Prevalence of Mental Health Disorders and Treatment Utilization among Urban Lesbian, Gay, Bisexual, and Transgender American Indians and Alaska Natives

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Abstract: We examined prevalence of mental health treatment utilization among 447 lesbian, gay, bisexual, transgender, and Two-Spirit (LGBTT-S) American Indian/Alaska Native (AI/AN) adults and the association of mental health treatment utilization with socio-demographic factors, social support, and mental health diagnoses. We derived data from the HONOR Project, a multi-site cross-sectional survey of Native LGBTT-S adults from seven U.S. metropolitan cities. Rates of lifetime mental health treatment utilization were higher for women (87%), those who were college educated (84%), and homeowners (92%). Cisgender women and transgender AI/AN adults had a higher prevalence than cisgender men of major depression, generalized anxiety, and panic disorder. Rates of subthreshold and threshold posttraumatic stress disorder were significantly higher for transgender adults. Lower positive social support and higher emotional social support were associated with greater odds of mental health treatment utilization. Mental health diagnoses and lifetime mental health treatment utilization was positively associated.

INTRODUCTION

In 2019, 6.9 million people in the United States self-identified as American Indian/Alaska Native (AI/AN) alone or in combination with other races (U.S. Census Bureau, 2020). Contrary to popular misrepresentations of AI/ANs as a homogenous group, they are members of distinct and diverse tribal nations and geographically dispersed, with approximately one-third living on reservations and two-thirds living in non-reservation areas (American Psychiatric Association [APA], 2017). AI/ANs are disproportionately affected by many social and behavioral factors that contribute to disparities in their health outcomes, including higher rates of mental health problems compared with non-AI/AN populations (Gone & Trimble, 2012). In 2019, over one in 10 (11.6%)

AI/AN adults reported serious psychological distress in the past year (U.S. Department of Health and Human Services, 2021). Moreover, prevalence rates for lifetime psychiatric disorders (alcohol use, drug use, mood, anxiety, and personality disorders) are higher for AI/AN men and women than non-Hispanic whites. Mental health problems are further complicated by individual experiences, historical trauma, and social and cultural factors (Rieckmann et al., 2012; Whitesell et al., 2012). The physical and mental health of AI/AN adults are negatively impacted by substance abuse, with approximately 9% of adults reporting co-occurring mental illness and substance use disorder in the past year (APA, 2017).

Research studies have indicated that the underutilization of mental health services among AI/Ans can be attributed to various factors. Brave Heart et al. (2016) examined gender differences in treatment seeking and found that compared with non-Hispanic whites, AI/AN men and women had higher odds of mental health treatment utilization. For Two-Spirit[1] AI/ANs who are lesbian, gay, bisexual, or transgender (LGBTT-S), the few existing studies have indicated that compared with lesbian, gay, bisexual, or transgender (LGBT) whites and heterosexual AI/ANs, LGBTT-S individuals are at high risk for HIV (Pearson et al., 2013) and may be at higher risk for sexual orientation victimization, including verbal, physical, and sexual assault (Balsam et al., 2004). The boarding school experience has also been shown to impact AI/AN Two-Spirit individuals with identity and mental health issues (Evans-Campbell et al., 2012). The paucity of research has resulted in a lack of tailored treatment, especially for those living in an urban setting where possible exposure to risk factors is relatively higher (Pearson et al., 2013). Other barriers related to mental health treatment utilization include mental health-related stigma, lack of access to available services, lack of culturally tailored services, socioeconomic barriers, mistrust of providers, cultural variations, and social support (Duran et al., 2005).

Social support has also been found to be associated with mental health treatment utilization. Indirect evidence indicates that people use a combination of traditional sources, social support networks, and mainstream mental health services. People with strong social relationships were more likely to seek mental health services than resolve their problems independently (Duran et al., 2005). Research suggests that the quality of interactions with social support networks (i.e., family and friends) can be associated with depressive disorders, and that social support buffers stress and trauma that precede alcohol, drug, and mental disorder outcomes (Oetzel et al., 2007).

[1] The term “Two-Spirit” encompasses a fluidity of gender identity and sexuality and signifies an identity determined not solely by sexual practices but also by culturally prescribed spiritual and social roles.

