Module 4:
NHSN Lessons Learned, Clarifying the Gray in Reporting

Satellite Conference and Live Webcast
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Faculty

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The Path to NHSN Reporting

"If you can find a path with no obstacles, it probably doesn't lead anywhere."

– Frank Clark

Clarifying Deadlines

- Early HAI Reporting
- Blue Cross Tiering Points
- Mandatory HAI Reporting

Alabama HAI Reporting Requirements

- Surgical Site Infection (SSI)
  - Colon surgeries (Inpatient)
  - Abdominal hysterectomies (Inpatient)

Alabama HAI Reporting Requirements

- Catheter Associated Urinary Tract Infections (CAUTI)
  - General medical wards
  - General surgical wards
  - General medical/surgical wards

Alabama HAI Reporting Requirements

- Central Line Associated Blood Stream Infections (CLABSI)
  - Medical critical care units
  - Surgical critical care units
  - Medical/surgical critical care units
  - Pediatric critical care units

Reporting Lessons Learned

- Location mapping
- Correct mapping of facility locations is a vital step in ensuring accuracy in HAI data collection and reporting!
  - * NHSN Manual (Chapter 15, July 2010)

Reporting Lessons Learned

- Gray Areas
  - "How do I ensure that our facility locations are mapped correctly?"
  - "How do I ensure that the required HAIs are monitored for those locations?"

The 80/20 Rule: What About 50/50?

- Each location under surveillance must be "mapped" to one standard CDC Location description
- The correct mapping to a CDC Location is determined by the type of patients receiving care

The 80/20 Rule: What About 50/50?

- 80% Rule
  - 80% of the patients must be of a consistent type to classify the location as that specific type

The 80/20 Rule: What About 50/50?

- Example
  - If 80% of patients on a ward are pediatric patients with orthopedic problems, the location is designated as an Inpatient Pediatric Orthopedic Ward

The 80/20 Rule: What About 50/50?

- **Exception**
  - For patient care areas where the mix of medical and surgical patients is approximately equal, use the combined medical/surgical location designation

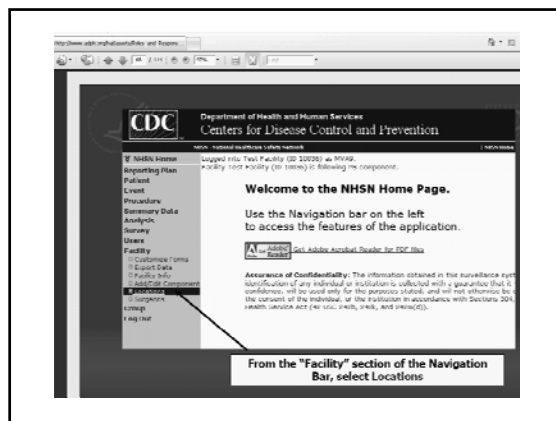# Example Internal Validation Tool: Locations for "ADPH Medical Center"

Code	CDC Location Code	ADPH HAI Requirement	Validated by
2NE	Medical Surgical Ward	[x]CA [ ]CL	Shamburger/Thompson
2NW	Cardiothoracic Critical Care Unit	[ ]CA [ ]CL	Shamburger/Hassel
3NE	Pediatric Critical Care Unit	[ ]CA [x]CL	Shamburger/Cochran
3NW	Medical Surgical Ward	[x]CA [ ]CL	Shamburger/Farley
4NE	Medical Ward	[x]CA [ ]CL	Shamburger/Gary
4NW	Medical Ward	[x]CA [ ]CL	Shamburger/Holefield
5NE	Step Down Unit	[ ]CA [ ]CL	Shamburger/Taylor
SSI	ALL	SSI-COLO only	Shamburger/Pesson

Reporting Lessons Learned

- **The Monthly Reporting Plan**
  - The Centers for Medicare and Medicaid Services (CMS) reporting requirements may require you to edit your monthly reporting plan for January 2011

Reporting Lessons Learned

- Before editing the monthly reporting plan, add the additional locations for which you are required to report HAI data

Select **Find** to edit data

Select **Add** to enter new locations

*Remember, once you have established a plan you can copy from previous month for all subsequent months

Reporting Lessons Learned

- **The Monthly Reporting Plan and Data Entered**
  - Gray Areas
    - "Will ADPH have access to the additional CLABSI data reported to CMS?"
      - No; ADPH can only access data conferred to ADPH Group

Gray Areas in HAI Reporting: Is It Really A HAI?

