A Review of Antibiotic Outcomes Data Utilizing the Multidisciplinary OPTIONS-DC Conference for PWUD

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Background

- Persons who use drugs (PWUD) face persistent challenges when long hospital admissions to treat serious infections that require long term IV antibiotics are recommended.
- Stigma toward PWUD in the health care setting contribute to limited discharge recommendations. OPTIONS-DC is a multidisciplinary care conference for patients with Substance use disorder (SUD) and co-occurring infection that requires treatment with long term IV antibiotics.
- OPTIONS-DC uses a harm reduction approach to treatment by emphasizing patient autonomy and protective factors as well as creating a treatment plan focusing on patient safety, antibiotic course completion and decreased length of stay when safe[1].
  - Long acting antibiotics (dalbavancin or oritavancin) and/or oral antibiotic regimens are recommended in some circumstances, while in others IV antibiotics via a PICC in the outpatient setting were pursued to best balance risks, benefits, and patient goals.

Objectives

- We aimed to describe antibiotic course outcomes 4 years after implementation of the OPTIONS-DC Conference.

Methods

- Retrospective review of patients who had an OPTIONS-DC from February 2018 to April 2022.
- Any PWUD, actively using (within 90 days) or with high risk history, diagnosed with a serious bacterial infection requiring ≥ 10 days of IV antibiotics were eligible for OPTIONS-DC.
- Conference documentation and other relevant notes to patient's discharge planning were reviewed.
- Data was collected via a REDCap database.
- R version 3.3.2 (R Core Team, 2016) was used for statistical analysis.
- Some individual patients had more than one OPTIONS-DC conference during an episode of care.
- Course completion is defined as confirmed completion of >95% of the recommended course duration, irrelevant of a change of antibiotic type or modality during course.

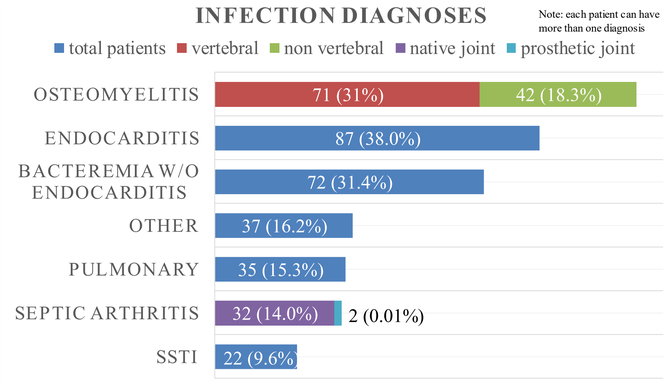
Results

Demographics	N (%) or mean (range)
Number of conferences	229
Unique patients	202
Mean age	40.6 (19-68)
Male	133 (58.1%)
Recommended treatment duration by ID consult	5.57 weeks (10d to 8 wks)
Houseless at time of admission	77 (33.6%)
No phone or no confirmed phone at time of OPIONS-DC	102 (44.5%)
Average length of OPTIONS-DC	28.7 minutes (10-56min)
PCP at time of OPTIONS-DC	129 (56.3%)
PCP at time of discharge	200 (87.3%)
Substance Use	
Active substance use	214 (93.4%)
➢ Heroin	167 (72.9%)
➢ Methamphetamine	183 (79.9%)
➢ Alcohol	30 (13.1%)
Active IV substance use	172 (80.4%)
MAT initiated during hospitalization	135 (59%) 28 (12.2%) already on MAT prior to admission

(nicotine and marijuana not collected)
*MAT = medication assisted therapy

Outcomes	N=229
COURSE COMPLETION FOR ANY SETTING:	**173 (75.5%)**
➢ Course completed in hospital	56 (32.4%)
➢ Course completed outside of hospital	117 (67.6%)
Course completion for MAT initiation during admission	106 (61.3%)
Self directed discharge or administrative discharge	28 (12.2%)
Average out of hospital antibiotic days for those who completed course	30.7 (19.9)