Furthermore, treatment seeking for mental health disorders varies based on geographic location. Duran et al. (2005) and Oetzel et al. (2006) found that the majority of rural AI/ANs reported facing obstacles to mental health care treatment including concerns about privacy, quality of care, communication/trust with providers, and a desire for self-reliance to solve their own problems without professional treatment. Similarly, a study of AI/ANs from an urban Northern Plains clinic found that more than half of those surveyed believed that seeking treatment was unnecessary and identified lack of resources as the second most common barrier to treatment (Kropp et al., 2014).

AI/ANs are not a homogenous group; they are members of distinct and diverse tribal nations. The paths to mental health help-seeking can vary and may include traditional healing and/or mainstream treatment services (Substance Abuse and Mental Health Services Administration, 2018). AI/AN college students, reporting both high and low cultural identity, reported preferring relaxation and natural remedies to treat mental health problems (Stewart et al., 2013). Compared with their Caucasian counterparts, AI/AN college students were less likely to select therapy as a primary treatment option and were more likely to seek help from a community elder or church leader. These preferences for treatment and provider type demonstrate the need to incorporate both culture and spirituality in the treatment and recovery process for AI/AN groups dealing with mental health problems (Gilley & Co-Cké, 2005; Kropp et al., 2013; Stewart et al., 2013).

Despite the well-documented research on mental health and the development of culturally grounded interventions that consider identity, coping, quality of life, historical trauma, and traditional healing among AI/AN populations (Duran et al., 2000; Evans-Campbell et al., 2012; Walters et al., 2011), there remain gaps in the knowledge of treatment-seeking patterns for AI/ANs. Social context is integral in understanding the treatment-seeking process for AI/ANs.

Because empirical research on AI/AN LGBTT-S populations is limited, we aimed to contribute to the existing literature by framing our analyses from an indigenist stress-coping framework which posits that life stressors impact health, but cultural factors may buffer or moderate the negative effects of stressors (Walters & Simoni, 2002). We examine the prevalence of mental health disorders, and the protective and risk factors that may influence mental health treatment utilization. Additionally, we consider sociodemographic factors to test the association between mental health treatment utilization behavior and some potential predictive variables, including social support, barriers to care, substance abuse, mental disorders, and various demographic variables.

METHODS

Data derive from the Honor Project, a multi-site survey of LGBTT-S AI/ANs from seven different metropolitan cities: Seattle-Tacoma, San Francisco-Oakland, Los Angeles, Denver, Tulsa-Oklahoma City, Minneapolis-St. Paul, and New York City. Because of relocation, these sites have become microcosms of national tribal representation with all urban sites containing the top five largest tribes (i.e., Cherokee, Choctaw, Navajo, Sioux, and Chippewa) in the country, in addition to local tribal cultural groups. Thus, with the inclusion of these seven urban sites, all seven of the major tribal cultural areas are represented in the study as well. The research study procedures are detailed elsewhere (Chae & Walters, 2009; Cassels et al., 2010).

Between 2005 and 2007, participants were recruited based on the following criteria: 1) age 18 years or older; 2) English-speaking; 3) self-identified as AI/AN, enrolled in a tribal nation, or having at least 25% AI/AN blood quantum; 4) self-identified as either lesbian, gay, bisexual, transgender, or Two-Spirit or engaged in same-sex sexual behavior in the past 12 months; and 5) living, working, or socializing in one of the urban study sites.

Several sampling strategies were used to minimize selection bias, including targeted, partial network sampling and respondent-driven sampling (RDS). Study coordinators at each site identified 6-8 gender- and age-diverse first wave "seeds" (N = 36), of which 33 participated. The second wave of RDS consisted of 58 individuals identified by first wave participants, of which 50 participated. Additionally, volunteer respondents were solicited using newsletters, brochures, posters, etc., of which 368 (80.1%) participated. No significant differences were found between the RDS seeds and volunteer respondents for the cohort overall or by site on sociodemographic variables such as gender, education, employment, income, or housing.

Respondents were compensated $65 for completing an in-person 3-to-4-hour computer-assisted self-interview at a designated study site or a private location chosen by participants. A total of 447 respondents completed the self-interview. The institutional review board at the University of Washington approved the study, and all participants provided written informed consent.

Measures

Demographic Characteristics

Assessed demographics included gender (coded as male, female, transgender), age in years, education level (coded as less than high school, high school diploma, greater than high school), and housing situation (coded as own, rent, other).

