

in-person discussion with the most responsible physician of the attending team in order to optimize the prescription if deemed necessary. The objective of this study was to assess the effect of AMS provider role on PAF acceptance.

Methods. A 3 year retrospective review of all PAF events was undertaken. All audited prescriptions were included. Logistic regression was used to determine odds ratios for acceptance for individual AMS provider roles of pharmacist, physician, and supervised post-graduate physician trainee.

Results. Out of 1896 prescriptions audited, actionable feedback was provided to the most responsible physician in 731 (39%) cases. 677/731 (93%) of audited antibiotics were carbapenems. The overall acceptance rate was 82% (598/731). Acceptance rate and odds of acceptance based on AMS provider role were as follows: pharmacist alone 171/208 (82%), OR 1.04, 95% CI 0.70-1.59, physician alone 141/160 (88%), OR 1.85, 95% CI 1.12-3.20, pharmacist-physician duo 211/268 (79%), OR 0.73, 95% CI 0.50-1.07, and supervised post-graduate physician trainee 75/95 (79%), OR 0.81, 95% CI 0.48-1.41.

Conclusion. The overall acceptance rate was high. There was a higher odds of acceptance if an AMS physician was providing PAF alone, highlighting the importance of physician involvement.

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118. Feasibility of a Proactive Amoxicillin Oral Challenge Program for Inpatients with Penicillin Allergy at the Miami VAMC

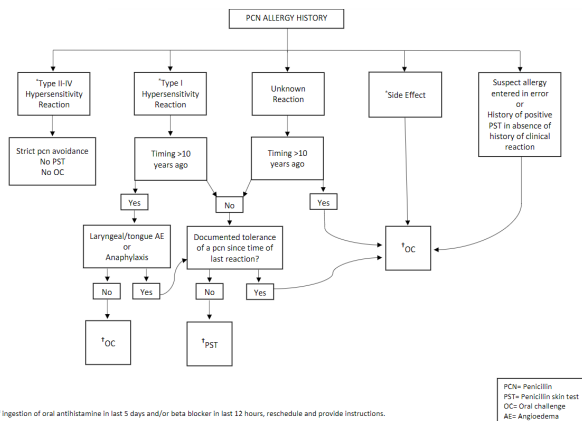
Michael J. Piazza, DO¹; Paola Lichtenberger, MD²; Lauren Bjork, Pharm.D.³; Alex Lazo-Vasquez, MD¹; Minh Hoang, MD⁴; Viviana Temino, MD⁴; ¹University of Miami Hospital / Jackson Memorial, Ocean, New Jersey; ²University of Miami Miller School of Medicine and the Miami VA Healthcare System and University of Miami, Miami, FL; ³Miami Veterans Affairs Healthcare System, Miami, Florida; ⁴Miami VA Medical Center, Miami, Florida

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

Background. Ninety percent of patients who report penicillin (PCN) allergy are not truly allergic. Penicillin skin testing (PST) followed by oral challenge (OC) with amoxicillin (AMX) can evaluate unconfirmed PCN allergy. PST is taxing and requires trained staff, while OC is an acceptable alternative in patients with low-risk histories, who can safely undergo OC without PST. OC is performed in the outpatient Miami Veterans Affairs Medical Center (MVAMC) setting. Collaboration between Allergy, Antimicrobial Stewardship Program (ASP), and Hospital Medicine identified patients with low-risk histories and offered OC to inpatients.

Methods. A daily report of MVAMC inpatients with PCN allergy was reviewed for appropriateness of OC (Fig 1). Hospice patients and those medically unstable or unable to consent were excluded. Appropriate consenting patients were challenged with AMX 500mg PO and observed for 60 minutes. If no reaction resulted, the PCN allergy label was removed. Epinephrine and diphenhydramine were available in case of adverse reaction. Those who were not OC candidates were offered outpatient PST (Fig 1).

Figure 1. Penicillin allergy history evaluation algorithm



Results. We evaluated 39 inpatients with PCN allergy from 3/10 - 5/27/21. Median age was 68 years; 94.9% were male (Table 1). The most common recorded reaction was unknown (Table 2). Thirteen (33.3%) did not qualify for OC, 7 (17.9%) refused, 2 (5.1%) were receiving a penicillin-derivative, 1 (2.6%) patient's primary team refused consult, 2 (5.1%) patients were discharged prior to OC. Fourteen (38%) patients underwent OC with 0 adverse reactions; 0 patients required epinephrine or diphenhydramine. After OC, 5 patients had changes to their antibiotic regimen as a result of a negative OC. Limitations included 5 patients on beta-blockers, and 5 patients unable to consent.

