NHSN Quarterly Validation Call For State HAI Coordinators

Friday, September 28, 2018

2:00pm – 3:00pm EST

Today's Agenda

- Introduction
- Update - 2018 HAI Validation Guidance and Toolkits
- Presentation – Facility Selection for External Validation of HAI Data Reported to NHSN: Alternative Approach
- Presentation – Data Validation in North Carolina 2018
- Question & Answer Session
- Wrap-up

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
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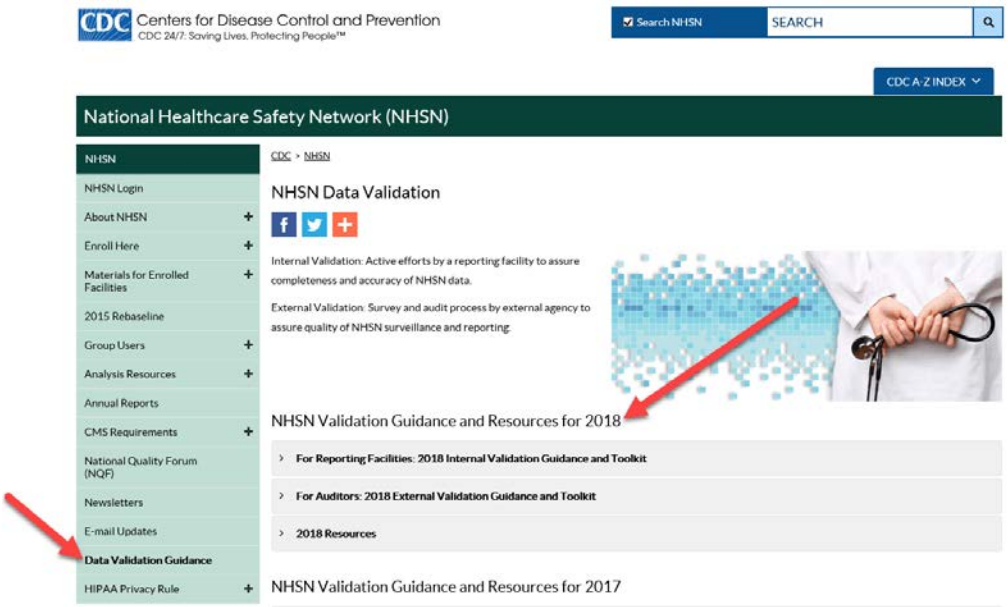
2018 Validation Guidance and Toolkits

- 2018 External and Internal Validation Guidance and Toolkits are posted!
  - https://www.cdc.gov/nhsn/validation/index.html

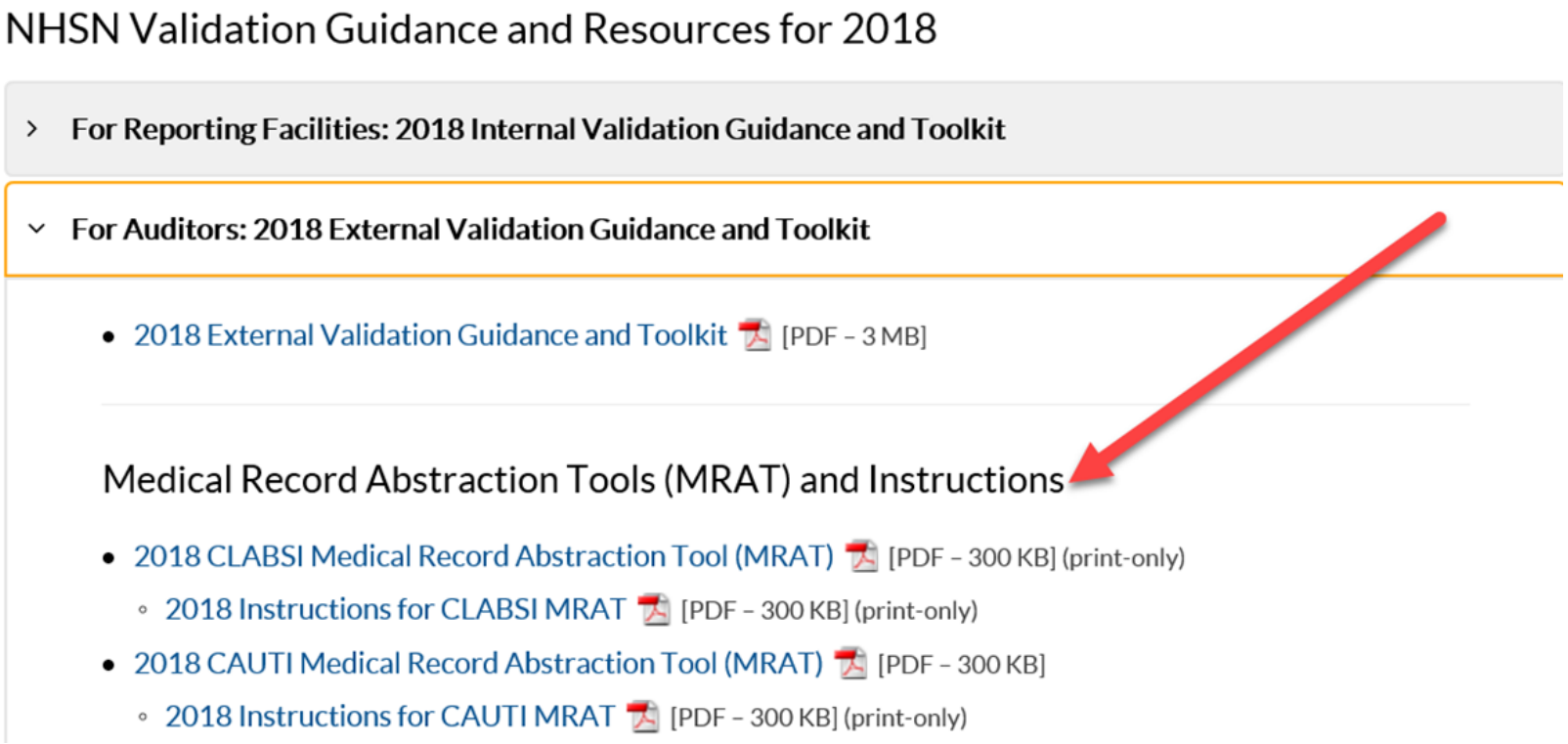


2018 External Validation Guidance and Toolkit

- 2018 External Validation Guidance and Toolkit Updates:
  - Two methods of facility selection
  - Updated instructions, including NHSN screenshots
  - MRATs updated and reformatted

