Developing an Efficient CAUTI Surveillance Method Using an Automated Data Collection Process

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Objectives

- Describe the development of an automated approach for CAUTI surveillance utilizing innovative technology
- Demonstrate an algorithmic method to the CDC CAUTI surveillance guidelines

Significance

- CAUTIs are one of the most common hospital-acquired infections (HAIs), increasing hospital stay, mortality, and cost
- Regulation: Joint Commission National Patient Safety Goal
- Interdisciplinary efforts to establish best practice, provide data for staff education, and create periodic reports to monitor infections and help facilitate CAUTI prevention

Challenges

- Initial ICU CAUTI surveillance included **manual entry** into a spreadsheet
  - ICU staff entered data for all patients admitted to the ICU
  - Infection Control reviewed every ICU patient with a Foley for a positive urine culture and signs/symptoms of a CAUTI
- Data collection process was tedious and time-consuming

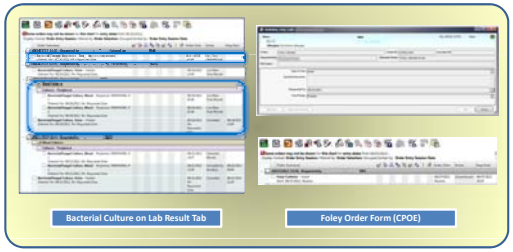
Strategy

- A multidisciplinary group (Nursing, Nursing Informatics, Nursing Quality, Infection Control, and IT department) analyzed the manual data collection process in the ICU to develop a more streamlined method
- *Scope*: ICU → All Inpatient units
- Evaluation of the current information systems
  - Clinical Documentation (electronic V/S & I/O Flowsheet)
  - CPOE (Computerized Provider Order Entry)
  - Laboratory

Implementation

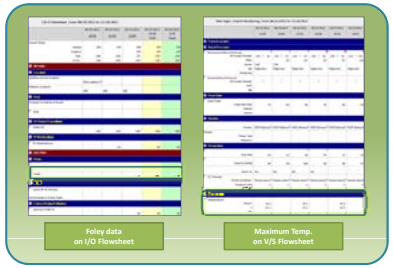
Numerator DATA – Number of Hospital-Acquired CAUTIs

Weekly report to capture patients with positive urine micro cultures and Foley orders from CIS (Clinical Information Systems)



Denominator DATA – Foley Catheter Days

Daily report to retrieve Foley catheter days & maximum temperature from the electronic V/S and I/O Flowsheet

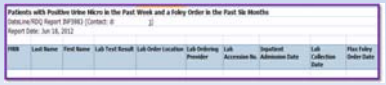


Data warehouse: IDB (Institutional Data Base)

< DATALINE REPORTS >

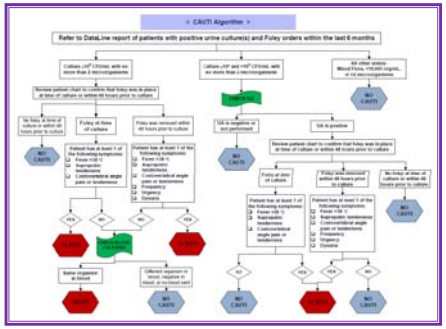
< Automated Foley Status Report - Daily >

< Automated Positive Urine Micro Report – Weekly >



CAUTI Algorithm – developed to simplify the CDC surveillance definition

The algorithm is applied to the results of the automated dataline reports for evaluation for a positive CAUTI



Evaluation

- The multidisciplinary team was instrumental in developing our CAUTI surveillance program
- The collaborative effort
  - Made the process much less complicated
  - Improved reliability of the data
  - Reduced the time to review and report CAUTIs
  - Greatly decreased the number of chart reviews

Implications for Practice

- Using advanced technology and electronic information, evaluations of CAUTIs are done in a timely manner and the results are promptly provided to the frontline staff taking care of the patients
- This information is shared with our CAUTI prevention work group to help guide infection prevention practices
- Next Step: develop a database to merge CAUTI data reports and further improve our automated reporting process

Contributors

David Rice and Judy Graham, Nursing Quality; Jonathan Wills, IS; Patricia Spellman and Joyce Kane, Nursing; Janet Eagan, Infection Control

References

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