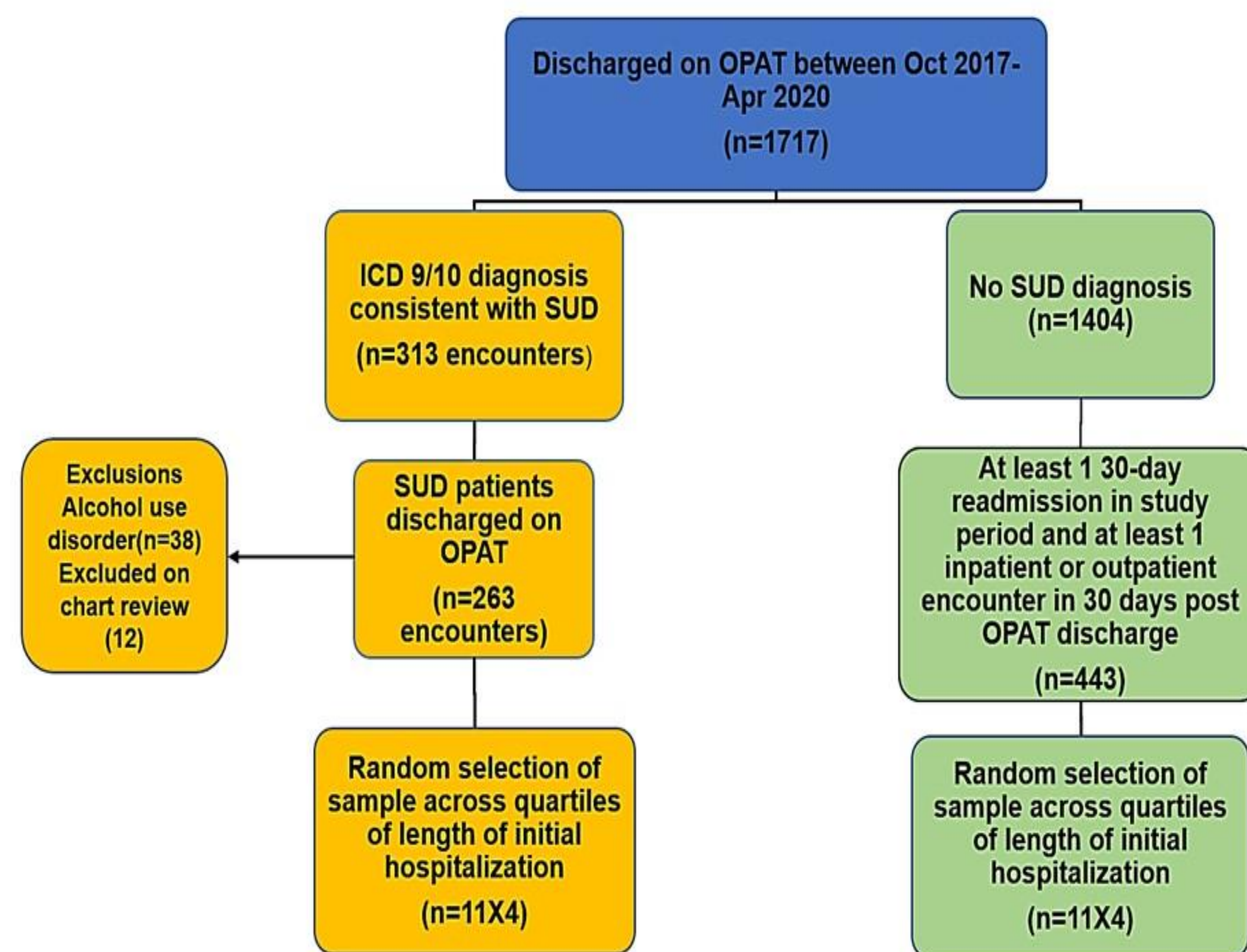


BACKGROUND

Substance use disorder (SUD) related invasive infections are a common and leading cause of hospitalization in the United States. Cost of care for such infections is thought to be higher possibly due to higher acuity of illness, longer hospital stay, higher non-adherence, readmission, and need for post acute placement.

