Understanding the Drivers of Perceived PrEP Stigma among Indigenous People in the United States

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Abstract: *Previous research has demonstrated that pre-exposure prophylaxis (PrEP) stigma serves as a common barrier to PrEP use across racial, ethnic, and sexual minority groups in the United States; however, there is a deficit in research focused on Indigenous populations. Therefore, the objective of this study was to identify drivers of PrEP stigma among Indigenous people. A cross-sectional survey was administered to examine PrEP knowledge, attitudes, and perceived barriers to use among Indigenous people in the United States, including PrEP stigma and the following hypothesized drivers: stigma towards drug use, 2SLGBTQ+ identity, and HIV; experienced discrimination; and medical mistrust. Participants reported that people in their communities associate PrEP use with drug use, 2SLGBTQ+ identities, living with HIV, and having multiple sexual partners. They also perceived high levels of stigma around these behaviors and identities in their communities and reported high levels of experienced discrimination and medical mistrust. Higher levels of each hypothesized driver were significantly associated with higher levels of perceived PrEP stigma among the respondents. The results generated from this study provide recommendations for interventions that aim to reduce the influence of these drivers on PrEP stigma.*

INTRODUCTION

Indigenous[1] communities experience significant health disparities, including challenges related to HIV prevention and treatment. According to the Centers for Disease Control and Prevention data from 2022, the HIV incidence rate among American Indian/Alaska Native (AI/AN) people was twice the rate among White people, though lower than that of Black/African American, Hispanic/Latino, and multiracial populations (Centers for Disease and Control and Prevention, 2024). Historical trauma, colonization, and systemic inequities continue to impact health and healthcare access in Indigenous communities. These historical legacies are compounded by social, economic, and structural determinants of health, such as poverty, limited healthcare access, and the ongoing marginalization of Indigenous ways of knowing and healing (Walters et al., 2011). Addressing these complexities is vital in understanding the broader context of HIV-related disparities and reducing barriers to effective HIV prevention and treatment strategies in Indigenous communities.

Pre-exposure prophylaxis (PrEP) is a highly effective biomedical intervention (Baeten et al., 2012) that can greatly reduce HIV incidence in AI/AN populations. Yet, despite its promise, AI/AN people face inequitable access to PrEP. Structural racism, lack of culturally responsive healthcare services, and social stigmatization all act as barriers. Recent data highlights that AI/AN men who identify as part of sexual minority groups had 36% lower odds of using PrEP compared to their White counterparts, reflecting a deep-seated disparity (Whitfield et al., 2020).

For Indigenous communities, stigma surrounding PrEP use intersects with broader, culturally situated experiences of stigma, including the historical mistrust of Westernized medical systems, discrimination in healthcare, and stigmatization tied to sexual behavior, gender identity, and substance use (Leston et al., 2022). PrEP use itself is often viewed through a stigmatizing lens,

[1] We use the term "Indigenous" in this document to honor the original peoples of the lands and waters now known as the United States and its territories. We recognize that individuals and communities may identify with specific Tribal Nation names, cultural groups, or regional identities, and that terms such as American Indian, Alaska Native, Native Hawaiian, and Pacific Islander (NHPI) each carry distinct histories, meanings, and legal contexts. The use of "Indigenous" here is meant to be inclusive and respectful, while acknowledging the diversity, sovereignty, and self-determination of all Native peoples. In some instances, when referencing studies, reports, or data sources, we may use the terminology employed in the original source (e.g., American Indian/Alaska Native, Native Hawaiian, or other region-specific terms) to preserve the accuracy and context of the cited work. This reflects our commitment to accurate representation of source material.

seen as indicative of either HIV status or behaviors perceived as non-normative within both Indigenous and broader societal contexts (Elopre et al., 2018; Golub, 2018). Within AI/AN communities, this stigma is reinforced by post-colonial cultural mores around discussing sexual health and the historical marginalization of 2SLGBTQ+[2] individuals.

