Conclusion. Public Health Departments can facilitate assessment of ACH ASPs within their jurisdiction to identify ways to advance the ASP agenda and combat AMR. A variety of strategies were used by Chicago ACHs to promote ASP initiatives during USAAW. Challenges continue with inadequate funding, especially in outpatient settings.

Disclosures. All Authors: No reported disclosures

126. Outpatient Antimicrobial Stewardship Utilizing a Decentralized Model
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Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

Background. The majority of human antimicrobial utilization occurs in the outpatient setting. Despite being mainly viral in etiology, upper respiratory tract infections (URIs) were the most common indication for outpatient antimicrobial prescriptions at our institution.

Methods. Through our electronic health record (EHR), we were able to determine our rate of antibiotic prescriptions for inappropriate URI diagnosis at our primary care practice sites. We selected staff volunteers from each of our primary care practice sites to serve as stewardship champions. They were given training in stewardship best practices, and an URI stewardship tool kit which included viral URI prescription pads, EHR order panel, and patient education signage. They were tasked with providing education and feedback to their practice sites. We meet with them on a monthly basis to disseminate prescribing data and education. They also provided feedback from practice sites to the stewardship committee.

Results. Our decentralized model was put in place in November 2020. In the 6 months prior to the intervention, the average prescribing rate was 29.1%. In the 6 months after the intervention, the average prescribing rate decreased by 15% to 24.8%. During the intervention phase, there was an increase in number of non-COVID URIs diagnosed at our primary care sites.

Temporal Trend in Inappropriate Antibiotics Prescribing Rates for Viral URIs Pre- and Post- Intervention

Viral Upper Respiratory Infections Visits

The total number of visits for presumed viral upper respiratory infections to primary care sites from May 2020 until May 2021. The majority of COVID-19 precautions and an increase in non-COVID URIs diagnosed. The advantage of this approach includes an advocate embedded at each practice site who is familiar with the opportunities and challenges of the site, and a two-way flow of information from practice sites to the stewardship committee. This model provided additional benefit during the COVID-19 pandemic as the ability of centralized staff to travel to off campus clinic sites was curtailed.

Disclosures. All Authors: No reported disclosures

127. Living on the Edge: The Impact of MIC Distributions on Empiric Antibiotic Selection
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Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

Background. Due to variability in the precision of an MIC, concern may exist in optimizing PK/PD using standard doses when the MIC is at the susceptibility breakpoint (SBP). This is notable when treating infections in critically ill patients. Evaluating MIC distributions among commonly used antibiotics and accounting for isolates at the SBP represents an additional enhancement to inform empiric therapy. The aim of the study was to evaluate antibiotic susceptibility for commonly used β-lactams against Pseudomonas aeruginosa (PA) in a syndromic antibiogram, incorporating MIC distribution.

Methods. 20 US institutions submitted yearly up to 250 consecutive targeted Gram-negative pathogens from hospitalized patients as part of the Study for Monitoring Antimicrobial Resistance Trends (SMART) in 2016-2019. MICs were determined by broth microdilution and interpreted using 2021 CLSI breakpoints. The syndromic antibiogram included PA from a blood or respiratory source based on patient location. Based on CLSI guidance, an empiric antibiotic susceptibility threshold of ≥ 90% was deemed optimal.

Results. 2,500 PA blood (n=680) and respiratory (n=1,820) isolates were evaluated; piperacillin/tazobactam (P/T), cephalothin (FEP), meropenem (MEM), and ceftolozane/tazobactam (C/T) susceptibilities were 69.6%, 74.2%, 75.3%, and 95%, respectively (Figure 1). Isolates with MICs at the SBP were observed in 12.1%, 18.7%, 7.5%, and 6.5% for P/T, FEP, MEM, and C/T, respectively. Susceptibilities were lower when stratified by ICU, 64.8%, 71.2%, 70.7%, and 93.7% for P/T, FEP, MEM, and C/T, respectively with a similar frequency of SBP isolates (Figure 2).

