



Oral Antibiotic Prescription for Persons Who Use Drugs Pursuing Patient-Directed Discharge

Nicole M Robertson MPH¹, Anthony Mangino PhD², Anna-Maria South MD³, Laura Fanucchi MD, MPH^{3,4}

¹University of Kentucky College of Medicine, Lexington, KY; ²Department of Biostatistics, University of Kentucky, Lexington, KY;

³Department of Internal Medicine, University of Kentucky, Lexington, KY; ⁴Division of Infectious Diseases, University of Kentucky College of Medicine, Lexington, KY



BACKGROUND

- Patient-directed discharges (PDD) are increasing inpatient and are associated with increased mortality.^{1,2}
- People who inject drugs (PWID) have increased risk of PDD, which may lead to incomplete IV antibiotic treatment of severe injection-related infections (SIRI).³
- From 2019-2020, monthly proportion of patients who received oral antibiotic prescription at PDD ranged from 0% to 33%
- Effect of antibiotic prescription at PDD on readmission outcomes in PWID with SIRIs is unknown.

OBJECTIVE

- Evaluate the relationship between PDD incidence, antibiotic prescription at PDD, and 30-day readmission rate in PWID with SIRI pursuing PDD

METHODS

- Retrospective cohort study
- Tertiary academic hospital from October 2018-December 2020
- **Inclusion criteria:** infective endocarditis, skin and soft tissue infections and/or osteomyelitis with an addiction medicine consult
- T-tests and Fisher's Exact tests assessed differences in patient characteristics by whether antibiotics were prescribed at PDD
- Univariate and multivariate analysis using logistic regression evaluated predictors of 30-day readmission

RESULTS

Individual and Clinical Demographics

- Of 74 PWID with SIRI that pursued PDD, 24.3% were prescribed antibiotics at discharge

Table 1. Demographic Characteristics by Antibiotic Status at PDD

	No Antibiotics at Discharge N=56	Antibiotics at Discharge n=18	Overall n = 74	p value
Age (years), mean (SD)	33.9 (9.01)	38.2 (9.54)	34.9 (9.26)	0.105
Sex, n (%)				0.074
Female	45 (80.4%)	10 (55.6%)	55 (74.3%)	
Male	11 (19.6%)	8 (44.4%)	19 (25.7%)	
Race, n (%)				0.752
Black/African American	3 (5.4%)	0 (0%)	3 (4.1%)	
White	53 (94.6%)	18 (100%)	71 (95.9%)	
Hospital Length of Stay (days), median [min, max]	14.8 [0.620, 52.9]	11.3 [0.980, 44.5]	13.4 [0.620, 52.9]	0.910
Remaining Duration of Uncompleted IV Antibiotic Treatment > 7 days, n (%)	45 (80.4%)	8 (44.4%)	53 (71.6%)	0.008
Infection, n (%)				
Osteomyelitis	11 (19.6%)	5 (27.8%)	16 (21.6%)	0.689
Endocarditis	38 (67.9%)	7 (38.9%)	45 (60.8%)	0.056
Skin and Soft Tissue Infection	28 (50.0%)	12 (66.7%)	40 (54.1%)	0.336
Condition Discharged, %(n)				0.053
Stable	34 (60.7%)	16 (88.9%)	50 (67.6%)	
Unstable	22 (39.3%)	2 (11.1%)	24 (32.4%)	
Naloxone Prescribed at Discharge, n (%)	26 (46.4%)	9 (50.0%)	35 (47.3%)	>0.999
Current Smoker, n (%)	49 (87.5%)	14 (77.8%)	63 (85.1%)	0.530

