

implications for stewardship. Guidelines should inform if AP is indicated for extractions, implants, and immunocompromised patients.

Disclosures: All Authors: No reported disclosures

129. Antimicrobial Stewardship Intervention Bundle Decreases Fluoroquinolone Prescribing for Urinary Tract Infection in Urgent Care and Primary Care Clinics
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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: Fluoroquinolone antibiotics are associated with a number of serious adverse effects, and are not recommended for use in uncomplicated infections, including urinary tract infections (UTIs), where other reasonable antibiotic alternatives exist. This analysis describes the impact of a multi-interventional antimicrobial stewardship initiative on outpatient fluoroquinolone prescribing rates for UTI within a large community health system across a variety of practice settings.

Methods: Interventions included prescriber education, standardized order sets, and monthly feedback on fluoroquinolone prescribing rates in UTI at the prescriber level (for urgent care clinics) or clinic level (for primary care/internal medicine/employee health clinics). To assess the impact of these interventions, total fluoroquinolone prescribing rate in UTI patients was compared for defined 6-month time periods pre- and post-intervention implementation.

Results: Fluoroquinolone prescriptions from urgent care clinics within our health system (N=4) for patients with a primary diagnosis of UTI decreased significantly, from 660/3081 (17.6%) in the pre-intervention period to 111/3641 (3%) in the post intervention period (P< 0.0001). Prescribing in primary care, internal medicine, and employee health clinics (N=19) decreased from 492/2071 (23.8%) to 156/2287 (6.8%) (P< 0.0001).

Conclusion: A multi-interventional initiative to reduce the utilization of fluoroquinolone antibiotics resulted in decreased prescribing rates of these agents for UTI across a variety of outpatient practice settings.

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130. Antimicrobial Stewardship Practices in Community Pharmacies Across the United States

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: Antimicrobial stewardship (AMS) in the community is essential as majority of antibiotic prescribing occurs in the community. Pharmacists are recognized by the Center for Disease Control and Prevention (CDC) as co-leaders for leading implementation efforts to improve antibiotic use. The purpose of this study is to evaluate current AMS practices in community pharmacies across the United States (US) and identify challenges.

Methods: A 15-item survey was created based on CDC's Core Elements of Outpatient AMS to assess current policies and practices in place, as well as collect baseline demographics and pharmacists' perceptions. A survey invite was posted on the Facebook group, Pharmacist Moms, in September 2019. Participation was voluntarily and anonymous.

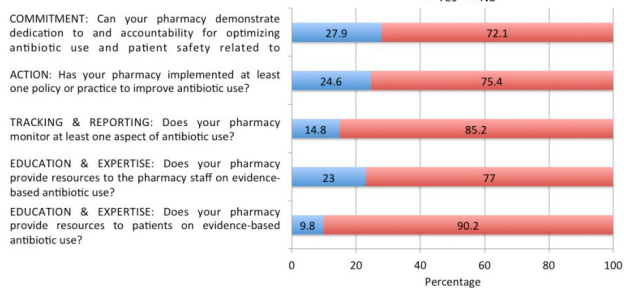
Results: Participants included 61 community pharmacists from 25 states across the US. 88.5% work in a chain pharmacy with 54.1% in staff positions and 37.7% in management. 37.7% have been practicing for > 10 years, 36.1% for 6-10 years and 26.2% 5 or less years. Minimal responses met CDC's Core Elements of AMS: commitment (27.9%), action (24.6%), tracking and reporting (14.8%), and education and expertise (23% for pharmacists, 9.8% for patients).

In regards to perception, 67.9% felt AMS is important in the community. 88.5% would participate in AMS if the opportunity were provided. 91.8% were unsure or had no plans to implement AMS within the next 2 years.

Common challenges include the lack of time/staff (83.6%), pushback from prescribers (68.9%), lack of leadership (57.4%), lack of financial incentives (52.5%), pushback from patients (52.5%), lack of pharmacist knowledge/training (39.3%), lack of funding/financial support (29.5%), lack of legal requirement (21.3%), lack of information technology support (19.7%), and lack of pharmacist interest (11.5%).

