

# Interdisciplinary OPAT Clinic Follow Up and Impact on Clinical Outcomes within a Large Veterans Affairs Medical Center

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## Background

- For patients receiving outpatient parenteral antimicrobial therapy (OPAT), early and close outpatient follow-up is associated with lower rates of hospital re-admission.<sup>1,2</sup> However, the impact of OPAT follow-up programs on treatment and infection outcomes is not well-described.
- In August 2020, during the COVID-19 pandemic, our institution's Infectious Diseases section established an interdisciplinary OPAT clinic to standardize and improve the care of veterans receiving OPAT at home.
- During weekly telephone/video visits with veterans, OPAT clinic providers assessed medication adherence and treatment response, monitored safety labs, performed medication reconciliation, managed/triaged adverse drug- and line-events, and assisted veterans in navigating the healthcare system.

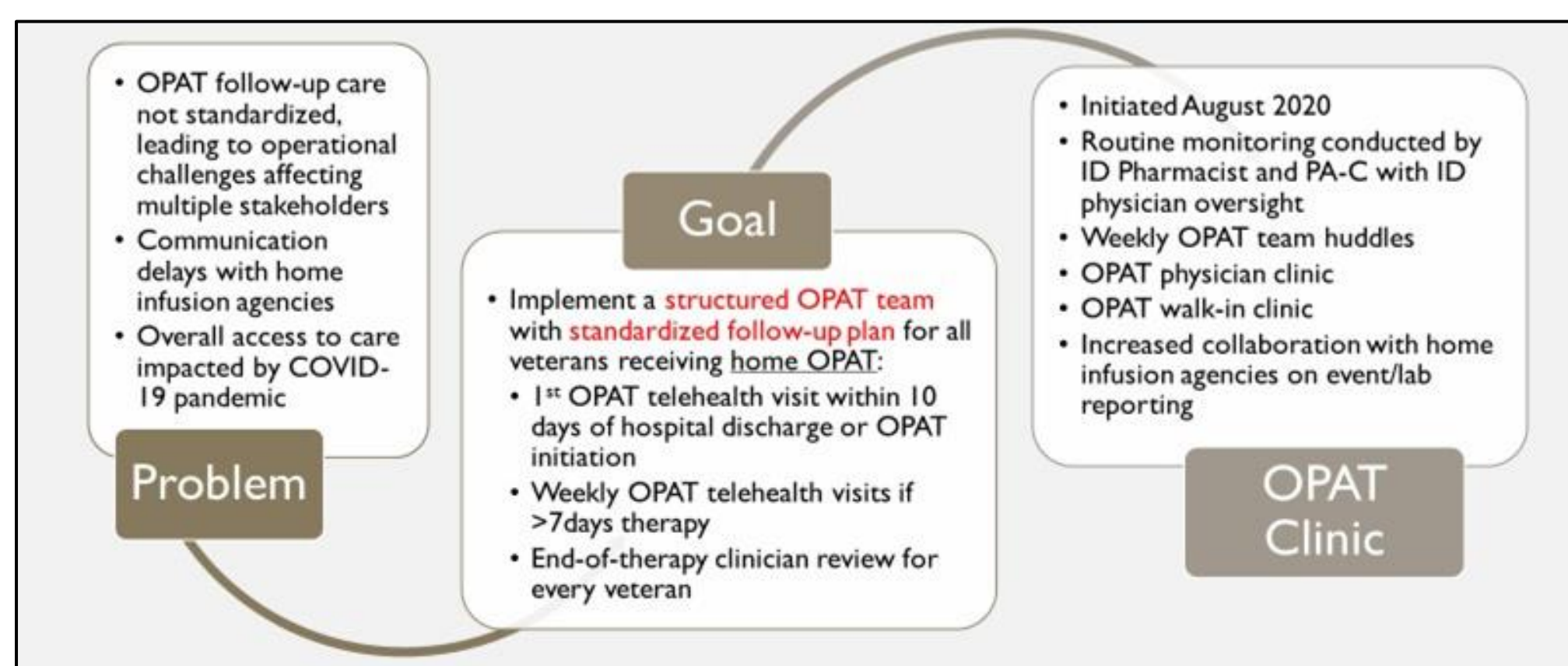


Figure 1. Problem, Goal, and Interventions of the Outpatient Parenteral Antimicrobial Therapy (OPAT) Clinic  
ID= Infectious Diseases; PA-C= Certified Physician Assistant

## Objectives

### Primary Objective

- To assess the impact of the OPAT clinic by comparing the pre-and post-implementation treatment failure rate
- Treatment failure definition: requiring repeat OPAT course for the same infection, any unplanned hospital admission, unplanned surgical intervention or procedure for additional source control, or death from any cause during or within 30 days of OPAT

### Secondary Objective

To compare pre-and post-implementation:

- Rate of adverse drug (Grade 2 and above) and vascular events
- Proportion of OPAT episodes requiring modification by the OPAT clinic
- Time to Infectious Diseases follow-up

## Methods

Retrospective pre-post intervention study of veterans receiving OPAT before (August 1, 2019-July 31, 2020) and after (September 1, 2020- August 31, 2021) implementation of the OPAT clinic.

