



OUTPATIENT ANTIBIOTIC THERAPY IN VULNERABLE POPULATIONS

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BACKGROUND

Life threatening infections such as endocarditis and osteomyelitis are difficult to treat and often require long courses of intravenous (IV) antibiotics. Among the homeless or injection drug users (IDU), where serious infections are common, creating an outpatient antibiotic treatment plan can be challenging. We examined patient outcomes of our outpatient parenteral antimicrobial therapy (OPAT) program, with a focus on the homeless and IDU, to evaluate program function, identify areas for improvement around transitions of care, and add to the current dearth of information on the epidemiology and outcomes of infections in these high-risk populations.

METHODS

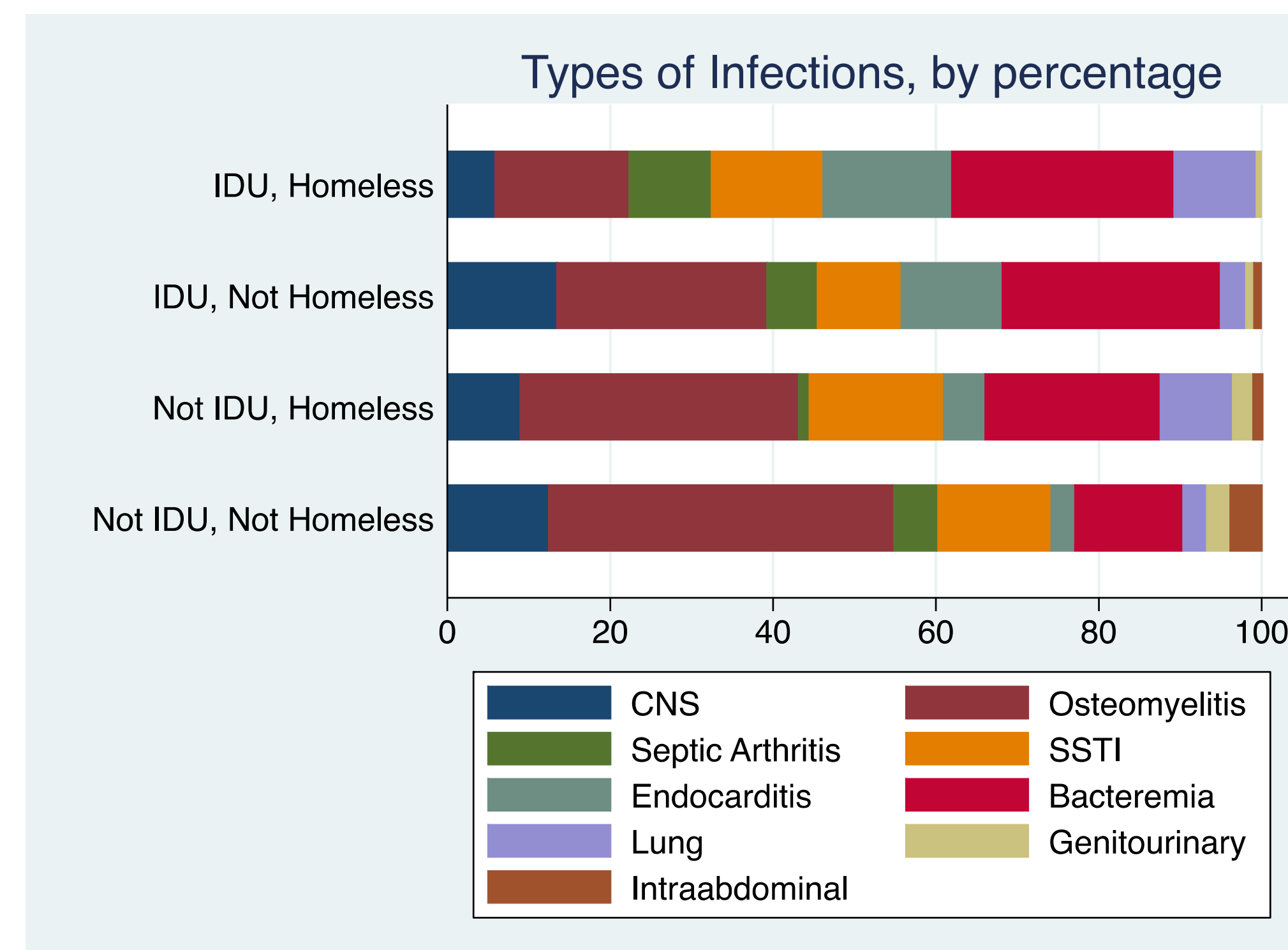
- Hospitalized patients receiving IV antibiotics were enrolled in OPAT if long-term antibiotics (>2 weeks) were continued upon discharge and required clinical monitoring
- Information was entered using REDCap, a data-reporting tool linked to the University of Washington's electronic medical record, to collect clinical information
- Data on housing status and substance abuse were manually entered
- Statistical calculations were performed using STATA (v.14)

