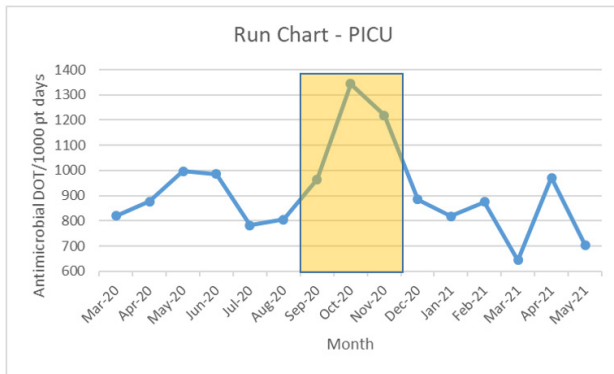
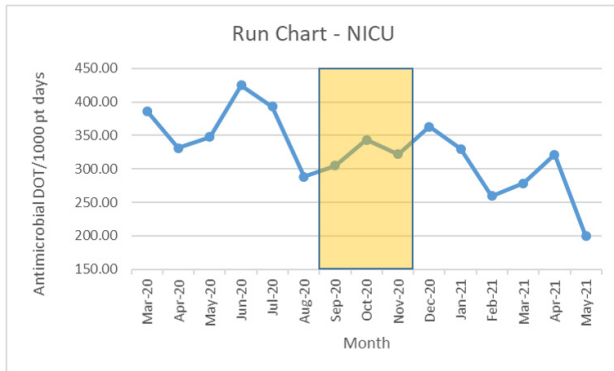


Variation in Antimicrobial Prescribing in the Pediatric Intensive Care Unit



Variation in Antimicrobial Prescribing in the Neonatal Intensive Care Unit



Conclusion. Antimicrobial prescribing decreased following implementation of a formalized pASP in a children's hospital within a large academic medical center. Despite unique challenges with implementation in this environment, antimicrobial stewardship remains effective. Variation between floor, PICU, and NICU antimicrobial prescribing was also notable.

Disclosures. All Authors: No reported disclosures

124. Implementation of IV Push Antibiotics for Outpatients During a National Fluid Shortage Following Hurricane Maria

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Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

Background. Prior to the introduction of intravenous (IV) drip infusion, most IV drugs were delivered in a single bolus. However, with the advent of new agents, IV drip infusions became the standard for all medication delivery. In September 2017, Hurricane Maria made landfall in Puerto Rico and took a devastating toll. As Puerto Rico is the largest supplier of IV fluid bags, this led to a worldwide fluid bag shortage. The outpatient antimicrobial therapy program (OPAT) was significantly impacted by the fluid shortage and this required effective stewardship at the Parkland Health and Hospital System in order to serve a largely uninsured and under-insured patient population.

Methods. Parkland pharmacists evaluated all self-administered antimicrobials for viability of administration as an IV single bolus push (IV-push) instead of a mini-bag infusion (IV-drip infusion). These medications were transitioned to IV-push for patient care. Data was gathered on patient demographics, 30-day readmission rates, mortality, discharge teaching satisfaction, patient satisfaction, and cost evaluation.

Results. 113 treatment courses were self-administered using the IV-push method and were compared to 102 self-administered courses using the IV drip infusion method, over the same time course. Individuals using IV-push had a statistically significant decrease in hospital length of stay as compared to those using IV-drip infusion. The 30-day readmission rate, emergency department visits, and mortality were similar between groups. Patient satisfaction was greater with IV-push (96% preferring). The shift to IV-push via the S-OPAT program saved 504 liters of normal saline, which along with a reduction in supplies and drug costs, resulted in an additional savings of \$43,652 over a 6-month period.

Conclusion. The abrupt IV fluid shortage following a natural disaster challenged clinicians to think differently about standard practices. This led to implementation of a high value care model that is sustainable without affecting safety, efficacy, or efficiency. Given the cost savings, increased patient satisfaction, and equal clinical outcomes, the IV push model is not only a viable alternative initiated during a crisis; it is preferable in many standard situations.

Disclosures. All Authors: No reported disclosures

125. Antimicrobial Stewardship Hospital Activities to Promote Antibiotic Awareness Week 2019, Chicago, IL

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Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

Background. U.S. Antibiotic Awareness Week (USAAW) is an annual campaign to increase knowledge of antimicrobial resistance (AMR) threats and the importance of appropriate antibiotic use. USAAW will be observed November 18-24, 2021 in cadence with World Antimicrobial Awareness Week.

