Alcohol Use Disorder Treatment in Sexually and Gender Diverse Patients: A Retrospective Cohort Study

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Abstract

Objective: While sexually and gender diverse (SGD) people have higher odds of alcohol use disorder (AUD) compared to heterosexual and cisgender people, AUD treatment access and use disparities are not well characterized. The purpose of this study is to assess differences in AUD treatment among SGD versus non-SGD populations.

Methods: A retrospective cohort study was performed using data from a federally qualified health center electronic health record system in Boston, Massachusetts. Patients were 18 years or older with an *International* Classification of Diseases (ICD)-9 or ICD-10 AUD diagnosis and any clinic visit from January 2013 until June 2021 (N=3,607). Treatment for AUD was identified using binary variables for medication prescription orders and visits for AUD.

Results: Among patients identifying as lesbian/gay, 6.9% had an AUD diagnosis, as compared to 2.6% of patients identifying as straight/ heterosexual (*P*<.001). The prevalence of AUD was higher in the gender diverse group as compared to the cisgender group (5.5% vs 4.4%, *P*<.001). There were no significant differences in receipt of a prescription for injectable naltrexone, acamprosate, or disulfiram between SGD and non-SGD patients. For oral naltrexone, 16.1% of sexually diverse patients received a prescription, as compared to 9.8% of straight/heterosexual patients (P<.001). For visits, both the straight/ heterosexual cohort and the cisgender cohorts had the lowest proportion of AUD-related pharmacotherapy and individual psychotherapy visits, as compared to SGD cohorts.

Conclusions: SGD patients had higher proportions of AUD diagnosis and AUD care utilization through behavioral health as compared to non-SGD patients.

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Icohol use disorder (AUD) represents the most prevalent addiction in the United States (US). Sexually and gender diverse (SGD) people (ie, people who identify their sexual orientation as something other than straight and/or people who identify their gender identity as not aligning with societal expectations based on the sex they were assigned at birth) have higher odds of an AUD diagnosis compared to heterosexual and cisgender people.^{1–14} Health care stigma, discrimination, and lack of social support are related to alcohol misuse in SGD populations; this misuse is in turn associated with unmet behavioral health care needs.^{15–19}

Effective treatments for AUD exist. The US Food and Drug Administration (FDA) has approved pharmacotherapy for AUD treatment, including acamprosate, disulfiram, and naltrexone.²⁰ Recent guidelines also recommend topiramate and gabapentin as options for AUD treatment, though these are not currently FDA-approved.²¹ Additionally, evidence-based behavioral interventions for AUD are robust: brief intervention, cognitive-behavioral therapy, motivational interviewing and motivational enhancement therapy, 12-step facilitation through Alcoholics Anonymous, Self-Help and Recovery Training recovery meetings, peer-led recovery groups, and other individual and group behavioral psychotherapies.^{22,23}

Despite the availability of evidence-based treatment options for AUD, treatment rates across the general population are low. The 2020 National Survey on Drug Use and Health estimated that 14.9% of Americans aged 12 or older (41.1 million people) needed SUD treatment, though only 1.4% (4 million people) received any such treatment.²⁴ Additionally, among the 28.3



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Clinical Points

- Little is known about alcohol use disorder (AUD) treatment access and use disparities among sexually and gender diverse (SGD) people compared to heterosexual and cisgender people.
- SGD patients have higher proportions of AUD diagnoses, and AUD-related pharmacotherapy and psychotherapy visits, than non-SGD patients.
- AUD treatment access and engagement are critical for addressing AUD-related disparities among SGD people.

million people aged 12 or older with an AUD, only 1.0% (292,000 people) received medication for their AUD.²⁴ Though disparities in SUD diagnoses are well documented for SGD communities, treatment utilization in SGD patients with an AUD is not well understood.

The purpose of this study is to assess differences in service utilization for AUD in SGD populations. The data source is a federally qualified health center (FQHC) electronic health record (EHR). FQHCs are US-based health care delivery systems that serve all patients, regardless of ability to pay. The FQHC in this study historically serves SGD populations and provides care to people with all gender identities and sexual orientations. To our knowledge, this is the first study to examine AUD diagnosis and treatment differences within an SGD cohort, as well as between SGD and straight/heterosexual and cisgender patients.