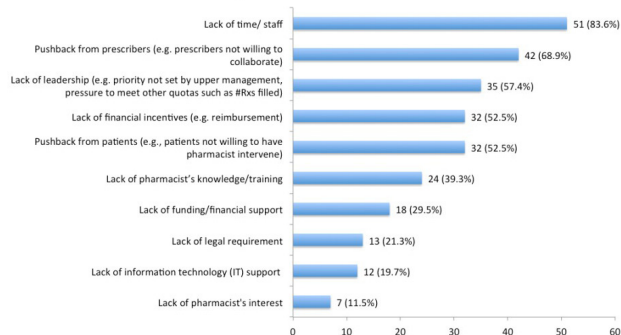
Current Trends of U.S. Community Pharmacies in Meeting CDC's Core Elements of Outpatient Antimicrobial Stewardship

Current Trends of U.S. Community Pharmacies in Meeting CDC's Core Elements of Outpatient Antimicrobial Stewardship (n=61 responses)



Challenges in Implementing Antimicrobial Stewardship in Community Pharmacies

Challenges in Implementing Antimicrobial Stewardship in Community Pharmacies (n=61 responses)



Conclusion: Results from this study reveal the lack of AMS practices in community pharmacies. Pharmacists have a critical role in AMS, but many challenges exist in the community setting inhibiting the full potential of pharmacists in AMS efforts. This study highlights the importance and need for addressing these issues as regulations and strategies for AMS in community settings develop.

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131. Antimicrobial Usage for Respiratory Infections in Urgent Care Settings within the University of Washington Medicine Network

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: In an effort to combat antimicrobial resistance and adverse drug events, The Joint Commission mandated expansion of antimicrobial stewardship programs into ambulatory healthcare settings Jan 2020. The most common diagnoses resulting in inappropriate antimicrobial prescribing are respiratory infections. This study aimed to assess the rate of antibiotic prescribing for viral respiratory tract infections within six urgent care clinics affiliated with University of Washington Medicine health system in Seattle, WA.

Methods: This was a retrospective observational study from Jan 2019-Feb 2020. We used the MITIGATE toolkit; a resource that meets CDC's core elements for outpatient stewardship. Patients were identified based upon pre-specified ICD-10 codes for viral respiratory infections. The primary outcome was the rate of unnecessary antimicrobial prescriptions for acute viral respiratory infections. Secondary outcomes evaluated inappropriate prescribing practices based on antibiotic selection, diagnosis, and age.

Results: Of 7,313 patients (6078 adults and 1235 pediatric) included, 23% were inappropriately prescribed antibiotics. The most common antibiotics inappropriately prescribed were azithromycin (62%), amoxicillin (13%), and doxycycline (13%). Fluoroquinolone (FQ) utilization was low (2%). Bronchitis (61%) and nonsuppurative otitis media (NSOM) (24%) were the most common viral diagnoses for which antibiotics were prescribed. Overall, unnecessary prescribing was lower in pediatrics than adults at 13% and 25%, respectively (p< 0.001). Adults were more often prescribed antibiotics inappropriately for bronchitis and NSOM compared to pediatrics (p=0.0013).

Conclusion: Inappropriate prescribing practices across six urgent care clinics varied based upon age and diagnosis. Azithromycin is most often inappropriately prescribed but the low rate of FQ prescribing is encouraging. The lower rate of unnecessary prescribing in pediatrics is promising although there is room for improvement as 1 in 8 children were unnecessarily prescribed antibiotics. These findings support the need for antibiotic stewardship in the outpatient setting, targeting areas for azithromycin use and therapeutic management of bronchitis.

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132. Assessment of the Long-Term Effects of Training Consultant Pharmacists to Promote Antimicrobial Stewardship in Long-Term Care Facilities

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: We implemented a one-year antimicrobial stewardship training program that lasted through 2018 where we assisted 9 long-term care facility (LTCF) consultant pharmacists in promoting antibiotic stewardship programs (ASP) in 32 LTCF (Figure 1). Surveys were conducted during and after the training program to assess performance.