- 2018 Internal Validation Guidance and Toolkit Updates:
  - Addition of Data Quality checklists

MRAT Updates 2018 - Location



MRAT Updates 2018 – New Field

July 2018

Case Determination (A) Correctly Classified	(B) Over-reported HAI	(C) Underreported HAI
If CLABSI was misclassified (over- or underreported) by facility, what was the reason?		
(I) General HAI definition misapplication (Ia) Incorrect location of attribution (Ib) Date of event incorrect (Ic) IWP set incorrectly (Id) RIT applied incorrectly (Ie) Did not identify elements present in IWP (If) POA/HAI applied incorrectly (Ih) Other _____ (III) Additional Reasons (IIIa) Missed case finding/failure to review positive specimen/culture (IIIb) Clinical over-rule (IIIc) Used outdated criteria (IIId) No positive blood specimen in chart (IIIe) Other _____	(II) CLABSI criteria misapplied (IIa) Central Line not in > 2 days in an inpatient location on date of event (IIb) Missed CLABSI due to central line removed day of or day before the date of event (IIc) Missed CLABSI due to location transfer/discharge day of or day before the date of event (IId) CLABSI incorrectly identified as secondary BSI (IIe) Secondary BSI incorrectly identified as a primary CLABSI (IIf) Other _____	

Data Quality Checklists - 2018

Appendix G: Data Quality Checklist – CLABSI/CAUTI Data

This checklist is intended to ensure completeness and accuracy of CLABSI and CAUTI data entered into NHSN and can be used at acute care hospitals, long term acute care facilities, critical access hospitals, and inpatient rehabilitation facilities.

Summary Denominator Data		
Indicator	**Description/Action**	**Validated**
i) Missing summary data	Verify that summary data has been entered for the location and month/year. (Go to NHSN Application –> Alerts –> Missing Summary Data)	
ii) Missing denominator variables (Incomplete summary data)	Verify that all mandatory/required fields are completed, and that "Report No Events" is checked, if appropriate. (Go to NHSN Application –> Alerts –> Incomplete Summary Data)	
iii) Verify denominator data accuracy:	Generate Rate Tables to displa location and month in a table f	location for multiple months.

Event Data Entry		
Indicator	**Description/Action**	**Validated**
i) All CLABSI and CAUTI events reported	Verify that all CLABSI and CAUTI events have been reported. Go to NHSN Application –> Analysis –> Reports –> Device-Associated (DA) Module –> Central Line-Associated BSI –> Line Listing – All CLAB Events **OR** NHSN Application –> Analysis – Reports –> Device-Associated (DA) Module –> Urinary Catheter-Associated UTI –> Line Listing – All CAU Events	
ii) Missing numerator variables (Incomplete events)	Verify that all mandatory/required data fields (marked with an *, **, or > on the event form) are completed. (Go to NHSN Application –> Alerts –> Incomplete Events, Event Type: BSI/UTI)	
iii) Confirm that date of event occurred on or after	If the event did not occur on or after the third	

Today's Speakers

- Suparna Bagchi, MSPH, DrPH
  - HAI Validation Lead
  - CDC NHSN Protocol and Validation Team
  - iyj9@cdc.gov

- Savannah Carrico, MPH
  - HAI Epidemiologist, SHARPPS Program
  - North Carolina Division of Public Health
  - savannah.carrico@dhhs.nc.gov

Facility Selection for External Validation of HAI Data Reported to NHSN: Alternative Approach

Suparna Bagchi, MSPH, DrPH

HAI Validation Lead

Protocol and Validation Team

September 28, 2018

Objectives

- Review the methods of facility selection in NHSN External Validation Guidance
- New method of facility selection in 2018 Guidance
- Comparison of facility selection methods
- Recommended data analysis and summarization

Facility Selection Method 1

- Targeted sampling: facility specific predicted events and SIR
- Facilities are sorted based on predicted number of events
- Top third of facilities (tertiles):
  - Targeting and prioritization
  - Facility specific SIR relative to median SIR for the top tertile of the facilities
- SIR does not estimate absolute burden of HAIs in a facility
- Ratio of observed/predicted events
- Focuses on larger (higher burden facilities), excludes smaller facilities where underreporting could be a potential problem

Method 2: Alternative Approach

- Underreporting of HAI remains primary concern
- Cumulative Attributable Difference (CAD) approach
- CAD = Observed HAIs – (Predicted HAIs * SIR Goal)

  CAD = Observed events – Predicted events
- Facilities could have both positive and negative CAD values
- Facilities reporting zero or very few events: negative CAD value
- Prioritization based on highest negative CAD values can help assess the data accuracy among facilities with high predicted and very few or no reported events during a time frame

Comparison of Facility Selection Methods

	Method 1 - Prioritizing Facilities with Highest Likelihood of Event Occurrence	Method 2 - Cumulative Attributable Difference (CAD) Approach
Facility Selection criteria	▪ Based on highest likelihood of event occurrence.	▪ Based on difference of predicted and observed number of events.
Which type of facilities are selected?	▪ Larger facilities with higher predicted/expected number of events are more likely to be selected	▪ Prioritization focuses on facilities with negative values of difference, primarily under-reporters

Comparison of Facility Selection Methods

	Method 1 - Prioritizing Facilities with Highest Likelihood of Event Occurrence	Method 2 - Cumulative Attributable Difference (CAD) Approach
Ranking algorithm	• SIR metric is a ratio of and is subject to variability • A small facility with low predicted volume of events with even one observed event could lead to a high SIR value.	• Cumulative attributable difference (CAD) • CAD metric is robust, stable and reflects the true facility HAI burden
Which method should my state use?	• No prior validation, use Method 1 to determine errors in HAI misclassification • If already aware of underreporting concerns - select Method 2	▪ Previous validation history that have identified underreporting as a potential concern would benefit additionally with this method

