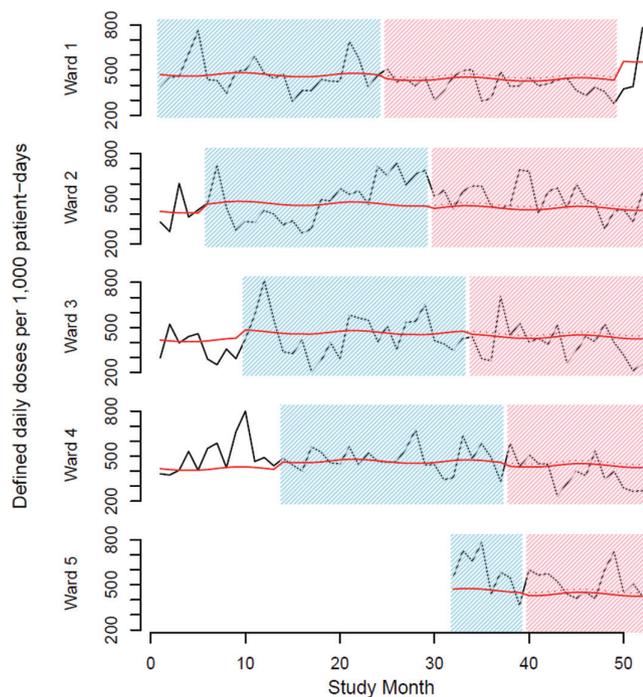


Figure 1. Antimicrobial Use on Internal Medicine Wards Before and After High-Intensity PAF



Disclosures. All authors: No reported disclosures.

1565. Implementation of an Automated Electronic Medical Record “Antibiotic Timeout” Alert at a Tertiary Academic Medical Center

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Background. An antibiotic timeout (ATO) is a relatively new regulatory requirement for antibiotic stewardship programs. An ATO is a mandatory review of the antibiotics being prescribed to inpatients on approximately day three of antibiotic therapy. Its purpose is to encourage appropriate de-escalation or discontinuation of antibiotics as more clinical data is available on which to base antibiotic choices. The primary objective of this study is to describe the impact of implementing an electronic “antibiotic timeout” (ATO) on antibiotic de-escalation at an academic medical center.

Methods. We implemented an electronic medical record (EMR) based ATO in August 2016 at a tertiary academic medical center. We leveraged native alerting functionality in the EMR to present a notification to the primary clinician after a patient had received intravenous vancomycin (V) and/or piperacillin/tazobactam (Z) for more than 48 hours. The “best practice alert” (BPA) reminded the clinician to review the appropriateness of antibiotic selection and to attest to this action.

Results. After implementation of this ATO, we reviewed a random sampling of 100 patients initiated on V and/or Z therapy for whom providers received an automated ATO notification and compared antibiotic use to 100 patients who received the same therapy prior to the ATO implementation. We found an overall increase in de-escalation (defined as either changing or stopping therapy) on day 3 of V and/or Z therapy from 27% pre-ATO to 70% for post-ATO. For overall V therapy, we found a de-escalation from 27% pre-ATO to 68% for post-ATO and for overall Z therapy, we found a de-escalation from 25% pre-ATO to 72% for post-ATO.

Conclusion. An EMR generated BPA ATO had a significant impact on de-escalation of V and/or Z on day 3 of therapy.

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1566. Cost-Savings Associated With Delayed Switch To Outpatient Antibiotic Regimen For Patients Requiring Daptomycin Therapy

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Background. Daptomycin is often preferred for treatment of Gram-positive infections requiring intravenous therapy in the outpatient setting due to convenient once-daily dosing and ease of laboratory monitoring. A key component of the

outpatient parenteral antimicrobial therapy (OPAT) transition of care process is switching patients from their inpatient regimen, typically vancomycin, to daptomycin before discharge to assess tolerability. A medication utilization review identified that patients were changed to daptomycin earlier than necessary resulting in overutilization of a high cost medication, thus significantly increasing drug expenses when lower cost alternatives existed. The primary objective of this study was to evaluate the effectiveness of a pharmacist-driven intervention on the reduction of unnecessary inpatient daptomycin use for OPAT patients.

