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Practicum Site:

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MRSA Bloodstream Infections in Tennessee

Project: The Tennessee Department of Health (TDH) wants to improve healthcare services and guide prevention efforts for patients with Methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections (BSIs). To address this concern, the goals of this practicum were to analyze existing hospital-onset (HO) MRSA BSIs data in the pediatric population from acute care hospitals in Tennessee and to create two chart abstraction tools to characterize: (1) HO MRSA BSIs for high burden pediatric facilities, and (2) MRSA BSI patients lost to follow-up from acute care hospital emergency departments (ED) in Tennessee.

Design: HO MRSA BSIs were analyzed in the pediatric population in Tennessee state using National Healthcare Safety Network (NHSN) database from 2011-2018. Using this data, data collection instruments were created in Research Electronic Data Capture (REDCap) to characterize HO MRSA BSIs for high burden acute care facilities with a focus on pediatric and neonatology populations. A separate REDCap project was designed to collect data from patients diagnosed with MRSA BSIs in ED settings, but not admitted as an inpatient within 7 days based on the data from NHSN and matched to Tennessee's Hospital Discharge Data System (HDDS).

Outcomes: Standardized comprehensive data collection tools have been developed to evaluate underlying factors associated with HO MRSA BSIs at pediatric medical facilities, and to identify the risk factors for the loss of follow up in patients diagnosed with MRSA

bacteremia from ED or inaccuracy in reporting systems. Chart review of patients with MRSA BSI who are lost to follow up from ED is ongoing. Barriers for data collection from charts have been identified (e.g. missing data). Detailed collection of data is still needed for standardized assessment for possible MRSA BSIs risk factors.

Interpretation: The results will provide guidance for prevention efforts, mobilizing available resources to address gaps in patient safety, and improving data management in order to reduce the number of HO MRSA BSI in pediatric populations.