Table 1. Demographics of Evaluated Inpatients, N = 39 (%)

Median Age (years)	68
Interquartile Age (years)	62-74
Gender	37 male (94.9), 2 female (5.1)

Note that 1 patient out of the 39, underwent DPC with cefpodoxime 200mg PO instead of amoxicillin for a reported allergy to ceftriaxone.

Table 2. Reported Reactions, N = 41 (%)

Unknown	15 (36.6)
Generalized, non-specific rash	9 (22.0)
Urticaria	7 (17.1)
Swelling, non-specific	1 (2.4)
Angioedema or anaphylaxis	3 (7.3)
Nausea or vomiting	2 (4.9)
Bruising	1 (2.4)
Dyspnea	1 (2.4)
Diaphoresis	1 (2.4)
Syncope	1 (2.4)

Total N exceeds evaluated patient number as one patient reported multiple reactions to receiving penicillin.

Conclusion. Removing unnecessary PCN allergy labels using inpatient OC with AMX is safe and effective for those with low-risk allergy histories. Zero patients undergoing OC developed a reaction, suggesting that OC may be safely performed per our algorithm. Our protocol does not require specialized training and is reproducible in settings without an Allergy specialist. In the 3 months prior to this program there were 0 inpatient consults to evaluate PCN. Future plans include forming a multidisciplinary consult service.

Disclosures. All Authors: No reported disclosures

119. Performance of Infectious Diseases Specialists, Hospitalists, and Generalists in Case-Based Scenarios Illustrating Antimicrobial Stewardship Principles at 16 VA Medical Centers

Christopher J. Graber, MD, MPH¹; Alissa Simon, MA²; Yue Zhang, PhD³; Matthew B. Goetz, MD⁴; Matthew B. Goetz, MD⁵; Makoto M. Jones, MD MS⁵; Jorie M. Butler, PhD³; Ann F. Chou, PhD⁶; Peter A. Glassman, MBBS¹; ¹VA Greater Los Angeles Healthcare System/UCLA, Los Angeles, California; ²VA Greater Los Angeles Healthcare System, Los Angeles, California; ³University of Utah, Salt Lake City, UT; ⁴VA Greater Los Angeles Healthcare System and David Geffen School of Medicine at UCLA, VA-CDC Practice-Based Research Network, Los Angeles, California; ⁵Salt Lake City VA/University of Utah, Salt Lake City, Utah; ⁶Oklahoma University Health Sciences Center, Oklahoma City, Oklahoma

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

Background. As part of a project to implement and evaluate antimicrobial dashboards at selected VA facilities nationwide, we assessed provider attitudes and knowledge related to antibiotic prescribing among physicians working in inpatient settings at 16 VA facilities.

Methods. The online survey explored attitudes toward antimicrobial use and assessed respondents' management of four clinical scenarios: cellulitis, community-acquired pneumonia (CAP), non-catheter-associated asymptomatic bacteriuria (NC-ASB), and catheter-associated asymptomatic bacteriuria (C-ASB). Responses were scored by assigning +1 for an answer most consistent with guidelines, 0 for a less-guideline-concordant but acceptable answer and -1 for an incorrect answer. Scores were normalized to 100% correct to 100% incorrect across all questions within a scenario, and mean scores were calculated across respondents by specialty; differences in mean score per scenario were tested using ANOVA.

Results. One-hundred-thirty-nine physicians completed the survey (n=19 ID physicians, 62 hospitalists, 58 generalists). Attitudes were similar across the three specialties. There was a significant difference in cellulitis scenario scores (correct responses: ID=67.4%, hospitalists=51.2%, generalists=41.8% correct, p=0.0087). Scores were not significantly different across specialties for CAP (correct responses: ID 76.2%, hospitalists 63%, generalists 56.5%, p=0.0914) and NC-ASB (correct responses: ID 63%, hospitalists 55%, generalists 36.2%, p=0.322), though ID trended higher. Lowest scores were observed for C-ASB (ID 39.5% correct, hospitalists 4% incorrect, generalists 8.5% incorrect, p=0.12).

Conclusion. Significant differences in performance on management of cellulitis and low overall scores on C-ASB management point to these conditions as being potentially high-yield targets for antimicrobial stewardship interventions.