Methods. In May 2016, the antimicrobial stewardship committee instituted a restriction on daptomycin for a maximum of two inpatient doses prior to discharge in cases for which alternative agents were available. The OPAT pharmacist was responsible for ensuring the restriction was met. Daptomycin procurement expenses were obtained for eight months prior to the intervention to establish a baseline. Post-intervention data collection included monthly procurement expenses, number of patients receiving inpatient daptomycin, and number of doses administered.

Results. Pre-intervention daptomycin procurement expenses averaged \$85,900 per month, which decreased by \$25,000 per month post-intervention, resulting in estimated annual savings of \$300,000. The number of patients receiving inpatient daptomycin (OPAT and non-OPAT) remained stable pre- and post-intervention at 43 and 41 per month, respectively. Lastly, the average number of inpatient doses administered in the pre- and post-intervention periods was 164 and 112, respectively.

Conclusion. The results of this study demonstrate that clinical pharmacists can effectively limit inappropriate early switches to daptomycin in preparation for discharge to an OPAT program. Simple stewardship program interventions can ensure that the correct agents are utilized before and after discharge resulting in significant cost savings.

Disclosures. All authors: No reported disclosures.

1567. Antimicrobial Stewardship Challenges: Could Generic Antibiotic Use Policies Improve Economic Outcomes in Acute Care Hospitals?

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Background. The main goal of an Antimicrobial Stewardship Program (ASP) is to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use. However, the healthcare resource manager’s primary goal for ASP is to reduce the cost of patient care without adversely affecting quality. Globally, generic drugs facilitate access to medication, especially in resource-limited settings, provided that they prove as effective as the brand molecule. Economical evaluation (EE) studies aim to find the most cost effective alternatives. This study was designed to determine the incremental cost-effectiveness ratio (ICER) of generic meropenem (GM) use vs. brand-name meropenem (BNM) to treat Gram-negative infections.

Methods. We conducted a double cohort EE study of adult patients who received GM vs. patients who received BNM. All patients with meropenem-susceptible infections were treated in the intensive care unit (ICU) of a Colombian acute care hospital. Survival rates were defined as the clinical outcome for effectiveness. Total infection cost was defined by the cost (USD) of antimicrobial consumption, length of stay, and laboratory and imaging exams until infection resolution. ICER was calculated using a decision tree model.

Results. A total of 168 patients were included; survival rate for the 68 patients treated with GM was 38% vs. 59% for the 100 patients treated with BNM (death risk OR: 18.4 95% CI 1.47–232, $P = 0.024$). The total antimicrobial consumption cost was lower in the BNM cohort (\$303 vs. \$588) explained by fewer consumption doses. ICU stay costs were higher in the GM cohort (\$8,896 vs. \$7,705), however, laboratory and imaging exam costs were lower in the GM cohort (\$961 vs. \$1,360). Total infection cost did not show a significant difference between groups (BNM \$10,771 vs. GM \$11,343 $P = 0.91$). The ICER, which represents the cost of obtaining one additional effectiveness unit (patient survival), is \$2,724 USD when changing BNM to GM.

Conclusion. This study shows that the use of GM, which is less clinically effective than BNM, is not a cost effectiveness option. Our findings evidence that the use of GM instead of BNM increases the consumption of healthcare resources, increases spending and may reduce the economic sustainability of the national healthcare system.

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1568. Economic Outcomes of Isavuconazole to Prevent Invasive Fungal Infection in Immunocompromised Adults: Initial Experience at an Academic Medical Center

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Background. Isavuconazole (ISA) is a once-daily, extended-spectrum triazole approved for treatment of invasive aspergillosis and mucormycosis. The pharmacokinetic profile, daily dosing, lack of therapeutic drug monitoring (TDM) and reduced cost make ISA a promising option for use as prophylaxis for invasive fungal infections (IFIs). We report our experience with use of ISA for prophylaxis of IFI in high-risk hematologic malignancy patients.

