical overrule”
 - 254, no reasons given

Reasons For Error: The Good, Bad and Ugly

- Ambiguous: “Case didn’t meet criteria”
- Better: *No symptoms documented during the IWP*
POA Infection
SSI didn’t meet O/S SSI-IAB criteria
- Best: *IP used symptoms documented outside IWP*
IP used abdominal pain to meet suprapubic pain element
IP used urine culture to set DOE, not first symptom
MD diagnosed an SSI, patient clinically infected but didn’t meet all elements of the site-specific criteria

Reasons For Error: The Good, Bad and Ugly

- Ambiguous: “Case met criteria, not reported”
- Better: *SUTI 1a/LCBI 1/etc. criteria met*
IP determined it was a “continuation” of a POA infection
Misunderstanding of LabID reporting rules
SSI met O/S IAB criteria
- Best: *IP attributed fever to another cause*
IP did not understand that if the positive urine culture in ED did not meet SUTI criteria no RIT is set
IP did not report new event for a new location
IP didn't review histopathology report, missed SSI-IAB 2a

Reasons For Error: The Good, Bad and Ugly

- Ambiguous “Case missed during surveillance”
- Better: *Failure to review positive culture*
Inadequate post-discharge surveillance
- Best: *Microbiology test results not reliably reported to IP*
IP does not have time to review ED visits for possible SSI; IP does not have access to surgery clinic records

Today's Speakers

- Kristina Lam, MD, MPH
 - Medical Epidemiologist
 - Georgia Department of Public Health
 - Kristina.Lam@dph.ga.gov
- Lee Hundley, MPH
 - CSTE Applied Epidemiology Fellow
 - Georgia Department of Public Health
 - Lee.Hundely@dph.ga.gov
- Rosine Angbanzan, MPH
 - Patient Safety Specialist
 - Colorado Department of Public Health and Environment
 - Rosine.Angvanzan@state.co.us

2018 HAI Validation

Recruitment Strategies & Challenges

NHSN Quarterly Validation Call / Lee Hundley & Kristina Lam / January 11, 2019



Background

- Validation conducted yearly by DPH based on guidelines provided by NHSN/CDC
- Facility type and infections differ each year
 - Previous validations included CLABSI and CDI LabID Event in LTACHs and Dialysis Events in outpatient dialysis facilities
- 2018 validation assessed accuracy of CAUTI and CLABSI reporting in adult intensive care units in Georgia
 - Data from January 1, 2017 – June 30, 2017

Facility Selection

Initial selection

- Facilities ranked and selected using algorithm outlined by NHSN
- Based on expected events and SIR
- 2018 validation initial sample included 25 facilities
- 12 of 18 GA public health districts represented

Subsequent selection

- 4 additional facilities selected after several refusals
- Final total sampled: 29 facilities

Recruitment Strategy

1. Developed contact list of IP staff using NHSN user data file
2. Drafted formal, personalized letter on DPH letterhead
 - Background information
 - Components of validation process
 - Reasons to participate/potential benefits
 - Request for remote (preferred) or in-person medical record access
 - Assurance of confidentiality/lack of regulatory activities
 - Request for follow-up
 - Contact information



J. Patrick O'Neal, M.D., Commissioner | Nathan Deal, Governor
2 Peachtree Street NW, 15th Floor
Atlanta, Georgia 30303-3142
dph.ga.gov

February 9, 2018

Dear [REDACTED]

The Georgia Department of Public Health (DPH) requests your assistance in conducting data quality evaluation of central line-associated bloodstream infections (CLABSI) and catheter-associated urinary tract infections (CAUTI) in adult intensive care units (ICUs) that are reported to the Centers for Disease Control and Prevention's (CDC) National Healthcare Safety Network (NHSN). This data validation is being conducted to assure that facilities are accurately identifying and reporting healthcare-associated infections, as well as to identify and address barriers to reporting complete and accurate data that may be unique to adult ICUs.

We are contacting you because your facility, [REDACTED], is among a subset of hospitals with adult ICUs within Georgia that have been selected to participate in the data quality evaluation. Facilities were selected using a ranking system outlined in NHSN's External Validation Toolkit. The individual results will be shared with your facility; only pooled results of validation will be shared publicly and will not identify individual facilities.

To conduct the data quality evaluation, a small team of staff from the DPH Healthcare-Associated Infections (HAI) team will assess adult ICUs during February 2018 – April 2018. These evaluations will include three main activities:

1. A standardized interview with infection prevention (IP) staff involved in NHSN data collection or reporting to evaluate surveillance practices within your facility (approximately 1 hour).
2. A review of preselected patient medical records, including both electronic records and any paper charts, to assess the completeness and accuracy of the data reported to NHSN (conducted by DPH staff).
3. Discussion with facility staff about any findings from our onsite data validation (approximately 1 hour).