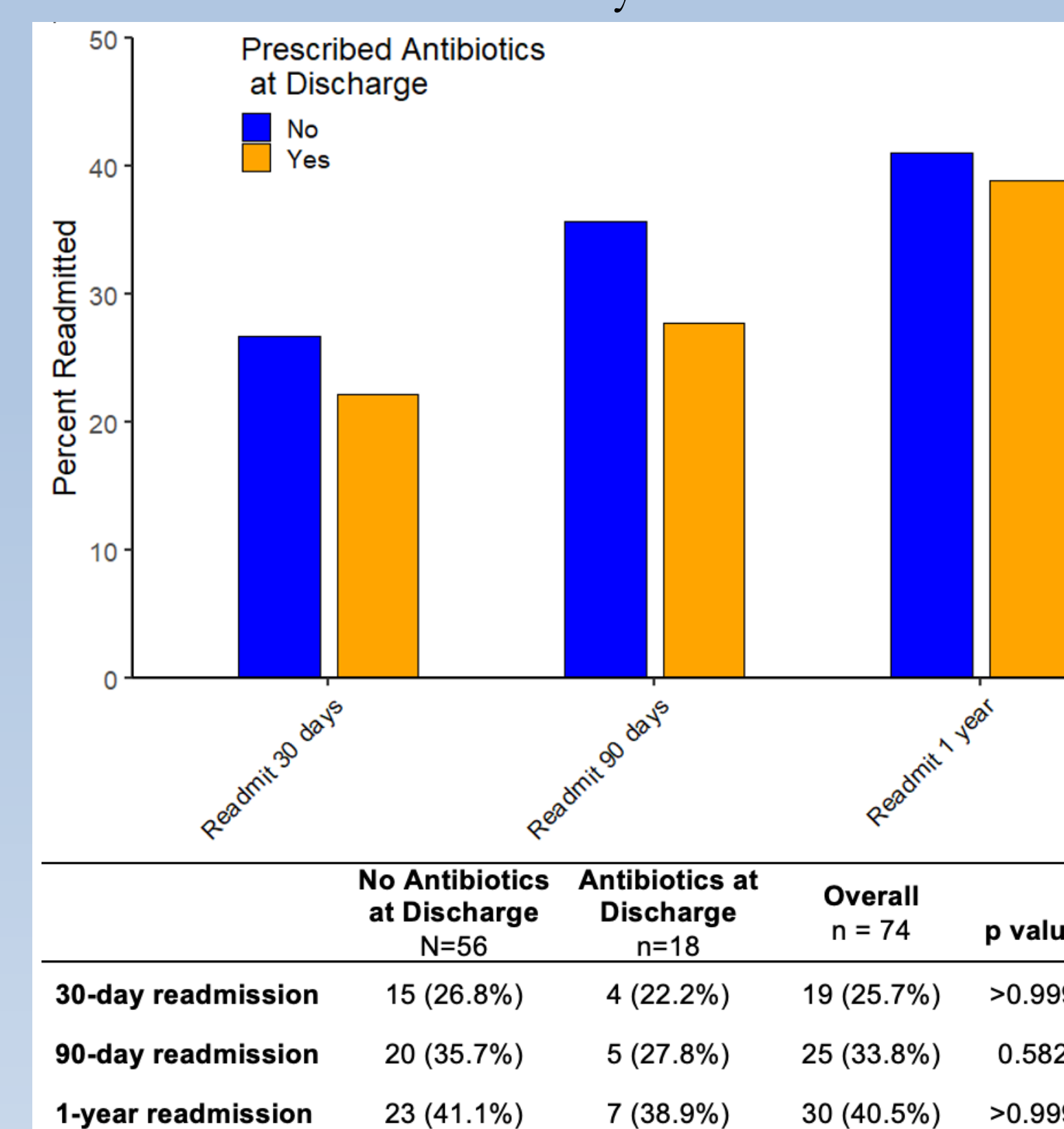
Table 2. SUD-related Outcomes Stratified by Antibiotic Status

	No Antibiotics at Discharge N=56	Antibiotics at Discharge n=18	Overall n = 74	p value
6-month Addiction Medicine Appointment Follow-Up, n (%)	7 (12.5%)	3 (16.7%)	10 (13.5%)	0.697
MOUD Prescription at Discharge, n (%)	32 (57.1%)	10 (55.6%)	42 (56.8%)	>0.999

Readmission Outcomes

- 25.7% individuals pursuing PDD were readmitted within 30 days
- No significant difference in 30-day, 90-day and 1-year readmission rates between those receiving antibiotics at PDD and those not

