Abstract #1058

IMPLEMENTATION OF AN EMERGENCY DEPARTMENT COLLABORATIVE PRACTICE AGREEMENT TO ALLOW FOR PHARMACIST-MANAGED CULTURE REVIEW

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DISCLOSURES

- IRB status: Exempt
- Co-investigators:
  - Heidi Simons, PharmD, BCPS, BCCCP
  - Stephanie Schritter, PharmD, BCPS
  - Ceder Dorrington-Thacker, PharmD
  - Theodore Lanier, PharmD, BCPS
  - Jada Cunningham, PharmD, BCPS
- Conflicts of interest: None
- Project sponsorship: None

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ST. PETER'S HEALTH (SPH)

- Nonprofit, community-owned
- 123-bed hospital
- Serves an estimated 97,000 people across five counties
- Wide variety of specialty services and clinics
- Applicable pharmacy services:
  - Antimicrobial stewardship (AMS) pharmacist
  - Emergency department (ED) pharmacist



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BACKGROUND

- AMS programs within a hospital optimize the use of antibiotics to effectively treat infections, protect patients from harm caused by unnecessary antibiotic use, and combat antibiotic resistance
  - Shorter antibiotic courses are equally effective as traditional longer regimens for a range of infections
  - Shorter durations reduce overall healthcare costs, improve patient compliance, and minimize the risk of adverse effects

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BACKGROUND[8]

- A recent study evaluated a 300-bed hospital's total duration of antibiotics prescribed at discharge versus the total duration of antibiotic therapy indicated
  - Over a four week period, 236 antibiotics were prescribed at discharge
  - 74% of antibiotics prescriptions covered the identified infections
  - 64% followed recommended antibiotic frequency
  - 21% aligned with appropriate duration
  - 71% of the prescribed antibiotic durations exceeded guideline-recommended lengths of treatment

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BACKGROUND[6]

- A retrospective study evaluated the impact of a pharmacist review of all culture results in an ED on antimicrobial therapies
  - Compared 12 months of physician-managed vs pharmacist-managed culture review
  - 12% of patients in the physician-managed group vs 15% of patients in the pharmacist-managed group received modification to the antibiotic therapy
  - Patients in the pharmacist-managed group had significantly fewer readmissions to the ED within 96 hours of discharge (7% vs 19%)
  - Reasons for readmission to the ED included treatment failure, non-compliance, allergy to medication, and adverse drug reactions

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SPH PRACTICE PRIOR TO CPA

The pharmacist reviews finalized positive cultures from the ED and urgent care (UC) visits each day

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The pharmacist evaluates multiple facets of each patient chart to evaluate the effectiveness of discharge therapy

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If therapy is adequate, the pharmacist documents the result and management in the EHR

↓

If therapy requires modification, the pharmacist contacts the patient to assess symptoms and reviews the case with the provider on shift. The pharmacist explains results to the patient and changes that will be made

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The pharmacist prescribes the modified treatment as ordered from the provider, and documents intervention in the EHR

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OBJECTIVES

- Primary objective
  - Evaluate the impact pharmacists can have on discontinuing or shortening antimicrobial courses for patients who discharged from UC or ED
- Secondary objectives
  - Determine the impact pharmacists can have on identifying bug-drug mismatch
  - Determine impact pharmacists can have on optimizing dose or frequency of discharge prescriptions
  - Identify other areas where pharmacists can improve discharge prescriptions

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METHODS

Phase 1 Preliminary Data Collection (Sept – Dec)

Phase 2 Project Development (Oct – Dec)

Phase 3 Project Implementation (January)

Phase 4 Final Data Analysis (Feb – Apr)

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PHASE 1 – PRELIMINARY DATA COLLECTION

- Retrospective data was collected through reports from the electronic health record (EHR) to serve as a control
- Data was collected for all patients who received a discharge prescription for an antibiotic, antiviral, or antifungal agent through the SPH ED and UC in January 2024
- These patients were assessed via chart review for potential antimicrobial optimization opportunities
  - Decreased days of therapy
  - Bug drug mismatch
  - Dose and frequency
  - Other

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PHASE 2 – PROJECT DEVELOPMENT

Conduct background research	Identify stakeholders	Draft project proposal
Gain access for data collection	Develop CPA and gain P&T approval	Develop pharmacist workflow
Develop hospital protocol	Gain approval from stakeholders	Educate pharmacists and providers on scope of practice

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PHASE 3 – PROJECT IMPLEMENTATION

Identify patients: Patients with cultures drawn during their ED or UC visit (whether resulted as positive or negative) who discharged were generated into an Epic report.

Establish workflow: Pharmacists reviewed the Epic report daily during January 2025. Patients were reviewed for appropriate antibiotic management and any need for optimization. Patients requiring optimization were contacted and pharmacist modified antibiotic therapy as indicated.