Methods. In October 2019, the Chicago Department of Public Health (CDPH) surveyed 25 Chicago acute care hospital (ACH) antimicrobial stewardship programs (ASPs) via REDCap, an electronic data capture system, to assess their planned activities for USAAW in November 2019. Survey results from 14 (56%) respondent ACHs were collated and disseminated to all 25 ACHs prior to USAAW.

Results. ACH ASP survey responses were categorized by ACH size: smaller hospitals (SH) < 350 beds (n=7) and larger hospitals (LH) > 350 beds (n=7) and displayed in the Table. Nine respondents were Infectious Disease (ID) Pharmacists, 3 were ID Physicians, 1 was an Administrator and 1 was an Infection Prevention Nurse. Among SHs, the ASP was funded for an ID Pharmacist salaried position (FTE) < 0.5 at 4 ACHs, 0.5 in 2, and 1 FTE at 1 ACH. LHs reported ID Pharmacist funding ranging from < 0.5 – 2.5 FTE, with the majority with 1 FTE at 3 LHs. All ACHs reported 0.5 FTE or less ID Physician support for their ASPs. Eleven (79%) of respondent ACHs did not report an annual budget for ASP activities. Ten (71%) ACHs disagreed or strongly disagreed that funding was adequate in the outpatient setting compared to inpatient both for adult and pediatric ASP services. Types of planned activities for USAAW included social media posts, provider education, digital displays, and/or go-live with a new antimicrobial policy. Top three barriers to ASP advancements were financial considerations (n=9), competing responsibilities for ASP leads (n=7), and tied for third was personnel shortages (n=6) and other clinical initiatives with higher priority (n=6).

Table 1: Survey Results from Chicago Acute Care Hospitals Describing Antimicrobial Stewardship Activities to Promote Antibiotic Awareness Week 2019

| Survey Questions | Survey Response (N=25) |
|---------------------------------------------|------------------------|
| Smaller hospital (SH) < 350 beds, n (%) | 7 (50%) |
| Larger hospital (LH) > 350 beds, n (%) | 7 (50%) |
| SH bed, average (range) | 185 (90-312) |
| LH bed, average (range) | 580 (365-890) |
| Survey Resonant Type, n (%) | |
| ID PharmD | 9 (64%) |
| ID MD | 3 (21%) |
| Administrator | 1 (7%) |
| Infection Prevention Nurse | 1 (7%) |
| ID Pharmacist FTE (40 hours/week) | |
| SH, median (range) | <0.5 (<0.5 – 1) |
| LH, median (range) | 1 (<0.5 – 2.5) |
| ID Provider FTE (40 hours/week) | |
| SH, median (range) | <0.5 (0 – 0.5) |
| LH, median (range) | <0.5 (<0.5 – 0.5) |
| Annual stewardship budget | |
| Yes, n (%) | 3 (21%) |
| No, n (%) | 11 (79%) |
| Facility ASP website | |
| SH, n (%) | 0 (0%) |
| LH, n (%) | 100 (100%) |
| Social media plans for USAAW | |
| SH, n (%) | 0 (0%) |
| LH, n (%) | 4 (57%) |
| Target audience for social media, n (%) | |
| Healthcare professionals | 7 (50%) |
| General public / patients | 6 (43%) |
| Parents of young children | 2 (14%) |
| Elderly | 2 (14%) |
| Internal media coverage plans, n (%) | 8 (57%) |
| In person education plans, n (%) | 7 (50%) |
| Type of stewardship activity, n (%) | |
| Medical staff lecture | 5 (36%) |
| Digital display – hospital | 5 (36%) |
| Weren't planning any of these, but will now | 4 (57%) |
| Quizzes for clinical staff | 3 (21%) |
| Prizes for participation | 3 (21%) |
| Digital display – hospital and clinics | 2 (14%) |
| New go-live policy or guideline | 2 (14%) |
| Insight into stewardship barriers, n (%) | |
| Financial considerations | 9 (64%) |
| Other responsibilities for ASP leads | 7 (50%) |
| Personnel shortages | 6 (43%) |
| Clinical initiatives with higher priority | 6 (43%) |
| Suboptimal IT support | 4 (57%) |
| No barriers identified | 2 (14%) |
| Lack of clinical expertise | 2 (14%) |
| Perception of minimal impact | 1 (7%) |
| Unfamiliar with resources | 1 (7%) |
| Stewardship not top administrator priority | 1 (7%) |