Methods. In August 2016, ISA replaced posaconazole (POS) for IFI prophylaxis at our 576-bed academic medical center in order to contain drug costs. ISA prophylaxis was restricted to patients with the following high-risk criteria: refractory or relapsed acute myeloid leukemia, myelodysplastic syndrome or graft-vs.-host disease receiving high-dose steroids. We electronically identified all drug orders for ISA prophylaxis between August 2016 and March 2017; patient and encounter identifiers and start and stop dates were electronically extracted. Additional clinical data was collected via chart review. ISA costs were calculated using ISA days of therapy (DOT) and current ISA acquisition costs; POS costs were extrapolated from ISA DOT and calculated using current POS acquisition costs. Data were summarized using descriptive statistics; drug costs were compared using paired t-tests.

Results. 113 patients received ISA for a total of 2610 patient-days of therapy. Mean age was 53 years; 22 (12.9%) patients were admitted to the intensive care unit during therapy. Intravenous ISA accounted for 731 DOT, and oral ISA for 1679 DOT. TDM was performed 10 times and the median ISA level was 5.3 µg/mL (IQR 2.9 – 7.2). The switch resulted in a mean cost savings of \$119.11 per DOT compared with extrapolated POS costs ($P < 0.01$). Upon discharge, insurance denied coverage of ISA prophylaxis in 14% of patients, and 11% of patients received an alternative antifungal prophylaxis agent. Grade 2 liver injury possibly related to ISA occurred in 9% of patients.

Conclusion. At our institution, utilizing ISA for IFI prophylaxis resulted in cost savings relative to POS. Lack of insurance coverage for ISA at discharge remains a major challenge. Further study should assess infectious outcomes with ISA prophylaxis.

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1569. Transition of Care with Dalbavancin: a Successful Cost-Saving Stewardship Program through Decreased Length of Stay

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Background. A key part of our antimicrobial stewardship program (ASP) includes interdisciplinary collaboration to develop a transition of care plan for patients needing long-term antibiotics. Many of our challenging clinical scenarios involve inpatients, who do not qualify for intravenous antibiotics administered via home health agencies or skilled nursing facilities, with complicated skin and soft tissue structure (cSSTI), joint and bone infections. Their cost-of-care, driven mainly by prolonged length of stay (LOS), is high. For infections involving gram-positive bacteria treatment with dalbavancin, while an expensive antibiotic, posed a viable option for transitioning select patients for early discharge.

Methods. Retrospective review of cases was conducted for all patients administered dalbavancin at Deaconess Hospital from Dec 2015 to Jan 2017. Prior to drug administration patient cases required approval by ASP for appropriateness of treatment plan. Data collected included diagnosis/site of infection, organism, current IVDU, treatment plan (and if completed), inpatient and estimated total LOS, dalbavancin dosing regimen, and cost (drug and LOS). Overall cost savings was calculated by LOS savings (\$1,000/day) minus cost of dalbavancin (\$1,400/500mg vial).

Results. 17 patients (13 IVDUs) were administered dalbavancin: 8 for cSSTI, 8 for osteo/joint infections and 1 for bacteremia. 7 of 8 patients with cSSTI received either 1 or 1.5 gm of dalbavancin once; and 1 patient returned for weekly dosing to complete therapy. 3 of 8 patients with osteo/joint infections received a one-time dose to complete treatment; 4 returned for weekly dosing; and 1 patient was lost-to-follow-up. Only one patient, overall, was readmitted. Treatment was well tolerated and no complications were noted. Mean actual LOS (range) for patients with cSSTI was 11 (3–32) days; and with osteo/joint was 23 (13–36) days. Cost of dalbavancin was \$68,600. Total LOS was decreased by 270 days. Overall savings were over \$200,000.

