

2059. Antimicrobial Stewardship of Community Parenteral Antimicrobial Therapy: A Health System Approach

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Session: 238. Antibiotic stewardship: Non-Inpatient Settings
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Background. Community parenteral antimicrobial therapy (CoPAT) allows patients to receive intravenous (IV) antimicrobials outside the hospital; however, inappropriate use occurs and can lead to adverse outcomes. In addition, these patients are at high risk of readmission. Our objective was to assess the quality of CoPAT in a large healthcare system in order to guide implementation of an intervention requiring mandatory review by antimicrobial stewardship.

Methods. We identified patients with orders for IV antimicrobials at discharge between January 1 and December 10, 2018. Patients were excluded if transferred to an acute care facility, left against medical advice, or died. 250 patients were selected using a random number generator and reviewed consecutively until 100 confirmed CoPAT encounters were identified. Each encounter was evaluated for evidence of ID consultation, opportunities for stewardship interventions in seven categories (See Table 1), and adverse events such as emergency room (ER) visits and readmissions.

Results. The query identified 4,642 potential CoPAT discharges from 22 hospitals (see Table 2). 117 encounters were reviewed to reach 100 true CoPAT discharges (85% query accuracy). Of these, 55 (55%) received a formal ID consult, 6 (6%) had an ID pharmacist or ID physician curbside, and 5 (5%) had an ID clinic follow-up appointment scheduled without formal ID consult. Opportunity for stewardship intervention was found in 50 (50%) patients (see Table 1). There were 31 (31%) patients who were seen in the ER ($n = 21$) and/or re-admitted ($n = 19$) to the hospital during or shortly after completion of CoPAT, of which 25 (81%) were potentially related to CoPAT, including abnormal laboratory findings, PICC-line complications, and signs or symptoms of infection.

Conclusion. CoPAT patients are complex with high healthcare utilization. Mandatory ID review of patients receiving CoPAT has the potential to impact 2,000 lives annually in a large health system.

Table 1: Potential Intervention Categories for CoPAT Therapy

Category*	In-Depth Review (n=100)	Formal ID Consult (n=55)	No Formal ID Consult (n=45)
Change Recommended	50 (50%)	22 (40%)	28 (62%)
Stop Therapy	4 (4%)	0 (0%)	4 (9%)
IV to PO	15 (15%)	4 (7%)	11 (24%)
Duration	14 (14%)*	6 (11%)	8 (18%)
Drug	12 (12%)	3 (5%)	9 (16%)
Number of Drugs	3 (3%)	1 (2%)	2 (4%)
Dose	15 (15%)	8 (15%)	7 (16%)
Monitoring	25 (25%)*	9 (16%)	16 (36%)

*Each encounter could have >1 intervention. *With a potential additional 4 in which the duration was unclear. *7 with specific changes in monitoring and 18 in which monitoring plan was unclear.

Table 2: Estimated Weekly Volume of CoPAT Discharges by Facility

Facility	Number of CoPAT Discharges*	Average Number of Weekly CoPAT Discharges by Facility
Large, Referral Hospitals (245 to 510 beds)		
A	1155	23.6
B	954	19.5
C	628	12.8
D	469	9.6
E	428	8.7
Community Hospitals (48 to 146 beds)		
F	168	3.4
G	141	2.9
H	76	1.6
I	74	1.5
J	71	1.4
Specialty Hospitals (40 to 340 beds)		
K	281	5.7
L	42	0.9
Small or Critical Access Hospitals (15 to 37 beds)		
M	34	0.7
N	34	0.7
O	24	0.5
P	17	0.3
Q	13	0.3
R	11	0.2
S	9	0.2
T	8	0.2
U	4	0.1
V	1	<0.1

*Between January 1 and December 10, 2018

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2060. Evaluation of a Pharmacist's Impact on Antimicrobial Prescribing in an Urgent Care Center

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Background. The urgent care center (UC) setting is an opportunity for pharmacists to promote antimicrobial stewardship (AS). The primary objective is to determine compliance with antibiotic prescribing recommendations for the treatment of urinary tract infections (UTIs), skin and soft-tissue infections (SSTIs), upper respiratory tract infections (URIs), and lower respiratory tract infections (LRTIs) before, during, and after the presence of an AS pharmacist in a UC.