CAD Method of Facility Selection

- Generate new datasets in NHSN
- After successful dataset generation, navigate to Analysis
- Navigate to the SIR report of interest
- Export Analysis Data Set screen - export to an Excel spreadsheet
- Exported SIR report file will display multiple levels of aggregation
- In Excel, select the aggregation level that provides a facility-specific SIR for all validation locations

Facility SIR Level View

4	1.71106	1030	0.1252	2.338	0.743, 5.639		IN:ACUTE:CC:M_PED		
2	3.18614	2824	0.5558	0.628	0.105, 2.074		IN:ACUTE:CC:NS		
7	9.78433	7188	0.3846	0.715	0.313, 1.415		IN:ACUTE:CC:NURS		SIRs for each location types
9	17.3151	15646	0.0327	0.52	0.253, 0.954		IN:ACUTE:CC:S		
2	3.26009	2134	0.531	0.613	0.103, 2.027		IN:ACUTE:CC:T		
[illegible]									
3	5.18805	4183	0.3493	0.578	0.147, 1.574			HOSP-GEN	
1	9.06437	7682	0.0013	0.11	0.006, 0.544			HOSP-GEN	
2	7.57817	6272	0.0235	0.264	0.044, 0.872			HOSP-GEN	
0	0.42346	562						HOSP-GEN	
0	0.7199	823						HOSP-GEN	"THIS IS THE LEVEL TO EVALUATE"
2	1.0873	1253	0.3934	1.839	0.308, 6.077			HOSP-GEN	Facility-specific SIRs combining all location types
0	0.44531	591						HOSP-GEN	
1	1.05264	933	1	0.95	0.048, 4.685			HOSP-GEN	
13	18.5196	15267	0.1921	0.702	0.390, 1.170			HOSP-GEN	
0	0.15574	232						HOSP-GEN	
1	1.52725	1760	0.7659	0.655	0.033, 3.229			HOSP-GEN	
3	1.57237	1812	0.2846	1.908	0.485, 5.193			HOSP-GEN	
[illegible]									
1	1.5876	1034	0.7334	0.63	0.032, 3.1	CC_N		HOSP-GEN	facility and location types
1	8.26831	7012	0.0026	0.121	0.006, 0.5	CC		HOSP-GEN	
0	0.79606	670				CC_N		HOSP-GEN	

Calculate the 75th Percentile Value of numPred

infCount	numPred	numcldays	SIR_pval	SIR	sir95ci	locationTy	locCDC	orgID	facType
13	18.51959	15267	0.1921	0.702	0.390, 1.170			100008	HOSP-GEN
22	15.32671	9910	0.1034	1.435	0.922, 2.138			100030	HOSP-CHLD
10	9.736101	8387	0.8926	1.027	0.522, 1.831				
8	9.542312	7958	0.6509	0.838	0.389, 1.5				
1	9.064373	7682	0.0013	0.11	0.006, 0.				
2	7.578169	6272	0.0235	0.264	0.044, 0.				
7	5.689505	4581	0.5585	1.23	0.538, 2.				
4	5.504663				0.231, 1.				
2	3.159258	2784	0.5651	0.633	0.106, 2.				
2	2.437844	2304	0.8601	0.82	0.138, 2.				
0	1.945079	1724	0.143	0	, 1.540				
3	1.572374	1812	0.2846	1.908	0.485, 5.1				
1	1.527251	1760	0.7659	0.655	0.033, 3.229			100010	HOSP-GEN
2	1.329405	1357	0.5333	1.504	0.252, 4.970			100032	HOSP-GEN
0	1.242188	1101	0.2888	0	, 2.412			100049	HOSP-GEN
2	1.087298	1253	0.3934	1.839	0.308, 6.077			100005	HOSP-GEN
1	1.052644	933	1	0.95	0.048, 4.685			100007	HOSP-GEN
1	0.915007	934						100040	HOSP-GEN
0	0.745198	989						100026	HOSP-GEN
0	0.719899	823						100004	HOSP-GEN
2	0.669096	888						100023	HOSP-GEN

Sort the facilities in the descending order of number of predicted infections (numPred) and compute the 75th percentile value of the variable numPred

Selection of Facility Sampling Frame

infCount	numPred	numclday	SIR_pval	SIR	sir95ci	locationTy	locCDC	orgID	facType
13	18.51959	15267	0.1921	0.702	0.390, 1.170			100008	HOSP-GEN
22	15.32671	9910	0.1034	1.435	0.922, 2.138			100030	HOSP-CHL
10	9.736101	8387	0.8926	1.027	0.522, 1.831			100014	HOSP-GEN
8	9.542312	7958	0.6509	0.838	0.389, 1.592			100046	HOSP-GEN
1	9.064373	7682	0.0013	0.11	0.006, 0.544			100001	HOSP-GEN
2	7.578169	6272	0.0235	0.264	0.044, 0.872			100002	HOSP-GEN
7	5.689505	4581	0.5585	1.23	0.538, 2.434			100022	HOSP-GEN
4	5.504663	4879	0.558	0.727	0.231, 1.753			100027	HOSP-GEN
2	3.159258	2784	0.5651						OSP-GEN
2	2.437844	2304	0.8601						SP-GEN
0	1.945079	1724	0.143						SP-GEN
3	1.572374	1812	0.2846						SP-GEN
1	1.527251	1760	0.7659						SP-GEN
2	1.329405	1357	0.5333						SP-GEN
0	1.242188	1101	0.2888						SP-GEN
2	1.087298	1253	0.3934	1.839	0.308, 6.077			100005	HOSP-GEN

75th percentile value of numPred= 5.5. Select facilities with numPred >5.5. Only facilities in red box (numPred >5.5) are included in the sampling frame for targeted validation.

Compute the CAD Values for Sampling Frame

- Variable infCount
  - Pooled total observed events from all validation locations, for the timeframe of validation for each facility selected in sampling frame
- Insert a column (CAD) next to the numPred
- Compute CAD as difference: infCount – numPred
- Could generate – all negative, positive and negative, all positive

Sort the Facilities by CAD Values

infCount	numPred	CAD	numclday	SIR_pval	SIR	sir95ci	locationTy	locCDC	orgID	facType
1	9.064373	-8.06437	7682	0					100001	HOSP-GEN
2	7.578169	-5.57817	6272						100002	HOSP-GEN
13	18.51959	-5.51959	15267						100008	HOSP-GEN
8	9.542312	-1.54231	7958						100046	HOSP-GEN
4	5.504663	-1.50466	4879						100027	HOSP-GEN
10	9.736101	0.263899	8387						100014	HOSP-GEN
7	5.689505	1.310495	4581						100022	HOSP-GEN
22	15.32671	6.673286	9910	0.					100030	HOSP-CHLD

Compute the CAD values for facilities in the sampling frame.

