**Implementation of a Pharmacy-driven BCID Antimicrobial Stewardship Initiative in a Community Hospital**

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**Background:** Traditional methods of identifying pathogenic microorganisms from blood cultures and testing for antimicrobial susceptibility can take 2 days or more. During this time, patients may be unnecessarily exposed to broad-spectrum antibiotics, receiving ineffective empiric therapy, unnecessarily treated based on contamination of the culture, or experiencing avoidable adverse effects. Blood Culture Identification (BCID) technology has been shown to demonstrate reliable detection of microorganisms in as little as one hour from the time of sample testing. Proper utilization of these results is often lacking in the absence of well-coordinated antimicrobial stewardship efforts and protocols. At Sentara Martha Jefferson Hospital, BCID technology has been available for 5 years; however, no standardized protocols for relaying BCID results to providers and modification of antimicrobial therapy based on these results has been implemented.

**Objective:** The primary objective of this study was to design and implement a pharmacy-driven BCID antimicrobial stewardship initiative at Sentara Martha Jefferson Hospital in Charlottesville, Virginia. The primary observational endpoint is time in hours to appropriate antimicrobial therapy for blood cultures. Secondary observational endpoints include provider acceptance rate of pharmacy recommendations, duration of empiric therapy for methicillin-resistant *Staphylococcus aureus* and *Pseudomonas aeruginosa*, development of new *Clostridioides difficile* infection, and development of acute kidney injury.

**Methods:** This was an observational quality improvement study conducted at a 176-bed community hospital. A process for modifying antimicrobial therapy using a physician-approved, standardized pharmacy recommendation chart for organisms identified by the BioFire FilmArray® panel and based on standards of practice and the local antibiogram was developed and implemented. Physicians, pharmacists, and laboratory staff were educated on the process prior to implementation. After a one-month run-in period, the initial data assessment phase began (February 1, 2022 – April 30, 2022). Records were collected from the electronic medical record (EMR) via charge capture for the BCID panel charge code. Pharmacists' documentation of making recommendations to providers for therapy changes based on BCID results occurred via intervention documentation tagged to the empiric antimicrobial therapy in the EMR.

**Preliminary Results:** A total of 101 unique BCID records were identified during the specified assessment period. Of these, 52% (n = 53) had an associated pharmacist recommendation to narrow coverage (22%, n = 13), broaden coverage (14%, n = 8) or continue current therapy (64%, n = 37). Time from BCID result to appropriate therapy was 1.62 ± 1.55 hours for narrowed coverage and 1.01±1.50 hours for broadened coverage. The provider acceptance rate of pharmacy recommendations was 81% (n = 47).

**Conclusion:** This study reports the preliminary results of implementing a pharmacy-driven BCID antimicrobial stewardship initiative in a community hospital setting. Further analysis and comparison of pre-implementation and post-implementation groups is needed to determine statistical and clinical significance of these results.