To expedite the process, we request that DPH be granted remote access to electronic medical records so that a site visit would not be necessary. If remote access is not an option, we will schedule a mutually agreeable date for a site visit to your facility. We anticipate the visit will be completed within one day and that the IP interview will take no longer than 1 hour. On the day of the visit, we request a space to review patient charts and access to the facility's electronic medical records system.

We Protect Lives

Evaluation of the data is critical to ensure they are complete and accurate. The findings from this evaluation will be used to identify, correct, and prevent common reporting errors. Your participation is vital to these surveillance support and data quality improvement efforts.

This evaluation is not related to any regulatory surveys; no observations will be made of infection control practices or other aspects of patient care during the site visit. The identities of participating facilities will remain confidential, and all patient information will be maintained securely and remain confidential. All visits will be scheduled—no unannounced visits will occur.

Please confirm your interest in participation and provide either a) confirmation of remote medical record access, or b) available dates for a site visit during the months of February 2018 – April 2018. Once you confirm your participation, we will schedule a date for the remote medical record review/site visit and ask you to prepare a line list of patient information from January – June 2017.

At your earliest convenience, please contact Lee Hundley, MPH by phone at 404-232-7075 or email at lee.hundley@dph.ga.gov.

Thank you for your assistance to evaluate and improve the quality of NHSN data and reporting.

Sincerely,

Lee Hundley, MPH
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Acute Disease Epidemiology Section
Georgia Department of Public Health
2 Peachtree St. NW, Suite 14-259
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We Protect Lives

Recruitment Strategy

3. Sent introductory email to IP director (other IP staff copied) with letter attached
 - Other facility administrators contacted in few instances if DPH had working relationship with them
4. Some facilities provided with PowerPoint presentation that further outlined validation procedures
 - Requested by an admin at one facility and provided to subsequent facilities contacted
5. If no timely response, followed up with phone call to IP director
6. Continued periodic phone/email follow-up for several weeks (months, in some cases) if no response received

Participation

- 7 of 29 facilities agreed to participate and fully completed validation
 - Participation rate: 24%

Reasons given for refusal:

- “Don’t have time to participate”
 - Some mentioned recent/upcoming Joint Commission visits
- Lack of buy-in from administration (more common) or infection prevention directors (less common)
- Refusal or reticence to allow outside access to medical records
- Repeated lack of response to DPH communications (letter, emails, phone calls)

Conclusions

- Despite our efforts, many facilities simply did not feel the need to participate because:
 - a) They were not required to and/or
 - b) They perceived the "negative" of having their records reviewed and reporting criticized as outweighing any benefits they would receive from participating.
- Problem may be somewhat unique to large acute care facilities
 - DPH has had more success in the past with LTACHs and outpatient dialysis facilities

Conclusions

- May have had more success reaching out directly to CEOs/other executives
- Direct communication from NHSN reminding facilities about states conducting external validation would be beneficial
 - Many facilities not aware that we are funded by CDC to conduct validation
- Need better ways to incentivize participation

Next Steps

- Validation of 2018Q1 and Q2 CAUTI and CDI LabID Event data in LTACHs
- Strategies for improving participation:
 - Use more direct language, e.g. “audit”
 - Remind facilities about previous participation or lack of participation
 - Consider letter from state epi for facilities that refuse
 - Offer certificate of completion

Questions?

Lee Hundley, MPH

CSTE Fellow

Acute Disease Epidemiology

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Kristina Lam, MD, MPH

HAI Medical Epidemiologist

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2018 NHSN Dialysis Event Validation Preliminary Results

Rosine Angbanzan, MPH
Data Validation Specialist

December 5, 2018



COLORADO
Department of Public
Health & Environment



Background

Colorado 1st state to mandate dialysis events (DE) reporting into the National Healthcare Safety Network (NHSN)

- For outpatient dialysis centers only
- Antimicrobial starts
- Positive blood culture (PBC)
- Pus, redness, and swelling (PRS)



Follow-up DE validation after 2 prior validations

- 2012
- 2014

79 dialysis facilities reporting data into NHSN in 2017

Colorado's dialysis facilities distributed among 3 main corporations



2018 DE Validation Overview

Purpose of validation:

- Investigate and enhance the accuracy and completeness of NHSN dialysis event data
- Assess facility's staff's knowledge of NHSN Dialysis Event Protocol and provide education
- Identify surveillance gaps and make appropriate recommendations

