

Optimizing Communication in Outpatient Parenteral Antimicrobial Therapy Amid the COVID-19 Pandemic

Martha Carvour, MD, PhD
January 14, 2021

M. Carvour has no financial disclosures related to this presentation.

About the Presenter



Martha Carvour, MD, PhD

Assistant Professor of Internal Medicine (Infectious Diseases) and Epidemiology

University of Iowa (UI) Carver College of Medicine and College of Public Health

- Research Principal Investigator in Health Equity Epidemiology and Musculoskeletal Infections
- Infectious Diseases Consultant with a Focus in Musculoskeletal Infections
- Learning Community Co-Director, UI MD/PhD Program
- Co-Director, UI Summer Undergraduate MD/PhD Research Program
- Advocacy Co-Leader, UI Health Equity Advancement Lab

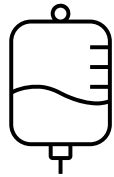


In this presentation, I will:

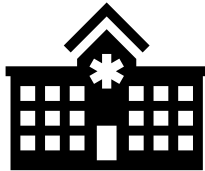
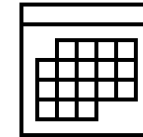
- ▶ Describe our team's efforts to optimize communication and care coordination for patients receiving outpatient parenteral antimicrobial therapy.
- ▶ Core objectives for the project and the methods used to achieve these
- ▶ Impact of the COVID-19 pandemic on our team's priorities and outcomes
- ▶ Outline the beneficial impacts of aligning this project with the American College of Physicians (ACP) Certificate in Physician Leadership program.



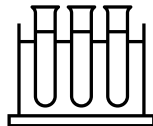
Complex Care Coordination for Outpatient Parenteral Antimicrobial Therapy (OPAT)



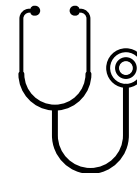
**Multi-Week Courses of
Intravenous Antibiotics**



**Complex Transitions Between
Inpatient and Outpatient Settings**



**Post-Discharge Monitoring,
Follow-Up, and Care Coordination**





Project Overview

Two Core Objectives for Optimizing OPAT Communication

Inpatient-to-Outpatient
Transitions of Care

To identify barriers to and facilitators of the inpatient-to-outpatient transition of care for patients who are eligible for OPAT, through focused, interdisciplinary discussions in the health system.

Post-Discharge
Monitoring System

To define critical gaps in the OPAT post-discharge monitoring system that may impact either the probability of patient safety events or the practice efficiency of involved providers and staff.



COVID-19 Pandemic Priorities for Optimizing OPAT Communication


Inpatient-to-Outpatient Transitions of Care

- **Rapid conversion to telemedicine-based care**
- **Focused tasks for providers and staff**

Post-Discharge Monitoring System

- **Out-of-office contingency planning**
- **Post-discharge monitoring data collection**





Project Methods and Preliminary Results

Overview of Methods for Optimizing OPAT Communication

Inpatient-to-Outpatient
Transitions of Care

- **Focused, interdisciplinary discussions**
- **Parallel-cycle Plan-Do-Study-Act analysis**

Post-Discharge
Monitoring System

- **Focused, interdisciplinary discussions**
- **Failure mode and effects analysis**



Preliminary Results for Optimizing OPAT Communication

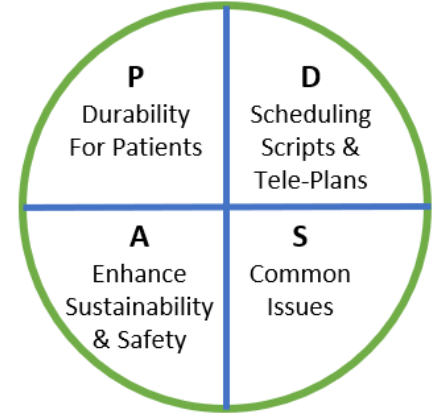
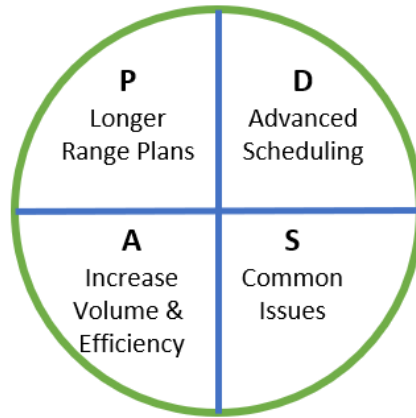
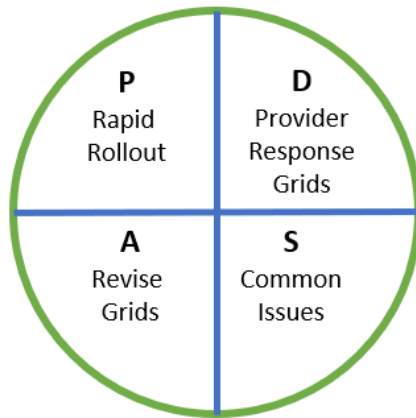
Inpatient-to-Outpatient
Transitions of Care

- **Focused, interdisciplinary discussions**
- **Parallel-cycle Plan-Do-Study-Act analysis**