METHODS

Design

Our data period was January 14, 2013, through June 30, 2021. The study period start date was chosen as this was when routine data collection and recording began in the FQHC's EHR for sexual orientation and gender identity. The inclusion criteria were patients over 18 years of age with International Classification of Diseases (ICD)-9 codes, ICD-10 codes, and/or problem descriptions of AUD diagnoses on the EHR problem list at any time, as well as any type of clinic visit at the FQHC during the identified study period. The study size was selected based on the total number of patients that met study inclusion criteria. The FQHC's institutional review board approved all study procedures and granted a waiver of informed consent. The primary research question of the paper and analysis plan were not pre-registered on a publicly available platform, and therefore results should be considered exploratory.

Measures

Outcomes. Non-pharmacologic AUD treatment utilization was assessed using EHR documentation of AUD visits. AUD visit utilization was assessed by identifying all behavioral health visits (individual pharmacotherapy, individual psychotherapy, addiction group therapy, and other group therapy) and case management visits for patients with an AUD diagnosis. AUD visit utilization assessment for primary care and complementary (acupuncture and nutrition) visits required patients to have both an AUD diagnosis and the diagnosis attached to the visit. No requirement of an AUD diagnosis attached to behavioral health visits was employed because people with AUD and comorbid mental illness may seek treatment for their AUD through a range of behavioral health interventions.²⁵ Case management visits do not have attached diagnoses.

Individual pharmacotherapy visits consisted of intakes and follow-up visits with psychiatry. Individual psychotherapy visits consisted of intakes and followup psychotherapy visits. In addition to addiction group therapy, other group therapies offered at the FQHC focused on anxiety, cognitive behavioral therapy, chronic pain, couples work, depression, dialectical behavior therapy, eating disorders, gender, interpersonal abuse, older adults and aging, sex, skills building, trauma, and wellness. The FQHC has a dedicated addiction program that offers groups separately from the other group therapies, though group therapies were counted together for analyses. Case management is an integrated team at the FQHC and is accessed if a need emerges during any visit type.

The visit variables were built as binary outcome variables, with patients grouped based on having had zero versus 1 or more visits. The exceptions to this categorization were individual pharmacotherapy and individual psychotherapy visits, which were given a cutoff of 2 or more visits versus 1 or no visits. This 2-visit cutoff was selected because gender diverse patients may have accessed a single behavioral health visit seeking a provider letter to access gender-affirming surgical care, thus otherwise potentially erroneously inflating individual pharmacotherapy and psychotherapy utilization for this demographic group. Of note, there is a policy at the FQHC that people living with human immunodeficiency virus (HIV) and gender diverse people who do not have their primary care based at the FQHC can still access behavioral health services there, whereas the policy otherwise is that patients need to have primary care based at the FQHC to be eligible.

AUD treatment utilization involving pharmacotherapy was assessed using the presence of an FDA-approved prescription order for AUD, including acamprosate, disulfiram, or naltrexone (either oral or injectable) on the medication list as a dichotomous outcome variable. These measures do not indicate that the patient filled the prescription or took the medication, but rather that the patient and provider had established an AUD treatment plan insofar as the provider had written the prescription.

Covariates. Demographic measures include gender identity, sex assigned at birth, sexual orientation, age,

