substance use disorders (Aronson et al., 2016; Bassett et al. 2014; Beals et al., 2013; Brockie et al., 2015; Cayir et al., 2018; Ehlers et al. 2013; Emerson et al., 2017). Recent reports highlight the role of federal Indian policy and ongoing structural racism as contributors to these alarming disparities (Avalos, 2021; Churchwell et al., 2020). The scope and impact of mental illness on those experiencing these disorders is extensive, resulting in various socioeconomic and health-related hardships. Two of the most significant issues affecting those with psychiatric disorders are commercialized tobacco use (McClave et al., 2010; Smith et al., 2014) and homelessness (Fazel et al., 2008). However, our knowledge of urban AI/AN adults receiving mental health treatment, their commercialized tobacco use, and homelessness status is limited. This is important to recognize since a profound population shift has occurred over the past few decades among AI/AN people as 70% of AI/ANs now reside in urban areas (U.S. Census Bureau, 2010; Norris et al., 2010), a near doubling of that percentage since 1970 (38%; U.S. Census Bureau, n.d.).

A complex and arduous history exists as it relates to AI/ANs and their movement to urban areas, as well as for the tribal groups whose ancestral homelands were dispossessed to build urban areas, such as Los Angeles. This population has been subjected to well-documented historically based traumas, including forced and coerced relocation from Native lands, forced placement into boarding schools, and restrictions on spirituality, in an attempt to "get rid of the Indian problem" and to eradicate, fragment, and destroy the collective spirit and cultural identity of AI/ANs (United States Commission on Organization of the Executive Branch of the Government, 1949). Due, in part, to historical traumas, numerous health disparities exist among AI/ANs relative to other racial/ethnic groups (Adakai et al., 2018; Basset et al., 2014; Bullock et al., 2017; Cobb et al., 2014; Landen et al., 2014; Livingston et al., 2019; Mack et al., 2017; Nishio et al., 2017; Plescia et al., 2014; Urban Indian Health Commission, 2007; U.S. Census Bureau, 2010).

Los Angeles County, California holds the largest population of AI/ANs (229.6K) compared to any other county in the United States (U.S. Census, 2020). The movement of AI/ANs to Los Angeles is rooted in the Relocation Act of 1956 (Oklahoma State University Digital Collections, n.d.). This act encouraged AI/AN individuals and families to relocate to job training centers in various large cities across the United States, including Los Angeles. However, the promises of relocation were oftentimes not met, and the policy instead resulted in large numbers of AI/ANs experiencing homelessness and unemployment (National Archives, 2016; Nesterak, 2019). In fact, "118 Winston Street," a location in Los Angeles's Skid Row, became a destination for a sizeable population of AI/ANs experiencing homelessness (Thompson, 2016). The first AI/AN health and human services agency to serve AI/ANs in Los Angeles, United American Indian Involvement, Inc. (UAII), started at this location in 1974 (UAII, n.d.a.).

The complex urban environment may pose various challenges for AI/ANs in Los Angeles County. For one, the three tribes whose ancestral homelands were taken to build Los Angeles County have been made landless and are not entitled some of the same advantages as federally recognized tribes. For these tribes, as well as the tribal people who relocated over time, the effects of urbanization have disrupted traditional AI/AN ways of life. Traditionally, AI/ANs lived in an extended family and community network. Through these connections, they were able to engage in AI/AN traditional practices that emphasize wellness and a balanced life. However, the ability for AI/ANs within urban areas to capitalize on their own culturally rooted strengths and traditions may be especially challenging in Los Angeles County. AI/ANs may be geographically and socially fragmented due to their smaller population size in comparison to other ethnic/racial groups in Los Angeles County. Also, complexities associated with AI/AN cultural identity (Brown et al., 2016; Kulis et al., 2013) and discrimination (Dickerson et al., 2019) may be reflective of less cohesive and supportive social networks within the urban setting.

Further complicating AI/AN existence in urban areas, AI/ANs may not indicate their AI/AN heritage on census or survey forms due to identifying as mixed-race and choosing not to indicate their AI/AN cultural identity, or because these survey forms do not always include the option to identify as AI/AN. Conversely, those AI/ANs who do indicate AI/AN identity in addition to other races may not be properly classified as AI/AN, which may have profound implications on resource distribution (United States Commission on Civil Rights, 2018). As a result, health reports generated by public mental and physical health departments within urban areas do not adequately represent AI/ANs, which further contributes to unmet needs within this population.

