59. Evaluation of Drug-Bug Mismatch Alerts and Their Value in an Antimicrobial Stewardship Program
Cristen A. Whittaker, PharmD3; Ethan Nhan, PharmD3; Marc Storb, PharmMD2; Shana Szymborski, PharmD2; Manish Trivedi, MD1; Joseph Reilly, PharmD2;
AtlanticCare Regional Medical Center, Pomona, NJ; 2Atlanticcare Regional Medical Center, Pomona, New Jersey

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Antimicrobial stewardship is a priority for hospitals and utilizing generated reports can enhance stewardship activities. At our institution, a software program was used to help optimize antimicrobial therapy by providing a drug- bug mismatch (DBM) alert which identifies patients with culture susceptibilities not covered by their current antimicrobial therapy. The purpose of this study was to evaluate the utility of this alert feature and determine whether or not an intervention was needed for patients identified.

Methods: From August 2019 to March 2020 the DBM alerts were reviewed by a pharmacist and interventions pursued when appropriate. Data included collection of the patient’s culture results and source, indication for current antibiotics, and potential for intervention. Alerts were stratified into different groups based on the type of culture, including urine, blood, sputum, bone or bodily fluid, wound or tissue, and stool. Those mismatches not resulting in an intervention were categorized as a contamination, colonization, or inappropriate. This study was approved by the institutional review board.

Results: A total of 105 DBM alerts were analyzed from various sources, including 51 (47.6%) urine, 17 (16.2%) sputum, 16 (15.2%) wound or tissue, 14 (13.3%) blood, 6 (5.7%) bone or bodily fluid, and 1 stool culture. Overall, 48 of 105 (45.7%) of alerts resulted in an intervention. Urine and sputum culture alerts required interventions at the lowest rate with treatment interventions in 12 of 51 (23.5%) and 5 of 17 (29.4%) of those cultures, respectively. In total, 23 (9.6%) patients were found to have a DBM alert, as follows: 9 of 14 (64.3%) alerts required an intervention. Alerts with wound or tissue cultures identified gaps in therapy as 9 of 16 (56.3%) cases required intervention. Colonization or contamination appeared to be the major cause of alerts that did not result in intervention.

Conclusion: The DBM alert can be a beneficial tool for pharmacists participating in antimicrobial stewardship activities. However, the alerts had varying value depending on the culture source. The DBM alert can identify real-time patient issues regarding appropriate antimicrobial therapy. Further modifications to our process in utilizing this DBM report are warranted to enhance value and allocate time accordingly.

Disclosures: All Authors: No reported disclosures

60. Evaluation of Outcomes Associated with Intermittent Versus Extended Infusion of Piperacillin/tazobactam in Acutely Ill Veterans
Marianne Angeli Encarnacion, PharmMD1; Ariel Ma, PharmD2; Scott T. Johns, PharmD2; VA San Diego Healthcare System, San Diego, California; VA San Diego Medical Center, san Diego, California; VA San Diego VA Healthcare System, San Diego, California

Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

Background: Antimicrobial dosing optimization is a key principle of antimicrobial stewardship. This study evaluated the impact of an extended infusion piperacillin/tazobactam dosing protocol on clinical outcomes in acutely ill veterans treated for infections at VA San Diego.

Methods: This retrospective cohort study looked at veterans admitted to the medical-surgical unit who were treated with piperacillin/tazobactam for at least 48 hours. The control group included patients who received treatment between 12/14/2017 to 7/22/2018, and the “protocol” or after protocol implementation group included patients who received treatment between 7/23/2018 to 2/28/2019. Excluded from the study were veterans with microbiological cultures showing intermediate sensitivity or resistance to piperacillin/tazobactam, those who experienced interruption in therapy, or those who required dialysis. Primary clinical outcomes included in-hospital mortality, 30-day mortality rate, hospital length of stay (LOS), and 30-day readmission rates. Rates of adverse effects such as elevated liver enzymes, thrombocytopenia, acute kidney impairment (AKI), and Clostridium difficile infection were also collected. χ², Fisher’s exact, and Mann-Whitney U tests were used for statistical analysis.

Results: 260 veterans were included in the final analysis: 96% male, mean age 65 years, mean BMI 29.84, MDR criteria for sepsis, and 55% received at least 48 hours of concomitant vancomycin. Groups had similar outcomes for mean LOS, in-hospital mortality, and 30-day mortality. The incidence of AKI was significantly lower in the protocol group (39.2% vs. 56.9%, p=0.004), in veterans on concomitant vancomycin (42.3% vs. 63.2%, p=0.011), and in veterans with obesity (36.4% vs. 70.8%, p<0.001). Rates of liver enzyme elevation, thrombocytopenia, and Clostridium difficile infection were lower in the protocol group though these were not significant.

Conclusion: There was a significantly lower rate of AKI with EI dosing which supports enhanced patient safety. This may be the preferred method of administration for obese patients and/or those receiving vancomycin concurrently. This is the first