Mental Health Treatment Utilization

Lifetime mental health treatment utilization was assessed using the following four yes/no items assessing experience with psychotherapy and/or pharmacotherapy: (1) "Have you been in counseling or psychotherapy?"; (2) "Have you ever in your life been prescribed medications for depression such as Prozac, Zoloft, Elavil?"; (3) "Have you ever in your life taken any medications such as Xanax, Ativan, Valium?"; (4) "Have you ever in your life taken any medications for other mental health conditions?" We constructed a dichotomous indicator for no lifetime mental health treatment utilization (i.e., no psychotherapy or pharmacotherapy) versus any lifetime mental health treatment utilization (i.e., psychotherapy and/or pharmacotherapy).

Social Support

We used the 19-item Medical Outcomes Study-Social Support survey (MOS-SS; Sherbourne & Stewart, 1991) to assess how participants perceived the availability of four types of social support: (1) Tangible (material assistance), (2) Affective (expressing affection), (3) Positive (positive social interaction), and (4) Emotional/Informational (emotional support, guidance, or advice). The items (e.g., "Someone to confide in or talk to about yourself or your problems" or "Someone to do something enjoyable with") are scored from 0 (*none of the time*) to 4 (*all of the time*). Items were averaged to form scores for each of the MOS-SS subscale domains, with support ranging from 0 to 4 and higher scores reflecting more social support. Previous studies have demonstrated that the MOS-SS has high internal consistency (Cronbach's alpha = .97) and acceptable test–retest reliability (alpha = .78). The raw social support variables were scored into four summary social support variables (tangible social support, affection social support, positive social support, and emotional/informational social support) according to the scoring scheme detailed in Sherbourne and Stewart (1991). In the current study, Cronbach's alphas were all greater than .90.

Barriers to Treatment

Participants were asked nine questions regarding whether they encountered problems in obtaining health care due to (1) distrust of providers, (2) financial barriers, or (3) accessibility. Participants were asked about problems such as "lack of respect and support from providers because I am Native" (distrust of providers), "inadequate health insurance or coverage" (financial barriers), and "lack of transportation" (accessibility). Participants were asked to respond to whether each of these barriers was 1 (*not a problem*), 2 (*a little bit of a problem*), 3 (*somewhat of*

a problem), or 4 (*a major problem*). Three summary variables were calculated for each of the subscales by averaging the items corresponding to each subscale.

Mental Health

The MINI-International Neuropsychiatric Interview (Sheehan et al., 1998) was used to generate diagnostic indicators based on DSM-IV criteria for major depressive disorder (10 items), generalized anxiety disorder (10 items), panic disorder (17 items), and substance use or dependence (18 items). The 17-item Post-traumatic Diagnostic Scale (PDS; Foa, 1997) was used to generate a three-category indicator of no posttraumatic stress disorder (PTSD), subthreshold PTSD, and PTSD diagnosis according to DSM-IV criteria for PTSD. We utilized the definition of subthreshold PTSD employed by Blanchard et al. (1996) which requires that an individual meet the criteria for cluster B (reexperiencing symptoms) and for either cluster C (avoidance/numbing) or cluster D (hyperarousal symptoms), as well as a duration of one month and reported impairment. This definition was chosen because of its conservative definition of subthreshold PTSD requiring at least two clusters be met, while remaining distinct from full PTSD by more than one symptom.

RESULTS

Descriptive Statistics

By gender, the 447 participants were 51% male, 41% female, and 8% transgender. Participants ranged in age from 18 to 67 years and the mean age was 40 years (*SD* = 10.8). A descriptive summary of sociodemographic characteristics, social support, barriers to treatment, and mental health diagnoses are reported in Table 1 for those with no lifetime mental health treatment utilization (i.e., no medication and/or psychotherapy; *n* = 99), those who have had any treatment in their lifetime (i.e., medication and/or psychotherapy; *n* = 348), and the entire sample (*N* = 447).

Descriptive statistics on current mental health diagnosis for the overall sample and separately by gender are provided in Table 2. Rates of major depression, generalized anxiety, and panic disorder were higher among female and transgender participants compared with men. Rates of both meeting or approaching (i.e., subthreshold PTSD) diagnostic criteria for PTSD were significantly higher for transgender participants.