Table 1. Patient Demographics by Sexual Orientation (n=3,048)^a

	Sexually diverse ^b (n = 1,991)	Straight/ heterosexual (n = 975)	Don't know (n = 82)	Р
Age, mean (SD)	44.2 (13.6)	41.9 (12.8)	45.0 (14.8)	<.001
Gender identity				<.001
Genderqueer or not exclusively male or female	157 (7.9)	20 (2.1)	14 (17.1)	
Transgender woman	80 (4.0)	18 (1.8)	16 (19.5)	
Transgender man	56 (2.8)	28 (2.9)	4 (4.9)	
Cisgender woman	265 (13.3)	283 (29.0)	17 (20.7)	
Cisgender man	1,433 (72.0)	626 (64.2)	31 (37.8)	
Sex assigned at birth				<.001
Female	401 (20.5)	310 (32.4)	28 (34.1)	
Male	1,552 (79.5)	647 (67.6)	54 (65.9)	
Race				<.001
American Indian/Native American	14 (0.7)	7 (0.8)	0 (0.0)	
Asian	40 (2.1)	40 (4.4)	2 (2.6)	
Black or African American	119 (6.3)	85 (9.4)	5 (6.4)	
Multiracial	86 (4.5)	28 (3.1)	8 (10.3)	
Native Hawaiian/Pacific Islander	7 (0.4)	2 (0.2)	0 (0.0)	
Other	19 (1.0)	19 (2.1)	1 (1.3)	
White	1,608 (84.9)	723 (80.0)	62 (79.5)	
Ethnicity				.25
Hispanic	191 (10.5)	77 (9.3)	11 (15.3)	
Not Hispanic	1,633 (89.5)	747 (90.7)	61 (84.7)	
Relationship status				.002
Partnered	472 (25.0)	179 (19.6)	12 (16.0)	
Not partnered	1,414 (75.0)	733 (80.4)	63 (84.0)	
Insurance type				<.001
Uninsured	103 (5.4)	65 (7.0)	4 (5.3)	
Medicaid	365 (19.1)	212 (22.7)	19 (25.3)	
Medicare	236 (12.4)	76 (8.1)	14 (18.7)	
Other public	84 (4.4)	77 (8.2)	3 (4.0)	
Private	1,119 (58.7)	504 (54.0)	35 (46.7)	
Housing				0.16
Houseless	77 (3.9)	45 (4.6)	3 (3.7)	
Not houseless	1,914 (96.1)	930 (95.4)	79 (96.3)	

^aValues expressed as n (%) unless otherwise noted. 15% (n=559) of patients did not report sexual orientation. Percentages calculated from nonmissing values. Group differences were tested with χ2, except age was tested with Kruskal-Wallis H test. Boldface indicates statistical significance.

^bLesbian, gay, homosexual, bisexual, and something else.

race, ethnicity, and relationship status. The gender identity variable was created through asking patients at registration "What is your gender?" and "What was your sex assigned at birth?" A structured query language (SQL) function was used, which combines answers from the 2 registration questions and adds provider documentation from the EHR, to supplement these data for patients with missing information. The sexual orientation measure was created through 1 question answered by patients at registration: "What is your sexual orientation?" Relationship status was a binary variable simplified into "partnered" and "not partnered." Insurance information was collected from data provided by patients at registration. Housing status was aggregated from both patient surveys and provider EHR documentation. The housing variable indicates whether a patient has experienced houselessness at any

point during their FQHC care and does not necessarily indicate present status. Covariates also included Patient Health Questionnaire 9-item instrument (PHQ-9) severity scores²⁶ and prescription orders for other psychiatric medications. PHQ-9 surveys were answered by patients at clinic visits. PHQ-9 severity scores were grouped into none, mild, moderate, moderately severe, and severe categories based on the total score. Presence of 1 or more of all other psychiatric medication prescriptions used in mental health treatment, as collated from a list compiled by the National Alliance on Mental Illness, was combined into a binary variable.²⁷ All patient data were extracted from the EHR via SQL.

Statistical Analysis

Descriptive statistics were conducted and presented as either frequencies with corresponding percentages

Table 2.

