BACKGROUND
• Appropriate empirical antimicrobial therapy is associated with improved outcomes of patients with gram-negative bloodstream infections (BSI).
• However, excessive use of broad-spectrum antimicrobials is not without major adverse events.

STUDY OBJECTIVES
• Evaluation of combined impact of antimicrobial stewardship interventions and rapid diagnostic testing on:
  • Adequacy of empirical antimicrobial therapy.
  • Utilization of broad-spectrum antimicrobial agents.

METHODS
• Adult patients with gram-negative BSI admitted to Palmetto Health Richland and Baptist Hospitals in Columbia, SC.
• Quasi-experimental before/after interventions:
  • Pre-interventions: January 2010 – December 2013
  • Post-interventions: January 2014 – April 2015

ANTIMICROBIAL STEWARDSHIP INTERVENTIONS
• Evidence-based institutional guidelines for management of gram-negative BSI based on risk factors for Pseudomonas aeruginosa or chromosomally-mediated AmpC-producing Enterobacteriaceae (CAE), bloodstream antibiotic and acute severity of illness. [Figure 1]
• Prospective monitoring of positive blood cultures for gram-negative bacilli for optimization of empirical antimicrobial therapy and streamlining of definitive therapy.

MICROBIOLOGY INTERVENTIONS
• January 2014 – April 2015: Matrix Assisted Laser Desorption Ionization Time-of-Fight (MALDI-TOF)
• October 2014 – April 2015: FilmArray Blood Culture Identification (BCID) Panel.