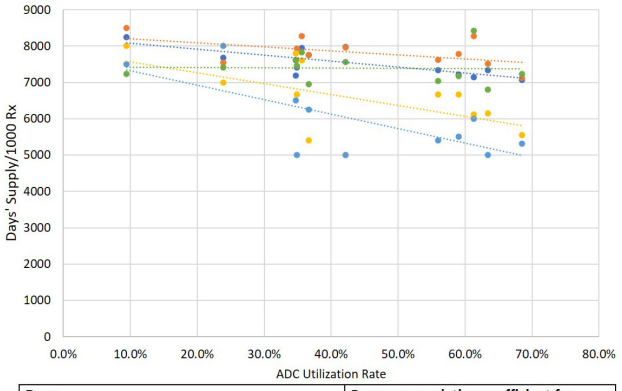
Figure 1. Days' supply per 1000 prescriptions versus pyxis utilization rate



Drug	Pearson correlation coefficient for days' supply/ 1000 prescriptions vs ADC utilization (95% CI)
Amoxicillin/clavulanate 875/125mg	-0.769 (-0.932, -0.350)
Cephalexin 500mg	-0.507 (-0.837, 0.094)
Levofloxacin 500mg	-0.562 (-0.859, 0.018)
Levofloxacin 750mg	-0.720 (-0.922, -0.211)
Sulfamethoxazole/trimethoprim 800/160mg	-0.037 (-0.598, 0.548)

Conclusion. EMR-driven reductions in ADC default Rx durations led to a corresponding decrease in overall outpatient antibiotic prescribing. Higher DS/1000 Rx were often associated with lower ADC utilization. Informatics-driven antibiotic interventions may be potential outpatient stewardship tools to increase guideline-concordant prescribing across multisite healthcare systems.

Disclosures. **Sharanie Sims, PharmD**, **AbbVie (formerly Allergan)** (Speaker's Bureau)

96. Impact of Hospital-Based Pharmacist Discharge Prescription Review on the Appropriateness of Antibiotic Therapy

Amy Spigelmyer, PharmD[1]; Catessa Howard, Pharm.D.[2]; Ilya Rybakov, PharmD[2]; Sheena Burwell, PharmD, BCPS[1]; Douglas Slain, Pharm.D.[3]; [1]West Virginia University Medicine, Morgantown, West Virginia; [2]WVU Medicine, Morgantown, West Virginia; [3]West Virginia University School of Pharmacy, Morgantown, West Virginia

Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Inappropriate antibiotic prescribing upon hospital discharge poses an increased risk of excess costs, adverse drug reactions, readmission, and resistance. Despite high rates of antibiotic prescription errors upon discharge, there is no widely accepted antimicrobial stewardship initiative to prevent such errors. This study evaluated the impact of hospital-based clinical pharmacist discharge prescription review on the appropriateness of antibiotic prescriptions.

Methods. This was a retrospective assessment of patients with discharge antibiotic prescriptions for treatment of pneumonia, urinary tract infections, *Clostridioides difficile* infections, acute skin and skin structure infections (ABSSSI), or Gram-negative bacteremia between January 2019 and July 2020. The two cohorts that were studied were patients on Hospitalist services versus patients on Medicine services, in which only the Medicine services had rounding pharmacists who perform discharge prescription reviews. Outcomes included demographics, appropriateness of therapy, 30-day readmission rates, and error types in discharge prescriptions. Appropriateness of therapy was validated by evidence-based guidelines and three Infectious Diseases-trained pharmacists.

Results. Our study included 300 patients, 150 per cohort. Baseline characteristics were similar between groups, with the exception of increased age (p=0.025) and fewer cases of ABSSSI (p=0.001) in the Hospitalist cohort. A statistically significant higher rate of inappropriateness was seen in the Hospitalist group versus Medicine (pharmacist) group, [69/150 (46% versus 25/150 (17%, respectively (p< 0.00001)]. The difference in appropriateness was mainly driven by pneumonia and UTI prescriptions. Thirty day readmission rates were 17% (26/150) for the Hospitalist cohort versus 11% (16/150) in the Medicine (pharmacist) cohort (p=0.134). The most common prescription error was the duration of therapy.

