Voluntary External 2012 CLABSI Validation in Georgia

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Background

Central line-associated blood stream infections (CLABSIs) in adult, pediatric, and neonatal ICUs in acute care hospitals became reportable to CMS through the Inpatient Quality Reporting (IQR) Program in January 2011. In October 2012, the Georgia Department of Public Health (GDPH) HAI team and an area hospital partnered with the CDC to test and provide feedback on the abstraction tool and chart selection methodology of the NHSN Toolkit for Validation of 2012 CLABSI reporting in ICUs.[1] After consultation with the Georgia Healthcare-Associated Infections Advisory Committee (GHAIAC), recruitment of volunteers for external 2012 CLABSI validation was conducted at a meeting of the Greater Atlanta APIC chapter in December 2012. In addition, an invitation was emailed to all facilities that had conferred rights to GDPH in NHSN at that time. Twelve facilities responded to the request. Ten facilities were selected on a first-come-first-served basis, and two put on a waiting list. In January 2013 conditions reported to CMS through NHSN were added to the Notifiable Disease list, and external validation work began.

Purpose

Validation of data reported to CMS through NHSN helps to ensure accurate reporting of data, promote correct application of NHSN definitions, and accurate counting of denominator data. Data accuracy is essential to guide the development of effective infection control policies and strategies, and creates an equal comparison between facilities. External validation is an opportunity to build relationships between Infection Preventionists (IPs) and the GDPH HAI team, to provide education, recommendations, and support to IPs and hospital epidemiologists, and create an environment where data accuracy is emphasized.

Methods

The NHSN Validation Guidance and Toolkit; Validation for 2012 Central Line-associated Bloodstream Infection (CLABSI) in ICUs[1] was used as a template for our external validation efforts. All positive blood cultures in patients in an ICU or NICU in 2012 were obtained, and stratified random sampling was used to select 40 non-CLABSI cultures and up to 20 reported CLABSIs, for a maximum of 60 charts reviewed per facility. Denominator collection methods were reviewed, and a questionnaire was administered to assess knowledge of denominator data collection methods and NHSN definitions. Any discrepancies between GDPH and IP CLABSI determinations were reviewed with the IPs to resolve, and the NHSN helpdesk was contacted to adjudicate on complex cases. A final assessment letter with findings and recommendations was sent to IPs and facility leadership.

Results

Between January and July 2013, GDPH worked with five of the 10 Georgia acute care facilities that volunteered for external 2012 CLABSI validation. Due to electronic laboratory query capacity barriers at one facility, chart review data from four facilities are included in the results table.

	Total
Facilities	4
Charts reviewed	171
NHSN reported CLABSIs	87
NICU	11
Non-NICU	76
BSIs Attributable to Alternate Site[2]	13
Discrepancies Resolved During Review with IPs	2
NHSN Consulted to Resolve Complex Cases	5
Final Discrepancies	11
Sensitivity	95%
Specificity	93%
Concordance	94%
Kappa Score	0.82

Discussion

Initial validation outcomes are encouraging. A high Kappa (0.82) score – a statistical measure of inter-rater agreement – and percentage of concordance (94%) reflect an understanding of NHSN definitions and accurate reporting by IPs in facilities that volunteered for external validation. Five additional facilities will be validated by December 31, 2013.

Barriers

External validation barriers fall into two categories – barriers for the GDPH and barriers for IPs at acute care facilities. Barriers to external validation efforts by GDPH include limited funding for travel, limited personnel, and electronic medical record access barriers due to PHI security policies. Barriers to accurate CLABSI reporting and preparation for external validation varied by facility. Key barriers included difficult-to-query electronic records, IP and leadership staff turnover, difficulty with calculation of denominator data, and lack of an established relationship between IPs and laboratory managers.

References

1.) NHSN Validation Guidance and Toolkit; Validation for 2012 Central Line-associated Bloodstream Infection (CLABSI) in ICUs. http://www.cdc.gov/nhsn/toolkit/validation-clabsi/index.html

2.) Tennessee Department of Public Health, Checklists for HAI Definitions. http://health.state.tn.us/ceds/hai/

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