Commercialized cigarette smoking (as opposed to AI traditional uses of tobacco) is a significant public health issue affecting AI/ANs (CDC, 2019). In the United States, non-Hispanic AI/AN adults have the highest current tobacco product use (32.3%), followed by non-Hispanic multiracial adults (25.4%) and non-Hispanic Whites (21.9%; Creamer et al., 2019). In addition, urban AI/ANs demonstrate high smoking rates in the limited number of studies conducted. For example, the smoking prevalence among AIs aged  $\geq 18$  years in the Twin Cities area of Minnesota was 62%, approximately 3 times greater than the smoking prevalence among the general population of that state (Forster et al., 2007). Furthermore, the protective effects of educational attainment as it relates to cigarette smoking are less among AI/ANs compared to other racial/ethnic

groups. For example, although educational attainment in the United States helps individuals stay healthy by avoiding high-risk behaviors, this effect is smaller for AI/ANs than Whites as it relates to cigarette smoking (Assari & Bazargan, 2019).

Homelessness also highly impacts AI/ANs. AI/ANs constitute a disproportionate percentage of the 209,000 people who were counted as "homeless" in the 2010 Census (U.S. Census Bureau, 2010). According to a recent study, approximately 19% of those experiencing unsheltered homelessness in three Los Angeles neighborhoods were AI/AN (Ward et al., 2022), despite AI/ANs representing approximately 1.5% of the Los Angeles County population (U.S. Census, 2020). Over 90% of AI/AN people experiencing homelessness in Los Angeles are unsheltered (Homelessness Policy Research Institute, 2020). This is in contrast to the annual Greater Los Angeles Homeless Count which reports AI/ANs representing only 0.9% of the homeless population (LAHSA, 2022). As demonstrated by these differences, it is widely believed that is the Greater Los Angeles Homeless Count exhibits a vast undercount of AI/ANs experiencing homelessness, and this concern extends to other urban areas as well. These statistics are noteworthy since homelessness is a key determinant of poor health outcomes (Wilkinson & Marmot, 2003). In King County, Washington, the accuracy of the homeless count was challenged by AI-serving organizations. The county reformed their survey in 2018, and 2 years later the homeless count soared for AI/ANs, going from 3% of the homeless population in 2018 to 15% in 2020 (Brownstone, 2020). Nonetheless, the lack of accurate homelessness data and culturally sensitive resources for AI/ANs has been the basis for ongoing research and advocacy in urban areas. Within Los Angeles itself, in an ongoing response to a 2019 Board Motion (LACBS, 2019), the Board of Supervisors convened an internal County AI/AN Homelessness Working Group within the lead agency for homelessness services and hired a full-time consultant to help coordinate this work. Community organizing and infrastructure development continues to occur, and the first AI/AN housing development to date in Los Angeles has been established (UAII, n.d.b.).

Available data sets related to key health characteristics among urban AI/AN adults receiving mental health treatment are scarce. However, analyses of clinical mental health data within clinical settings offers an opportunity to further our knowledge of important public health issues among highly marginalized and understudied racial/ethnic groups, including urban AI/AN adults. Analyses of mental health clinical data sets may also help to enhance treatment and prevention approaches and to identify further research needs regarding this population.

The purpose of this study is to report and compare data regarding primary psychiatric diagnosis, commercialized tobacco use, and homelessness status of AI/AN adults and non-AI/AN adults receiving services at a Los Angeles County Department of Mental Health-funded agency that provides services primarily for AI/AN people. Following community-based feedback, we have chosen to specifically highlight relevant background and experiences of AI/AN people within Los Angeles County in order to help bring proper attention to the needs of this community. Due to the lack of data for AI/AN adults seeking and receiving mental health treatment, this report is urgently needed in order to address important issues within this community. All four authors of this report are AI/AN. Three are doctorate-level researchers and providers and one is currently a doctoral student. The four authors have a combined 38 years' experience working in AI/AN communities. Following feedback generated from local AI/AN community members and providers, we highlight issues that may be affecting the AI/AN community in Los Angeles County. Community members and providers believed that identifying the source of data presented and the community addressed was necessary in order to help bring attention to the needs of their community. Thus, this report is not intended to stigmatize or label the Los Angeles Native community but to acknowledge concerns and to guide in the development of appropriate policies, treatment interventions, and programs that can help enhance the health and well-being of this population.