- **An infection is NOT a HAI, if:**
  - "…Present or Incubating on admission"
    - Sources
      - Direct observation of infection site
      - Review of information in patient's chart or clinical records

Gray Areas in HAI Reporting: Is It Really A HAI?

  - "…Complications or extensions of infections already present on admission, unless a change in pathogen or symptoms strongly suggests…"
  - * Chapter 2 NHSN Manual – Identifying Healthcare-associated Infections in NHSN

Possible HAI

- **Always apply NHSN's (CDC) definitions**

Possible HAI

- **For certain HAI infection sites, clinical judgment or direct observation by a physician may be used as criterion for a NHSN infection**

  [√] SSI - Yes

  [√] CAUTIs - No; requires lab culture

  [√] CLABSI - No; requires lab culture/s

Possible HAI

- **Patients with debilitating illnesses, such as cancer or diabetes, may acquire a HAI**

Reporting Lessons Learned

- **Surgical Site Infection (SSI)**

  - **Procedure data (denominator and numerator) can be input as it occurs**

- **Procedure numerator Form 57.120**

- **Procedure denominator Form 57.121**

Reporting Lessons Learned

- **Surgical Site Infection (SSI)**

- **ICD-9 Codes are not immediately assigned**

- **NHSN does not require ICD-9 codes to input SSI denominator or numerator data**

Reporting Lessons Learned

- **Gray Area**

  - **"How can we be sure that we are capturing all of the required surgeries that were performed?"**

The ICD-9 Solution

- **Review the ICD-9 code descriptions with your surgery and coding team/staff**
- **Establish a mechanism to be alerted when patients undergo surgeries meeting the identified descriptions**

The ICD-9 Solution

- **Rationale: will allow patients undergoing surgeries meeting these descriptions to be flagged as early as possible**
- **Follow-up**
  - **Compare lists from Medical Records NHSN list of procedures you input**

Re-admissions vs. Post-discharge SSI Surveillance

- **Gray Area**
  - **Surveillance for SSIs**
    - **Do you check for readmissions?**
    - **ER visits?**
    - **Calls from other Hospitals or Physicians?**

Re-admissions vs. Post-discharge SSI Surveillance

- **This SSI data will be included in the calculation of SSI rates for public reporting**

Common Errors: SSIs

- **Incorrect surgical wound class**
- **Procedure time either very short or long**
- **ASA scores**
  - **ASA scores are required for inpatient surgeries**

Common Errors: SSIs

- **Remember colon surgeries are at least "clean contaminated"**
- **Surveillance tips**
  - **Validate imported data**

Reporting Lessons Learned

- **Catheter Associated Urinary Tract Infections (CAUTI)**
  - CAUTI data is summary data collected at the same time each day

Add

Select the CDC form 57.118

Catheter Associated Urinary Tract Infections (CAUTI)
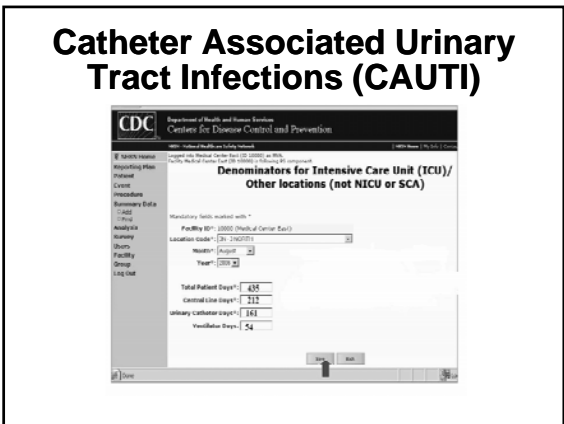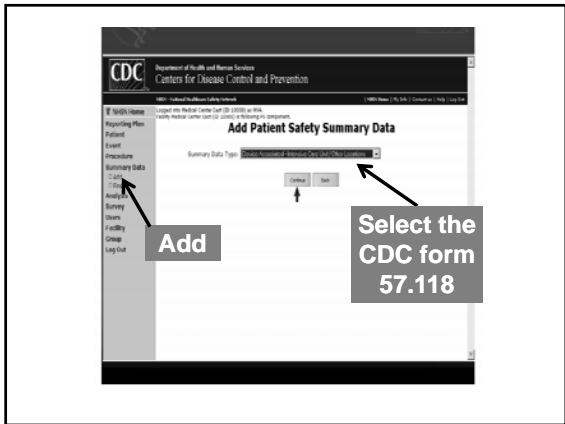
- **You can always add drugs that you did test in addition to the ones required by NHSN**