Patient Demographics by Gender Identity (N=3,607)^a

	Gender diverse ^b (n = 430)	Cisgender (n = 3,177)	Р
Age, mean (SD), y	37.3 (12.4)	45.4 (13.4)	<.001
Sexual orientation			<.001
Lesbian/gay	95 (24.2)	1,438 (54.2)	
Bisexual	90 (22.9)	213 (8.0)	
Something else	108 (27.5)	47 (1.8)	
Don't know	34 (8.7)	48 (1.8)	
Straight/heterosexual	66 (16.8)	909 (34.2)	
Sex assigned at birth			<.001
Female	206 (48.1)	668 (21.3)	
Male	222 (51.9)	2,401 (78.2)	
Race			.002
American Indian/Native American	6 (1.5)	17 (0.6)	
Asian	10 (2.4)	81 (2.8)	
Black or African American	32 (7.8)	223 (7.7)	
Multiracial	32 (7.8)	109 (3.7)	
Native Hawaiian/Pacific Islander	2 (0.5)	7 (0.2)	
Other	6 (1.5)	40 (1.4)	
White	321 (78.5)	2,438 (83.6)	
Ethnicity			.86
Hispanic	38 (10.2)	274 (9.9)	
Not Hispanic	335 (89.8)	2,497 (90.1)	
Relationship status			.51
Partnered	83 (20.9)	643 (22.4)	
Not partnered	314 (79.1)	2,232 (77.6)	
Insurance type			<.001
Uninsured	21 (5.2)		
Medicaid	124 (30.5)		
Medicare	36 (8.8)		
Other public	16 (3.9)		
Private	210 (51.6)		
Housing	. ,		<.001
Houseless	34 (7.9)	109 (3.4)	
Not houseless	396 (92.1)	3,068 (96.6)	

^aValues expressed as n (%) unless otherwise noted. Percentages calculated from nonmissing values; all variables are missing <10%, except for sexual orientation (15%) and ethnicity (13%). Group differences were tested with χ 2 tests, except age was tested with Wilcoxon rank sum. Boldface indicates statistical significance.

^bTransgender and genderqueer or not exclusively male or female groups.

or means with corresponding standard deviations. Demographic differences by gender identity and sexual orientation were tested with χ^2 for all categorical variables. Non-normal distributions for age were compared with Wilcoxon rank sum tests. In univariate logistic regression tests, covariates that were associated with the outcomes at the P < .20 level were included in subsequent multivariable models. Data analysis was based on missing at random assumptions, and listwise deletion was used in the logistic regression models. Because > 10% of cases were missing sexual orientation and/or ethnicity data, missing data analysis was performed, and no significant difference was found between patients with complete data and those missing demographic data. Separate multivariable binary logistic regression models tested associations between gender

identity, sexual orientation, and AUD service utilization while adjusting for demographic variables, insurance status, and PHQ-9 severity. The model testing associations with a prescription order for an AUD medication was also adjusted for receipt of other psychiatric medication prescription orders. P < .05 defined statistical significance. All analyses were conducted in SPSS version 25. This observational retrospective cohort study is reported following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline.²⁸

RESULTS

Patient Demographics

The demographic differences between cohorts are specific to this FQHC's patient population and cannot be generalized to a larger population. Rather, they serve to demonstrate the unique characteristics of this sample. The cohort of patients with an AUD at the FQHC consisted of 3,607 patients, including 1,991 patients with a sexual orientation other than straight/heterosexual (Table 1) and 430 with a gender diverse identity (Table 2).

AUD Diagnosis

Regarding diagnoses for AUD, significant differences were found among SGD categories. Among patients identifying as lesbian/gay, 6.9% (1,533 patients) had an AUD diagnosis, whereas 2.6% (975 patients) of straight/heterosexual patients did (P < .001). Among the various gender identities, cisgender men had the highest prevalence of AUD (6.1%, 2,483 patients), followed by "genderqueer or not exclusively male or female" patients (6.0%, 205 patients) (P < .001). Cisgender women had the lowest proportion of identified AUD (2.1%, 694 patients). When simplified into a binary of cisgender and gender diverse gender identities, the gender diverse cohort had higher rates of AUD diagnosis (5.5%, 430 patients) as compared to the cisgender cohort (4.4%, 3,177 patients) (P < .001).

Prescriptions for AUD

In terms of prescription orders, 16.3% (587 patients) of all patients with AUD were prescribed pharmacotherapy. Among all patients with AUD, oral naltrexone was prescribed most frequently. There were no significant differences in AUD pharmacotherapy prescribing between SGD and non-SGD communities for injectable naltrexone, acamprosate, or disulfiram (Table 3). For oral naltrexone, 16.1% (320 patients) of the sexually diverse cohort, as compared to 9.8% (96 patients) of the straight/heterosexual cohort, received a prescription order (P < .001). In multivariable regression analysis, being a transgender man (P = .05, ref = cisgender man) and having a lesbian/gay sexual orientation (P = .02, ref = straight/heterosexual) were positively associated with receipt of a prescription order for any AUD medication.