We hypothesize that depressive disorders will be the most diagnosed psychiatric diagnoses, followed by anxiety disorders, in both groups. Also, we hypothesize that trauma and stressor-related disorders will be diagnosed more often among AI/AN adults due to their high levels of traumatic exposure. Finally, we hypothesize that commercialized cigarette smoking and homelessness will be higher among AI/ANs.

### **METHODS**

# Setting

This mental health clinic was created in 1987 through the Los Angeles County Department of Mental Health (LACDMH) to service the mental health needs of the AI/AN population throughout Los Angeles County. This clinic is one of the very few county-operated mental health clinics serving urban AI/ANs in the United States. Client care is primarily funded through state Medi-Cal (California's Medicaid health care program), Medicare programs, and some private insurance. The clinic's priorities are to provide AI/AN community members, families, and children a safe place where mental wellness is fostered through delivery of comprehensive mental health services from a multidisciplinary and culturally relevant lens. This clinic serves AI/AN people from a wide variety of tribal backgrounds, cultural identities, and acculturation levels. The clinic collaborates with other local agencies serving the AI/AN community in Los Angeles County, local universities, and several social service agencies.

## **Participants**

AI/AN and non-AI/AN adults receiving mental health services at this clinic were included in this study. Clients of AI/AN descent are only required to self-identify as AI/AN. AI/AN descent is not a requirement to receive services. To protect the confidentiality of these tribal members, we chose to not identify their membership in specific tribal groups (Norton & Manson, 1996). We also chose not to identify this specific clinic in order to minimize stigmatization, labeling, or bring possible harm to the community. This is in recognition of past unethical research conducted among AI/AN populations (Hodge, 2012).

## **Sources of Data**

This study analyzes de-identified, cross-sectional data among urban AI/AN adults and non-AI/AN adults who were receiving mental health care services as of November 2018 at an urban public mental health clinic in Southern California. Based on clinic availability, this clinic accepts non-AI/AN clients. The non-AI/AN adults are representative of utilizers of the public mental health system. They may be referred to this clinic by other LACDMH clinics or non-LACDMH clinics.

Data was retrieved from the LACDMH Integrated Behavioral Health Information System (IBHIS) Active Clients by Program and Primary Program Report. This is a clinical report that includes primary psychiatric diagnoses, commercialized tobacco use, and homelessness status among clients receiving services at the clinic. This report was generated in November 2018. Data reflected in this report was derived from the client's baseline admission mental health assessment and updates made to their mental health record during their course of treatment as of November 2018. Since names were available in the report generated, the first author retrieved missing data, if available, by reviewing each client's chart in the IBHIS, or electronic record system.

Diagnostic criteria were updated by clinicians and clinical supervisors into the mental health record over time based on clinical presentation, life experiences, etc. using an internal Diagnosis Form. Updates with regard to smoking and homelessness status were also updated in the clinical record made by clinicians and clinical supervisors based on clinical observations during treatment. These updates are reflected in the IBHIS Active Clients by Program and Primary Program Report.

This study was given Institutional Review Board (IRB) approval by UCLA, South General Campus IRB (SGIRB): #20-002217 and the Los Angeles County Department of Mental Health, Human Subjects Research Committee (HSRC): #355.

## **Demographics**

Gender was categorized as either male, female, or transgender. Race/ethnicity was based on self-identification as either AI/AN or non-AI/AN. Adults were categorized as being 18 years of age or older.

# **Primary Psychiatric Diagnosis**

Utilizing a semi-structured diagnostic interview, clinicians determined primary psychiatric diagnosis based on client history, assessment of symptoms, and utilizing the Patient Health Questionnaire (PHQ-9) and the Generalized Anxiety Disorder (GAD)-7 at their initial assessment. This information was then used to determine psychiatric diagnoses based on Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (APA, 2013) diagnostic standards. After initial diagnosis, more discussion on the psychiatric diagnosis occurs in weekly case staff meetings where clinical supervisors confirm the psychiatric diagnosis. The diagnosis form in the clinical record also reflects any changes made to their primary psychiatric diagnosis during entry into treatment and throughout their course of treatment. These diagnosis and any changes with client.

In addition, tri-annual assessments are conducted by clinical staff when diagnostic criteria and psychosocial events or changes are reviewed with the client. Clinicians conducting intakes are either graduate level student interns, unlicensed or licensed social workers, marriage and family therapists, or psychologists. Several staff are AI/AN or have familiarity working with AI/ANs. Other culturally relevant training and instruction working with AI/AN is provided by clinic staff and the Department of Mental Health.