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120. Antimicrobial Prescribing Guidance and Communication Among Health Care Professionals in Five Guatemala Hospitals

Brooke M. Ramay, Pharm D.¹; Clara I. Secaira, Masters in Globalization and Development²; Nuria Chavez, n/a³; Mario Augusto Melgar Toledo, MD⁴; Randall M. Lou-Meda, md⁵; Nancy V. Sandoval, Infectious Disease MSc, MD, MIEPT⁶; Herberth G. Maldonado, MD⁵; ¹Universidad del Valle de Guatemala, Center for Health Studies, Paul G. Allen School for Global Health, Washington State University, Pullman, USA, Guatemala City, Sacatepequez, Guatemala; ²Centro de Estudios en Salud, Guatemala, Solola, Guatemala; ³Hospital Regional de Zacapa, Guatemala, Zacapa, Guatemala; ⁴Hospital Roosevelt, Guatemala City, Totonicapan, Guatemala; ⁵FUNDANIER, Guatemala, Sacatepequez, Guatemala; ⁶Unidad de Cirugía Cardiovascular de Guatemala, Guatemala, Quetzaltenango, Guatemala

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

Background. Communication among health care professionals during antimicrobial prescribing is critical to ensure appropriate use. This is of concern in Guatemala where physicians seldom consider guidance from other professionals during antimicrobial prescribing activities.

Methods. We carried out a cross sectional questionnaire and open ended interviews with physicians from five hospitals in Guatemala to describe perceptions of communication between health care providers, and acceptance of antimicrobial guidance during prescribing.

Results. From January to April 2021 an electronic questionnaire was sent to enrolled physicians of which 74% completed participation (n=107/145). Fifty-five percent participated in open ended interviews (n=79/145). Respondents perceived high levels of communication between physicians and ID specialists (94% of respondents); 52%, and 54% perceived high levels of physician-pharmacist, and physician-nurse communication respectively. Significant differences in the perception of physician-pharmacist communication were detected when comparing responses between hospitals, and between respondent sex (χ^2 , $p < 0.05$). Barriers to communication between professionals included lack of local guidelines or protocols, patient overload, COVID-19 pandemic, lack of mentorship, and little room to discuss antimicrobial therapy with higher-ranking physicians. Eighty percent and 45% of physicians were open to receiving antibiotic optimization recommendations from other physicians, and pharmacists respectively. Notable barriers to accepting recommendations from pharmacists included lack of regular communication, lack of clinical experience, and concern about evidence based recommendations.

Conclusion. Effective communication is perceived between physicians during antimicrobial prescribing activities. Marginal levels of communication and acceptance of prescribing recommendations have been detected between physicians and pharmacists. In this milieu, there is an opportunity to strengthen multidisciplinary teams to optimize antimicrobial use.

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121. Evaluation of Multifaceted Antimicrobial Stewardship in Optimizing Antimicrobial Usage in Intraabdominal Infection at a Community Hospital

Tho H. Pham, PharmD¹; Angela Huang, PharmD²; Scott T. Hall, PharmD, BCPS³; Vanthida Huang, PharmD, BSPHM, FCCP⁴; ¹Midwestern University College of Pharmacy-Glendale Campus, Glendale, Arizona; ²HonorHealth John C Lincoln, Phoenix, Arizona; ³Mayo Clinic Health System-Franciscan Healthcare, La Crosse, Wisconsin; ⁴Midwestern University College of Pharmacy - Glendale, Glendale, Arizona

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

Background. Treatment of intraabdominal infections (IAI) commonly involves broad spectrum antimicrobials based on the severity and etiology of infections as well as the underlying medical conditions. However, the overuse of broad-spectrum agents has driven selection for Gram-negative and -positive resistance, as well as collateral consequences such as *Clostridioides difficile* colitis. We sought to evaluate the utilization of a pharmacy-driven multifaceted antimicrobial stewardship (AMS) intervention to optimize empiric antimicrobial therapy by risk stratification among IAI patients and reduce the number of antibiotic treatment days.

Methods. This is a single-center case observation study in hospitalized adult IAI patients on antimicrobial therapy from Dec 2019-Feb 2020 compared to patients from Dec 2020-Feb 2021 after initiation of AMS with daily prospective audit and feedback. The composite primary outcome is reduction of antibiotic treatment days and de-escalation from broad spectrum antibiotics (fluoroquinolones, piperacillin/tazobactam, and carbapenems) to cephalosporins.

Results. We identified 40 patients each in the baseline (pre-AMS group) and post-AMS group via electronic medical record. Baseline characteristics were well-matched between groups. The majority of patients were diagnosed with community-acquired IAIs such as appendicitis, diverticulitis, and cholecystitis. Fluoroquinolone use as empiric therapy was significantly lower in the post-AMS group vs. pre-AMS group (2.5% vs. 25%, $p < 0.001$), while non-*Pseudomonas* cephalosporin use was increased (25% post-AMS vs. 0% pre-AMS, $p < 0.001$). Oral fluoroquinolone use at discharge was significantly decreased in the post-AMS group ($p < 0.001$). Antibiotic treatment days remained unchanged. There was no statistical difference between the two groups in 30-day mortality, 30-day readmission, relapse, and *C. difficile* colitis.

