

Validation of HAI Reporting in New Hampshire Hospitals: Data from 2014-15

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■ JSI Team

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PROJECT OVERVIEW

- Our team previously conducted external validation of reported HAI data (2009-10) in NH acute care facilities; corrections resulted in 23% overall increase in reported events.
- This project used the same methods to validate an expanded list of HAIs across the 26 acute care facilities.
- Timeframe of data for large facilities was 2015; critical access hospitals also included 2014 data.

SUMMARY OF METHODS

- Facilities submitted lab data on positive urine and blood cultures in ICU patients through secure transmission to JSI. Files were screened for potential events that would be included in chart reviews.
- Procedure data from NHSN denominator files were also submitted to JSI, including discharge diagnosis codes for original procedure admission and all readmissions during the surveillance period. High risk codes associated with potential infections were flagged to select patients for SSI chart review.

SUMMARY OF METHODS

- Site visits for chart review took place between June and November 2016. One facility provided secure remote access to electronic medical records for the review.
- Reviewers were unaware of the event status of the cases during the review, to provide a “blinded” assessment.
- All facilities received feedback and the opportunity to discuss or contest the reviewers’ determinations.
- Several cases were submitted to CDC/NHSN for clarification.

OVERALL FINDINGS

Comparison of current findings to previous validation:

	Current	Previous
	<u>(2014-15)</u>	<u>(2009-10)</u>
CASES REVIEWED	600	893
REPORTED EVENTS (PRE-VALIDATION)	187	244
CHANGES POST-VALIDATION:		
ADD	33	79
MODIFY	16	34
DELETE	5	23
% CHANGE in total events	+ 15%	+ 23%

DEVICE-ASSOCIATED INFECTIONS IN ICU PATIENTS

	<u>CAUTI*</u>	<u>CLABSI#</u>
CASES REVIEWED	128	121
REPORTED EVENTS (PRE-VALIDATION)	34	26
CHANGES POST-VALIDATION:		
ADD	5	6
MODIFY	0	0
DELETE	0	1
% CHANGE in total events	+ 15%	+ 19%
<i>*catheter-associated urinary tract infection</i>		
<i>#central line-associated bloodstream infection</i>		

SURGICAL SITE INFECTIONS: CORONARY ARTERY BYPASS(CBGB) & COLON (COLO)

	<u>CBGB*</u>	<u>COLO</u>
CASES REVIEWED	26	210
REPORTED EVENTS (PRE-VALIDATION)	11	70
CHANGES POST-VALIDATION:		
ADD	1	16
MODIFY	2	5
DELETE	0	0
% CHANGE in total events	+ 9%	+ 23%
<i>*Four facilities reporting on CBGB</i>		

SURGICAL SITE INFECTIONS: ABDOMINAL HYSTERECTOMY(HYST) & KNEE ARTHROPLASTY (KPRO)

	<u>HYST</u>	<u>KPRO</u>
CASES REVIEWED	26	89
REPORTED EVENTS (PRE-VALIDATION)	17	29
CHANGES POST-VALIDATION:		
ADD	0	5
MODIFY	3	6
DELETE	1	3
<i>% CHANGE in total events</i>	<i>-6%</i>	<i>+7%</i>

SURGICAL SITE INFECTION (SSI) ISSUES

- NHSN definitions have gotten stricter for organ space infections related to COLO and KPRO; prosthetic joint infection (PJI) and intra-abdominal abscess (IAB) have become more difficult to classify
- Post-discharge information from office visits, emergency care and cultures is sometimes overlooked by IP staff or missed by surveillance software.
- Present at time of surgery (PATOS) is misunderstood as an exclusion for subsequent SSIs.
- Despite the frequent definition updates and added specifics, some concepts are still confusing and open to interpretation.

CDC/NHSN CLARIFICATION: *IAB DEFINITION QUESTION*

- Intraabdominal infections must meet at least **one** of the following criteria:
- 1. Patient has organisms cultured from abscess and/or purulent material from intraabdominal space.
- 2. Patient has abscess or **other evidence of intraabdominal infection** on gross anatomic or histopathologic exam.
- 3. Patient has at least **two** of the following signs or symptoms: fever ($>38.0^{\circ}\text{C}\pm$), nausea*, vomiting*, abdominal pain*, or jaundice*
 - And at least **one** of the following: ...

QUESTION TO NHSN: *Does observing fecal material in the peritoneum during a reoperation to repair an anastomotic leak count as **other evidence of intraabdominal infection??***

CDC/NHSN CLARIFICATION: *IAB DEFINITION* *ANSWER*

- The observation of fecal-contents in the abdominal cavity alone does not indicate infection and cannot be used to meet the Organ/Space SSI or the IAB criteria for other evidence of infection. Also it does not meet the gross anatomic or histopathologic exam criteria.
- Based on the information provided and unless the patients had additional signs/symptoms or other evidence of infection, neither case meets SSI criteria.

CDC/NHSN CLARIFICATIONS

- Remember, the “present on admission” (POA) definition does not apply to the SSI protocol. If there was evidence of infection at the time of the procedure and then later in the surveillance period the patient develops an infection that meets the NHSN SSI criteria, it is attributed to the procedure.
- Infection present at time of surgery (PATOS) is not an exclusion for a patient later meeting SSI criteria.
- **PATOS=yes is not an exclusion from reporting!**

CDC/NHSN CLARIFICATIONS

Infection present at time of surgery (PATOS):

- PATOS denotes that there is evidence of an infection or abscess at the start of or during the index surgical procedure. (PATOS is a YES/NO field on the SSI Event form.)
- The evidence of infection or abscess must be noted/documentated intraoperatively in an intraoperative note (immediate postoperative note). The patient does not have to meet the NHSN definition of an SSI at the time of the primary procedure but there must be notation that there is evidence of an infection or abscess present at the time of surgery.

CDC/NHSN CLARIFICATIONS

Infection present at time of surgery (PATOS):

- PATOS is not diagnosis driven (e.g. diverticulitis, peritonitis, and appendicitis).
- Identification of an organism alone using culture or non-culture based microbiologic testing method or on a pathology report from a surgical specimen does not = PATOS.
- Additionally, the following verbiage alone without specific mention of infection does not meet the PATOS definition: colon perforation, necrosis, gangrene, fecal spillage, nicked bowel during procedure, or a note of inflammation.
- PATOS can be met when an abscess is noted, there is mention of infection in the OR note, purulence or pus is noted, septic/feculent peritonitis is noted.

CDC/NHSN CLARIFICATIONS

- Regarding a possible CLABSI case in which facility considered positive blood cultures secondary to gastrointestinal infection(GIT), **can Xray or ultrasound be used as diagnostic imaging tests?**
 - CDC's response: MRI and CT scans are examples of imaging diagnostic testing. 'e.g.' is used to mean 'for example' and show type of imaging as examples but doesn't limit to the ones specified.
 - You may use any type imaging testing available to satisfy the criteria for 'imaging test evidence of infection'.
 - On the other hand, 'i.e.' means specifically. In the equivocal imaging testing where we indicate you must have clinical correlation, the 'i.e.' means we limit acceptable clinical correlation specifically to physician documentation of antimicrobial treatment for gastrointestinal infection.

QUESTIONS?

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Any questions or additional insights
to share?