Sort the CAD values in descending order (highest negative on the top). If the sampling frame has greater than 15 facilities, select the top 15 facilities.

Facility Selection: If Sampling Frame > 30 Facilities

- **Divide the total facilities in the sampling frame into two strata:**
  - **Stratum 1: Includes all facilities in the sampling frame that had zero reported pooled observed events for the validation time frame**
  - **Stratum 1: will generate all negative CAD values**
  - **Stratum 2: includes all facilities in the sampling frame with non- zero reported pooled observed events for the validation time frame**
  - **Stratum 2: could generate positive and negative CAD values**

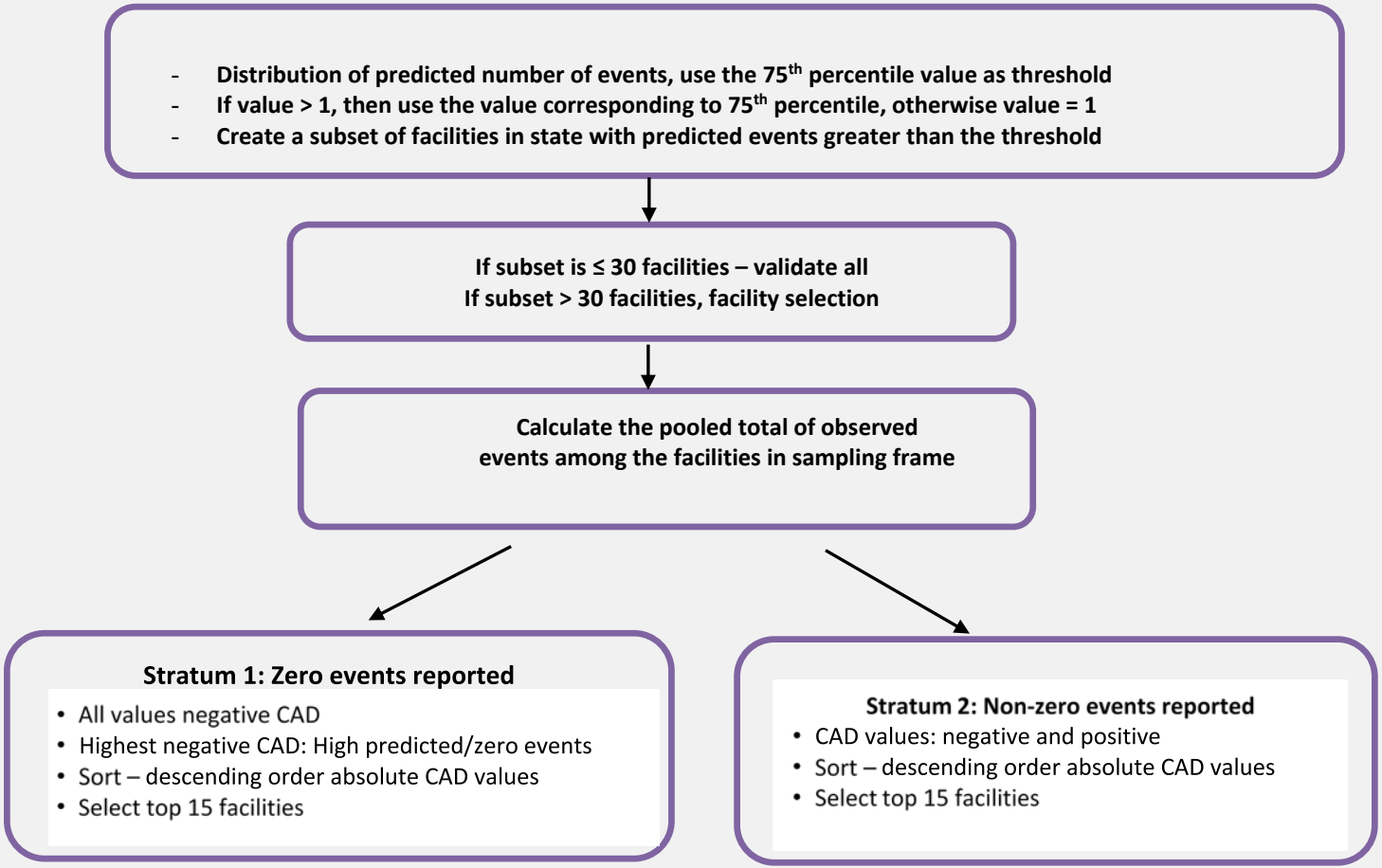
Stratum 1: Facilities with Zero Reported Events

- All CAD values will be negative.
- Highest negative values: facilities with greater predicted and zero events reported
- Sort them in descending order of negative values of CAD
- Facilities with the highest negative CAD value should be at the top
- Select the first 15 facilities from Stratum A.

Stratum 2: Facilities with Non-zero Reported Events

- CAD values could be positive or negative
- Highest negative values: facilities with greater predicted and zero events reported
- Sort them in descending order of negative values of CAD
- Facilities with the highest negative CAD value should be at the top
- Select the first 15 facilities from Stratum B

Facility Sampling Using CAD Approach



Medical Record Selection: CAD Approach

- Before requesting medical records: download ("freeze") data
- Request facilities to send line lists of candidate HAI events
- For facilities with reported events in validation locations:
  - Events reported to NHSN in the validation time frame (select all)
  - Randomly select additional medical records for a total of 40 medical records for candidate cases.
- For facilities with no reported event in validation locations:
  - Randomly select 40 medical records for review for each HAI candidate event.