Table 1
Socio-demographic characteristics by lifetime mental health treatment utilization among urban LGBTT-S AI/ANs (*N* = 447)

			Lifetime MH Treatment					
	Range	All Participants (*N* = 447)	None (*n* = 99)	Any (*n* = 348)	χ^2 / *t*	*df*	*p*	*% Any Treatment*
Gender					17.15	2	< .001	
Male		227 (50.8%)	68 (68.7%)	159 (45.7%)				70.0%
Female		185 (41.4%)	24 (24.2%)	161 (46.4%)				87.0%
Transgender		35 (7.8%)	7 (7.1%)	28 (8.0%)				80.0%
Partner					0.10	1	.753	
No		208 (51.5%)	44 (50.0%)	164 (51.9%)				78.8%
Yes		196 (48.5%)	44 (50.0%)	152 (48.1%)				77.6%
Education					9.79	2	.007	
< HS		82 (18.3%)	21 (21.2%)	61 (17.5%)				74.4%
HS diploma		129 (28.9%)	39 (39.4%)	90 (25.9%)				69.8%
> HS		235 (52.8%)	39 (39.4%)	197 (56.6%)				83.8%
Employment					1.59	2	.451	
Unemployed		265 (59.3%)	57 (57.6%)	208 (59.8%)				78.4%
Part-time		84 (18.8%)	16 (16.2%)	68 (19.5%)				80.9%
Full-time		98 (21.9%)	26 (26.3%)	72 (20.7%)				73.5%
Poverty					0.04	1	.839	
No		163 (37.0%)	35 (36.1%	128 (37.2%)				77.7%
Yes		278 (63.0%)	62 (63.9%)	216 (62.8%)				78.5%
Housing					8.00	2	.018	
Own		47 (10.5%)	4 (4.1%)	43 (12.4%)				91.5%
Rent		235 (52.7%)	49 (50.0%)	186 (53.4%)				79.1%
Other		164 (36.8%)	45 (45.9%)	119 (34.2%)				72.6%
Age in years (*SD*)	[18, 67]	39.8 (10.8)	36.5 (10.6)	40.7 (10.6)	3.51	441	< .001	
Social support (*SD*)					14.06	4	.007	
Tangible	[0, 4]	2.3 (1.2)	2.5 (1.2)	2.3 (1.2)				
Affective	[0, 4]	2.6 (1.2)	2.7 (1.2)	2.6 (1.2)				
Positive	[0, 4]	2.6 (1.2)	2.8 (1.2)	2.6 (1.1)				
Emotional	[0, 4]	2.5 (1.2)	2.7 (1.2)	2.6(1.2)				
Barriers to treatment (*SD*)					3.10	3	.377	
Distrust of providers	[1, 4]	1.5 (0.8)	1.4 (0.8)	1.6 (0.8)				
Financial barriers	[1, 4]	2.2 (1.1)	2.2 (1.2)	2.3 (1.1)				
Accessibility	[1, 4]	1.7 (0.9)	1.6 (0.8)	1.7 (1.0)				

Note. MH = Mental health, HS = high school, PTSD = Posttraumatic stress disorder

The rates for seeking treatment were higher for women (87.0%) than men (70.0%). The mean age for seeking treatment was 40.7 years (*SD* = 10.6), and 36.5 (*SD* = 10.6) for those who sought no treatment. For individuals with less than a high school degree, 74.4% sought treatment, 69.8% of those with a high school degree sought treatment, and 83.8% among those with post-high school education sought treatment. With respect to housing, 91.5% of those that owned their own home sought treatment, compared to 79.1% for those renting and 72.6% in other housing situations. Lower levels of perceived social support were associated with greater treatment seeking (p = .007). There were no significant differences in treatment seeking between those with a partner versus without a partner, by employment status, by poverty level, or associated with barriers to treatment.

Adjusted associations between ACE score and HRQOL outcomes can be seen in Table 3. ACE score was significantly associated with all five HRQOL outcomes that we investigated. A unit increase in ACE score was associated with 14% greater odds of self-reported fair or poor general health (*OR* = 1.14, 95% CI: 1.06, 1.23) and 11% greater odds of self-reported poor physical health (*OR* = 1.11, 95% CI: 1.03, 1.20). The strongest association we identified was between ACE score and self-reported poor mental health in the last 30 days. A unit increase in ACE score was associated with nearly 30% greater odds of reporting poor mental health in the last 30 days (*OR* = 1.29, 95% CI: 1.20, 1.40).