# **Commercialized Tobacco Use**

Commercialized tobacco use was categorized as either "current smoker" (for those who were recorded as any of the following: current every day smoker, current some days smoker, heavy tobacco smoker, light tobacco smoker, or if they answered "yes" to if they currently smoke) or "current non-smoker" (for those who were recorded as any of the following: non-smoker, never smoked, smoker: inactive, former smoker, or if they answered "no" to if they currently smoke). This did not account for the use of chewing tobacco or cannabis. Unknown cases were not included in the analysis. The clinical record or baseline assessments do not inquire about the ceremonial use of tobacco.

## **Homelessness Status**

Homelessness status was categorized into the following categories: "yes" (answering "yes" when asked if they were homeless), "no," (answering "no" when asked if they were homeless), "living in sober living facility," "currently in rehabilitation facility, and "unknown." Unknown cases were not included in the analysis. Also, "living in a sober living facility" and "currently in rehabilitation facility" were not included in the analysis since we were not able to determine their homelessness status. We obtained this information at time of intake or as housing status changed throughout the course of treatment. Clinical staff entered homelessness status into the data system allowing this information to be tracked and monitored. When clients are housed, their homelessness status is changed to reflect their current residence.

### **Statistical Approach**

Demographic data (age, gender, ethnicity/race) are provided in Table 1. The unit of analysis was by individual patient stratified by race (AI/AN compared to non-AI/AN). A 2x2 chi-square analysis was used to examine the association of a primary psychiatric diagnosis between AI/AN and non-AI/AN. Odds ratios (ORs) with 95% confidence interval (CIs) were reported for each group of primary clinical diagnosis with non-AI/AN considered as the reference group (Table 2). Two by two chi-square analyses and ORs were also used to assess commercialized tobacco use status and homelessness status among AI/AN and non-AI/AN (reference group; Table 3). Two-tailed tests and a significance level of 0.05 were used to determine significance. Microsoft Excel (Version 16.0.15028.20160) was used for the data analyses.

# RESULTS

# **Participant Characteristics**

As shown in Table 1, 259 clients receiving services at the urban public mental health clinic in Southern California were included in this study, including 165 AI/AN adults and 94 non-AI/AN adults. The average age for AI/AN adults is 44.9 years and the average age for non-AI/AN adults is 38.4 years. Both groups comprised more females than males (58% of the AI/AN group and 64% of the non-AI/AN group). Among the non-AI/AN group, the most represented racial/ethnic groups were Hispanic (44%), Caucasian (27%), and African American (13%). Additional ethnic/racial categories for AI/ANs were not available.

| Gender, race, and ethnicity/race of the sample |                                  |                                       |                                    |  |  |  |  |  |
|--|----------------------------------|---------------------------------------|------------------------------------|--|--|--|--|--|
| Characteristic                                 | All adults<br>(N = 259)<br>n (%) | Non-Al/AN adults<br>(n = 94)<br>n (%) | AI/AN adults<br>(n = 165)<br>n (%) |  |  |  |  |  |
| Average age (years)                            | 41.65                            | 38.4                                  | 44.9                               |  |  |  |  |  |
| Gender   |                                  |                                       |                                    |  |  |  |  |  |
| Female   | 156 (60%)                        | 60 (64%)                              | 96 (58%)                           |  |  |  |  |  |
| Male   | 102 (39%)                        | 34 (36%)                              | 68 (41%)                           |  |  |  |  |  |
| Transgender                                    | 1 (1%)                           | 0 (0.0)                               | 1 (1%)                             |  |  |  |  |  |
| Ethnicity/Race                                 |                                  |                                       |                                    |  |  |  |  |  |
| American Indian/Alaska Native                  | 165 (63.5%)                      | 0 (0.0)                               | 165 (100%)                         |  |  |  |  |  |
| Hispanic                                       | 41 (16%)                         | 41 (44%)                              | -                                  |  |  |  |  |  |
| African American                               | 12 (5%)                          | 12 (13%)                              | -                                  |  |  |  |  |  |
| Caucasian                                      | 26 (10%)                         | 26 (28%)                              | -                                  |  |  |  |  |  |
| Native Hawaiian                                | 2 (0.5%)                         | 2 (2%)                                | -                                  |  |  |  |  |  |
| Filipino                                       | 2 (0.5%)                         | 2 (2%)                                | -                                  |  |  |  |  |  |
| Other-White                                    | 2 (0.5%)                         | 2 (2%)                                | -                                  |  |  |  |  |  |
| Unknown  | 2 (0.5%)                         | 2 (2%)                                | -                                  |  |  |  |  |  |
| Asian  | 1 (0.5%)                         | 1 (1%)                                | -                                  |  |  |  |  |  |
| Arabic   | 1 (0.5%)                         | 1 (1%)                                | -                                  |  |  |  |  |  |
| Indian   | 1 (0.5%)                         | 1 (1%)                                | -                                  |  |  |  |  |  |
| Egyptian                                       | 1 (0.5%)                         | 1 (1%)                                | -                                  |  |  |  |  |  |
| Mexican Indigenous                             | 1 (0.5%)                         | 1 (1%)                                | -                                  |  |  |  |  |  |
| Filipino/White                                 | 1 (0.5%)                         | 1 (1%)                                | -                                  |  |  |  |  |  |
| Pakistani                                      | 1 (0.5%)                         | 1 (1.0)                               | -                                  |  |  |  |  |  |