Data period: January through December 2017

Validation period: Site visit started in August 2018 and ongoing

Study geographical coverage: Denver metropolitan, northern and southern Colorado facilities



Methods

Slightly modified 2014 NHSN Dialysis Event Surveillance & Reporting Data Quality Evaluation Implementation Guide

- Modified facility and chart selections

Activities

- Survey of facility staff surveillance knowledge and practices
- Review of medical records during onsite visits *
- Exit interview

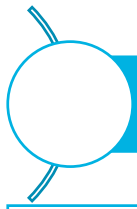
* One facility data was reviewed remotely



Questionnaire

Administered electronically
via REDCap and assessed the following:

- Facility surveillance practices
- Staff knowledge of surveillance definitions
- Data quality check processes



Facility Selection

Recommended number of facilities to be enrolled: 20

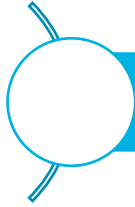
A list of facilities with 3-months or more of non-reported DE in NHSN

Sorted into two corporations
(Corporation A vs. other corporations)

Each corporation further divided into three strata (low, medium, high) based on facility's average monthly census

Weight calculated for each stratum based on corporation distribution in sampling frame

Random selection of facilities per stratum using calculated weight within each corporation



Medical Records Selection

CDPHE requested 5 lists from each facility

- All the lists to be in an excel format and submitted electronically
 - List 1: All patients treated at the facility from January to December 2017
 - List 2: All patients who received IV starts during study period
 - List 3: All patients who had a positive blood culture during study period
 - List 4: All patients hospitalized during study period
 - List 5: All patient with pus, redness, and swelling during study period



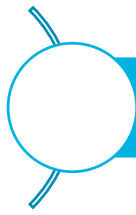
Medical Records Selection(2)

- A maximum of 40 charts to be reviewed per facility
- Step 1: Combined lists 2 through 5 and remove duplicates (Combined list)
- Step 2: Remove combined list from list 1 (entire facility's census) and subject remaining patients to a 10% random sampling (step 2 list)
- Step 3:
 - If combined list ≤ 40 then add patients from step 2 list for final sampled patients
 - If combined list >40 , randomly select patients to reach 40 patients when added to step 2 list



Medical Records Abstraction

- Print list of reported events from NHSN
- Abstract all charts
 - Physician and nursing notes
 - Treatment sheets
 - Antibiotic administration logs
 - Culture logs



RESULTS: Facilities

20 facilities selected/ 19 site visits completed

11 from Denver metropolitan area

9 from Northern and Southern Colorado



RESULTS: Questionnaire

Knowledge	Count (%)
21-day rule	18 (90)
Reporting of PBC within 2 days of hospital admissions	17 (85)
Denominator data collection on first 2 working days	20 (100)
Not counting patients twice	20 (100)

20/20 questionnaire completed

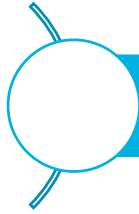
Practices	Count (%)
Data collection at facility level	18 (90)
NHSN reporting at corporate level	7 (35)
Standardized process for requesting hospital records	17 (85)
Validated denominator data source	14 (70)
Performed NHSN data quality check	19 (95)
NHSN Data quality check performed at corporate level	10 (50)



Results: Medical Records Abstraction

- 19 site visits completed to date
- 583 charts abstracted

	IV starts	PBC	PRS	Total
Number of events (before validation)	140	37	37	214
Number of correctly reported events	133	37	33	203 (95%)
Number of over-reported event	7	0	4	11 (5%)
Number of true events	155	47	39	241
Number of non-reported events	22	10	6	38 (16%)*



Conclusions

Staff demonstrated strong knowledge of surveillance definitions

Surveillance practices vary within same corporation

Obtaining hospitalization records remained challenging for ESRD facilities. Most facilities have a standardized process in place

Non-reported PBC data were usually collected at hospitals

Non-reporting event findings suggest:

- Lack of data quality check
- Contradicting responses of completed questionnaires



Recommendations

Corporations consider developing training materials for NHSN reporting

Facility staff participation during CDPHE/NHSN training on dialysis event protocol

Facilities consider enrollment in Colorado's health information exchange, CORHIO

Encourage corporations to develop data quality check processes to ensure accurate data following NHSN reporting including:

- Data verification at the facility level
- Generation of monthly line-listing of events

Questions

Questions??

Wrap-Up

- Next Quarterly Call is scheduled for Friday, May 10, 2019
- Looking for a state to present on off-site/remote validation

Thank You!

Please Join us for the Next

NHSH Quarterly Validation Call for HAI Coordinators

Friday May 10, 2019 from 2:00pm—3:00pm EST

For Questions Email 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.