Conclusion. Our analysis demonstrated that first line antipseudomonal agents, P/T and FEP, have susceptibility rates lower than the CLSI recommended threshold. A significant portion of the MICs within the susceptible range are at the SBP. Due to the frequency of baseline resistance and challenge in achieving adequate PK/PD in critically ill patients, clinicians may be concerned with relying on certain antibiotics when the MIC is at the SBP. Antimicrobial stewardship programs should consider incorporating MIC distributions into syndromic antibiograms to better inform empiric therapy recommendations.
Disclosures. Karri A. Bauer, PharmD, Merck & Co., Inc. (Employee, Shareholder) Levita K. Hidayat, PharmD BCIDP, Merck & Co., Inc. (Employee, Shareholder) Kenneth Klinker, PharmD, Merck & Co., Inc. (Employee, Shareholder) Mary Motyl, PhD, Merck & Co., Inc. (Employee, Shareholder) C. Andrew DeRyke, PharmD, Merck & Co., Inc. (Employee, Shareholder)

128. Development of an Analytics Dashboard to Monitor Antimicrobial Selection and Duration for Pneumonia
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Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

Background. Analytical and visual tools can be used to monitor progress for a variety of ASP key performance indicators, but few data describe the process of building disease-state specific tools to retrospectively monitor antimicrobial choice and duration. We describe process and methods for development of a pneumonia dashboard.

Methods. In late 2019, the Carolina ASP began construction of a dashboard to monitor antimicrobial selection and duration in patients admitted with a diagnosis code (ICD-10) consistent with pneumonia. Data extracted from the medical record after discharge included: admission date and time, admission and discharge ICD-10s, inpatient orders and administrations for agents included in the NNSN Antimicrobial Use (AU) option, and antimicrobials ordered at discharge with associated ICD-10. Extracted data fields were validated using a one-month sample. Displays were constructed to trend selection during the first 48 hours of admission, inpatient days of therapy, and total length of therapy (sum of inpatient + outpatient days) for patients who received a discharge prescription for an antimicrobial included in the AU option that was associated with an ICD-10 consistent with pneumonia. Trends observed between Jan 2020 and Mar 2021 are reported.

Results. 341 admissions were trended. Within the first two days of admission, monthly proportions of patients receiving an antimicrobial by category were: anti-MRSA therapies (vancomycin, linezolid), 0.20 to 0.75; broad spectrum beta-lactams (e.g., ceftriaxone, piperacillin/tazobactam, ceftazidime, meropenem; CAP = ceftriaxone, azithromycin, ampicillin/sulbactam, amoxicillin/clavulanate, cefdinir, levofloxacin).

Conclusion. Automated reports and visual tools can provide actionable insights for ASP practice. From this dashboard, we identified variable but high rates of antimicrobial selection and duration for an antimicrobial included in the AU option that was associated with an ICD-10 consistent with pneumonia. Trends observed between Jan 2020 and Mar 2021 are reported.

Disclosures. All Authors: No reported disclosures

129. Safety and Cost-effectiveness Analysis Outpatient Continuous Parenteral Antibiotic Therapy via a Disposable Elastomeric Pump at Two County Hospitals in Houston, Texas
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Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

Background. Outpatient parenteral antibiotic therapy (OPAT) is a therapeutic option for patients who require longer intravenous (IV) antimicrobial courses, yet do not need to remain hospitalized. HarrisHealth system OPAT programs implement a disposable elastomeric continuous infusion pump (eCIP) for IV antibiotics. Here we report the clinic-demographic features, outcomes of a cohort of patients receiving OPAT via eCIP (OPAT-eCIP), as well as the cost-effectiveness of OPAT in comparison to standard inpatient care.

Methods. We retrospectively obtained the clinic-demographic characteristics and outcomes of 91 patients discharged from HarrisHealth-affiliated hospitals from December 2018 to February 2021 who underwent OPAT-eCIP. We then compared the total costs associated with home-OPAT-eCIP care with that of an equivalent of inpatient IV antimicrobial treatment based on previous studies.

Results. We identified 481 total OPAT patients; 91 (18.9%) received intravenous antibiotics via eCIP, with two initiating therapy outpatient. In total, 1925 days of IV antimicrobial therapy were administered outpatient by OPAT-eCIP, with a median treatment course of 12 days. Eighty-three (92.2%) patients completed their antimicrobial course, with 85 (93.4%) cured of respective infections (Table 1). Antimicrobial-associated adverse events and PICC line associated complications were 6.6% and 14.3% respectively. 30-day hospital readmission rates were under 10% with 21 patients (23.1%, 28 total visits) presenting to the emergency room over the course of IV therapy. Estimated costs of OPAT-eCIP care over the study period ranged from $417,000-$576,750 with costs of equivalent inpatient care estimated at $2,945,250 to $3,927,000; estimated overall cost savings of OPAT-eCIP were $2,368,500 to $3,509,900 (Table 2).

Table 1. Characteristics and Outcomes of Patients Receiving Continuous IV Antibiotics via Disposable Elastomeric Pump

Table 2. Cost Analysis Comparison of OPAT-eCIP therapy versus inpatient antimicrobial therapy in patients from December 2018 to February 2021

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