Recommended Data Summary

	Auditor Determination		
Facility	Events	Not Events	
Events reported	True Positive (a)	False Positive (b) Over reports	(a+b)
Events not reported	False Negative (c) Missed events	True Negative (d)	(c+d)
	(a+c)	(b+d)	Total

- True positive (a): facility identified and reported the events and auditor agreed
- True negative (d): facility did not identify/report event and auditor agreed
- False negative (c): facility did not identify/report event and auditor disagreed (MISSED)
- False positive (b): facility identified and reported the events and auditor disagreed (OVER REPORT)

Recommended Data Analysis

	Auditor Determination		
Facility	Events	Not Events	
Events reported	True Positive (a)	False Positive (b)	(a+b)
Events not reported	False Negative (c)	True Negative (d)	(c+d)
	(a+c)	(b+d)	Total

- **Sensitivity:** Ability of a test to correctly identify those with the disease (true positive rate) = **a/(a+c)**
- **Specificity:** Ability of the test to correctly identify those without the disease (true negative rate) = **d/(b+d)**
- **Positive Predictive Value:** Proportion of individuals who test positively (a+b) AND truly have the disease (a) = **a/(a+b)**
- **Negative Predictive Value:** Proportion of individuals who test negatively (c+d) AND truly do not have the disease (d) = **d/(c+d)**

Reasons for Misclassification

- For each misclassified case, list the reasons for errors in reports
- Compute proportion of each error type – identify gaps, training opportunities

Reasons for under-reported CDI events

- Incorrect understanding of protocol definition (n1)
- Laboratory records missed (n2)
- Reason ….

Total Under-reported events

Reasons for over-reported CDI events

- Incorrect specimen (n1)
- Duplicate record (n2)
- Reason ….

Total Over-reported events

Summary and Recommendations

- Both facility selection methods use a targeted approach
- Generalizability is still limited
- Select the method as deemed appropriate
- Compare same HAI validated previously validated using alternative method
- Feedback on implementation: challenges and successes

Questions !

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

Data Validation in North Carolina 2018

Savannah Carrico, MPH
HAI Epidemiologist

September 28, 2018

Outline

I. Importance of Data Validation

II. Hospital Selection Method: SIR and CAD

III. Results of North Carolina's CDI and CLABSI validations

Importance of Data Validation

- Non punitive validation

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- Non punitive validation
- Engages health care facilities in accurate data collection methods

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- The goal identify the true burden of HAIs

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- Accurate data in NHSN allows for comparable data

Importance of Data Validation

- Non punitive validation
- Engages health care facilities in accurate data collection methods
- The goal identify the true burden of HAIs
- Accurate data in NHSN allows for comparable data
- Opportunity for facilities and validators to discuss HAI prevention and response

SHARPPS Program Data Validation

- The North Carolina Surveillance for Healthcare-Associated Resistant Pathogens Patient Safety (SHARPPS) Program has been performing data validation HAIs since 2015
- SHARPPS performs data validation without funding
- Since 2015 CLABSI, CDI, CAUTI, and MRSA have been validated

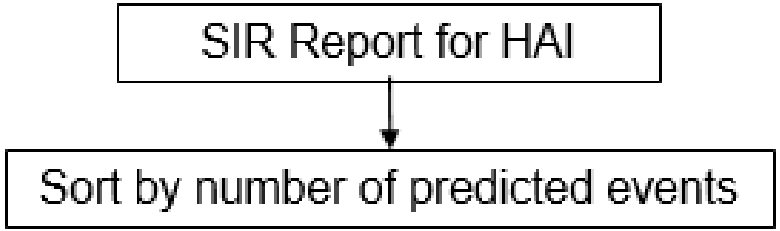
Selecting a Sample

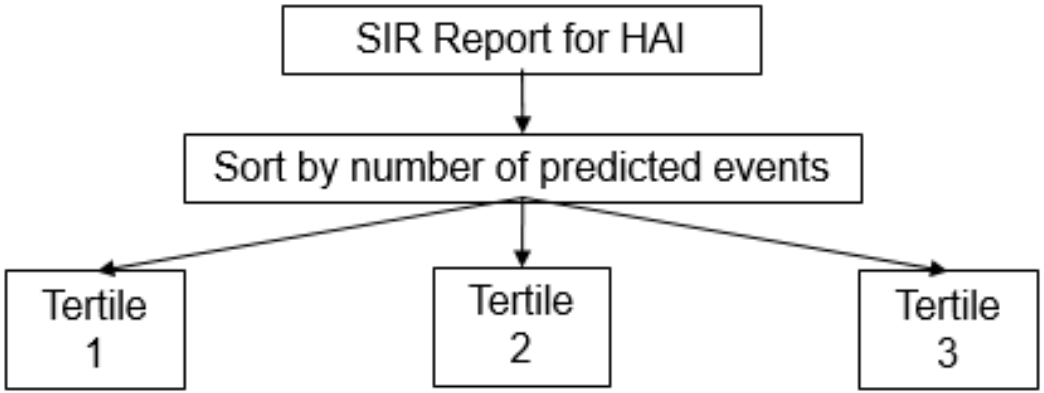
- There 93 Acute Care Hospitals in North Carolina
- CDC recommends 18 facilities be selected for states that have 21-149 hospitals
- Want to select hospitals that represent the state
- Selecting those that would benefit the most from data validation
- Must select hospitals without introducing bias

