



Implementation of Antimicrobial Stewardship Weekend Coverage within a Community Hospital with a PGY2 Infectious Diseases Pharmacy Resident

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Background

- Antimicrobial stewardship program (ASP) strategies may be limited to peak weekday hours in many institutions
- Pharmacist-led ASPs have demonstrated improved clinical outcomes, decreased adverse events, decreased healthcare costs through earlier antibiotic de-escalation, conversion from intravenous to oral therapy, restriction of broad-spectrum agents, and recommendation of appropriate infectious diseases physician consultation
- Currently, a lack of data exists to support expansion of ASP beyond peak hours in community hospitals
- The goal of this study was to describe the impact of expanding inpatient ASP weekend coverage with a newly established infectious diseases PGY2 pharmacy residency program

Objectives

Primary

- Describe the impact of expanding weekend AMS coverage with an PGY2 ID pharmacy resident through quantification of inpatient antimicrobial stewardship interventions

Secondary

- Comparing the PGY2 resident's weekend stewardship activities based on intervention quantity, type, and impact to weekends without an ID-PGY2 resident providing focused ASP coverage. Comparator groups included:
 - A single experienced clinical pharmacist
 - Two new PGY1 pharmacy residents (first 6 months of residency)
 - Two experienced PGY1 residents (final 6 residency months)

Methods

Study Setting

- 350-bed community teaching hospital
- ASP implemented in 2013 supported by 1.0 FTE infectious diseases-trained clinical pharmacist and 0.2 FTE ID physician
- ID-PGY2 program established 2021

Study Design

- Retrospective quasi-experimental study

Inclusion Criteria

- Patients with antimicrobial stewardship interventions documented within the electronic health record between July 1st, 2020 – December 31st, 2021; 8 weekends collected per group

Low-Impact	Medium-Impact	High-Impact
<ul style="list-style-type: none">IV to PORenal dose adjustmentIndication adjustmentProtocolized durationMonitoring	<ul style="list-style-type: none">De-escalationRestricted antimicrobialsNon-protocolized durationProvided antibiotic recommendationPK Dosing	<ul style="list-style-type: none">Lab stewardshipDrug-drug InteractionsRecommend ID consultDrug-bug mismatchDiscontinued antibiotics

Staffing Model Adjustment

2 PGY1's OR 1 Clinical Pharmacist

Required:

- All consults including PK dosing, TPN, and warfarin dosing
- Monitor all patients on an anticoagulant
- Review all open pharmacist-identified drug monitoring handoffs
- Answer clinical questions
- Drug-drug interactions & monitoring high-risk medications
- Restricted antimicrobials review
- Antimicrobial renal dose adjustments

Optional:

- IV-to-PO interchange
- AMS including, audit-and feedback de-escalation, durations of therapy, ID consultant

ID-PGY2
Implemented

2 PGY1's OR 1 ID-PGY2 AND 1 Clinical Pharmacist

Required:

- All consults including PK dosing, TPN, and warfarin dosing
- Monitor all patients on any anticoagulation
- Review all open pharmacist-identified drug monitoring handoffs
- Answer clinical questions
- Drug-drug interactions & monitoring high-risk medications
- Restricted antimicrobials review
- Antimicrobial renal dose adjustments

Optional:

- IV-to-PO interchange
- AMS including, audit-and feedback de-escalation, durations of therapy, ID consultant