Conclusion. Appropriateness of antibiotic discharge prescriptions significantly improved in the setting of pharmacist discharge prescription review. This initiative highlights the important role of clinical pharmacists in the setting of outpatient antimicrobial stewardship.

Disclosures. **All Authors**: No reported disclosures

97. Pharmacist Driven Antimicrobial Stewardship Interventions on the Management of Urinary Tract Infections in the Emergency Department at a Tertiary Military Treatment Facility

Memar D. Ayalew, PharmD[1]; Sorana raiciulescu, M.Sc.[2]; Daniel Brooks, PhD[3]; Robin Williams, RN[4]; Paulette Crull, RN[4]; Roseanne Ressner, DO[5]; [1]Walter Reed National Military Medical Center, Springfield, Virginia; [2]Uniformed Services University Biostatistics Consulting Center, Bethesda, Maryland; [3]WRNMMC, Bethesda, Maryland; [4]Walter Reed Military Medical Center, Rockville, Maryland; [5]Walter Reed National Military Medical Center, Bethesda, MD, Bethesda, Maryland

Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. With the Joint Commission standards targeting ambulatory settings serving as a catalyst, we designed a quality improvement (QI) project was designed to evaluate the existing management and prescribing patterns for urinary tract infections (UTI) in the Walter Reed National Military Medical Center (WRNMMC) Emergency Department (ED) in order to identify targets for ASP intervention.

Methods. This was a Pharmacist-driven, prospective, QI project conducted over a 3-month period. The clinical presentations and microbiological data of uncomplicated cystitis and pyelonephritis cases managed in the ED were reviewed. Within 24-72 hours of ED discharge, recommendations were relayed to both patients and ED staff. Diagnostic criteria and management concordant with established clinical guidelines were assessed. Inclusion criteria included age ≥ 18, admission status, urine culture and antibiotics for UTI or pyelonephritis.

Results. A daily urinalysis (UA) report identified 1781 ED encounters of which 117 cases met inclusion criteria. Nitrofurantoin was most prescribed empirically at 39.3% followed by a cephalosporin (23.1%) or a fluoroquinolone (19.7%), accounting for 32% of inappropriate empiric antibiotic selection. Cases were identified with inappropriate duration of therapy (22.2%), dosage (9.4%), and drug-bug mismatch (9.4%). Nearly 38% of cases required intervention to discontinue (32.5%) or initiate new antibiotics (3.4%). Diagnostic concordance was defined as having positive urinary symptoms, clinically significant UA and positive urine culture. This was only observed in 37.6% of all cases, of which only 43.2% were treated with a guideline concordant empiric regimen, dosage and duration of therapy. Although not included in the final analysis, it was noted 916 urine culture results were ordered where 70% were not associated with genitourinary complaints or sepsis.

Conclusion. Despite guidelines for UTI management, considerable practice discordance was found in the ED. Multiple Pharmacist targeted interventions were identified. Prioritized areas for ED provider education include first-line therapy, treatment duration, and diagnostic stewardship. This QI project has potential for optimizing prescribing practices in Military Health System ambulatory settings.

Disclosures. **All Authors**: No reported disclosures

98. Outcomes of Clinical Decision Support for Outpatient Management of *Clostridioides difficile* Infection

Tiffany Wu, PharmD[1]; Susan L. Davis, PharmD[2]; Susan L. Davis, PharmD[2]; Brian Church, PharmD[3]; George J. Alangaden, MD[1]; Rachel Kenney, PharmD[1]; [1]Henry Ford Hospital, Detroit, Michigan; [2]Wayne State University, Detroit, MI; [3]Henry Ford Health System, Detroit, Michigan

Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Our antimicrobial stewardship program identified high rates of suboptimal metronidazole prescribing for *Clostridioides difficile* infection (CDI) within ambulatory clinics. An outpatient best practice advisory (BPA) was implemented to notify prescribers "Vancomycin or fidaxomicin are preferred over metronidazole for *C.difficile* infection" when metronidazole was prescribed to a patient with CDI.