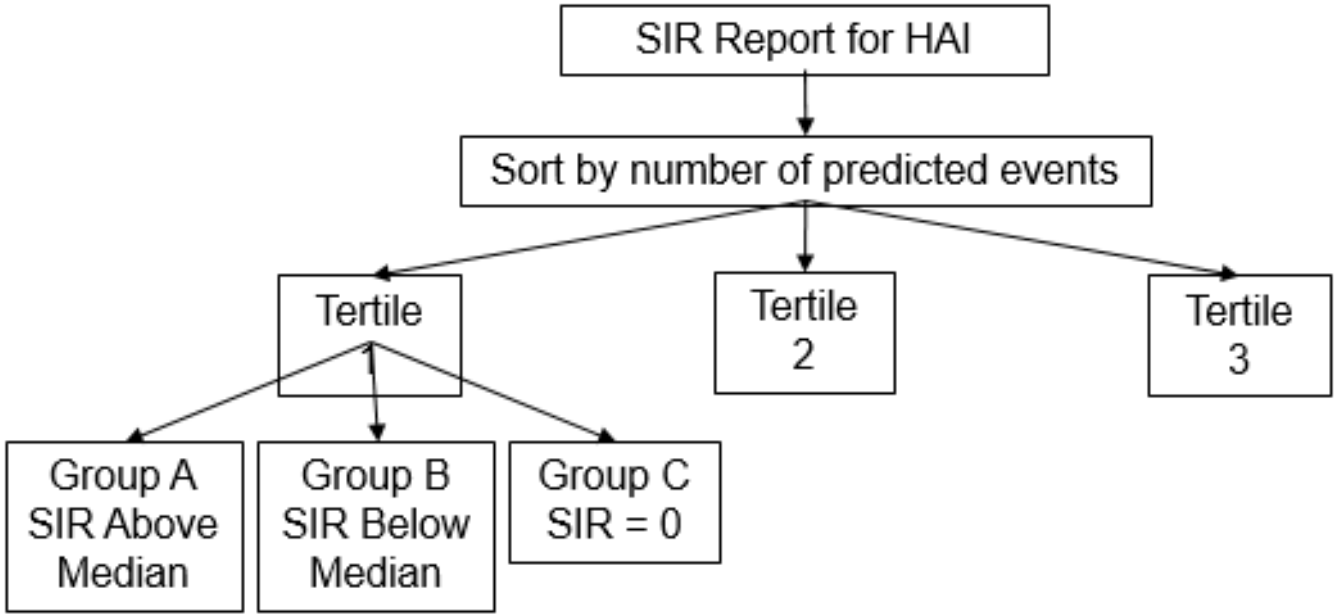
Selection Bias

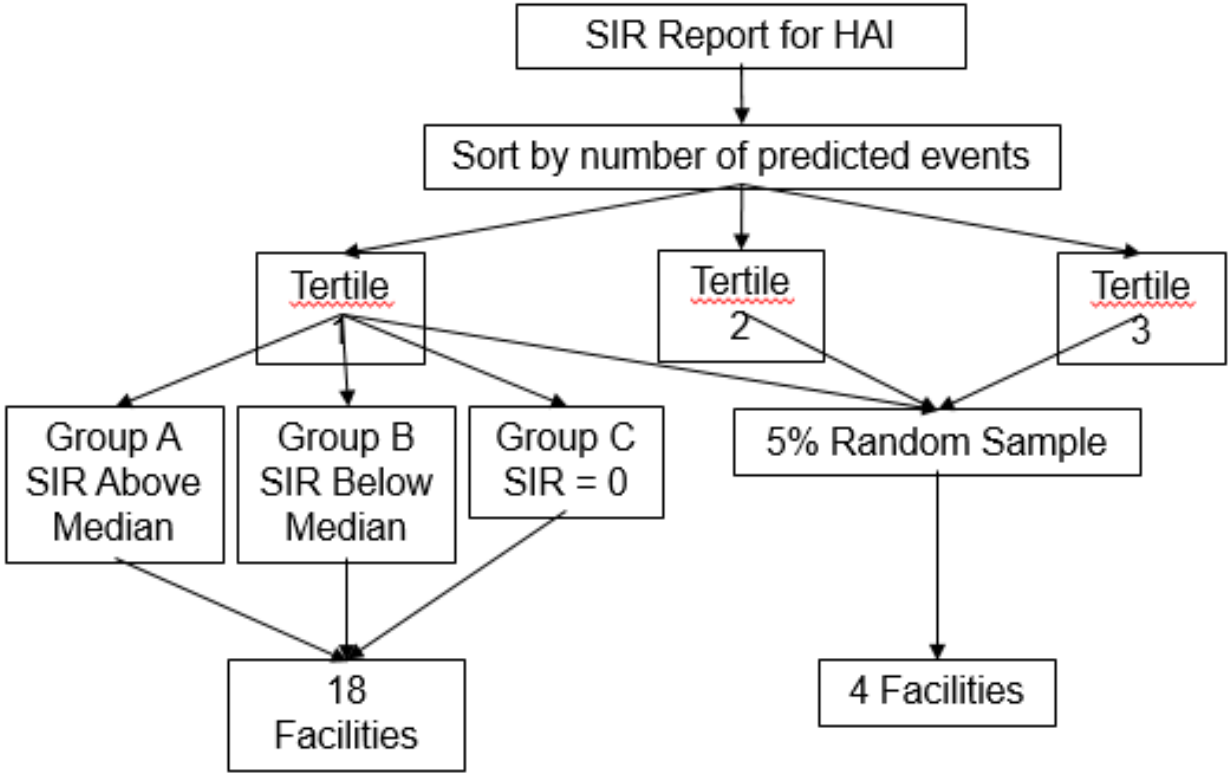
- Want to avoid asking facilities to self-select
- Want to select representative facilities
- Want to target facilities that would benefit the most

CDC methodology


SIR Report for HAI
Sort by number of predicted events


SIR Report for HAI
Sort by number of predicted events
Tertile 1
Tertile 2
Tertile 3


SIR Report for HAI
Sort by number of predicted events
Tertile 1
Tertile 2
Tertile 3
Group A SIR Above Median
Group B SIR Below Median
Group C SIR = 0


SIR Report for HAI
Sort by number of predicted events
Tertile 1
Tertile 2
Tertile 3
Group A SIR Above Median
Group B SIR Below Median
Group C SIR = 0
5% Random Sample
18 Facilities
4 Facilities

Results

The majority of facilities were:

- All 18 facilities were in the top tertile
  - *Highest number of predicted events*
- In urban areas
  - *North Carolina is 80% rural*
  - *67 of 93 hospitals are in rural counties*
- Trauma centers
  - *Affiliated with major medical schools*
  - *Experience high volume of higher acuity patients*

https://www.nccommerce.com/lead/research-publications/the-lead-feed/artmid/11056/articleid/123/rural-center-expands-its-classification-of-north-carolina-counties

CDC Methodology Review

Positives	Considerations
• Focuses on high-burden facilities	

CDC Methodology Review

Positives	Considerations
• Focuses on high-burden facilities • Acknowledges potential for over- and under-reporting within the top third of facilities by stratifying by Median SIR	

CDC Methodology Review

Positives	Considerations
• Focuses on high-burden facilities • Acknowledges potential for over- and under-reporting within the top third of facilities by stratifying by Median SIR	• Excludes facilities with < 1 Predicted Event

CDC Methodology Review

Positives

- Focuses on high-burden facilities
- Acknowledges potential for over- and under-reporting within the top third of facilities by stratifying by Median SIR