It is essential to contextualize elements of PrEP stigma through a framework of health equity. PrEP stigma is not just about the medication—it is about reclaiming autonomy over sexual health, overcoming the legacies of colonization, and challenging the dominant narratives that continue to pathologize Indigenous bodies. Drivers of stigma, the underlying causes that determine whether a condition is stigmatized (Stangl et al., 2019), must be understood in relation to Indigenous histories and contemporary context (Biello et al., 2021; Elopre et al., 2018). Previous studies have identified potential drivers of PrEP stigma to include HIV stigma (Golub et al., 2017; Jani et al., 2021; Wood et al., 2019), stigma surrounding key populations such as people who use drugs (Biello et al., 2021), men who have sex with men (Brooks et al., 2020), discrimination (Irvin et al., 2014), and a deeply entrenched distrust of healthcare systems (Elopre et al., 2018; Mayer et al., 2020). While drivers have been primarily identified in populations of men who have sex with men (Dubov et al., 2018), and among some women (Goparaju et al., 2017), there is a gap in knowledge regarding the PrEP stigma drivers in Indigenous communities.

This study aims to explore the drivers of PrEP stigma, specifically within Indigenous communities, recognizing the need for culturally grounded interventions. Understanding these drivers will help inform strategies to dismantle stigma, enhance health equity, and empower Indigenous people to reclaim their sexual health on their own terms.

METHODS

Study Design and Setting

A cross-sectional online survey was conducted to examine PrEP knowledge, attitudes, and perceived barriers to use among Indigenous people in the United States, including the effects of stigma on PrEP use. The detailed methods, study questionnaire, participant demographics, and additional findings related to associations between sociodemographic characteristics and PrEP stigma are published separately (Roberts et al., 2025). In the current analysis, we sought to test the associations between perceived PrEP stigma and five potential drivers of PrEP stigma: 1)

[2] Lesbian, Gay, Bisexual, Transgender, Questioning, Intersex, Asexual, and Two-Spirit.

perceived HIV stigma, 2) perceived drug use stigma, 3) perceived sexual orientation and gender identity stigma, 4) medical mistrust, and 5) experiences of discrimination. Because the survey was not restricted to people who used PrEP, were living with HIV, identified as sexual or gender minorities, or used drugs, questions were focused on perceived stigma, rather than anticipated or experienced stigma that would be faced by members of these stigmatized groups.

Study Population and Recruitment

To be eligible for this study, individuals had to meet the following inclusion criteria: 1) self-identify as American Indian or Alaska Native (AI/AN), including, but not limited to, Indigenous, Native American, American Indian, Alaska Native, Native Hawaiian, or Pacific Islander, 2) self-report age ≥ 16 years, and 3) able to read and respond to the survey in English.

A convenience sampling method was utilized; participants were recruited through e-mail, text message, and social media platforms, all which were managed by the Northwest Portland Area Indian Health Board. Participant recruitment was conducted in three phases. During the first phase of recruitment, the online survey was distributed to members of two email listservs, both of which were selected because they reach large numbers of AI/AN individuals. These listservs included a mix of nationwide and local audiences, with subscriber counts ranging from 140 to 6,610. Among the subscribers were youths, individuals identifying as 2SLGBTQ+, health educators, and clinicians. Prior to survey distribution, project investigators shared general information regarding the survey to the listservs to increase the response rate. Then, unique links to the survey were sent to each email address associated with the listservs. In the second phase, we recruited by sending a mass message describing the survey to two SMS distribution lists and requesting interested individuals to respond with a phrase to a phone number. All respondents received a unique link to complete the online survey. In phase 3, participants were recruited through Instagram by posting about the survey and asking interested viewers to text a phrase to a specific phone number. Once again, those who responded received a unique link to complete the survey.

Individuals who received the survey via email or text messaging had the opportunity to refer other individuals by providing their email address or phone number for contact. After completion of the survey, respondents were provided a referral link to directly share to their networks. After verification and removal of duplicate referrals, a unique survey link was distributed to referrals.

Data Collection, Management, and Fraud Detection

The data were collected between January 23 through April 28, 2023. Respondents' unique survey link directed them to a survey landing page, which included a brief consent form to screen for the survey. All individuals who consented were directed to begin the self-administered screener instrument. Eligible respondents were then directed to an online consent form for the full survey. If consent was granted, they proceeded to the full survey. The screener and survey instrument were programmed in Voxco, a secure web-based data collection system. Survey completion data were screened using Google's reCAPTCHA V3 to eliminate robot survey completions ('bots'). Additionally, staff members monitored all screener and survey data files to flag fraudulent activity. Final decisions of validity of flagged responses were discussed among study team members.

Measures

The survey measured sociodemographic characteristics including age (years), race and ethnicity, gender identity, sexual orientation, geographic residence (i.e., urban, suburban, or rural; on reservation/tribal lands or not), and type of healthcare facility utilized (i.e., private, Indian Health Service, Tribal, or Urban Indian facility).