ED/Readmission Visits		
6 months	mean (SD)	2.54 (3.75)
	median [min, max]	2 [0, 40]
1 year	mean (SD)	4.72 (7.10)
	median [min, max]	3 [0, 69]



Other: Myositis, Intraabdominal,, Genitourinary, Device Related, endophthalmitis, endovascular infection – DVT, LUE septic thrombophlebitis, purulent pericarditis, right common femoral artery mycotic aneurysm infections

Outpatient Treatment Outcomes		Confirmed Completed Therapy	Did Not Complete Therapy	Other
Type of outpatient antibiotic regimen at discharge				
➢ Daily regimen	N=59	52 (88.1%)	5 (8.5%)	2 (3.4%)
➢ Long acting (inpatient)	N=29	24 (82.8%)	4 (13.8%)	1 (3%)
➢ Long acting (outpatient)	N=32	26 (81.3%)	4 (12.5%)	2 (6.3%)
➢ Orals	N=34	12 (35.3%)	3 (8.8%)	21 (61.8%) - Unconfirmed Completion
Note: 3 patients did not fit into any of these categories due to complexities in how their care evolved				
Outpatient IV Antibiotic Vendor				
➢ Home Infusion	N=35	34 (97.1%)	1 (2.9%)	0 (0%)
➢ Infusion Center	N=35	27 (77.1%)	6 (17.1%)	2 (6%)
➢ SNF	N=20	16 (80.0%)	2 (10%)	2 (10%)
Discharge Setting				
➢ Own home	N=39	31 (79.5%)	5 (12.8%)	3 (8%)
➢ Family/friend home	N=34	28 (82.4%)	3 (8.8%)	3 (9%)
➢ SNF	N=23	18 (78.3%)	2 (8.7%)	3 (13%)
➢ Houseless	N=7	6 (85.7%)	0 (0%)	1 (14%)
➢ Hotel, shelter or transitional housing	N=27	19 (70.4%)	4 (14.8%)	4 (15%)
➢ Residential SUD treatment	N=6	5 (83.3%)	0 (0%)	1 (17%)
➢ Incarceration	N=2	2 (100%)	0 (0%)	0 (0%)
➢ Unknown	N=2	2 (100%)	0 (0%)	0 (0%)
➢ Self directed (AMA) or administrative discharge	N=28	6 (21.4%)	11 (39.3%)	11 (39%)

(Other: unable to contact to confirm course completion, deceased N=1)

Results (Cont.)

Organisms Causing Bloodstream Infections	Endocarditis (N=87)	Bacteremia without endocarditis (N=72)
MSSA	39 (44.8%)	32 (44.4%)
MRSA	28 (32.2%)	31 (43.1%)
Strep group (A, B, veridans)	13 (14.9%)	7 (9.7%)
Enterococcus faecalis/faecium	6 (6.9%)	1 (1.4%)
Lactose non-fermenting GNRs	2 (2.3%)	1 (1.4%)
Other	5 (5.7%)	7 (9.7%)

other includes: Staph epidermidis, other coag negative staph, Enterobacteriaceae, Candida spp, other

Conclusion

- Patients with OPTIONS-DC had high rates of antibiotic completion, the majority of patients completed in the outpatient setting and self directed discharge rates were lower than what is generally reported in literature for this population[2-5].
- Additionally, the OPTIONS-DC intervention was associated with increased linkage to PCP at time of discharge.
- Because oral course completion confirmation required explicit documentation supporting completion, these rates could have been as low as 35% and as high as 97%.
- OPTIONS-DC identifies patients who would be successful and safe candidates for discharging to the community on daily IV antibiotics.
- OPTIONS-DC's shared decision making process allows for patients to successfully complete their treatment in multiple outpatient settings and may lower the rate of self directed discharges by incorporating harm reduction principles.

References

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