### Exclusion Criteria:

- Veterans who received OPAT during the intervention period
- Veterans who received OPAT at an outpatient hemodialysis center, outpatient infusion suite, skilled nursing facility, long term care facility
- Veterans who received hospice services during OPAT period
- Veterans who had not yet completed OPAT by the time of study analysis
- Veterans who received OPAT for less than 7 days

## Results

	Total (n=191)	Pre (n=76)	Post (n=115)	p-value
Age (median)	66	69	64	NS
Birth Sex, Male	97%	99%	97%	NS
Charlson Comorbidity Index (median)	4	5	4	NS
VA primary care location				
Houston main campus	80 (42%)	25 (33%)	55 (48%)	0.04
Community-based clinic	89 (47%)	40 (53%)	49 (43%)	NS
# of concurrent OPAT antibiotics				
1	155 (81%)	59 (78%)	96 (83%)	NS
2	33 (17%)	15 (20%)	18 (16%)	NS
3	3 (2%)	2 (3%)	1 (1%)	NS

	Total	Pre	Post	p-value
OPAT indication (infection type)				
Bone/Joint	77 (34%)	33 (39%)	44 (31%)	NS
Bacteremia (primary and secondary)	54 (24%)	17 (20%)	37 (26%)	NS
Endocarditis/Cardiac device	29 (13%)	8 (9%)	21 (15%)	NS
Genitourinary	21 (9%)	8 (9%)	13 (9%)	NS
Gastrointestinal	17 (7%)	7 (8%)	10 (7%)	NS
Pulmonary	8 (4%)	5 (6%)	3 (2%)	NS
Skin/Soft Tissue	7 (3%)	3 (4%)	4 (3%)	NS
CNS	6 (3%)	2 (4%)	4 (3%)	NS
Endovascular	5 (2%)	0	5 (3%)	NS
Other	4 (2%)	2 (2%)	2 (1%)	NS

Micro-organisms	Total	Pre	Post	p-value
Monomicrobial, Gram-positive	83 (43%)	26 (34%)	13 (17%)	<0.01
Monomicrobial, Gram-negative	35 (18%)	13 (17%)	22 (19%)	NS
Monomicrobial, Fungal	6 (3%)	1 (1%)	5 (4%)	NS
Polymicrobial	36 (19%)	20 (26%)	16 (14%)	0.032
Empiric/Culture-negative	31 (16%)	16 (21%)	15 (13%)	NS

## Results

	Pre	Post	Total	p-value
ID clinic follow-up and interventions				
Any ID follow-up during OPAT	67 (88%)	115 (100%)	182 (95%)	<0.01
Time to first ID follow-up (median)	9 days	6 days	7 days	<0.01
Antibiotic adjustments	22 (29%)	56 (49%)	78 (41%)	<0.01
OPAT-related complications				
Adverse drug event (Grade 2)	4% (1.8 per 1000 OPAT days)	13% (5.3 per 1000 OPAT days)	9% (4.1 per 1000 OPAT days)	NS
Vascular access device event	12% (5.3 per 1000 VAD days)	10% (3.7 per 1000 VAD days)	10% (4.3 per 1000 VAD days)	NS
Treatment failure during or within 30 days of OPAT				
Any treatment failure	46% (21.6 per 1000 OPAT days)	29% (11.7 per 1000 OPAT days)	36% (15.3 per 1000 OPAT days)	0.01
Unplanned hospital re-admission	33 (40%)	28 (23%)	61 (30%)	0.01
Unplanned surgical intervention for source control	6 (7%)	4 (3%)	10 (5%)	NS
Repeat OPAT for same infection	1 (1%)	5 (4%)	6 (3%)	NS
Death from any cause	1 (1%)	1 (1%)	2 (1%)	NS
Median Time to Treatment failure			24 days	--

## Conclusion

- Veterans receiving home OPAT after implementation of the OPAT clinic experienced treatment failure at a lower rate than those prior to initiation of the OPAT clinic. They also had less time to ID follow-up and more frequent OPAT modifications.
- There were no significant differences in OPAT safety measures.
- The median time to treatment failure suggests the need for ongoing surveillance beyond the initial 2 weeks of OPAT.

## References

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**Author Disclosures:** The authors of this presentation have **no disclosures** concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.