Before distribution, the following scales included in the survey underwent a thorough review to avoid duplication. Each scale was carefully assessed for content overlap, with redundant items either rephrased or eliminated. Furthermore, some items were removed or rephrased due to their lack of cultural relevance. This process ensured that the survey captured culturally appropriate perspectives while maintaining the integrity of the constructs being measured.

Perceived PrEP stigma was assessed with a 19-item scale, alpha = 0.90. Due to the lack of validated perceived PrEP stigma scales, the authors adapted all items from the PrEP Stigma and Positive Attitudes scale (Mustanski et al., 2018) and 9 of 12 items from the HIV Pre-exposure Prophylaxis Stigma Scale (Siegler et al., 2020) by reframing the questions to reflect what people in the community think instead of what the respondents think about HIV and PrEP use. Perceived PrEP stigma items were administered after participants completed the PrEP knowledge section and viewed a brief informational video that defined PrEP, described who it is for and its effectiveness in preventing HIV, and noted that it does not protect against other sexually transmitted infections.

Perceived HIV stigma was assessed with 5 of 12 items from The Concern With Public Attitudes About People With HIV subscale of the HIV Stigma Scale (Berger et al., 2001) (alpha = 0.94).

Perceived sexual orientation and gender identity stigma was assessed with a subset of 8 items from a tool designed to evaluate a stigma reduction training in Jamaica that was adapted from an existing scale assessing attitudes towards rights of individuals who identify as lesbian and gay (Poteat et al., 2017) (alpha = 0.90).

Perceived drug use stigma was assessed with 8 of 10 items from the Stigma of Drug Users Scale (Palamar et al., 2011) (alpha = 0.88).

To measure medical mistrust, 10 of 12 items were used from the Group-based Medical Mistrust Scale (GBMMS) (Thompson et al., 2004) (alpha = .93). With this measure, individuals were asked about experiences with doctors and other health care providers where individuals seek health care most of the time.

For all of the above scales, the response options were on a 5-point Likert scale ("strongly disagree to strongly agree"). All scores were calculated as means (potential range 1-5) except for the perceived HIV stigma scale, for which the score was calculated as a total (range 5-25) following the authors' instructions (Berger et al., 2001). Higher scores across the scales indicated higher experiences of stigma. Items throughout the scales were reverse coded as needed.

Experiences of discrimination was measured with the Everyday Discrimination Measure (Williams et al., 1997) (alpha = .93). Respondents answered 9 items on how often they experienced a form of discrimination in their day-to-day life. These items were measured on a six-point scale of (0) never, (1) less than once a year, (2) a few times a year, (3) a few times a month, (4) at least once a week, and (5) almost every day. The responses to these five items were summed for a possible score from 0 to 45, with higher scores indicating more experiences of discrimination. Individuals who reported discrimination at least "a few times a year" answered a subsequent question of what they believe is the main reason for these experiences.

Ethics Statement

The study protocol was reviewed and approved by the Portland Area Institutional Review Board. All participants provided informed consent in English, and a waiver of parental consent was granted for minors aged 16-17 years. E-gift cards in the amount of $100 were dispersed to respondents who completed the survey and shared their knowledge. Participants were not aware of the amount of the gift card until after the completion of the survey.

Data Analysis

The statistical analysis included all participants (n=354) who completed the study. Descriptive statistics were conducted to summarize demographic characteristics of survey respondents and scores and item response frequencies for each stigma scale. Linear regression models were utilized to estimate associations between perceived PrEP stigma and the hypothesized drivers: perceived drug use stigma, perceived HIV stigma, perceived sexuality stigma, medical mistrust, and experiences of discrimination. Multivariable models adjusted for age (as tertiles), sexual orientation, gender identity, and living on reservation or tribal lands. All analyses were conducted using Stata version 17.