Considerations

- Excludes facilities with < 1 Predicted Event
- Excludes smaller facilities

CDC Methodology Review

Positives	Considerations
• Focuses on high-burden facilities • Acknowledges potential for over- and under-reporting within the top third of facilities by stratifying by Median SIR	• Excludes facilities with < 1 Predicted Event • Excludes smaller facilities • Weighted selection of facilities (Top Tertile only)

CDC Methodology Review

Positives

- Focuses on high-burden facilities
- Acknowledges potential for over- and under-reporting within the top third of facilities by stratifying by Median SIR

Considerations

- Excludes facilities with < 1 Predicted Event
- Excludes smaller facilities
- Weighted selection of facilities (Top Tertile only)
- SIR doesn't estimate the absolute burden of HAIs on a facility because it is a ratio of observed to predicted infections

CDC Methodology Review

Positives

- Focuses on high-burden facilities
- Acknowledges potential for over- and under-reporting within the top third of facilities by stratifying by Median SIR

Considerations

- Excludes facilities with < 1 Predicted Event
- Excludes smaller facilities
- Weighted selection of facilities (Top Tertile only)
- SIR doesn't estimate the absolute burden of HAIs on a facility because it is a ratio of observed to predicted infections
- Relies on accurate risk-adjustment of facilities

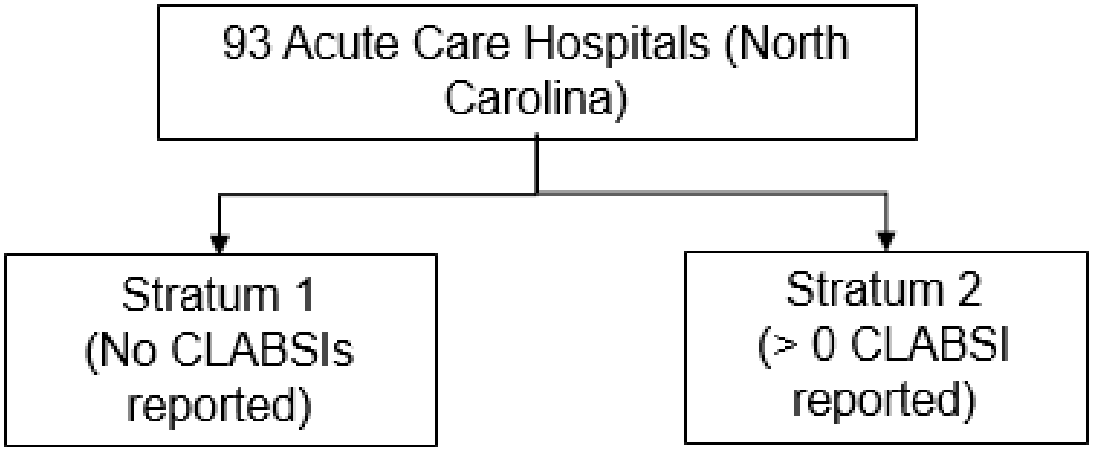
Cumulative Attributable Difference Methodology

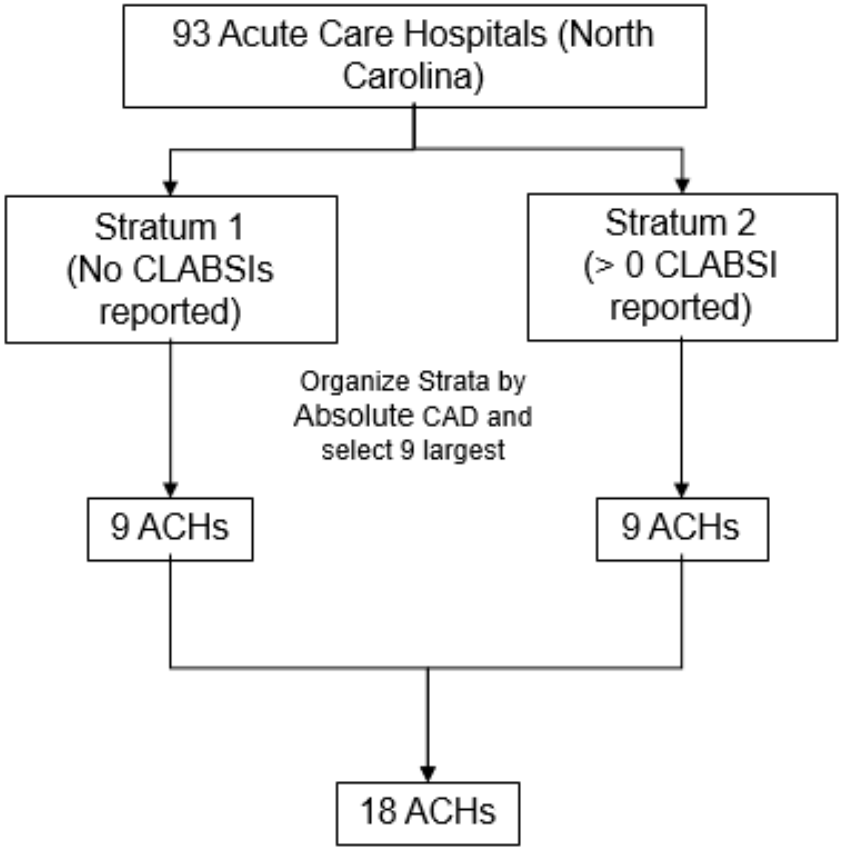
CAD = Observed # HAIs – (Predicted # HAIs * SIR Goal)

- Calculated even if the number of predicted events is < 0 (Unlike SIR)
- Represents the number of infections needed to be prevented to reach SIR goal
- The CAD can be used to identify facilities that would benefit the most from data validation
- NOT used for interfacility comparison

SOURCE:

CAD methodology


93 Acute Care Hospitals (North Carolina)
Stratum 1 (No CLABSIs reported)
Stratum 2 (> 0 CLABSI reported)


93 Acute Care Hospitals (North Carolina)
Stratum 1 (No CLABSIs reported)
Stratum 2 (> 0 CLABSI reported)
Organize Strata by Absolute CAD and select 9 largest
9 ACHs
9 ACHs
18 ACHs