Table 3.

Alcohol Use Disorder Pharmacotherapy Prescription Orders by Sexual Orientation and Gender Identity^a

	Oral naltr (n = 48	Oral naltrexone (n = 480)		Injectable naltrexone (n = 135)		Acamprosate (n = 96)		Disulfiram (n = 98)		Any prescription ^b (n = 587)	
	n (%)	Р	n (%)	Р	n (%)	Р	n (%)	Р	n (%)	Р	
All participants (N = 3,607)	13.3		3.7		2.7		2.7		16.3		
Sexual orientation		<.001		.67		.13		.63		<.001	
Sexually diverse (n = 1,991)	320 (16.1)		80 (4.0)		65 (3.3)		53 (2.7)		370 (18.6)		
Straight/heterosexual (n = 975)	96 (9.8)		36 (3.7)		22 (2.3)		29 (3.0)		129 (13.2)		
Gender identity		.08		.77		.15		.60		.051	
Gender diverse (n = 430)	69 (16.0)		15 (3.5)		16 (3.7)		10 (2.3)		84 (19.5)		
Cisgender (n = 3,177)	411 (12.9)		120 (3.8)		80 (2.5)		88 (2.8)		503 (15.8)		

^aPercentages calculated from nonmissing values. Boldface indicates statistical significance.

^b"Any prescription" includes having a prescription for oral naltrexone, injectable naltrexone, acamprosate, and/or disulfiram.

Table 4.

Visits for Alcohol Use Disorder by Sexual Orientation and Gender Identity^a

	Behavioral health appointments ^b					Other medical appointments ^c						
	Pharmacotherapy (≥ 2)		erapy Individual psychotherapy (≥ 2)		Addiction and other group therapy (≥ 1)		Primary ca	Primary care (≥ 1)		Case management (≥ 1)		Complementary (≥ 1)
	n (%)	Р	n (%)	Р	n (%)	Р	n (%)	Р	n (%)	Р	n (%)	Р
Sexual orientation		<.001		<.001		<.001		.02		<.001		.95
Lesbian/gay (n = 1533)	448 (29.2)		751 (49.0)		340 (22.2)		762 (49.7)		180 (11.7)		138 (9.0)	
Bisexual (N = 303)	86 (28.4)		166 (54.8)		69 (22.8)		118 (38.9)		27 (8.9)		24 (7.9)	
Something else N = 155	58 (37.4)		99 (63.9)		34 (21.9)		73 (47.1)		17 (11.0)		12 (7.7)	
Don't know (N = 82)	37 (45.1)		52 (63.4)		25 (30.5)		39 (47.6)		8 (9.8)		8 (9.8)	
Straight/heterosexual (n = 975)	191 (19.6)		398 (40.8)		129 (13.2)		466 (47.8)		54 (5.5)		84 (8.6)	
Gender identity		.03		<.001		.12		<.001		<.001		<.001
Genderqueer or not exclusively male or female (N=205)	66 (32.2)		131 (63.9)		48 (23.4)		91 (44.4)		16 (7.8)		22 (10.7)	
Transgender woman (n=127)	38 (29.9)		82 (64.6)		34 (26.8)		66 (52.0)		18 (14.2)		7 (5.5)	
Transgender man (n = 98)	29 (29.6)		68 (69.4)		24 (24.5)		33 (33.7)		7 (7.1)		4 (4.1)	
Cisgender woman (n = 694)	199 (28.7)		348 (50.1)		134 (19.3)		283 (40.8)		31 (4.5)		92 (13.3)	
Cisgender man (n=2,483)	613 (24.7)		1,061 (42.7)		479 (19.3)		1,222 (49.2)		252 (10.1)		200 (8.1)	

^aPercentages calculated from nonmissing values. Boldface indicates statistical significance.