Methods. We conducted an IRB approved quasi-experiment before and after implementation of the BPA on June 3, 2020. Inclusion: Adult patients diagnosed with and treated for a first episode of symptomatic CDI at an ambulatory clinic between 11/1/2019 and 11/30/2020. Exclusion: fulminant CDI. Primary endpoint: guideline-concordant CDI therapy, defined as oral vancomycin or fidaxomicin. Oral metronidazole was considered guideline-concordant if prescribed due to cost barrier. Secondary endpoints: reasons for alternative CDI therapy, patient outcomes, prescriber response to the BPA. Descriptive and bivariate analyses were completed.

Results. 189 patients were included in the study, 92 before and 97 after the BPA. Median age: 59 years, 31% male, 75% Caucasian, 30% with CDI-related comorbidities, 35% with healthcare exposure, 65% with antibiotic exposure, 44% with gastric acid suppression therapy within 90 days of CDI diagnosis. The BPA was accepted 23 out of 26 times and optimized the therapy of 16 patients in six months. Guideline-concordant therapy increased after implementation of the BPA (72% vs. 91%, p=0.001) (Figure 1). Vancomycin prescribing increased and metronidazole prescribing decreased after the BPA (Figure 2). Reasons for alternative CDI therapy included medication cost, lack of insurance coverage, and non-CDI infection. There was no difference in clinical response or unplanned encounter within 14 days after treatment initiation. Fewer patients after the BPA had CDI recurrence within 14-56 days of the initial episode (27% vs. 7%, p< 0.001).

Figure 1. Guideline-concordant CDI therapy

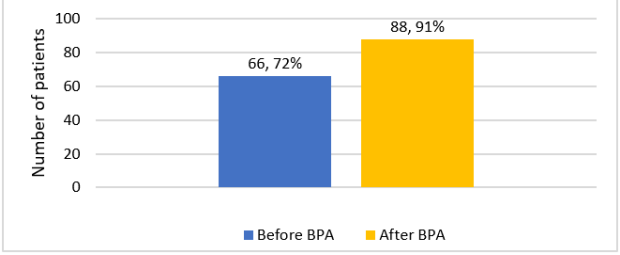
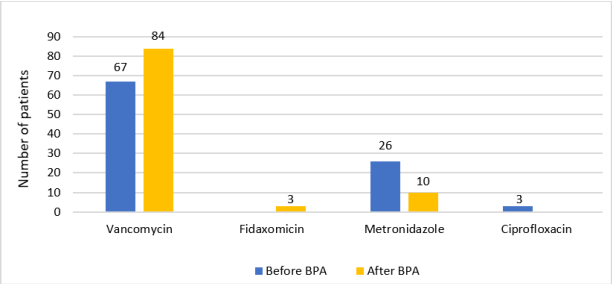


Figure 2. Specific CDI therapy



Conclusion. Clinical decision support increased prescribing of guideline-concordant CDI therapy in the outpatient setting. A targeted BPA is an effective stewardship intervention and may be especially useful in settings with limited antimicrobial stewardship resources.

Disclosures. **Susan L. Davis, PharmD**, Nothing to disclose **Rachel Kenney, PharmD**, **Medtronic, Inc.** (Other Financial or Material Support, spouse is an employee and shareholder)

99. Presence of Chronic Diseases and Compliance with Québec Provincial Guidelines for Outpatient Antibiotic Prescription, Québec, Canada, 2010-2017