Methods: Infection Preventionists (IP), Directors of Nursing (DON) and Medical Directors (MD) of the LTCF received mail surveys in 2018 and online surveys in 2019. It included questions assessing the respondents' perceptions of their ASP, barriers to ASP implementation and stewardship related knowledge, and the skills and contributions of their consultant pharmacists. Qualitative analyses categorized reported barriers into common themes. Fisher exact test compared perceptions of consultant pharmacists' performance and frequently reported barriers during training and after the intervention was completed.

Results: Representatives (IP, DON and/or MD) of 18 facilities responded to the surveys at both time points of the study, with 34 individual surveys in 2018 and 25 in 2019. Most rated their consultant pharmacists as knowledgeable and helpful who regularly provided feedback and suggestions both during and after the training (Table 1). Fifty-six percent of facilities reported that their consultant pharmacists were similarly involved, and 12% felt they were more involved, in ASP implementation in 2019 compared to 2018. Top 3 reported barriers to ASP implementations were the same during 2018 and 2019 (Table 2). Overall, 84% of facilities in 2019 believed that the consultant pharmacists "definitely helped" their ASP efforts, and 80% of facilities desired to continue the partnership into the future.

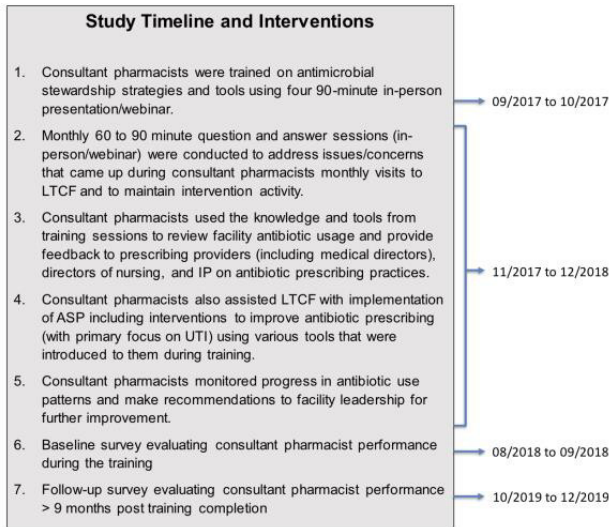


Table 1. Comparison of Consultant Pharmacists' Performance Evaluations During (2018) and After (2019) Completion of Training

Survey Evaluation	During Training (N=34)	Follow-Up (N=25)	p-value
Consultant pharmacist has excellent or very good antibiotic stewardship-related knowledge	33 (97.1%)	22 (88.0%)	0.30
Pharmacist was helpful all or most of the time with finding solution to antibiotic stewardship-related challenge	33 (97.1%)	24 (96.0%)	1.00
Pharmacist provided feedback to providers regarding antibiotic issues identified when reviewing antibiotic orders	34 (100.0%)	22 (88.0%)	0.07
Pharmacist provided suggestions on strategies to promote appropriate antibiotic use after reviewing antibiotic orders at your facility on EVERY visit	28 (82.3%)	15 (60.0%)	0.08
Pharmacist provided suggestions on strategies to promote appropriate antibiotic use after reviewing antibiotic orders at your facility on SOME visits	6 (17.7%)	7 (28.0%)	0.36
Pharmacist always or most of the time takes on an active role in committee meetings at your facility on antibiotic stewardship-related issues	29 (85.3%)	19 (76.0%)	0.50
Pharmacist was able to offer solutions to help resolve ALL of the facility-identified barriers	15 (44.1%)	6 (24.0%)	0.17
Pharmacist was able to offer solutions to help resolve SOME of the facility-identified barriers	12 (35.3%)	14 (56.0%)	0.18

Figure 3. Barriers to ASP implementation reported during (2018) and after (2019) training.