Table 2
Prevalence of mental health disorders by gender among urban LGBTT-S AI/ANs (*N* = 447)

	Male (*n* = 227)	Female (*n* = 185)	Transgender (*n* = 35)	*p*
Major depression	28.3%	43.2%	42.9%	.005
Generalized anxiety	33.0%	49.7%	51.4%	.001
Panic disorder	13.3%	25.7%	17.1%	.006
Post-traumatic stress disorder				.001
Did not meet criteria	64.7%	53.3%	34.3%	
Subthreshold	19.2%	16.9%	28.6%	
Met criteria	16.1%	29.9%	37.1%	
Substance Use	64.8%	55.7%	75.7%	.144

Logistic Regression Analyses

We first conducted separate analyses of each potential risk factor to understand its relationship with treatment seeking independent of other risk factors. In these models, lifetime treatment seeking was regressed on each predictor. The subscales for social support and barriers to

treatment were evaluated in a single model so they could be interpreted collectively. The results of these unadjusted analyses are included in the right-hand side of Table 1. There were statistically significant differences in rates of treatment seeking by gender, age, education, housing situation, social support, major depression diagnosis, generalized anxiety disorder diagnosis, panic disorder diagnosis, and PTSD diagnosis.

With respect to sociodemographic characteristics, female (vs. male) gender, greater age, and post-high school education was associated with greater likelihood of lifetime mental health treatment utilization. The four types of perceived social support (tangible, affective, positive, emotional/informational) were collectively associated with the likelihood of seeking mental health treatment. Collectively, barriers to treatment (distrust of providers, financial barriers, accessibility) were not associated with treatment seeking. With respect to mental health diagnosis, major depression, generalized anxiety, panic disorder, and PTSD were associated with greater lifetime mental health treatment utilization, but substance use disorder and panic disorder were not significantly associated with treatment seeking.

We next estimated multivariate models to evaluate the sociodemographic, psychosocial, and mental health variables that showed significant bivariate relationships with treatment seeking, while controlling for the effects of the other predictors. Table 3 presents the odds ratios (*OR*s), 95% confidence intervals (CI), and *p* values for the multivariate relationship between the risk factors and treatment seeking. The effects for gender (female vs. male), age, education, social support (positive, emotional/informational), generalized anxiety disorder diagnosis, panic disorder diagnosis, and PTSD diagnosis remained statistically significant in the multivariate model.

With respect to gender, identifying as female was associated with a 2.5-fold greater odds of lifetime mental health treatment utilization (*OR* = 2.52, 95% CI = [1.37, 4.65], *p* = .003). Each additional year of age was associated with a 3% greater odds of lifetime mental health treatment utilization (*OR* = 1.03, 95% CI = [0.00, 1.06], *p* = .023). Having more than a high school education was associated with a 2.6-fold greater odds of lifetime mental health treatment utilization (*OR* = 2.61, 95% CI = [1.18, 5.78], *p* = .018). With respect to perceived social support, each unit increase in positive social support (on the 4-point scale) was associated with a 57% reduced odds of lifetime mental health treatment utilization (*OR* = 0.43, 95% CI = [0.21, 0.88], *p* = .022) and each unit increase in emotional/information social support (on the 4-point scale) was associated with a nearly 3-fold greater odds of lifetime mental health treatment utilization (*OR* = 2.95, 95% CI = [1.45, 6.01], *p* = .003). With respect to current mental health diagnosis, generalized anxiety disorder was

associated with a nearly threefold greater odds of lifetime mental health disorder (*OR* = 2.89, 95% CI = [1.50, 5.59], *p* = .002), as was panic disorder (*OR* = 2.94, 95% CI = [1.11, 7.80], *p* = .030). Additionally, full-threshold PTSD was associated with a 2.5-fold greater odds of lifetime mental health treatment utilization (*OR* = 2.84, 95% CI = [1.26, 6.38], *p* = .011), as was subthreshold PTSD (*OR* = 2.45, 95% CI = [1.06, 5.67], *p* = .036).