^bBehavioral health appointments were not required to have an alcohol use disorder diagnosis attached to the visit.

^cPrimary care and complementary (acupuncture and nutrition) visits were included if the visit was associated with an alcohol use disorder diagnosis; case management appointments did not have associated visit diagnoses.

Clinic Visits for AUD

Regarding visit use for patients with AUD, there were significant differences among the various sexual orientation and gender identity cohorts for almost all visit types, excepting complementary care visits for the sexual orientation cohorts and group therapy visits for the gender identity cohorts (Table 4). For the sexual orientation cohorts with AUD, the straight/heterosexual group had the lowest proportion of patients with any pharmacotherapy visits (19.6%, 191 patients), individual psychotherapy visits (40.8%, 398 patients), group therapy visits (13.2%, 129 patients), and case management visits (5.5%, 54 patients). Bisexual patients had the lowest proportion of receiving any primary care visits for AUD (38.9%, 118 patients) as compared to other sexual orientation groups. For the gender identity cohorts with AUD, cisgender women and men had the lowest proportion of patients receiving any individual pharmacotherapy visits (28.7%, 199 patients, and 24.7%, 613 patients, respectively) or individual psychotherapy visits (50.1%, 348 patients, and 42.7%, 1,061 patients, respectively). Transgender women and cisgender men had the highest proportion of patients receiving primary care visits (52.0%, 66 patients, and 49.2%, 1,222 patients, respectively) and case management visits (14.2%, 18 patients, and 10.1%, 252 patients, respectively). Cisgender women had the highest proportion of patients receiving complementary therapy visits (13.3%, 92 patients).

In multivariable regression analyses examining visits, variables associated with any behavioral health

visit attendance among patients with AUD included "genderqueer or not exclusively male or female" (P = .02), transgender man (P = .04), and cisgender woman (P = .02) gender identities (ref = cisgender man) and lesbian/gay sexual orientations (P < .001, ref = straight/ heterosexual). Bisexual sexual orientation had lower odds of AUD-related primary care visits (P = .02, ref = straight/heterosexual). Cisgender woman gender identity (P = .003, ref = cisgender man) had lower odds of case management visits for AUD, whereas patient groups with higher odds included lesbian/gay (P < .001) and "something else" (P = .03) sexual orientations (ref = straight/heterosexual). Cisgender woman gender identity was associated with complementary therapy visit use for AUD (P < .001, ref = cisgender man).

CONCLUSIONS

As documented previously, sexually diverse patients had higher proportions of AUD diagnosis as compared to straight/heterosexual patients.^{4,8,11,12} For gender identity, however, cisgender men had the highest proportion of AUD diagnosis, followed by the gender diverse cohort, and cisgender women had the lowest proportion of AUD diagnosis. Most cohort data do not differentiate identities beyond the cisgender versus gender diverse binary, potentially explaining the discrepancy in our findings compared with other studies regarding AUD diagnosis that report prevalence of AUD to be greater in gender diverse groups.¹ Indeed, when these data were simplified into a binary of cisgender and gender diverse gender identities, the gender diverse cohort had a higher rate of AUD as compared to the cisgender cohort.

In the general US population, 12.7% of male adults in the past year had AUD, as compared to 9.4% of females.²⁹ The disparity in AUD diagnosis rates is greater in this study, with 6.1% of cisgender men as compared to 2.1% of cisgender women. This difference could represent a sample bias in treatment seeking, as well as treatment access, at the FQHC. With the FQHC's policy that people living with HIV do not need to have FQHC-based primary care to access behavioral health, cisgender sexually diverse men are disproportionately represented among those with greater access to behavioral health due to higher prevalence of HIV diagnoses. This greater access to care may also result in better screening and thus identification of AUD in this group. Additionally, a study using the same EHR data found that women whose AUDIT scores indicated likely AUD were less likely to have their AUD documented in their chart as compared to men, regardless of sexual orientation,¹⁴ reinforcing the need for increased assessment for AUD in women.