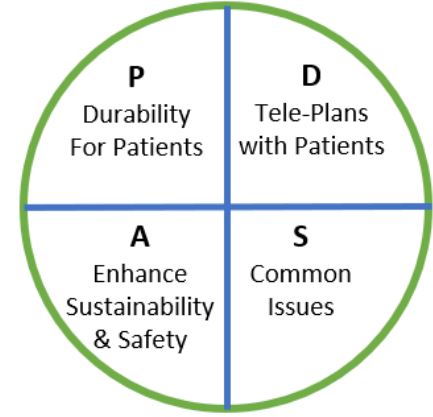
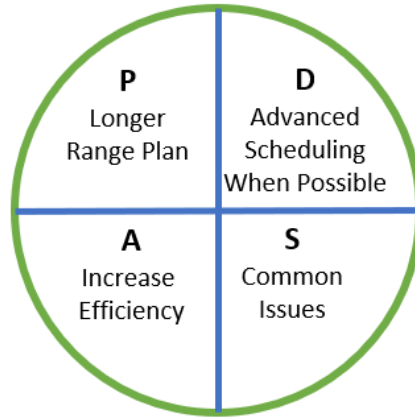
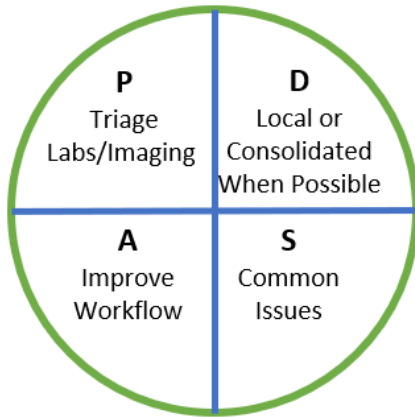


Parallel-Cycle Plan-Do-Study-Act (PDSA) Analysis for Telemedicine/Tele-OPAT

**Scheduling
Tele-visits**



**Labs &
Imaging**



Preliminary Results for Optimizing OPAT Communication

Post-Discharge
Monitoring System

- **Focused, interdisciplinary discussions**
- **Failure mode and effects analysis**



Simplified Failure Mode and Effects Analysis for OPAT Post-Discharge Monitoring

Process Step	Failure Mode	Failure Effect	Potential Severity	Probability of Occurrence	Current Controls	Probability of Detection	Action
OPAT Enrollment	Electronic order not placed by provider	Failure to enter OPAT workflow	High	Moderate	Routine, manual staff review	High	Deferred
	Missed on routine, manual staff review	Failure to enter OPAT workflow	High	Low	Ancillary services	Moderate-High (due to ancillary services)	Deferred
OPAT Workflow	Absence of primary workflow admin	Marked gaps or delays in all data	High	Moderate (upgraded due to pandemic)	Secondary workflow admin	High	Deferred
	Absence of secondary workflow admin	Marked gaps or delays in all data	High	Moderate (upgraded due to pandemic)	Ad hoc	High	Added tertiary/provider access
OPAT Data Review	Incomplete or delayed lab/imaging data	Possible care delays or errors	Low-High	Moderate-High	Cross-checks by admin & providers	Moderate	Integrated OPAT dashboard



Integration with ACP Certificate in Physician Leadership Training

Core and Elective Coursework Directly Supported the Project

- ▶ **Communication**
- ▶ **Conflict**
- ▶ **Negotiation**
- ▶ **Just Culture**
- ▶ **Effective Teams**

Future Directions

Our team is moving forward with future phases of the OPAT project.

I am moving forward with American Association for Physician Leadership coursework.



Acknowledgements and Appreciation

- ▶ Project Mentor and Division Director: Dan Diekema, MD, MS
- ▶ UI Department of Internal Medicine
- ▶ UI Medicine Specialty Clinics
- ▶ UI Health Care Information Systems
- ▶ American College of Physicians and American Association for Physician Leadership
- ▶ Key Collaborators
 - ▶ Toni Dobre
 - ▶ Amanda Schaff-Kleppe
 - ▶ Laura Stulken, PA-C
 - ▶ Ben Appenheimer, MD
 - ▶ Poorani Sekar, MD
- ▶ Many Other UI Providers, Staff, and Administrators
- ▶ Patients Who Provided Formative Input about Their OPAT Experiences

▶ Note: Persons listed above provided written consent to be named in this presentation. Patient input was spontaneously offered in the context of real-time clinical encounters. No human subjects research or human subjects data collection were performed.



Thank you.

Questions?

References and Resources

- ▶ Norris AH, Shrestha NK, Allison GM, Keller SC, Bhavan KP, Zurlo JJ, et al. 2018 Infectious Diseases Society of America Clinical Practice Guideline for the Management of Outpatient Parenteral Antimicrobial Therapy. *Clin Infect Dis*. 2019 Jan 1;68(1):e1–35.
 - ▶ Saadatzadeh T, Salas NM, Walraven C, Sarangarm P, Crandall CS, Crook J, et al. Improving Emergency Access to Human Immunodeficiency Virus Prophylaxis for Patients Evaluated After Sexual Assault. *J Healthc Qual*. 2020 Mar 18; epub ahead of print. Available from: <https://journals.lww.com/10.1097/JHQ.000000000000260>.
 - ▶ Science of Improvement: Tips for Testing Changes. Institute for Healthcare Improvement; [cited 2020 Nov 8]. Available from: <http://www.ihl.org/resources/Pages/HowtoImprove/ScienceofImprovementTipsforTestingChanges.aspx>.
 - ▶ Tan SJ, Ingram PR, Rothnie AJ, Whitmore TJ, Robinson JO, Hatch JB, et al. Successful outpatient parenteral antibiotic therapy delivery via telemedicine. *J Antimicrob Chemother*. 2017 Oct 1;72(10):2898–901.
 - ▶ Tools: Failure Mode and Effects Analysis Tool. Institute for Healthcare Improvement; [cited 2020 Nov 8]. Available from: <http://www.ihl.org/resources/Pages/Tools/FailureModesandEffectsAnalysisTool.aspx>.
 - ▶ Williams DN, Baker CA, Kind AC, Sannes MR. The history and evolution of outpatient parenteral antibiotic therapy (OPAT). *Int J Antimicrob Agents*. 2015 Sep;46(3):307–12.
-