Table 3
Associations of demographic factors, social support, and current mental health disorders with lifetime mental health treatment utilization among urban LGBTT-S AI/ANs

	OR	*SE*	95% CI	*p*
Demographics				
Gender				
Female vs. Male	**2.52**	**0.79**	**[1.37, 4.65]**	**.003**
Transgender vs. Male	1.42	0.76	[0.50, 4.06]	.509
Age in years	**1.03**	**0.01**	**[1.00, 1.06]**	**.023**
Education				
HS diploma vs. < HS	0.90	0.35	[0.42, 1.94]	.794
> HS vs. < HS	**2.61**	**1.06**	**[1.18, 5.78]**	**.018**
Housing				
Rent vs. Own	0.51	0.30	[0.16, 1.64]	.256
Other vs. Own	0.40	0.24	[0.12, 1.31]	.130
Social Support				
Tangible	0.82	0.21	[0.50, 1.34]	.419
Affective	0.85	0.29	[0.44, 1.64]	.627
Positive	**0.43**	**0.16**	**[0.21, 0.88]**	**.022**
Emotional	**2.95**	**1.07**	**[1.45, 6.01]**	**.003**
Mental Health Disorders				
Major depression	1.07	0.35	[0.57, 2.03]	.830
Generalized anxiety	**2.89**	**0.97**	**[1.50, 5.59]**	**.002**
Panic Disorder	**2.94**	**1.46**	**[1.11, 7.80]**	**.030**
Post-traumatic stress disorder				
Subthreshold vs. None	**2.84**	**1.17**	**[1.26, 6.38]**	**.011**
Met criteria vs. None	**2.45**	**1.05**	**[1.06, 5.67]**	**.036**

Note. HS = High school, PTSD = Posttraumatic stress disorder, OR = Odds ratio, SE = Standard error, CI = Confidence interval

DISCUSSION

The present study examined lifetime rates of mental health treatment utilization in a national sample of 447 AI/AN adults that self-identified as either LGBTT-S and/or engaged in

same-sex sexual behavior and examined whether sociodemographic characteristics and current mental health diagnoses were associated with treatment utilization. Our results indicate that lifetime mental health treatment utilization was highest among women (87%), followed by transgender individuals (80%) and men (70%). However, overall rates of current mental health diagnoses were generally highest among transgender-identified participants. Thus, despite having mental health-related treatment needs comparable to or greater than cisgender[2] individuals, transgender individuals were less likely to have utilized treatment. Additionally, younger participants and those with less than a high school education were less likely to utilize treatment. Differences in rates of lifetime mental health treatment utilization by gender, age, and education level remained after controlling for existing mental health diagnosis.

A key objective of this study was looking beyond demographic factors related to mental health treatment utilization to the risk and protective factors that may predict treatment utilization, such as social support and perceived barriers to treatment. We found that greater positive social support was associated with less lifetime treatment utilization whereas greater emotional/ information support was associated with greater lifetime utilization. These findings suggest that individuals benefiting from higher levels of positive social support (e.g., receiving practical support like transportation or financial assistance) may be less inclined to seek treatment, whereas higher levels of emotional and informational social support (e.g., receiving emotional support like encouragement) may be associated with a greater willingness to engage with treatment. Indeed, in some studies social support is an enabling factor in facilitating treatment utilization (Andersen, 1995). For AIs that sought treatment for alcohol, drug, or mental health problems, those with high levels of instrumental social support (e.g., family/friends that provide monetary assistance or use of a car) were less concerned about communicating with and trusting staff (Duran et al., 2005). Interestingly, the barriers to treatment we examined, which included distrust of providers, financial challenges, and limited accessibility, were not significantly associated with treatment utilization. The non-significant association between barriers to treatment and treatment use in our results contradict some studies that show distrust of providers had contributed to HIV clients refusing care and treatment services (Molitor et al., 2006).

There are limitations to the present study. First, because the data are cross-sectional, all findings are correlational in nature; data from prospective or experimental studies would be necessary to assess change in treatment seeking or causal effects on treatment seeking,

[2] Cisgender women and cisgender men are people whose gender identity matches the sex assigned to them at birth.

respectively. Second, the smaller number of transgender participants may have limited our ability to estimate the rate of lifetime mental health utilization for this group due to larger standard errors and confidence intervals. This limitation may partially explain the lack of a statistically significant difference between transgender participants and their cisgender counterparts after controlling for other barriers to care. The evaluation of transgender participants as a single group, due to sample size limitations, represents another limitation, as male- and female-identified transgender individuals may exhibit differences in mental health utilization. Further, our definition of mental health utilization combined pharmacotherapy and psychotherapy to maximize the statistical power to evaluate a wider array of barriers to care. An important direction for future research will be to evaluate whether the barriers to mental health utilization vary by treatment type. Finally, the study population, due to the nature of Two-Spirit population identification and possible related stigma due to current social constructions of LGBT status, represented a convenience sample, which limits the generalizability of our findings to all AI/ANs and LGBTT-S populations.