Table 1 iender, race, and ethnicity/race of the sample

# **Primary Psychiatric Diagnosis**

As shown in Table 2, for AI/AN adults, current primary psychiatric diagnoses in descending prevalence were: (1) depressive disorders (43%), (2) schizophrenia spectrum and other psychotic disorders (17%), (3) bipolar and related disorders (13%), (4) trauma and stressor-related disorders (13%), and (5) anxiety disorders (9%). For non-AI/AN adults, current primary psychiatric diagnoses in descending order were: (1) depressive disorders (39%), (2) anxiety disorders (22%), (3) schizophrenia spectrum and other psychotic disorders (12%), (4) trauma and stressor-related disorders (11%), and (5) bipolar and related disorders (10%).

A higher proportion of AI/AN patients were diagnosed with depressive disorder, bipolar and related disorders, trauma and stressor-related disorders, or schizophrenia spectrum and other psychotic disorders compared to non-AI/AN patients. As shown in Table 4, AI/AN patients were significantly less likely to have an anxiety disorder compared to non-AI/ANs (p < 0.01).

# **Commercialized Tobacco Use and Homelessness Status**

As shown in Table 3, current smoking rates were 39% for AI/AN adults and 35% for non-AI/AN adults. Thirty-four percent of AI/AN adults were experiencing homelessness compared to 20% of non-AI/AN adults. As shown in Table 5, AI/AN patients were significantly more likely to experience homelessness compared to non-AI/AN (p < 0.05). As shown in Table 6, commercialized tobacco use status was not significantly different between AI/ANs and non-AI/ANs.

| Table 2<br>Primary psychiatric diagnosis |                                 |                              |                           |  |  |  |  |
|--|---------------------------------|------------------------------|---------------------------|--|--|--|--|
| Current Primary Diagnosis                | All adults<br>( <i>N</i> = 259) | Non-Al/AN adults<br>(n = 94) | AI/AN adults<br>(n = 165) |  |  |  |  |
| Depressive Disorders                     | 108 (42%)                       | 37 (39%)                     | 71 (43%)                  |  |  |  |  |
| Major Depressive Disorder                | 92                              | 33                           | 59                        |  |  |  |  |
| Persistent Depressive Disorder           | 10                              | 3                            | 7                         |  |  |  |  |
| Depressive disorder                      | 1                               | 0                            | 1                         |  |  |  |  |
| Unspecified depressive disorder          | 4                               | 0                            | 4                         |  |  |  |  |
| Disruptive mood dysregulation disorder   | 1                               | 1                            | 0                         |  |  |  |  |
| Bipolar and Related Disorders            | 31 (12%)                        | 9 (10%)                      | 22 (13%)                  |  |  |  |  |
| Bipolar mood disorder                    | 25                              | 7                            | 18                        |  |  |  |  |
| Bipolar mood disorder, type 2            | 6                               | 2                            | 4                         |  |  |  |  |