RESULTS

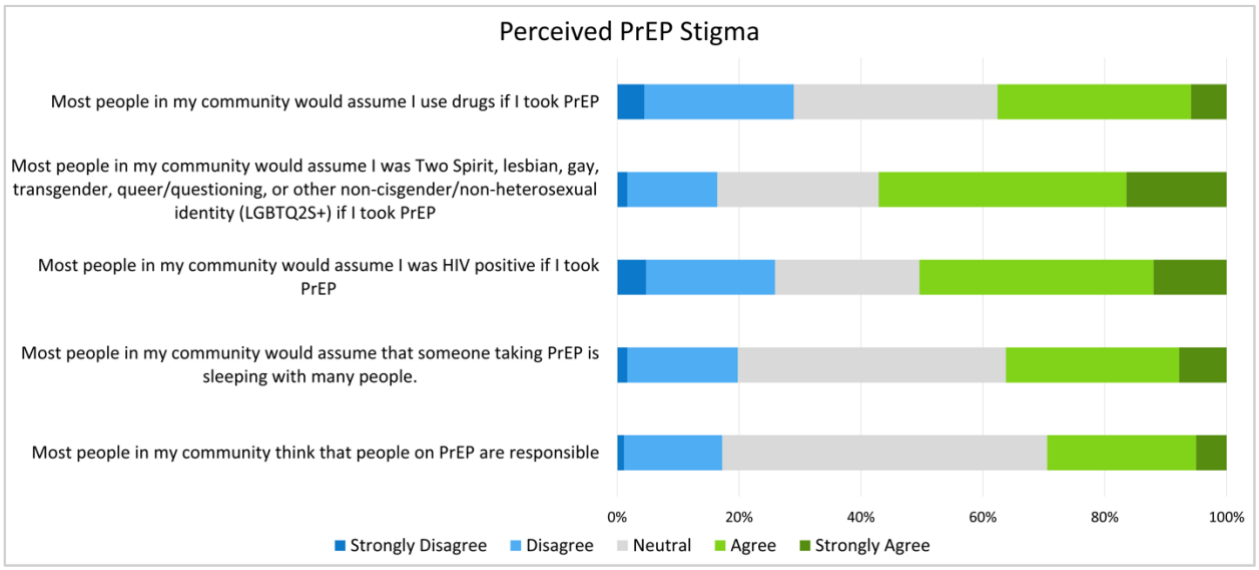
Demographic Characteristics of Study Participants

A total of 354 Indigenous-identifying participants completed the survey and were included in this analysis (median age: 41, Inter-quartile range: 30-50 years). In our sample, 61% identified as women, 18% as men, and 21% as another gender identity (including Two Spirit, Indigiqueer, transgender, and non-binary); 62% reported their sexual identity as straight and 38% as non-straight, including bisexual, gay, lesbian, queer, or pansexual. Over half of participants reported as living off reservation (69%), specifically in urban areas (68%). Of the participants living on reservation/tribal lands (31%), almost all live in rural areas (78%).

Perceived PrEP Stigma

Out of the 354 participants, 73% disagreed or strongly disagreed that their community knew the purpose of PrEP. The mean score on the Perceived PrEP Stigma scale was 3.0 out of 5 (SD 0.5), reflecting overall neutral attitudes on how stigma is perceived to be directed towards people who use PrEP by their community. The items with the highest proportion of respondents agreeing or strongly agreeing demonstrated an assumed association of PrEP use with using drugs (38%), non-cisgender/non-heterosexual identity (57%), HIV positive status (50%), or sleeping with many people (36%) (Figure 1). When asked if most people in their community would associate PrEP users “as being responsible,” 29% agreed or strongly agreed.

Figure 1. Perceived PrEP stigma



Note. Participants were asked to rate how strongly they agree with each statement about their community's attitudes and beliefs about PrEP.

Drivers of PrEP Stigma

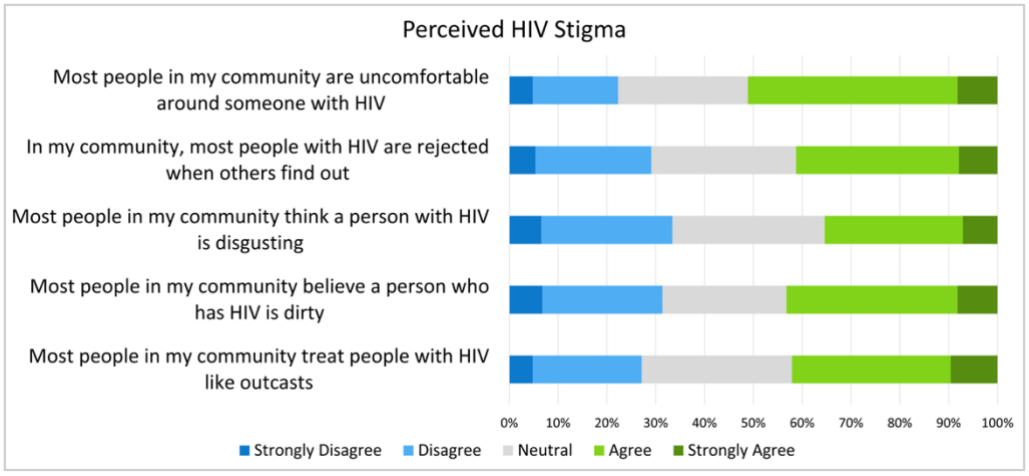
The mean scores for each hypothesized driver are shown in Table 2 and indicate moderate to high levels of drug use, HIV, and sexual orientation and gender identity stigma; medical mistrust; and experienced discrimination. Participants perceived high levels of HIV stigma from their community (Figure 2, Panel A). The highest proportion of respondents agreed/strongly agreed to the statement that most people in their community treat people with HIV as outcasts (51%). About 41% of respondents agreed or strongly agreed that in their respective community, most people with HIV are rejected when others find out.