Documentation: Pharmacist documented on all patients that were contacted. If modifications to therapy were made, further documentation of changes were performed in the EHR.

Provider education and practice improvement: Results of this study were compared to retrospective data and brought to the ED and UC providers for review and discussion. Education on prescribing needs will be provided.

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PHASE 4 – DATA ANALYSIS

- Retrospective data from January 2024 and prospective data from January 2025 was analyzed
- Data was filtered to ensure retrospective and prospective patient population matched
  - Patients with labs or cultures drawn who received antimicrobial therapy at discharge
- Data collected
  - Basic demographic information
  - Antimicrobial indications
  - Pathogens identified through microbiology
  - Empiric medication prescribed
  - Duration prescribed at discharge
  - Provider or patient reported adverse effects
  - Intervention made based on culture results

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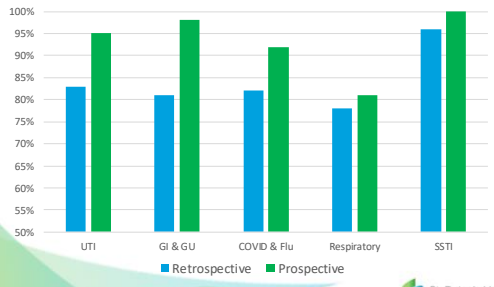
PHASE 4 – DATA ANALYSIS

- Assessment
  - Patients who received appropriate empiric treatment for each indication
  - Opportunity for interventions for each indication
  - Active phase interventions
- Compile
  - Finalize findings and recommendations
- Share
  - Present findings to stakeholder groups

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RESULTS

Percentage of patients who received appropriate empiric treatment



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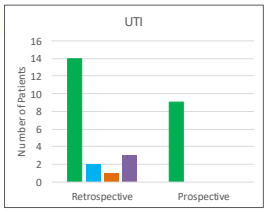
RESULTS

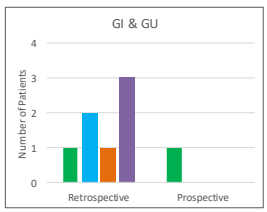
Percentage of patients who received appropriate empiric treatment

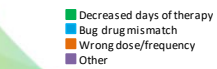
Indication	Retrospective	Prospective
UTI	97/117 (83%)	159/168 (95%)
GI & GU	25/31 (81%)	45/46 (98%)
COVID & Flu	143/175 (82%)	81/88 (92%)
Respiratory	133/171 (78%)	136/167 (81%)
SSTI	24/25 (96%)	26/26 (100%)

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RESULTS – OPPORTUNITY FOR INTERVENTIONS

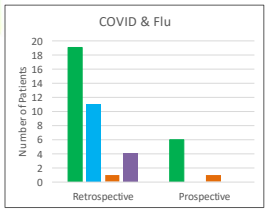


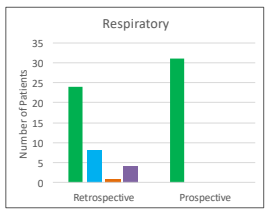


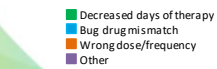


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RESULTS – OPPORTUNITY FOR INTERVENTIONS



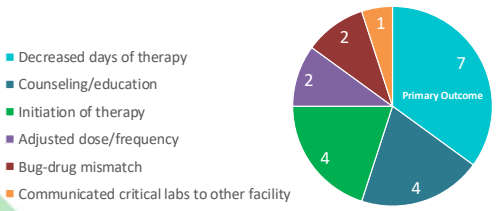




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RESULTS – ACTIVE PHASE INTERVENTIONS

Number of patients who had a documented intervention



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DISCUSSION AND LIMITATIONS

- The Epic report used during both the retrospective and prospective phase is too robust for the ED pharmacist to manage daily
- Other possible variables impacting results other than direct pharmacy intervention
  - Providers were aware that we were tracking discharge prescriptions
  - Email was sent out to UC staff regarding days of therapy for strep pharyngitis that resulted in more appropriate prescribing during the active phase

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CONCLUSION

- The ED pharmacist was assessing more discharge medications after the CPA was implemented
  - Appropriate empiric treatment improved due to more patients being assessed by the pharmacist post discharge
- Through the CPA pharmacists made a positive clinical impact on patient care by decreasing days of therapy, adjusting therapy for bug drug mismatch, optimizing dosing or frequency, etc.

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NEXT STEPS

- Present results to stakeholder groups at SPH
- Offer education to the providers at UC and ED on appropriate use and duration of antibiotics
- Provide focused education on indications where extended durations are commonly prescribed
  - E.g., respiratory illnesses, UTI
- Create a more feasible report that will allow the ED pharmacist to review relevant preliminary culture data

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QUESTIONS?

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