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|   | All adulto        | Non-AL/AN adulta | AL/AN adulte |
|---|-------------------|------------------|--------------|
| Current Primary Diagnosis   | ( <i>N</i> = 259) | (n = 94)         | (n = 165)    |
| Other mood disorders  | 6 (2%)            | 3 (3%)           | 3 (2%)       |
| Unspecified mood (affective) disorder                                       | 5                 | 3                | 2            |
| Mood disorder NOS   | 1                 | 0                | 1            |
| Anxiety Disorders   | 36 (14%)          | 21 (22%)         | 15 (9%)†     |
| Anxiety disorder  | 3                 | 3                | 0            |
| Generalized Anxiety Disorder  | 23                | 11               | 12           |
| Anxiety disorder, unspecified   | 4                 | 2                | 2            |
| Anxiety disorder NOS  | 2                 | 2                | 0            |
| Other specified anxiety disorder  | 1                 | 0                | 1            |
| Panic Disorder  | 3                 | 3                | 0            |
| Trauma-and Stressor-Related Disorders                                       | 32 (12%)          | 10 (11%)         | 22 (13%)     |
| Posttraumatic Stress Disorder   | 29                | 8                | 21           |
| Trauma and stressor-related disorder  | 1                 | 1                | 0            |
| Adjustment disorder   | 2                 | 1                | 1            |
| Schizophrenia Spectrum and Other<br>Psychotic Disorders                     | 39 (15%)          | 11 (12%)         | 28 (17%)     |
| Schizophrenia   | 12                | 4                | 8            |
| Schizoaffective disorder  | 25                | 7                | 18           |
| Delusional disorder   | 1                 | 9                | 1            |
| Unspecified psychosis not due to a substance or known physiologic condition | 1                 | 0                | 1            |
| Other Disorders   | 7 (3%)            | 3 (3%)           | 4 (2%)       |
| Phase of life problem in adult  | 1                 | 0                | 1            |
| Intermittent Explosive Disorder   | 2                 | 2                | 0            |
| Attention Deficit Hyperactivity Disorder                                    | 4                 | 1                | 3            |

Table 2 continued Primary psychiatric diagnosis

† p<0.05

| Table 3  |  |  |  |  |
|--|--|--|--|--|
| Commercialized tobacco use and homelessness status |  |  |  |  |

| Characteristic                       | All adults N<br>(N = 259)<br>n (%) |          | Al/AN adults<br>(n = 165)<br>n (%) |
|--------------------------------------|------------------------------------|----------|------------------------------------|
| Homelessness status                  |                                    |          |                                    |
| No                                   | 166 (64%)                          | 65 (69%) | 101 (61%)                          |
| Yes                                  | 75 (29%)                           | 19 (20%) | 56 (34%)†                          |
| Living in sober living facility      | 2 (1%)                             | 2 (2%)   | 0 (0%)                             |
| Currently in rehabilitation facility | 2 (1%)                             | 0 (0%)   | 2 (1%)                             |
| Unknown                              | 14 (5%)                            | 8 (9%)   | 6 (4%)                             |

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| Characteristic                     | All adults Non-Al/AN adu<br>(N = 259) (n = 94)<br>n (%) n (%) |          | AI/AN adults<br>(n = 165)<br>n (%) |
|------------------------------------|---|----------|------------------------------------|
| Currently not smoking              | 158 (61%)   | 60 (64%) | 98 (59%)                           |
| Non-smoker                         | 68  | 21       | 47                                 |
| "No" (to if they currently smoke)  | 18  | 8        | 10                                 |
| Never smoked                       | 24  | 22       | 2                                  |
| Smoker: inactive                   | 1   | 0        | 1                                  |
| Former smoker                      | 47  | 9        | 38                                 |
| Currently smoking                  | 97 (37%)  | 33 (35%) | 64 (39%)                           |
| Current every day smoker           | 47  | 15       | 32                                 |
| Current some days smoker           | 18  | 4        | 14                                 |
| Current smoker                     | 2   | 0        | 2                                  |
| "Yes" (to if they currently smoke) | 6   | 3        | 3                                  |
| Heavy tobacco smoker               | 8   | 3        | 5                                  |
| Light tobacco smoker               | 16  | 8        | 8                                  |
| Unknown smoking status             | 4 (2%)  | 1 (1%)   | 3 (2%)                             |