	CURRENT IDU		NOT IDU	
	Homeless n=64 (%)	Not Homeless n=50	Homeless n=48	Not Homeless n=486
Mean Age (years)	38.6	41.8	49.0	54.0
Sex				
Male	42 (65.6)	39 (78.0)	40 (83.3)	314 (64.6)
Female	22 (34.4)	11 (22.0)	8 (16.7)	172 (35.4)
Race				
White	52 (81.3)	38 (76.0)	28 (58.3)	362 (74.5)
Black	6 (9.4)	8 (16.0)	15 (31.3)	46 (9.5)
Asian	0	0	0	5 (1.0)
NA/Al	4 (6.3)	2 (4.0)	0	15 (3.1)
Pacific Islander	0	0	0	4 (0.8)
Other	2 (3.1)	2 (4.0)	5 (10.4)	58 (11.9)
Medical Comorbidities				
ESRD on HD	1 (1.6)	4 (8.0)	2 (4.2)	26 (5.4)
DM	4 (6.3)	6 (12.0)	9 (18.8)	138 (28.4)
Immunosuppression	0	0	0	25 (5.1)
HIV	5 (7.8)	3 (6.0)	1 (2.1)	9 (1.9)
HCV	47 (73.4)	33 (66.0)	6 (12.5)	47 (9.7)

Table 1: Demographics of IDU and homeless populations receiving OPAT monitoring

	CURRENT IDU		NOT IDU	
	Homeless n=64 (%)	Not Homeless n=50	Homeless n=48	Not Homeless n=486
Median Length of Stay (days)	11.2	14.1	12.0	8.6
Secondary Bacteremia	8 (12.5)	2 (4.0)	1 (2.1)	6 (1.2)
Line Tampering	22 (34.4)	1 (2.0)	1 (2.1)	3 (0.6)
Lost to Follow-Up	33 (51.6)	20 (40.0)	9 (18.8)	38 (7.8)
Clinical Cure				
Yes	28 (43.8)	24 (48.0)	38 (79.2)	346 (71.2)
No	6 (9.4)	4 (8.0)	3 (6.3)	34 (7.0)
Unknown	30 (46.9)	22 (44.0)	6 (12.5)	81 (16.7)
Chronic Suppression	0	0	1 (2.1)	25 (5.1)
30 Day OPAT-Related Readmission	20 (31.3)	8 (16.0)	4 (8.3)	65 (13.4)

Table 3: Complications and clinical outcomes among IDU and homeless populations receiving OPAT monitoring



	IDU, Homeless	IDU, Not Homeless	Not IDU, Homeless	Not IDU, Not Homeless
Total Infections	139 (%)	97	79	727
CNS	8 (5.8)	13 (13.4)	7 (8.9)	90 (12.4)
Osteomyelitis	23 (16.5)	25 (25.8)	27 (34.2)	308 (42.4)
Septic Arthritis	14 (10.1)	6 (6.2)	1 (1.3)	39 (5.4)
SSTI	19 (13.7)	10 (10.3)	13 (16.5)	101 (13.9)
Endocarditis	22 (15.8)	12 (12.4)	4 (5.1)	21 (2.9)
Bacteremia	38 (27.3)	26 (26.8)	17 (21.5)	97 (13.3)
Lung	14 (10.1)	3 (3.1)	7 (8.9)	21 (2.9)
Genitourinary	1 (0.7)	1 (1.0)	2 (2.5)	21 (2.9)
Intra-abdominal	0	1 (1.0)	1 (1.3)	29 (4.0)
Infections/Encounter	2.2	1.9	1.6	1.5

Table 2: Types of infections in IDU and homeless populations receiving OPAT monitoring

RESULTS

- 648 OPAT encounters were identified between January 1, 2015 through April 30, 2016
- IDU and homeless populations were younger and more likely to have HIV and HCV
- The most common infection in non-IDU, non-homeless population was osteomyelitis
- The most common infection in IDU was bacteremia and they were more likely to have endocarditis
- Median length of hospital stay was longer among IDU and homeless populations
- 30-day readmission rates were higher among IDU and homeless populations
- IDU and homeless groups were much more likely to be lost to follow-up and not achieve clinical cure

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References: Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap) – a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform. 2009;42:377-81.

CONCLUSIONS

- The homeless and current IDU comprise a significant portion of the OPAT population, contributing to more infections, longer length of stay, and higher rates of hospital readmission
- High lost to follow-up rates in IDU likely contribute to lack of clinical cure
- We plan to use this data to target future interventions towards high-risk groups to improve outpatient care coordination and clinical outcomes