When exploring individual medication prescriptions for AUD, 16.3% of all patients with AUD at the FQHC received pharmacologic prescriptions, reflecting a marked increase from the 1% of US patients who receive medical treatment for AUD.²⁴ We found no significant differences among the cohorts, except for oral naltrexone, which was prescribed in greater proportion for the cohort of patients with diverse sexual orientations compared to the straight/heterosexual cohort. This finding could be due to the straight/heterosexual sexual orientation group having the lowest proportion of behavioral health visit utilization. Previous data have found that psychiatrists are more likely to prescribe naltrexone as compared to clinicians in internal and family medicine.³⁰ Thus, because sexually diverse patients had a higher likelihood of accessing AUD care through behavioral health as compared to their straight/heterosexual counterparts, this may explain why sexually diverse patients were also prescribed oral naltrexone in greater proportions for AUD. Additionally, the FQHC's focus on serving SGD populations may have optimized attunement for provision of behavioral health care and AUD pharmacotherapy prescriptions for patients with diverse sexual orientations.

The multivariable analysis found that having a transgender man gender identity or a lesbian/gay sexual orientation was a positive predictor of receiving any prescription medication for AUD. These findings could reflect a sample bias, as opposed to a generalizable outcome: while this FQHC historically serves SGD communities, it also offers care to otherwise medically underserved non-SGD people regardless of ability to pay. Thus, while SGD patients may choose to receive care based on the FQHC's SGD care specialization, non-SGD patients may choose the FQHC to access cost-efficient, wraparound care. Though insurance status was controlled for in the multivariable models, this is not a comprehensive proxy for socioeconomic status, which may represent a confounding variable.

Visit type findings showed that the straight/ heterosexual group had the lowest proportion utilizing behavioral health and case management visits, as compared to other sexual orientation groups. This may indicate a greater comfort for sexually diverse patients to utilize AUD care through behavioral health rather than through primary care. This finding is documented elsewhere in the literature, with sexually diverse groups reporting greater need for mental health care as compared to heterosexual patients.³¹ In other words, there may be a greater need for mental health care among sexually diverse patients because these patients are more comfortable seeing behavioral health providers relative to primary care providers. Additionally, this finding could be due to the FQHC's additional barriers in accessing mental health for patients not living with HIV, which disproportionately reduces access among cisgender women and cisgender heterosexual men, who are less likely to be living with HIV.

Gender diverse patients also had higher proportions utilizing multiple behavioral health visit subtypes compared to both cisgender women and men. One potential reason for this may be a perception of a more inclusive environment within behavioral health for gender diverse patients. Another potential reason is that gender diverse patients did not need to have primary care established at the FQHC to access behavioral health there. Gender diverse patients may have had a single behavioral health visit when seeking a letter in support of gender-affirming surgery, which was controlled for in the statistical analyses. It is worth noting that while seeking a letter of support for surgery may have increased therapist utilization for some gender diverse patients, psychiatric gatekeeping of gender-affirming surgery access may also worsen psychological distress and in turn increase the need for mental health care.^{32,33}

Limitations

One limitation of the study is that the cross-sectional design does not allow for causal inference regarding AUD treatment utilization outcome variables. Second, this sample was mostly composed of White patients seeking care at a well-resourced, historically SGD-serving FQHC based in an urban setting, limiting the generalizability of these findings to patients of color and those in rural areas. Third, by nature of using a FQHC's EHR as the data source, study participants had access to health care, thus excluding patients with more significant barriers to accessing AUD treatment. Fourth, because behavioral health and case management visits were counted regardless of AUD diagnosis attached to the visit, patients could have attended visits not focused on their AUD, potentially artificially inflating care utilization counts for behavioral health visits. In addition, the policy that people living with HIV (which disproportionately includes sexually diverse cisgender men) and gender diverse patients can access behavioral health at the FQHC regardless of their primary care affiliation may at least in part explain the differences in behavioral health care visits by sexual orientation and gender identity. Fifth, because this study only queried one FQHC's EHR, patients could have utilized AUD treatment elsewhere, which would not be captured in these data.

In sum, this study offers novel findings on AUD diagnosis and treatment in a treatment-seeking population of SGD and non-SGD patients. The findings provide new insights regarding AUD treatment access and utilization within SGD communities.

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