 Table 3 continued

 Commercialized tobacco use and homelessness status

† *p*<0.05

| Chi-square analysis and reported odds ratios for primary psychiatric diagnosis among Al/AN & non-Al/AN |                                 |                              |     |        |                                   |      |              |  |  |
|--|---------------------------------|------------------------------|-----|--------|-----------------------------------|------|--------------|--|--|
|  | All adults<br>( <i>N</i> = 259) | Non-Al/AN adults<br>(n = 94) |     |        | AI/AN adults<br>( <i>n</i> = 165) |      |              |  |  |
| Variable   | n (%)                           | n (%)                        | OR  | 95% CI | n (%)                             | OR   | 95% CI       |  |  |
| Depressive Disorder  | 108 (41.70%)                    | 37 (39.36%)                  | ref | ref    | 71 (43.03%)                       | 1.16 | (0.69, 1.95) |  |  |
| Bipolar and Related<br>Disorders   | 31 (11.97%)                     | 9 (9.57%)                    | ref | ref    | 22 (13.33%)                       | 1.45 | (0.64, 3.30) |  |  |
| Other Mood Disorders   | 6 (2.32%)                       | 3 (3.19%)                    | -   | -      | 3 (1.82%)                         | -    | -            |  |  |
| Anxiety Disorders†   | 36 (13.90%)                     | 21 (22.34%)                  | ref | ref    | 15 (9.09%)                        | 0.35 | (0.17, 0.71) |  |  |
| Trauma and Stressor-<br>Related Disorders  | 32 (12.36%)                     | 10 (10.64%)                  | ref | ref    | 22 (13.33%)                       | 1.29 | (0.58, 2.86) |  |  |
| Schizophrenia Spectrum & Other Psychotic Disorders   | 32 (12.36%)                     | 11 (11.70%)                  | ref | ref    | 28 (16.97%)                       | 1.54 | (0.73, 3.26) |  |  |
| Other Disorders  | 7 (2.70%)                       | 3 (3.19%)                    | -   | -      | 4 (2.42%)                         | -    | -            |  |  |

 Table 4

 Chi-square analysis and reported odds ratios for primary psychiatric diagnosis among AI/AN & non-AI/AN

†*p*<0.01

|                                  | All adults<br>( <i>N</i> = 241) | Non-Al/AN adults<br>(n = 84) |     |        | AI/AN adults<br>( <i>n</i> = 157) |      |              |
|----------------------------------|---------------------------------|------------------------------|-----|--------|-----------------------------------|------|--------------|
| Variable                         | n (%)                           | n (%)                        | OR  | 95% CI | n (%)                             | OR   | 95% CI       |
| Homelessness status <sup>†</sup> |                                 |                              | ref | ref    |                                   | 1.89 | (1.03, 3.48) |
| No                               | 166 (69%)                       | 65 (77%)                     |     |        | 101 (64%)                         |      |              |
| Yes                              | 75 (31%)                        | 19 (23%)                     |     |        | 56 (36%)                          |      |              |

Table 5 Chi-Square analysis and odds ratios for homelessness status among AI/AN & non-AI/AN\*

\* Excludes "sober living," "rehabilitation," and "unknown" housing categories.

† *p* < 0.05

| Table 6  |
|--|
| Chi-Square analysis and odds ratios for commercialized tobacco use among AI/AN & non-AI/AN |

|                       | All adults<br>( <i>N</i> = 259) | Non-AI/AN adults<br>(n = 94) |     |        | А        | ilts<br>) |              |
|-----------------------|---------------------------------|------------------------------|-----|--------|----------|-----------|--------------|
| Variable              | n (%)                           | n (%)                        | OR  | 95% CI | n (%)    | OR        | 95% CI       |
| Smoking status        |                                 |                              | ref | ref    |          | 1.19      | (0.70, 2.01) |
| Currently not smoking | 158 (61%)                       | 60 (64%)                     |     |        | 98 (59%) |           |              |
| Currently smoking     | 97 (37%)                        | 33 (35%)                     |     |        | 64 (39%) |           |              |

### DISCUSSION

This study provides a rare opportunity to analyze and compare clinical data on AI/AN and non-AI/AN adults receiving mental health services from an urban public mental health clinic in Southern California regarding primary psychiatric diagnoses, commercialized tobacco use, and homelessness. As a result, our knowledge of understudied issues has been enhanced and may be used to improve treatment approaches for AI/AN adults receiving mental health treatment within urban areas. As expected, depressive disorders were the most common psychiatric diagnoses for both groups. Unexpectedly, anxiety disorders were much less common among AI/AN adults than non-AI/AN adults and trauma and stressor-related disorders were unexpectedly similar between groups. Also, schizophrenia spectrum and other psychotic disorders and bipolar and related disorders were more common among AI/AN adults than non-AI/AN adults. Unexpectedly, AI/AN adults and non-AI/AN adults demonstrated similar commercialized tobacco use. As hypothesized, significantly higher levels of homelessness were found among AI/AN adults.