Conclusion. A multifaceted antimicrobial therapy intervention successfully reduced the use of fluoroquinolones in patients with community-acquired IAI during hospitalization and discharge. No differences in mortality, readmission, or relapse rates were observed.

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122. Optimization of Antibiotic Time-Outs Within a Health System

Ashley Long, PharmD¹; Sara Revolinski, PharmD, BCPS²; Anne R. Daniels, PharmD, BCPS, AAHIVP³; ¹Memorial Hermann Southeast Hospital, Houston, Texas; ²Medical College of Wisconsin, Milwaukee, WI; ³Froedtert and Medical College of Wisconsin, Milwaukee, Wisconsin

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

Background. The Infectious Diseases Society of America estimates that up to 50% of antibiotic use in hospitals is inappropriate. In order to assist with reducing

inappropriate antibiotic use, the Centers for Disease Control and Prevention has recommended systemic evaluation of ongoing antibiotic therapy need, such as antibiotic time-outs (ATOs), be implemented. This has further been supported by the Joint Commission in their antimicrobial stewardship medication management standard. Our system implemented a prescriber-led ATO process in 2018, but documented completion of the ATO remained low. Due to this, pharmacists were integrated into the ATO process with the goal of increasing completion rates.

Methods. This pre-post interventional study analyzed the impact of an antibiotic time out process implemented for patients receiving piperacillin/tazobactam (P/T) or cefepime (CEF) for a minimum of 48 hours. The pre-group (Jan-April 2018) had ATOs completed by the primary medical team, while pharmacists completed the ATO in the post group (Jan-April 2020). For each group, a computerized alert prompted completion of the ATO in the electronic health record (EHR). The alert included systematic questions to assess the need for continued P/T and CEF use. The primary outcome was percentage of ATO documentation completed. Secondary outcomes included inappropriate continuation of P/T and CEF and de-escalation within 24 hours after ATO completion.

Results. A total of 248 and 234 patients in the pre- and post-groups were included, respectively. Significantly more ATOs were documented in the post-group compared to the pre-group (65.5% vs 48.5%, $p < 0.001$). Similarly, inappropriate continuation of P/T and CEF after the ATO process was significantly lower in the post-group compared to the pre-group (11.6% vs 64.0%, $p < 0.001$). While not statistically significant, there was a trend toward increased de-escalation in the post-group within 24 hours of ATO completion (58.9% vs 47.9%, $p = 0.105$).

Conclusion. A pharmacist-led ATO process reduced inappropriate use of P/T and CEF compared to a prescriber-led process. Incorporating pharmacists into an ATO process may optimize antimicrobial stewardship outcomes.

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123. Formal Pediatric Antimicrobial Stewardship Program at a Children's Hospital Within a Larger Academic Medical Center Decreases Antimicrobial Prescribing

Paul Feustel, PhD¹; Mark Botti, PharmD¹; Shannon Andrews, MD¹; ¹Albany Medical Center, Albany, New York

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

Background. Antimicrobial stewardship is a coordinated approach to antimicrobial overprescribing, an avoidable contributor to adverse events in children. Implementation of a formal pediatric antimicrobial stewardship program (pASP) in a children's hospital within a hospital poses unique challenges due to staffing, funding, and institutional priorities. We hypothesized that a formalized pASP would decrease antimicrobial prescribing in a children's hospital within a large academic medical center.

Methods. We extracted pharmacy administration data for all patients receiving systemic antimicrobials in a tertiary care, academic children's hospital in Upstate NY from 3/1/2020-5/31/2021. We grouped patients into floor (including patients with surgical, hematologic, and oncologic processes), pediatric intensive care unit (PICU), and neonatal intensive care unit (NICU). We calculated antimicrobial days of therapy per 1000 patient days (DOT/1000PD) for 6 months before, 3 months during, and 6 months after institution of pASP. The formalized pASP involved physician and pharmacy leadership of prospective audit and feedback. We developed run charts and used two-way analysis of variance (ANOVA) with an effect of location, an effect of the intervention, and an interaction effect. Significant effects were then tested using Tukey's test for multiple comparisons.

Results. Run charts are displayed in figures 1-3. Overall, the pediatric floor (DOT/1000PD=1181) had significantly higher prescribing than the PICU (847), which was significantly higher than the NICU (327) ($p < 0.001$, ANOVA). Antimicrobial prescribing after pASP dropped by 80 DOT/1000PD (98%CI: 23 to 137) ($p = 0.008$; Tukey's test) after including the effect of location. The interaction effect was not significant ($p = 0.77$; ANOVA) suggesting that the intervention did not have a significantly different effect in the three locations.

Variation in Antimicrobial Prescribing on the Pediatric Floors