Cumulative Attributable Difference Methodology Review

Positives	Considerations
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- Captures facilities with < 1 predicted event
- Includes equal sample of facilities with 0 HAI events and > 0 HAI events
- CAD accurately reflects absolute HAI Burden on a hospital
- Potential to identify facilities with excellent prevention

Considerations

- Relies on accurate risk-adjustment of facilities

Choosing a methodology

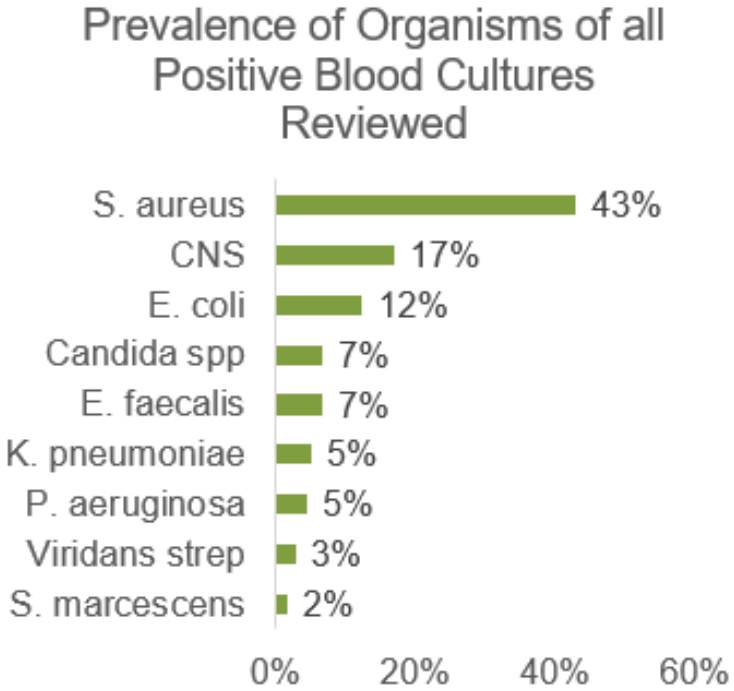
- The current method (SIR) has its pros but there are several considerations
- The CAD method:
  - addresses the considerations of the SIR method
  - selected representative facilities of North Carolina
  - captured both under and overreporting facilities
  - method was chosen as the selection method

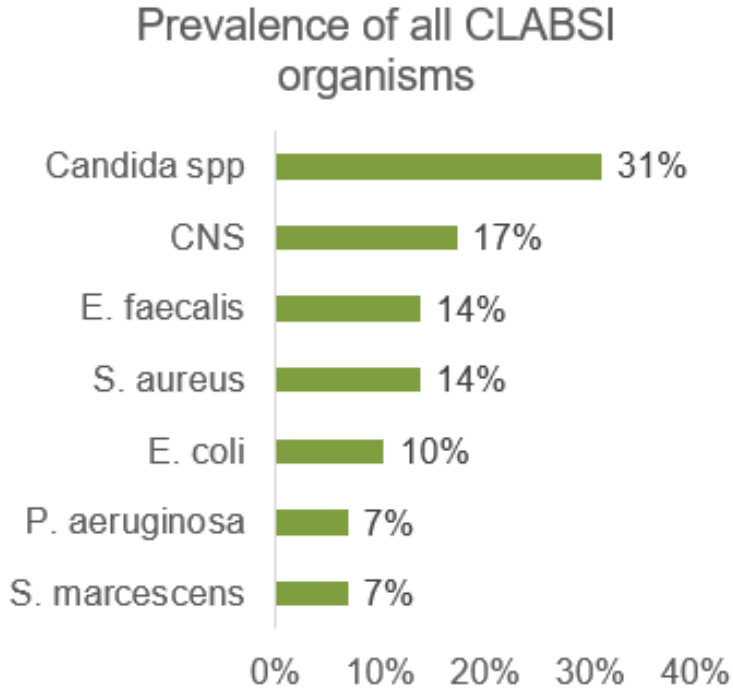
CDI Results

- 20 Facilities Validated
  - 13 ACHs
  - 2 LTACHs
  - 5 IRFs
- 1542 records validated
- 1 validator per record
- 95 % Facility and Validator Agreement
- 5% (79 records) not reported in NHSN that should have been
  - 87% (69 records) of these records were community onset

CLABSI Results

- 12 Facilities Validated
- 293 Records Reviewed
- 2 validators per record
- 98% Agreement between facility and validators
- 94% Agreement between validators
- 2% (6 records) were discrepant
  - 1 record was misclassified as not a CLABSI by the facility
  - 6 records were misclassified as CLABSIs by the facility
    - 3 records Secondary to other infections
    - 2 records were not in reporting locations
    - 1 record had no central line


Prevalence of Organisms of all Positive Blood Cultures Reviewed
S. aureus 43%
CNS 17%
E. coli 12%
Candida spp 7%
E. faecalis 7%
K. pneumoniae 5%
P. aeruginosa 5%
Viridans strep 3%
S. marcescens 2%
0% 20% 40% 60%


Prevalence of all CLABSI organisms
Candida spp 31%
CNS 17%
E. faecalis 14%
S. aureus 14%
E. coli 10%
P. aeruginosa 7%
S. marcescens 7%
0% 10% 20% 30% 40%

In Summary

- Primary goal is to capture generalizable and representative data for the state
- The high agreement between facilities and validators suggests a thorough understanding of the NHSN surveillance definitions for CDIs and CLABSIs
- Future validations would be beneficial for all HAIs

SOURCE:

Acknowledgements

The North Carolina Surveillance for Healthcare-Associated Resistant Pathogens Patient Safety Program would like to acknowledge and appreciate all participating healthcare facilities in North Carolina

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SHARPPS Program
Savannah.Carrico@dhhs.nc.gov

Questions??

Wrap-Up

- Next Quarterly Call scheduled for Friday, January 11, 2019 from 2-3pm EST
- Is there anyone else we should invite? Please forward their name and email to Bonnie Norrick ojd8@cdc.gov.
- If you are interested in sharing your validation experience on a Quarterly Validation Call, please reach out to the NHSN HAI Validation Team

Thank You!

Please Join us for the Next

NHSH Quarterly Validation Call for HAI Coordinators

Friday, January 11, 2019 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