METHODS

This is a retrospective review of patients managed between October 2017 to April 2020 through the Outpatient Parenteral Antimicrobial Therapy (OPAT) Program of an urban hospital system. A random sample of adults with an ICD 9/10 diagnosis of SUD discharged on OPAT was chosen across quartiles of length of initial hospital stay. Comparison was made with a similar group of non-SUD patients who had at least one 30-day readmission in the study period and had at least one inpatient/outpatient visit post OPAT originating hospitalization. Health care utilization and cost of care at a system level was compared between groups for the index hospitalization, 30- and 60-day period post hospitalization and during the study period



Comparison of length of stay and cost of care for initial hospitalization and 30- and 60-days post hospitalization and health care utilization for period of study

Figure 1: Study methodology

RESULTS

			SUD	Non-SUD	Mann Whitney U test
Hospitalization	Length of stay (days)	Median (Q1, Q3)	10 (7,14)	6(3,6)	p<0.001
		Mean (SD)	11.5(6.2)	5.7(3.8)	
	Direct variable cost (\$)	Median (Q1, Q3)	\$ 16594 (9773, 27781)	\$ 8027.5 (5219,12412)	p<0.001
		Mean (SD)	\$ 20934 (16171)	\$ 10776(9366.5)	
Post discharge 60 day period	Inpatient and outpatient encounters	Median (Q1,Q3)	1.82(1,2)	2.95(1,4)	P<0.01
	Readmission 30 days		16%	36%	P<0.005
	Readmission 30-60 days		11%	14%	
	Inpatient encounters		13	36	p<0.005
	Outpatient encounters		67	94	
	Cost of care 0-30 days	Median	\$ 143 (70,782)	\$ 3857(82,8682)	P<0.005
	Cost of care 0-60 days	Median	\$ 254 (70,4068)	\$ 3946(82,11841)	P<0.005
Study period 2017-2020	Inpatient encounters	Median	3 (2,6)	3(2,6)	NS
	Outpatient encounters	Median	6 (2,19.5)	10(2,22)	NS
	Direct variable cost	Median	\$ 52036 (34404,98770)	\$ 55055 (26612,131851)	p=0.15

Table 1: Comparison of cost of care and outcomes of OPAT for SUD and non-SUD groups

- Out of 1717 overall OPAT encounters, 263 (15%) had a confirmed SUD diagnosis. Out of 1404 non-SUD OPAT discharges, 443 (31.5%) had high healthcare utilization, defined above.
- 44 patients were chosen from each group, across quartiles of length of stay (LOS).
- Median LOS of initial hospitalization was 10 days(IQR7) with system direct variable cost (DVC) of \$16594 in SUD group as compared to 6 days (IQR 3) and \$8027 in non-SUD group(P< 0.001).
- The non-SUD group had a higher post discharge 30-day readmission rate (36%) and median inpatient and outpatient encounters 60 days post discharge (2.9) as compared to the SUD group (16%, and 1.82 respectively).
- During the 2.5-year study period, the SUD group had 3 median inpatient and 6 ambulatory encounters with median system DVC of care \$52036 as compared to median 3 inpatient encounters, 10 ambulatory encounters and median DVC of \$55055 for non-SUD group.

CONCLUSIONS

Hospitalization LOS and cost of care are higher for invasive infections needing OPAT in SUD population as compared to a high healthcare utilization non-SUD group. Though cost of care and healthcare utilization is higher in the complex nonSUD group in the period after hospitalization, over a longer period of follow up these parameters are comparable between the groups. The lower post discharge utilization could be due to poor non-acute health care access and there is need to invest in culturally relevant healthcare models including collocated MOUD and primary care.

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Presenting author has no conflicts of interest or any other financial relationships to declare

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