Barrier	2018 (N=34)	2019 (N=25)	p-Value
Lack of appropriate antibiotic prescribing or lack of ASP buy-in by clinicians	25 (73.5%)	15 (60.0%)	0.40
Family/Resident pressure	7 (20.6%)	11 (44.0%)	0.09
Lack of staff buy-in	11 (32.4%)	8 (32.0%)	1.00
Time constraint	2 (5.9%)	6 (24%)	0.06
Emergency department not prescribing antibiotics appropriately	4 (11.7%)	1 (4.0%)	0.38
Lack of infrastructure	5 (14.7%)	3 (12.0%)	1.00
Lack of staff knowledge	5 (14.7%)	1 (4.0%)	0.23
Difficulties in educating staff, physicians, and families	2 (5.9%)	2 (8.0%)	1.00
Lack of leadership buy-in	1 (2.9%)	1 (4%)	1.00
Lack of standard processes	0 (0.0%)	2 (8.0%)	0.18
Others (include those barriers that were reported by only one respondent)	6 (17.6%)	4 (16.0%)	1.00

Conclusion: This study demonstrates that training consultant pharmacists resulted in meaningful actions and prolonged engagement in ASP activities. Efforts should be directed on making similar training programs available nationwide for consultant pharmacists working in LTCF.

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133. Creation of an Emergency Department (ED)-Specific Urine Antibigram and Evaluation of Urinary Tract Infection (UTI) Prescribing Practices at a Tertiary Academic Medical Center

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: Inpatient settings have been the focus of most antimicrobial stewardship (AS) practices; however, the Joint Commission has now published requirements for accredited ambulatory healthcare organizations to implement AS. This analysis aimed to create a urine isolate antibiogram and to evaluate microbiological data and prescribing practices for UTI patients in the ED.

Methods: This retrospective cohort study included adults admitted to either of two EDs at University of Minnesota Medical Center and diagnosed with a UTI between 1/1/2018 and 12/31/2018. Patients were excluded if subsequently admitted to an inpatient unit or if they had a repeat culture growing the same organism as the index isolate. Diagnosis of cystitis versus pyelonephritis was based on ICD-10 coding. Data including urinalysis and culture results, susceptibilities, empiric antibiotic selection, and readmissions were collected.

Results: Data from 350 isolates were collected for inclusion in the antibiogram. Patient characteristics corresponding to this isolate collection included 78.9% female, median age of 41 years, and 64.6% diagnosed with pyelonephritis. *Escherichia coli* was the most common organism (70%), followed by *Klebsiella pneumoniae* (5.4%) and *Proteus mirabilis* (4%). Combined susceptibilities of *E. coli* isolates from both EDs were: 49.4% ampicillin, 55.7% ampicillin/sulbactam, 69.8% sulfamethoxazole/trimethoprim, 83.7% ciprofloxacin (CIP), 85.7% cefazolin, 93.9% ceftriaxone, and 94.3% nitrofurantoin (NIT). The most common discharge antibiotics prescribed for cystitis patients were NIT (29.8%) and cephalexin (25%). Pyelonephritis patients were most frequently prescribed CIP (32.3%) and cefdinir (14.2%). Drug-bug mismatches occurred in 19.1% of patients (10.5% cystitis vs. 23.9% pyelonephritis). The rates of ED readmission within 96-hours and inpatient admission within 30 days, for any reason, were 4.3% and 9.1% respectively.

Conclusion: Based on the ED-specific urine antibiogram generated, NIT (cystitis) and CIP (pyelonephritis) could be considered first-line agents for empiric treatment of UTI at our institution. Drug-bug mismatches were more common in pyelonephritis patients. These data will be used to develop a treatment algorithm aimed at improving treatment of UTI in the ED.

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134. Derivation of novel phenotypes of outpatient pediatrician prescribing patterns

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: Antibiotics are the most commonly prescribed drugs for children with estimates that 30%-50% of outpatient antibiotic prescriptions are inappropriate. Most analyses of outpatient antibiotic prescribing practices do not examine patterns within individual clinicians' prescribing practices. We sought to derive unique