Improving the Care of Patients with Serious Infections and Injection Drug Use

Milan Stolpman[1], Colleen Kershaw MD[2]

[1]Geisel School of Medicine at Dartmouth, [2] Section of Infectious Disease and International

Introduction

1. People who inject drugs (PWID) face a range of barriers in treatment for serious infections related to drug use (1)
2. Increasing incidence of drug-dependence associated endocarditis (2)
3. PWID are traditionally excluded from outpatient parenteral therapy and receive sub-optimal care, associated with higher rates of self-directed discharge (SDD), re-admissions, and longer hospital stays
4. There is a lack of conclusive data that states that inpatient stays are associated with improved outcomes in comparison to OPAT in people with substance use disorders and injection drug use (3)

DHMC Needs Assessment

1. Needs assessment was conducted to better understand the challenges faced by PWID in receiving optimal care (4)
2. From February 2019 - February 2020, 64 admissions among 57 people who inject drugs who required long-term antibiotic treatment
3. High rate of self-directed discharge (20%) and 30-day readmissions (8%)
4. Low rate of discharge on IV home therapy (14%)
5. Gaps in SUD care: 70% discharged on MOUD, 77% received BIT consult

Intervention Overview

1. Identification of PWID with serious infections at admission
2. Behavioral Intervention Team (BIT) consult for substance use evaluation and management and assessment of social situation/OPAT candidacy
3. Collaboration between Infectious Disease (ID), BIT, primary team, Case Management culminating in multidisciplinary meeting to discuss comprehensive care plan via Webex in structured format
4. Templated note for documentation of multidisciplinary team decision-making
5. Harm reduction counseling
6. Care navigation with peer recovery coach during treatment course

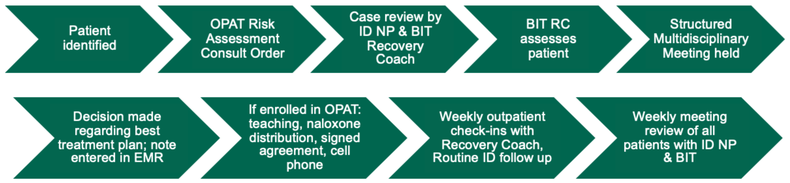
Criteria Reviewed in Multi-Disciplinary Meeting

Inclusion Criteria
Patient interested and willing to participate
Patient mental status allows full understanding of risks and benefits
Engaged in treatment for addiction
Home discharge otherwise expected
Safe home environment
Age ≥ 18
Agreeable to sharing information between providers

Strict Contraindications
Lack of stable housing
Behavior suggesting inability engage productively with healthcare team
Current incarceration
Cardiac surgery this admission
Relative Contraindications
Severe stimulant, benzo or alcohol use disorder
Lack of support system at home
Co-habitants actively using substances
No reliable communication method

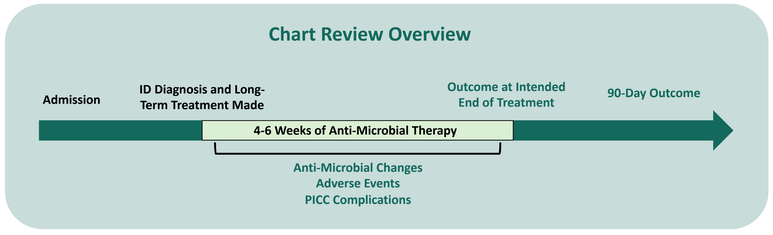
Kershaw et al. (2022), *Improving care for individuals with serious infections who inject drugs*

Clinical Workflow



Kershaw, C. (2025, June) *OPAT: What Should Infection Preventionists Know?*

Methods



Preliminary Intervention Analysis

	Before Intervention	After Intervention
Total admissions	64	80
Total patients	57	64
Addiction addressed during admission	77% (49/64)	99% (79/80)
AMA discharges	20%	20% (16/80 admissions, 14 patients)
Discharge home on IV antibiotics	7% (4/57 patients)	19% (12/64 patients)
In-hospital for duration of IV course	34% (22/64 admissions)	8% (6/80 admissions)
Average Length of stay -Overall -AMA discharges removed	 21 days 24 days	 12 days 14 days
Readmission within 30d	8%; 2% if AMA discharges removed	16%; 7% if AMA removed

Kershaw, C. (2025) *Improving Care For People With Infectious Complications of Drug Use*

Discussion

1. From preliminary review of patients discharged on OPAT, 77% (23/30 admissions) were cured at the anticipated end of therapy with adverse events and PICC complications detected in 10% and 30%, respectively.
2. Challenges during chart review in recording outcomes due to patient communication difficulties post-discharge, inter-patient variability in reporting adverse events or complications, and high rates of recurrent hospitalizations where cause of admission difficult to discern

Future Directions

1. Continue chart review the post-intervention cohort, recording anti-microbial changes, adverse events, PICC complications, outcome at end of treatment, and 90-day outcome.
2. Contact hospital finance to inquire about the financial benefits of OPAT due to lower average length of stays
3. Sharing insights with other hospitals, as OPAT feasibility in rural settings is comparatively under-studied

References

1. Attwood, L. O., Schroeder, S. E., Vujovic, O., Stewardson, A. J., Doyle, J. S., Dietze, P., *et al.* (2025). Qualitative analysis of barriers and facilitators to healthcare engagement for people with injecting-related invasive infections using a social ecological framework. *Addiction.*
2. Fleischauer, A. T., Ruhl, L., Rhea, S., & Barnes, E. (2017). Hospitalizations for endocarditis and associated health care costs among persons with diagnosed drug dependence — North Carolina, 2010–2015. *MMWR. Morbidity and Mortality Weekly Report, 66*(22), 569–573.
3. Price, C. N., Solomon, D. A., Boyd, J. W., Schrank, G. M., & Merrill, J. O. (2020). Feasibility and safety of outpatient parenteral antimicrobial therapy in conjunction with addiction treatment for people who inject drugs. *The Journal of Infectious Diseases*
4. Kershaw, C., Gupta, K., Walley, A. Y., Roy, P., & Suzuki, J. (2022). Improving care for individuals with serious infections who inject drugs. *Therapeutic Advances in Infectious Disease*

Annual Medical Student Poster Night 2025

Milan.D.Stolpman.MED@dartmouth.edu