Elise Fortin, Ph.D.[1]; Geneviève Deceuninck, M.Sc.[2]; Caroline Sirois, Ph.D.[3]; Caroline Quach, M.D. M.Sc.[4]; Marc Simard, Ph.D.(c)[2]; Sonia Jean, Ph.D.[2]; Alejandra Irace-Cima, M.D. M.Sc.[2]; Nadine Magali-Ufitinema, M.Sc.[5]; [1]Institut national de santé public du Quebec, Quebec, Quebec, Canada; [2]Institut national de santé publique du Québec, Quebec, Quebec, Canada; [3]Université Laval, Quebec, Quebec, Canada; [4]Montreal University, Montreal, Quebec, Canada; [5]Ministère de la Santé et des Services sociaux, Montreal, Quebec, Canada

Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. In Québec primary care, antimicrobial use is higher in patients with chronic diseases, but it is unclear whether this utilization may be reduced. We aimed to measure the proportion of compliant antimicrobial prescriptions according to the provincial guidelines for the treatment of common respiratory and urinary infections and measure variations in this proportion with certain chronic diseases.

Methods. Antimicrobial dispensing covered by the public drug insurance plan between April 2010 and March 2017, delivered within 2 days of an outpatient consultation for an infection was included. Infections targeted by provincial guidelines were studied: otitis media, pharyngitis, pneumonia, sinusitis, bronchitis and chronic obstructive pulmonary disease exacerbations, cystitis, and acute pyelonephritis. The proportion of prescriptions compliant with guidelines (right antimicrobial for children, and right antimicrobial and dosage for adults) was computed by age group (children or adults) and per category of chronic disease (respiratory, cardiovascular, diabetes, mental disorder, none of previous). For each infection and age group, multivariate robust Poisson regression was used to measure the impact of categories of chronic diseases on proportions of prescriptions compliant with guidelines.

Results. Between 14 677 and 312 786 prescriptions were included, for each infection. Compliance to guidelines was above 87% in children and was significantly lower (≤ 3% bellow) in children with asthma. In adults, the choice of agent was compliant for at least 73% of prescriptions, except for cases of pharyngitis (between 53% and 61%). Accounting for dosage led to lower proportions of compliance, which varied between 19% (cystitis with diabetes) and 77% (pyelonephritis with none of the studied chronic disease categories). Compliant prescriptions were 2,4% to 20,4% less frequent in the presence of chronic diseases (statistically significant).

Conclusion. Non-compliant prescriptions could still be appropriate, but their high frequency suggests there is room for improvement. Dosage seems particularly problematic. Additional support could be offered to clinicians for the prescription of antimicrobials to patients with chronic diseases.

Disclosures. **All Authors**: No reported disclosures

100. Assessment of Emergency Department Prescribing Practices for Outpatient Treatment of Urinary Tract Infection, Community-Acquired Pneumonia, and Skin and Soft Tissue Infections

Matthew Thaller, PharmD[1]; Casey J. Dempsey, PharmD BCIDP[2]; Alexander Levine, PharmD, BCPS[1]; Kelly Shepard, PharmD[1]; [1]The Hospital of Central Connecticut, South Windsor, Connecticut; [2]Hartford HealthCare, Bolton, Connecticut

Session: P-06. Antimicrobial Stewardship: Non-Inpatient Settings

Background. Studies have found a need for improved antimicrobial stewardship in the outpatient setting. The literature is limited by the populations and disease states studied as many focus on viral infections. This study focuses on the adult emergency departments (EDs) in a large healthcare system and quantifies the proportion of antibiotic prescriptions deemed inappropriate for common outpatient infections.

Methods. A retrospective study was conducted in patients with selected common infections treated as an outpatient from the ED. Patients were reviewed for eligibility based on the inclusion and exclusion criteria in Table 1. Appropriateness was analyzed based on: need for antimicrobial therapy; agent choice, dose, duration, and directions in concordance with national guidelines and local resistance patterns; and no clinically relevant drug interactions, unnecessary dual coverage, or a better or safer alternative available. The entire prescription was marked inappropriate if any factor was deemed inappropriate.