On the Perceived Drug Use Stigma scale (Figure 2, Panel B), high proportions of respondents agreed or strongly agreed that most people in their community believe that people who use drugs cannot be trusted (77%), are dangerous (73%), and are less of a person due to drug use (73%).

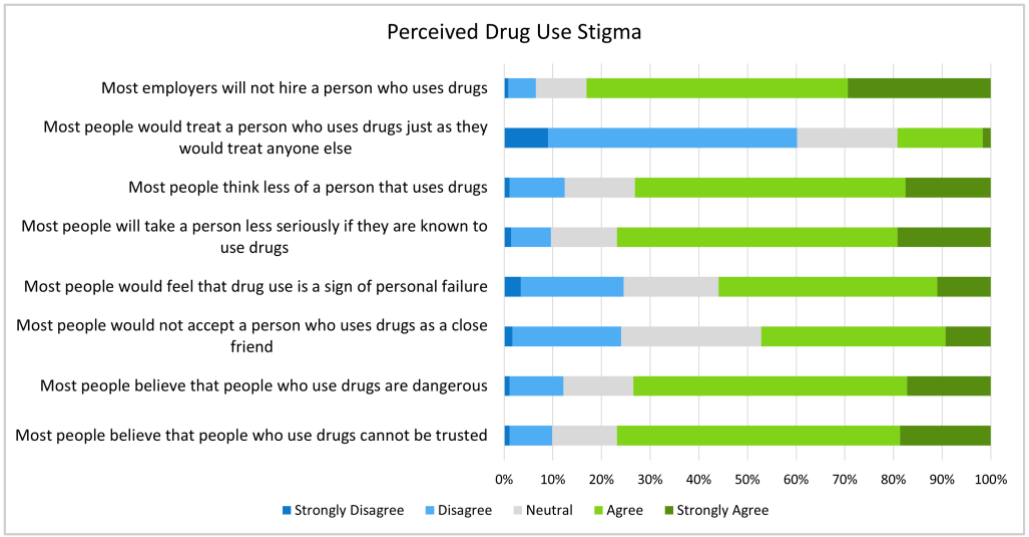
On the Perceived Sexuality Stigma scale (Figure 2, Panel C), almost 60% of respondents agreed or strongly agreed with the statement "people are either men or women." Approximately 37% of the respondents disagreed or strongly disagreed that most people in their community think that a man should be able to dress like a woman, if he chooses.

Figure 2. Perceived HIV Stigma, Drug Use Stigma, and Sexual Orientation and Gender Identity Stigma