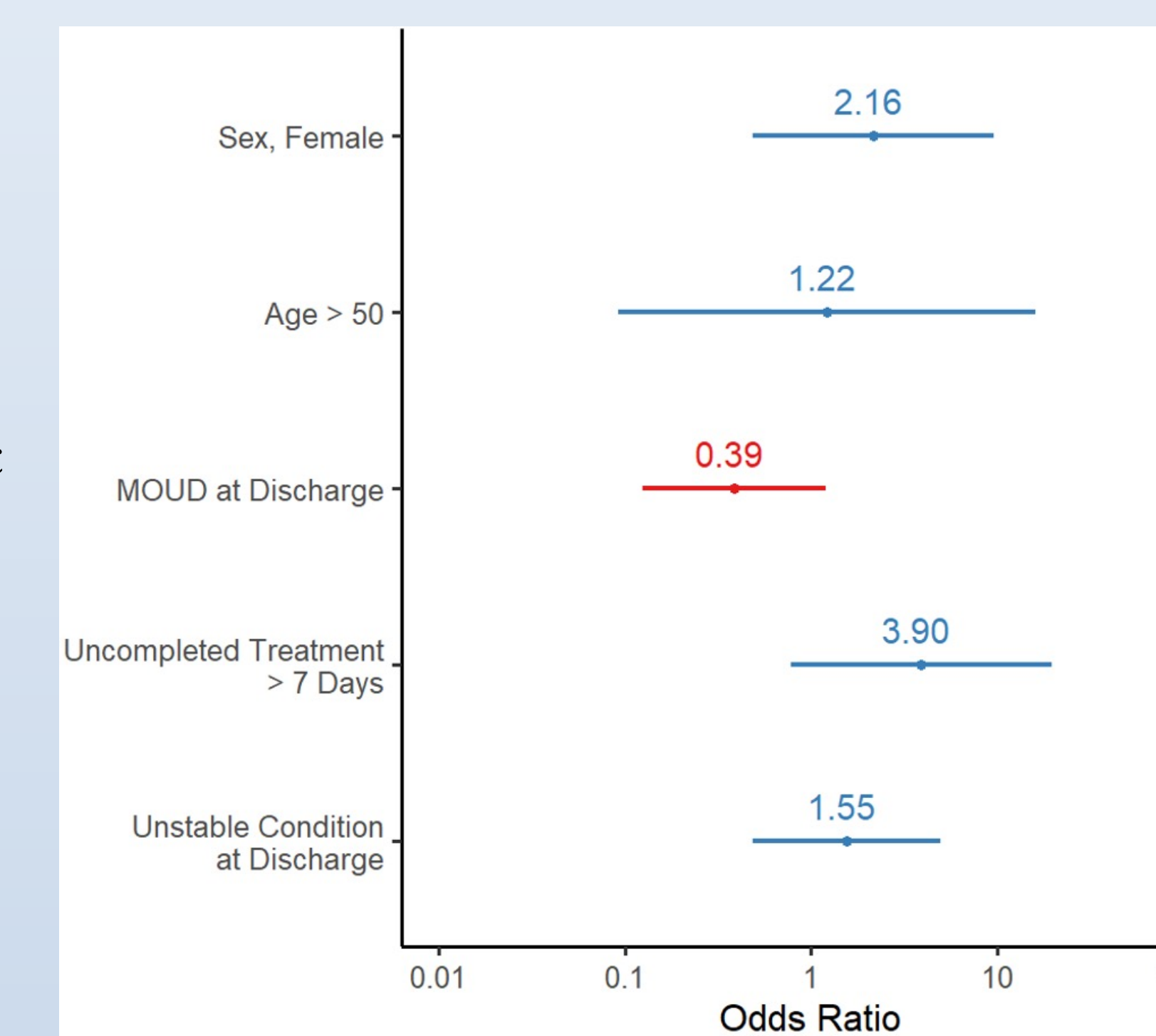
Figure 1. Readmission Outcomes by Antibiotic Status at PDD



Predictors of 30-day Readmission among PDD

- 30-day readmission rate was not significantly associated with patient demographic and clinical characteristics of interest

Figure 2. Forest Plot of Multivariate Logistic Regression Odds Ratios of Readmission



DISCUSSION & CONCLUSIONS

- PDD accounts for 30-day readmission in over 1 in 4 patients
- 24% participants were prescribed antibiotics at PDD
- No statistically significant difference in readmission outcomes by whether antibiotics were prescribed at discharge
- Another study among PWID found among patients who left the hospital prior to completion of IV antibiotics and bacteremia clearance, there was no difference in 90-day readmission by whether oral antibiotics were prescribed at discharge (p=0.10).⁴
- Further research needed to study effect of antibiotics to treat SIRIs on readmission among PWID pursuing PDD
- As prevalence of PWID hospitalized with SIRIs increases, need for innovative antibiotic management strategies is increasingly important

ACKNOWLEDGEMENTS

We declare no no conflicts of interest. NMR was funded by IDSA Grant for Emerging Researchers/Clinicians Mentorship. UK Addiction Consult and Education Service is funded by the Substance Abuse and Mental Health Services Administration (H79TI080264) and State Opioid Response (H79TI081704) grants.

Scan the QR Code to View References