Catheter Associated Urinary Tract Infections (CAUTI)

- **Only UTIs associated with a urinary catheter fit the device associated HAI**
- **SUTI – A secondary bloodstream infection may or may not be present**
- **ABUTI – A secondary bloodstream infection must be present that matches the uropathogen**
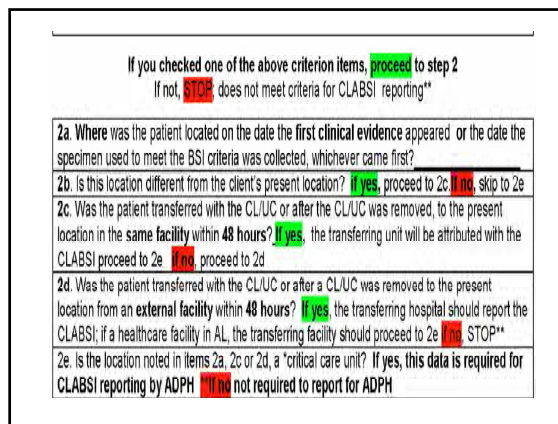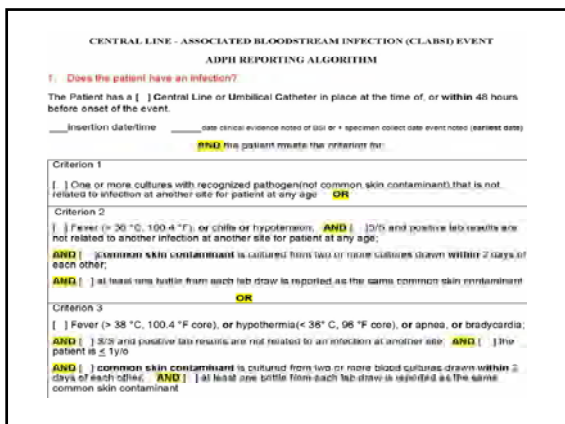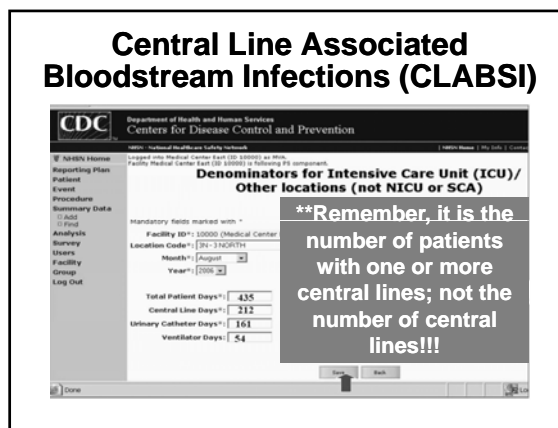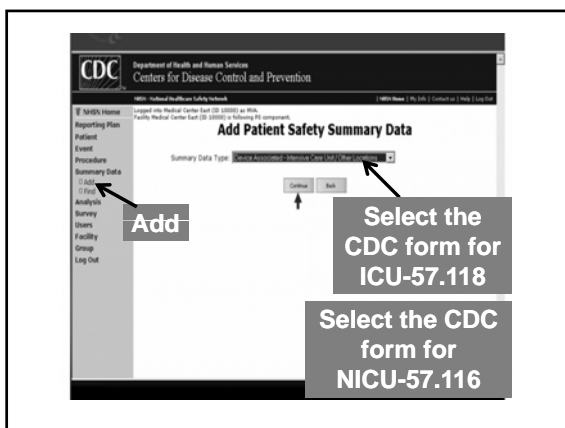
Common Errors: CAUTIs

- **ABUTI and patients ≥ 65 years of age**
- **Remember**
  - It is difficult to validate denominator data on a site visit
  - Internal validation is critical!!