Despite these limitations, our findings support conclusions from other research studies (Qureshi et al., 2018) that underscore the treatment-related health disparities of LGBT and Two-Spirit AI/ANs and barriers to access to care (e.g., health insurance, culturally and LGBT competent providers, etc.), particularly for transgender individuals who have a higher prevalence of poorer overall health (Meyer et al., 2017). Additionally, our findings have practice implications for transgender populations. For example, individuals identifying as transgender may use a variety of unique strategies such as problem-focused, positive, active/avoidance, and religious/denial to cope with gender-related stress and mental health issues. This four-factor structure of coping strategies is based on the Brief COPE measure (Carver, 1997), and these types of strategies can significantly reduce depressive symptoms and suicidality (Freese et al., 2018), which supports the expansion of education among providers to ensure provider knowledge best supports the treatment needs and relevant coping strategies preferred by this population. In addition, HIV-positive transgender men had higher rates of poverty, unmet needs for ancillary services, and experienced suboptimal health outcomes (Lemons et al., 2018), suggesting the need to discuss financial barriers and other service needs with this population to best support access to care and improved health outcomes. Finally, including discussions of victimization may represent an important care component for LGBT and Two-Spirit populations more generally, as studies have found a significant relationship between bias-related victimization and General Anxiety Disorder (Parker et al., 2017). Exploring exposure

to violence within provider treatment modalities may increase assessment of mental health issues and referrals to appropriate treatment.

One approach to achieving the goal of health equity has been to focus on ways in which groups can reach optimal health potential (Whitehead & Dahlgren, 2006). Efforts must include meaningful LGBT and Two-Spirit participation (see, for example, Fredriksen-Goldsen et al., 2014) to improve access to care and, concomitantly, improve health outcomes. A holistic approach to advance the health of AI/ANs must be a priority for providers, program managers, policy makers, and researchers. Social policies extending equal protection and equal rights relating to health provision and access to LGBT groups must remain a priority to eliminate health inequities for these communities and reduce health disparities (Pomeranz, 2018). Moreover, existing metrics fail to adequately examine the health outcomes of Two-Spirit AI/ANs; thus, if this population is faring worse on some health indicators, we lack data to drive decision-making critical to improving the health and well-being of these individuals. At the same time, it may be that LGBT and Two-Spirit individuals may fare better with respect to some health outcomes, and additional research is needed to better understand how these types of findings might be useful in supporting health in related populations also experiencing intersectionality effects.

The indigenist stress-coping model (Walters & Simoni, 2002) provides insights into ways of promoting health among this high-need population by considering the effect of traumatic stressors on health and the cultural factors that moderate and buffer such negative stressors for LGBT and Two-Spirit AI/ANs. One possible approach may include integrating culture and context into health promotion efforts, such as in the development of health-promoting pathways (Gilley & Co-Cké, 2005). Supporting LGBT and Two-Spirit community members in participating in cultural activities, ceremonies, and other community-based activities represents one method of building social support, which in this study was related to improved access to care. Building relationships to extend the network of social, spiritual, and emotional support promotes not only social acceptance and a sense of self-worth among a historically stigmatized group, it also may serve to buffer LGBT and Two-Spirit individuals from the alienation, social isolation, and powerlessness experienced because of their intersectional status, thus reducing risky behaviors associated with heightened risk of substance abuse and supporting improved health outcomes. For example, the "Red Road" philosophy represents one Indigenous philosophy of wellness that offers opportunities to develop new and important health-promoting pathways within tribal and urban AI/AN communities. Additional federal, state, and local resources from governments and agencies are

needed to fully support and develop meaningful programs that both apply AI/AN values associated with the Red Road philosophy and tailor it for LGBT and Two-Spirit community members to best generate positive, measurable, and improved health outcomes for this community.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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