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
• Age ≥18 years and <90 years • ICD-10 codes for urinary tract infections, community acquired pneumonia, or skin/soft tissue infection (N39, J13-22, L08) • Treated at one of five included emergency departments between October 1, 2018 and February 29, 2020, inclusive	• Time in ED ≥24 hours • Inpatient admission • ID consultation • Outpatient parenteral antibiotic therapy • Concomitant bacterial infection • Pregnant • COPD exacerbation in past 30 days

Based on the Epic report generated, a random sample of patients were selected for manual review. Only patients who met the following criteria were eligible for inclusion in the final analysis.

Results. Of the 318 patients reviewed, 274 were included. Treatment was deemed inappropriate 64% (174/274) of the time, significantly above the estimated 30% ($p < 0.001$). The agent selection, duration, and dose were the most the frequent factors deeming a prescription inappropriate. The most inappropriately used agents were fluoroquinolones and azithromycin. A positive culture required modification of therapy 31% (22/70) of the time and more so when the drug was guideline recommended. For example, when empiric antibiotic selection was per urinary tract infection guidelines, 31% (14/53) required modification compared to 19% (3/16) when the agent was not. This was most apparent when cephalexin was used.

Conclusion. The use of antibiotics at the studied EDs was not in concordance with guidelines in the study period. However, the cultures were sensitive less often to agents deemed appropriate per guidelines for empiric therapy. It is possible that the ideal treatments of bacterial infections in this community are not representative of national resistance patterns. Using ED-specific antibiograms to create order panels for common infections, as well as prospective pharmacist review at ED discharge, could increase appropriate utilization of preferred agents.

Disclosures. **All Authors**: No reported disclosures

101. Impact of an Integrated Tele-Antimicrobial Stewardship Program at a Rural Community Hospital

Sui Kwong Li, MD[1]; Erin K. McCreary, PharmD, BCPS, BCIDP[2]; Erin K. McCreary, PharmD, BCPS, BCIDP[2]; Tina Khadem, PharmD[3]; Nancy Zimmerman, RN, BSN[1]; Sarah Burgdorf, MD, PhD[1]; Nupur Gupta, DO[3]; Kate Gass, BSN[4]; Gary S. Fisher, PharmD[4]; James W. Backstrom, MD[4]; Robin L. Portman, PharmD[4]; Sara Schwarz, PharmD[4]; Kimberly Schultz, RPh[4]; Jenessa Heller, PharmD[4]; Kris Bearer, RPh[4]; Jayne Schreckengost, RPh[4]; Jennifer Prazenica, RPh[4]; John Mellors, MD[5]; Rima Abdel-Massih, MD[5]; Rima Abdel-Massih, MD[5]; J Ryan. Bariola, MD[5]; [1]UPMC, Pittsburgh, Pennsylvania; [2]University of Pittsburgh, UPMC, Pittsburgh, PA; [3]University of Pittsburgh Medical Center, Pittsburgh, PA; [4]Armstrong Center for Medicine & Health, Kittanning, Pennsylvania; [5]University of Pittsburgh, Pittsburgh, Pennsylvania

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

Background. Small hospitals in the US may lack access to infectious diseases (ID) expertise despite similar rates of antimicrobial use and drug-resistant bacteria as larger hospitals. A tele-antimicrobial stewardship program (TASP) is a force multiplier, expanding access to specialty care, training, and guidance on appropriate resource utilization. Data on the impact of TASPs in community or rural inpatient settings is limited.

Methods. We established a TASP at a 160-bed hospital in Armstrong County, PA (population < 5000) in September 2020. Tele-ID consult services were already being used (Figure 1). A non-local ID pharmacist or ID physician performed prospective audits and provided feedback with 1 local pharmacist on a 30-minute video conference call daily. At TASP implementation, all patients receiving intravenous (IV) fluoroquinolones, metronidazole, and azithromycin were reviewed. Figure 1 shows the additional support following TASP implementation, including addition of ceftriaxone, carbapenems, IV vancomycin, and tocilizumab to daily reviews. A patient monitoring form was developed to track interventions and the local pharmacists were trained in documentation. Table 1 lists other TASP features implemented.

Figure 1. TASP Timeline