Common Errors: CAUTIs

- **Surveillance tip**
  - **Periodically check the accuracy of catheter day data by visiting units and comparing reported catheter days with actual number of patient lines**

Reporting Lessons Learned

- **Central Line Associated Bloodstream Infections (CLABSI)**
  - **CLABSI data is summary data collected at the same time each day**

Add

Select the CDC form for ICU-57.118

Select the CDC form for NICU-57.116

Central Line Associated Bloodstream Infections (CLABSI)

**Remember, it is the number of patients with one or more central lines; not the number of central lines!!!

Recognized Pathogens vs. Common Skin Contaminants

- **Recognized Pathogens**
  - Staph aureus
  - Enterococus spp.
  - E. coli
  - Pseudomonas spp.
  - Klebsiella spp.
  - Candida spp.

Recognized Pathogens vs. Common Skin Contaminants

- **Common Skin Contaminants**
  - Diphtheroids
  - Bacillus [not B. anthracis] spp.
  - Propionibacterium spp.
  - Coagulase-negative staphylococci
  - Viridans group streptococci
  - Aerococus spp.
  - Micrococcus spp.

Collecting Blood Culture Specimens (CDC)

- **Ideally, blood specimens for culture should be obtained from two to four draws from separate venipuncture sites (e.g., right and left antecubital veins) not through a vascular catheter**

Collecting Blood Culture Specimens (CDC)

- **These blood draws should be performed simultaneously or over a short period of time**
  - Within a few hours

Collecting Blood Culture Specimens (CDC)

- **If your facility does not currently obtain specimens using this technique, you may still report BSIs using the NHSN criteria, but you should work with appropriate personnel to facilitate better specimen collection practices for blood cultures**

Slide 1:

If you checked one of the above criterion items, proceed to step 2
If not, STOP; does not meet criteria for CLABSI reporting**

2a. Where was the patient located on the date the **first clinical evidence** appeared or the date the specimen used to meet the BSI criteria was collected, whichever came first?

2b. Is this location different from the client's present location? if yes, proceed to 2c. If no, skip to 2e

2c. Was the patient transferred with the CL/UC or after the CL/UC was removed, to the present location in the **same facility** within **48 hours**? If yes, the transferring unit will be attributed with the CLABSI proceed to 2e. If no, proceed to 2d

2d. Was the patient transferred with the CL/UC or after a CL/UC was removed to the present location from an **external facility** within **48 hours**? If yes, the transferring hospital should report the CLABSI; if a healthcare facility in AL, the transferring facility should proceed to 2e. If no, STOP**

2e. Is the location noted in items 2a, 2c or 2d, a *critical care unit? If yes, this data is required for CLABSI reporting by ADPH **If no not required to report for ADPH

Slide 2:

Determining the Sameness of an Organism

- Genus and species of sample 1 matches the genus of sample 2 = same
- Report the most specific organism

Slide 3:

Determining the "Sameness" of Two Organisms (CDC)

- If the common skin containment from one culture is identified to both genus and species level (e.g., *Staphylococcus epidermidis*) and the companion culture identifies only the genus with or without other attributes (in this example, coagulase negative staphylococci), then it is assumed that the organisms are the same

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Slide 4:

Determining the "Sameness" of Two Organisms (CDC)

- The more specific organism should be reported in NHSN
  - In this example *S. epidermidis* would be reported

Slide 5:

Determining the "Sameness" of Two Organisms (CDC)

- Other examples

Culture	Companion Culture	Report as...
Bacillus spp. (not anthracis)	*B. cereus*	*B. cereus*
S. salivarius	*Strep viridans*	*S. salivarius*

Slide 6:

Determining the Sameness of an Organism

- Speciated but one or no antibiogram = same

Determining the "Sameness" of Two Organisms (CDC)

- If common skin containment organisms are speciated (e.g., both are *Bacillus cereus*) but no antibiograms are done, or they are done for only one of the isolates, it is assumed that the organisms are the same

Determining the Sameness of an Organism

- Different response to two or more antimicrobials = different

Determining the "Sameness" of Two Organisms (CDC)

- If the common skin contaminants from the cultures have antibiograms that are different for two or more antimicrobial agents, it is assumed that the organisms are <u>NOT</u> the same

Determining the "Sameness" of Two Organisms (CDC)

- Examples

Organism Name	Isolate A	Isolate B	Interpret as...
S. epidermidis	All drugs S	All drugs S	Same
S. epidermidis	OX R CEFAZ R	OX S CEFAZ S	Different
Corynebacterium spp.	PENG R CIPRO S	PENG S CIPRO R	Different
Strep viridans	All drugs S	All drugs S except ERYTH (R)	Same

Common Errors: CLABSIs

- Recognized pathogens entered as skin contaminants
- Skin contaminants entered as recognized pathogen
- Use of old NHSN criteria

Common Errors: CLABSIs

- Remember
  - It is difficult to validate denominator data on a site visit
  - Internal validation is critical!!

Common Errors: CLABSIs

- Surveillance tip

  – Under reporting line days will artificially increase CLABSI rates

  – Periodically check the accuracy of line day data by visiting units and comparing reported catheter days with actual number of patient lines

Common Errors: CLABSIs

- If the patient is in ICU, how do you capture positive blood cultures that return after the patient is transferred to a regular floor?

- Do you keep a line list of patients with a central line?

Internal and External Audits/Validation Strategies

- Example of Internal Validation: New York

  – Monthly review of NSHN Reported Data

  – Missing monthly reporting plans

  – Missing data- numerator/denominator

Internal and External Audits/Validation Strategies

– Missing conferred rights

– Data variable "screamers"

– Denominator discrepancies

– Numerator discrepancies

– How do you ensure consistency in data collection when you are not there?

External Validation Strategy: South Carolina

- Meet with the IP and explain the chart review and infection control processes review

  – What kind of training has the IP received?

  – How long has the IP been at that job?

External Validation Strategy: South Carolina

– Who enters the data into NHSN?

– How do you ensure accuracy of data entered?

– Who is responsible for correcting NHSN data that is found to be incorrect?

Prevention

- What are the recommended core strategies for prevention of CAUTI?
  - Insert catheters only for appropriate indications
  - Leave catheters in place only as long as needed
  - Ensure that only properly trained persons insert and maintain catheters

Prevention

- Insert catheters using aseptic technique and sterile equipment
  - Acute care setting
- Following aseptic insertion, maintain a closed drainage system
- Maintain unobstructed urine flow

Prevention

- Practice hand hygiene and standard (or appropriate isolation) precautions according to CDC Healthcare Infection Control Practices Advisory Council (HICPAC) guidelines

Prevention

- What are some examples of quality improvement programs that may ensure appropriate urinary catheter utilization?
  - System of alerts or reminders to remove unnecessary catheters
  - Stop orders for urinary catheters

Prevention

- Protocols for nurse-directed removal of unnecessary catheters
- Guidelines/algorithms for appropriate perioperative catheter management
- www.cdc.gov/hicpac/pdf/CAUTI/CAUTIguideline2009final.pdfrs.
- http://www.cdc.gov/hicpac/CAUTI_fastFacts.html#6

On the CUSP: Stop BSI Project

- Builds on successes in Michigan Keystone project
  - CLABSI prevention bundle
  - Collaborative model
  - Promotion of safety culture

On the CUSP:
Stop BSI Project

- **Surgical Care Improvement Project (SCIP)**
  - SSI prevention
  - Includes preoperative and postoperative best practice measures

Strategies to Increase Efficiency
in HAI Data Collection

- **Panel Guests**

    Theresa Aikens
    USA Medical CEnter

    Cathy Sanders
    Brookwood Medical Center

    Patti Thames
    Thomas Hospital