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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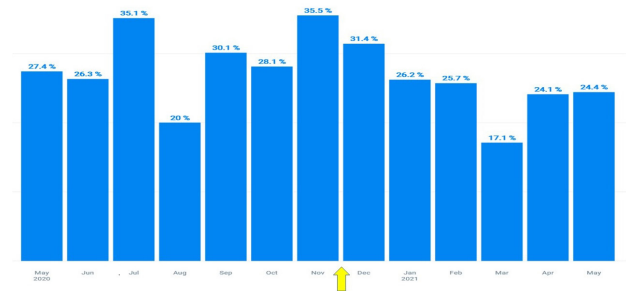
Session: P-07. Antimicrobial Stewardship: Program Development and Implementation

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 our primary care practice sites to serve as stewardship champions. They were given training in stewardship best practices, and an URI stewardship toolkit which included viral URI prescription pad, 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.

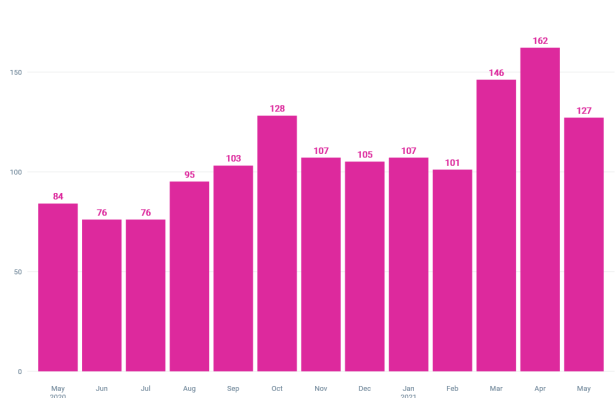
Results. Our decentralized model was put in place in November 2020. In the 6 months prior to the intervention, the average prescribing rate was 29.1%. In the 6 months after the intervention, the average prescribing rate decreased by 15% to 24.8%. During the intervention phase, there was an increase in 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



Inappropriate antibiotic prescribing rate for viral upper respiratory tract infections from May 2020 until May 2021. Intervention started in December 2020 (arrow). Pre-intervention average was 29.1%. Post-intervention age was 24.8% which is a 15% decline in prescribing rate.

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 in the area expired at the end of March 2021.

Conclusion. We have been able to lower our inappropriate prescriptions for URIs utilizing a decentralized model of stewardship champions. This result was especially notable as the intervention phase corresponded with the end 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.

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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 $\geq 90\%$ was deemed optimal.

Results. 2,500 PA blood (n=680) and respiratory (n=1,820) isolates were evaluated; piperacillin/tazobactam (P/T), cefepime (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).

Figure 1. Syndromic antibiogram evaluating *P. aeruginosa* blood and respiratory isolates.

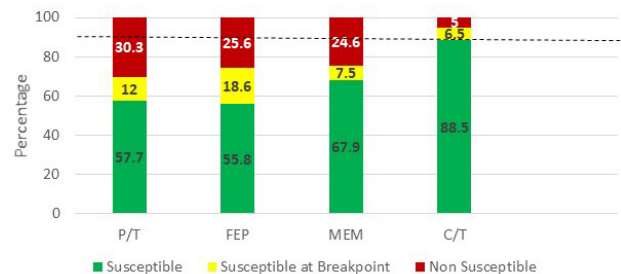
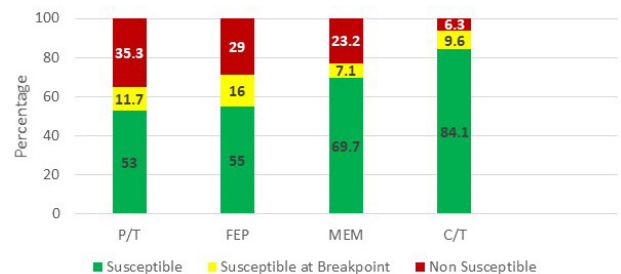


Figure 2. Syndromic antibiogram evaluating *Pseudomonas aeruginosa* blood and respiratory isolates stratified by ICU. *MIC breakpoints used to determine susceptibility included: P/T MIC $\leq 16/4$ $\mu\text{g/ml}$, FEP ≤ 8 $\mu\text{g/ml}$, MEM ≤ 2 $\mu\text{g/ml}$, C/T ≤ 4 $\mu\text{g/ml}$



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.