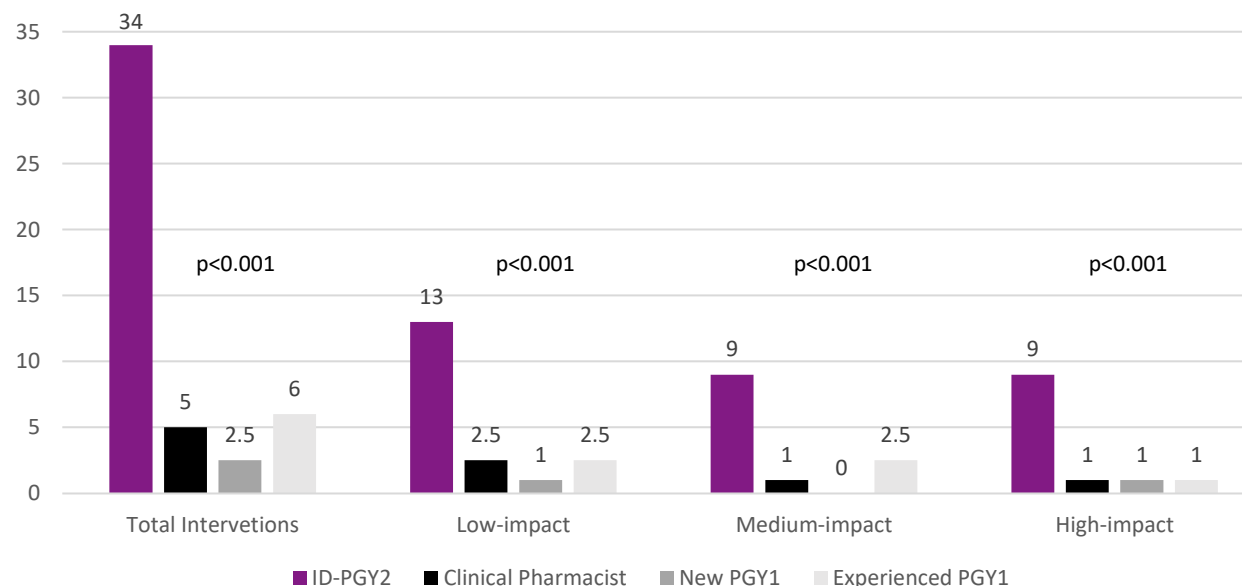
Required:

- Complete all PK dosing
- Antimicrobial renal dose adjustment
- Restricted antimicrobials review
- Antimicrobial IV-to-PO interchange
- Drug-bug mismatch
- AMS including, audit-and feedback de-escalation, durations of therapy, ID consultant recommendations
- ID-related clinical questions

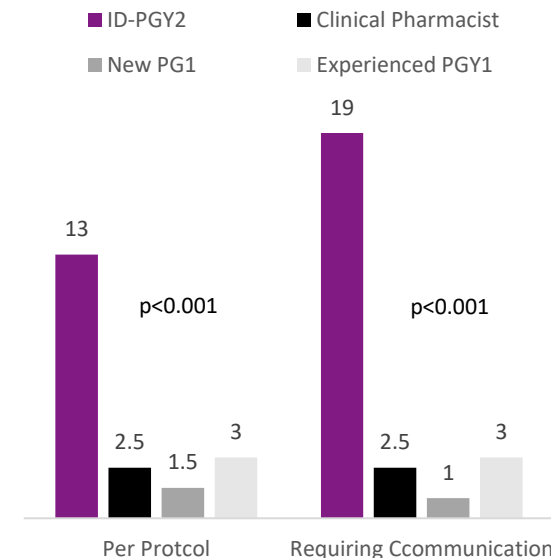
Required:

- All TPN and warfarin consults
- Monitor all patients on an anticoagulant
- Review all non-antimicrobial drug monitoring handoffs
- Drug-drug interactions & monitoring high-risk medications
- Address non-ID related clinical questions

Median Number of ASP Interventions per Weekend



Intervention Execution



Discussion & Conclusions

- More interventions were made during ID-PGY2 staffed weekends across all impact types, including those done per protocol and those that required direct communication with the treatment team following real-time audit and feedback
- Expansion of ASP services to include weekend clinical coverage with an ID-PGY2 pharmacy resident significantly increased weekend ASP interventions in a community teaching hospital
- Specialty pharmacy residency training programs may offer a high-value opportunity to expand ASP coverage

References

- Schuts, EC, et al. *Lancet Infect.* 2016; 16(7):847-856
- Mahmood RK, et al. *J Pharm Health Serv Res.* 2021; 12(4): 615-625

Disclosure:
Authors of this presentation have the following to disclose concerning possible financial or personal relationship with commercial entities that may have a direct or indirect interest in the subject matter of this presenter
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