Methods. Single-center, retrospective, observational, pre (December 10, 2018–January 6, 2019), intervention (January 7–February 3, 2019), and post-intervention (February 4–March 3, 2019) study. All non-pregnant, adult patients with a chief complaint consistent with UTI, SSTI, URI, or LRTI were included. Patients transferred to another facility, presented for a follow-up visit, with multiple sites of infection, or treated for a bite, wound, or surgical site infection were excluded. Noncompliance (NC) was a composite endpoint of non-guideline adherent antibiotic prescribing for viral infections, inappropriate empiric selection, duration, and/or dosage. Secondary outcomes include composite outcome components and subgroup analysis of disease states.

Results. A total of 1,930 patients were screened with 439,440, and 430 patients included in the pre, intervention, and post-intervention group. Demographics were similar between groups, except for age ($P = 0.001$) and influenza diagnoses ($P < 0.001$). NC decreased from 43.3% to 31.1% ($P = 0.0002$) pre-intervention to intervention and from 31.1% to 26.5% ($P = 0.14$) post-intervention. Pre-intervention to intervention resulted in a change in composite outcome components of non-compliant prescribing (18.9% to 13%, $P = 0.02$), empiric selection (8.7% to 5.9%, $P = 0.12$), duration (4.1% to 5.9%, $P = 0.28$), dosage (3.4% to 0.5%, $P = 0.001$), and multiple components for NC (8.2% to 6.4%, $P = 0.3$). Reductions in NC were seen for UTI (83.3% to 69.2%, $P = 0.26$), SSTI (45.7% to 42.9%, $P = 1.0$), URI (23.5% to 23.2%, $P = 1.0$), and LRTI (82.1% to 51.6%, $P = 0.0004$).

Conclusion. An AS pharmacist's presence in a UC significantly reduced NC to antibiotic prescribing recommendations. The largest impact was in reducing antibiotic treatment of viral infections and optimizing antibiotic dosing.

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2061. Private Practice Dentists and Orthopedic Surgeons (PPD&OS) Engage in a Novel Stewardship Forum: Consensus to Use Less Antibiotics Achieved

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Background. The American Dental Association (ADA) favors no antibiotic prophylaxis for joint implant patients (JIP), while the American Association of Orthopedic Surgeons' (AAOS) guidance favors up to lifetime prophylaxis for JIP. Private practice dentists (PPD) represent 80% of all US dentists and to date, no one has attempted dental stewardship with PPD&OS to address this issue. Our purpose is to engage PPD&OS in the same room to address dental stewardship.

Methods. A town hall community evening forum led by an infectious diseases pharmacist and physician, including an oral surgeon, OS, hospital lawyers, and physicians from the CDC. One hour of didactics was presented to 28 PPD&OS followed by a breakout session with interdisciplinary groups to address 2 cases and 10 thought provoking questions to get at rationale for answers. Team leaders presented answers for discussion and "next-steps" to engage more PPD&OS. A pre- and post-survey was administered.

Results. PPD&OS "next-steps" were: online continuing education webinar, develop a process to inform PPD&OS if patients develop CDI or a "superbug," more presentations by ASP experts at local/national meetings, and use local media to engage consumers. The opportunity to meet and work through cases together was highly valued.

Conclusion. An interdisciplinary community forum effectively allowed for consensus among PPD&OS to use fewer antibiotics for JIP receiving dental treatment. Fear of lawsuits impacts antibiotic use; as guidelines are updated and dental stewardship with PPD expands definitive recommendations and improved communications are key.

	Pre Survey		Post Survey	
	PPD n=20	OS n=8	PPD&OS n=28	
Years post training (mean, range)	28 (4-44)	24 (3-33)	I will change my antibiotic prescribing	96% agree
Aware of ADA and AAOS guidelines	60%	88%	This forum to learn dental stewardship was effective	100% agree
Recommend antibiotic prophylaxis for JIP	10%	100%	Data on CDI and "superbugs" changed my perspective on antibiotic prophylaxis	86% agree
Prescribe correct prophylactic antibiotic, dose, duration	60%	25%	I will decrease my use of antibiotics	93% yes
Notified if patient developed CDI	5%	12%	I am aware of "superbugs" in our community	71% no
I prescribe antibiotic prophylaxis as 'defensive' medicine	75%	88%		

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