Unexpectedly, anxiety disorders were lower than expected among the sample of AI/ANs receiving mental health services within this urban setting. Very few studies exist analyzing risk and protective factors as it relates to anxiety disorders among AI/ANs in urban areas. However, in

a systematic review of 19 studies across seven countries, modifiable risk and protective factors for anxiety disorders were identified (Zimmermann et al., 2020). Risk factors included cigarette smoking, alcohol use, cannabis use, negative appraisals of life events, avoidance, and occupational factors. Protective factors included social support, coping, and physical activity. Due to the ties that AI/AN adults may have to the community, as revealed through their knowledge of access to mental health treatment at the clinic utilized in this study, it is possible that AI/ANs in this study have social connections and support within their community that helps them with their ability to cope better with their stressors. Clearly, further studies analyzing risk and protective factors for anxiety disorders are needed to more clearly explain how urban AI/AN adults receiving mental health treatment may enhance their resilience and help them to persevere within the urban environment.

That more than one-third of AI/ANs in this study were found to be experiencing homelessness is unprecedented, and particularly at odds with local homelessness authority data where AI/AN are reported to represent only 0.9% of the homeless population (Los Angeles Homeless Services Authority, 2022). Specifically, homelessness count methodology and the definition of AI/AN used for reporting has been challenged (Los Angeles City/County Native American Indian Commission, 2019). Veracity of the study data in this case may be more reliable, given that our study site is a culturally sensitive clinic where the patient population might be selfselecting and demographics such as race may be more prone to self-confirmation. Alarmingly, study data exceeds the 15% rate of homelessness among AI/ANs in King County's homelessness count, a count that has been revised to be more inclusive of AI/AN people experiencing homelessness (Brownstone, 2020). Although alarming, it also points to opportunities to leverage key resources to address AI/AN homelessness, particularly in regard to housing individuals at high risk for COVID and other local initiatives, including Project Roomkey, an emergency shelterbased program. While there is no set-aside for specific populations, exploring best practices in other cities already providing culturally affirming housing may help guide culturally specific initiatives that adhere to Fair Housing laws. Key to this point is ensuring that AI/AN-serving organizations are connected to the Coordinated Entry System, in which individuals experiencing homelessness are triaged and connected to housing resources. Though there is a legacy of historical mistrust between AI/ANs and government systems (Cannon, 2020), lessons learned from our study site in providing culturally sensitive services may help in the adaptation of homeless services and other key systems in order to optimize key determinants of health among this population. Given

that disparate rates of homelessness and mental health diagnoses among AI/ANs are symptoms of colonization and structural racism, dedicated resources to address these issues are not only just but can improve health. Housing status is inextricably tied to mental health treatment outcomes (Singh et al., 2019). Intervening on both fronts may provide the foundation for further independence of individuals and improved approaches to job training, schooling, and establishing home structures for families, thereby helping to end the cycle of inter-generational trauma among this population.

This study is subject to various limitations. First, it is restricted to one urban area in Southern California and may not be representative of all urban AI/AN adults receiving mental health services in the United States. Also, we retrieved data from a secondary data source that was not designed to address specific research questions. Thus, diagnostic information may be subject to clinician interpretation creating inconsistency and inaccuracy within the clinical documentation. Also, the western construct of mental health and the DSM-5 may be considered a poor fit to meet the needs of AI/AN people, especially following experiences of intergenerational and historical trauma (Jagoo et al., 2021). Thus, there may be issues as it relates to the reliability and validity of DSM-5 for AI/AN adults whose data was used in this study. We were also not able to distinguish the use of ceremonial/traditional use of tobacco with commercialized tobacco use. Nonetheless, this study provides valuable clinical information among an understudied population in the United States.

In conclusion, results from this study reveal the utility of analyzing clinical data regarding psychiatric diagnoses, commercialized tobacco use, and homelessness among a sample of urban AI/AN and non-AI/AN adults receiving mental health services. Enhancing integrated treatment approaches aimed to address commercialized tobacco use and homelessness among urban AI/ANs receiving mental health services may help to decrease the health-related disparities experienced by this population. Additional, larger studies analyzing these issues and identifying best practices among urban AI/ANs in the United States may help to enhance our understanding of this important and resilient population.

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## ACKNOWLEDGEMENTS

The authors would like to thank the American Indian/Alaska Native community members in Los Angeles County who participated in this report. We would also like to acknowledge Kris Langabeer for her editing support.

### **FUNDING INFORMATION**

No funding was provided for this study.

### **CONFLICT OF INTEREST**

The authors declare that they have no conflicts of interest.

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