Conclusion. Findings were presented to pharmacy and hospital leadership as an example of a safe, effective, cost-saving ASP outcome. For every dollar spent on dalbavancin our hospital saved three dollars on cost-of-care related to decreased length of stay.

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1570. Impact of a Standardized Penicillin Allergy Assessment Program to Optimize Penicillin Allergy Documentation and B-lactam Antibiotic Use at an Academic Medical Center

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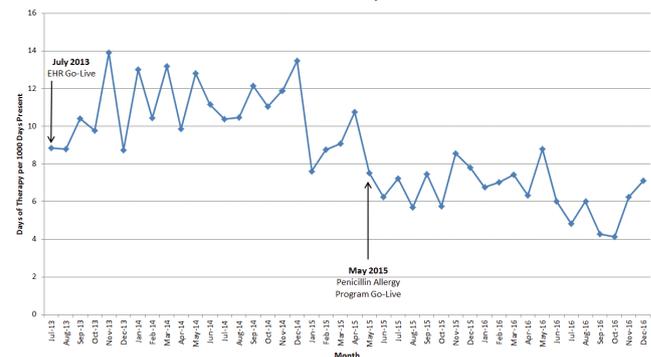
Background. The 2016 IDSA Guidelines for Implementing an Antibiotic Stewardship Program recommend that Antibiotic Stewardship Programs (ASPs) implement allergy assessments for patients with a documented penicillin allergy. The impact of completing these allergy assessments on allergy documentation and antibiotic prescribing is not well characterized.

Methods. We performed a retrospective quasi-experimental study to evaluate the impact of the implementation of a standardized penicillin allergy assessment program by the Duke Antimicrobial Stewardship and Evaluation Team (ASET). Starting in May 2015, pharmacy technicians performed detailed assessments of admitted patients with a documented penicillin allergy; assessments were reviewed by clinical pharmacists. The pre-intervention period included randomly-selected adult patients with a reported penicillin allergy admitted from May 2014 to April 2015. The primary study outcome was accurate characterization of penicillin allergy within the electronic health record (EHR), including clarification of allergic reaction and removal of allergy. Secondary outcomes included B-lactam use within 90 days of hospitalization, time to complete the assessments, and hospital-wide aztreonam use, measured as days of therapy (DOT) per 1000 days present.

Results. A total of 200 patients were included; 100 patients during the intervention period, and 100 during the pre-intervention period. The proportion of patients who had their allergy information updated increased from 31% to 62% following implementation of the program ($P < 0.0001$); inappropriate allergy documentation was removed in 7 (7%) patients. The program did not change the percentage of study patients who received a B-lactam (24% vs. 26%; $P = 0.74$). Hospital-wide aztreonam use was lower in the intervention group (10.8 vs. 7.0 DOT/1,000 days present; $P < 0.0001$). The average time to perform each assessment was 15 minutes.

Conclusion. Implementation of a standardized penicillin allergy assessment program led to a significant impact on allergy documentation within the EHR without burdening pharmacy staff. While the rate of B-lactam therapy was unchanged, we observed a significant decrease in aztreonam utilization after program implementation.

DUH Aztreonam Utilization July 2013 - Dec 2016



Disclosures. All authors: No reported disclosures.

1571. Use of Penicillin Skin Testing as an Antimicrobial Stewardship Initiative: Clinical and Economic Evaluation at a Community Health System

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Background. Commonly reported penicillin allergies result in limited treatment options, increased healthcare costs, and increasing resistance with the use of broad-spectrum agents. By providing penicillin skin testing (PST) to patients with a penicillin allergy, there is potential to reduce the use of carbapenems, aztreonam, vancomycin, and other broad-spectrum agents, resulting in cost savings and unnecessary overuse. This study examined clinical and economic outcomes of antimicrobials prescribed before and after PST.

Methods. This nonrandomized, observational chart review examined adult patients admitted over an open enrollment period of 100 patients who completed PST for a self-reported penicillin allergy. The study included all patients who met inclusion