NHSN Surveillance Definitions: New year, New Definitions

- The National Health Safety Network (NHSN) made several changes to its healthcare-associated infection (HAI) surveillance definitions in January 2016. This month’s newsletter highlights these changes.

Identifying Healthcare-associated Infections (HAIs) in NHSN:

- NHSN removed the following fungal pathogens from their list of HAIs that require formal reporting. These pathogens include Blastomyces spp., Histoplasma spp., Coccidioides spp., Paracoccidioides spp., Cryptococcus spp., and Pneumocystis jiroveci spp. NHSN justified removal of these fungal pathogens because infections with these fungi are nearly always community acquired. However, the long incubation periods of these pathogens and diagnostic challenges frequently result in inpatient diagnosis of an infection that was actually acquired in the community.
- PCR and other non-culture diagnostic tests are now acceptable for pathogen identification.
- Any type of microbiologic diagnosis based on testing specimens collected from patients who have been documented as brain dead AND maintained for organ harvest should not be included in HAIs reported to NHSN.

Bloodstream Infections (BSI) and Central line-associated bloodstream infection (CLABSI) events:

- NHSN removed Salmonella spp. as a primary BSI pathogen because Salmonella BSI almost always occur secondary to an underlying enteric infection.
- A patient with documented factitious bacteremia is no longer considered a CLABSI for NHSN reporting purposes.
- Infection preventionists should no longer use ANC/WBC levels to identify the date of onset of a mucosal barrier injury laboratory confirmed blood stream infection (MBI-LCBI) event. Rather, as for other LCBI, the actual date of blood stream infection should be considered the date of the MBI-LCBI event.
- A patient who meets NHSN criteria for a BSI secondary to pneumonia but NOT secondary to a ventilator associated event (VAE) now qualifies for the “BSI secondary to pneumonia” surveillance definition.
**Ventilator–Associated Pneumonia (VAP):**
- NHSN defined *Candida* pneumonia in immunocompromised patients with pneumonia (PNU3) as those patients with MATCHING *Candida* spp isolated from blood AND one of the following specimens: 1) BAL, 2) protected specimen brushing, 3) sputum, or 4) endotracheal aspirate.

**Ventilator-Associated Events (VAE):**
- Patients with a VAE and an associated secondary bloodstream infection (BSI) must have a documented “matching organism.” Simply put, the GENUS and SPECIES of the pathogen isolated from the blood and lung specimen must match in order to make the diagnosis of an associated secondary BSI.
- NHSN added 6 new antimicrobial agents to their list of acceptable therapeutic options for treatment of infection-related ventilator associated complications (IVAC) and possible ventilator associated pneumonia. These agents are: ceftazidime/avibactam, ceftolozane/tazobactam, dalbavancin, isavuconazonium, oritavancin and peramivir.

**Catheter-Associated Urinary Tract Infection (CAUTI) Event:**
- Patients with an indwelling urinary catheter must have one of the following three symptoms or signs: fever >/=38.0, suprapubic tenderness, or costovertebral angle tenderness to meet the “signs and symptoms” criteria for having a CAUTI. Urinary urgency, frequency, and dysuria can no longer be used as symptoms for diagnosing a CAUTI. We strongly agree with this change.
- *Candida* species or species of yeast not otherwise specified, molds, dimorphic fungi, or parasites are now excluded as pathogens in the new NHSN definition of a CAUTI. See our May 2014 newsletter for a further discussion of why this change makes good sense.
- NHSN changed the CAUTI laboratory definition by requiring a urine culture colony count of >10^5 CFU to meet the laboratory definition of a CAUTI. Urine cultures with colony counts <10^5 CFU with accompanying urinalysis suggestive of infection no longer meet the laboratory definition of a CAUTI.

**Surgical Site Infection (SSI) Event:**
- Symptomatic postoperative patients whose incisions were opened only for inspection now meet new NHSN criteria for SSI regardless of whether a positive culture or no culture was obtained. However, if cultures were obtained in such patients and if they were negative, the patient is not considered to have a SSI.
- ICD-10 codes are now required for diagnosis and reporting of HAI to NHSN. The SSI chapter has been updated with the appropriate ICD-10 codes for reporting.
- Furthermore, NHSN created a list of NHSN procedure codes and matched the procedure codes to SSI specific event codes. Reporters should use this list to ensure that the SSI they are reporting correctly matches with a procedure code. This matched list is located in Appendix (1) of the SSI chapter. ([http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSICurrent.pdf](http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSICurrent.pdf))

**Multidrug-Resistant Organism and Clostridium difficile Infection (MDRO/ CDI) Event:**
- NHSN now “conditionally requires” the following additional data when reporting a MDRO or CDI event: 1) last physical overnight location of patient prior to arrival into the reporting facility, and 2) patient discharge status from any facility in the 4 weeks prior to MDRO/CDI event. Hospitals may enter “Unknown” if identifying the requested information presents undue burden.
- NHSN now requires additional information about carbapenemase testing when reporting the following carbapenem resistant Enterobacteriaceae (CRE): 1) CRE-*Klebsiella*, 2) CRE-*E. coli*, and
3) CRE-Enterobacter. Specifically, infection preventionists should report whether the isolate was tested for carbapenemase and, if yes, the isolate’s corresponding carbapenemase testing method and specific name of the carbapenemase identified. As with the above requirement, this requirement will be burdensome for IPs.

**NHSN Additional Key Term:**

- NHSN added a new key term, **clinical correlation**, defined as: physician documentation of antimicrobial treatment for site-specific infection.

**Other Definition Changes:**

CDC/NHSN Surveillance Definition for IAB-Intraabdominal infection has been updated:

- NHSN specified organisms that meet the positive blood culture requirement for IAB. Patients now meet the IAB surveillance definition if they exhibit specified signs/symptoms and have a positive blood culture for any one of the following pathogens: *Bacteroides spp.*, *Candida spp.*, *Clostridium spp.*, *Enterococcus spp.*, *Fusobacterium spp.*, *Peptostreptococcus spp.*, *Prevotella spp.*, *Veillonella spp.* or Enterobacteriacea species.

**Key Points**

- NHSN made numerous minor and highly technical changes to surveillance definitions that took effect in January 2016.
- DICON worksheets and database entry fields have been updated to reflect the changes noted above.
- Please contact your DICON liaison if you have additional questions regarding interpretation or implementation of the changes discussed in this document.
- Some of preceding changes (e.g. less inclusive definitions of a CAUTI) although still imperfect, are improvements.
- Other changes (e.g. the requirement that IPs report a patient’s physical location prior to admission) will increase the surveillance workload of already overworked IPs.
- In addition, the implementation of new surveillance definitions will make historical trending of rates of HAI at each institution more difficult to interpret. DICON keeps track of the timing of each new change in NHSN surveillance definitions and can provide assistance if questions arise as to whether observed changes in local rates are due to a true change or secondary to a change in a specific surveillance definition.