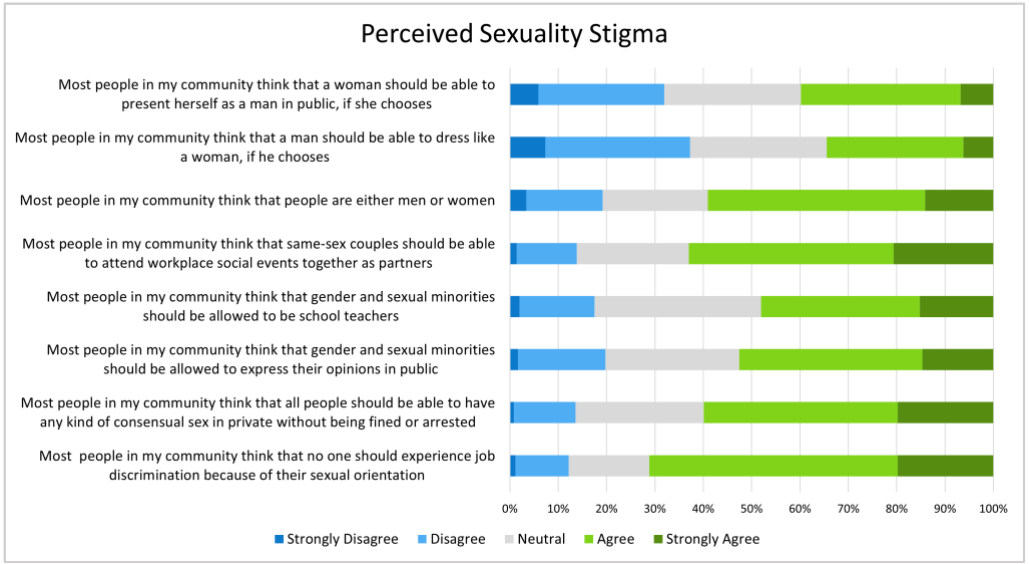
Panel A



Panel B



Panel C



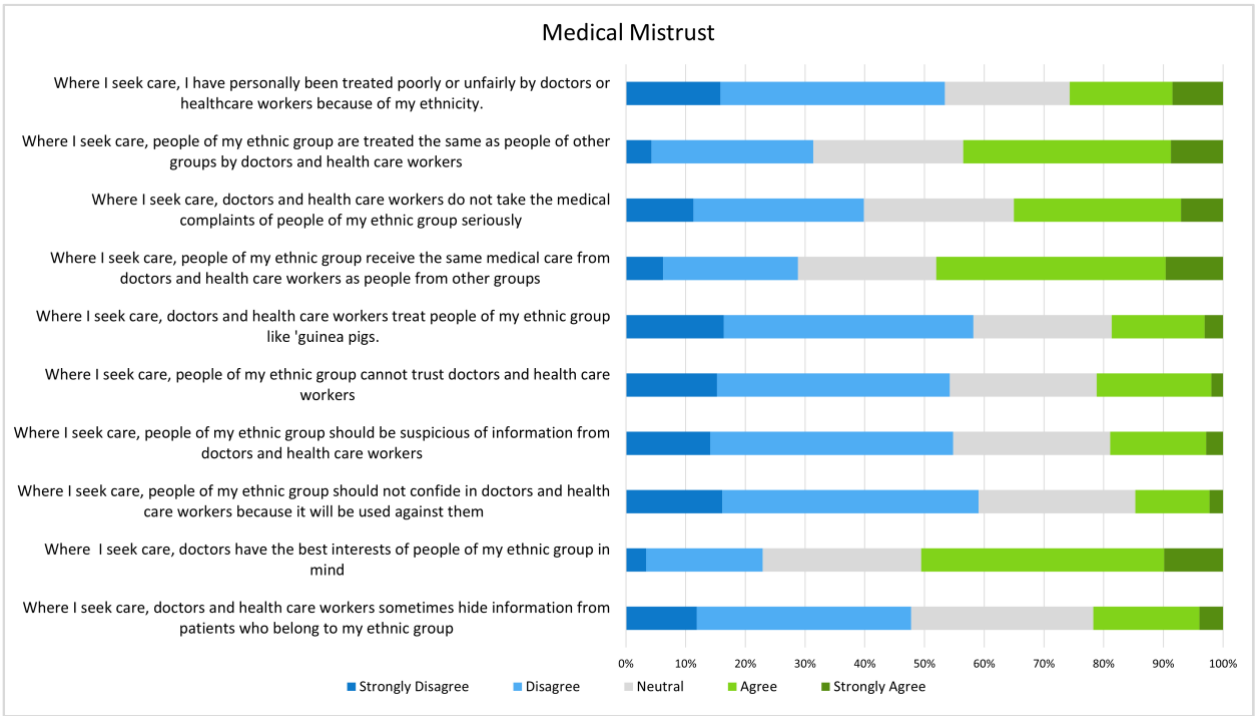
Note. For all three panels participants were asked to rate how strongly they agree with each statement regarding their community's attitudes towards and beliefs about HIV, drug use, and sexual orientation and gender identity.

On the Medical Mistrust scale (Figure 3, Panel A), approximately 35% of respondents agreed or strongly agreed that health care workers do not take the medical complaints of people of their ethnic group seriously.

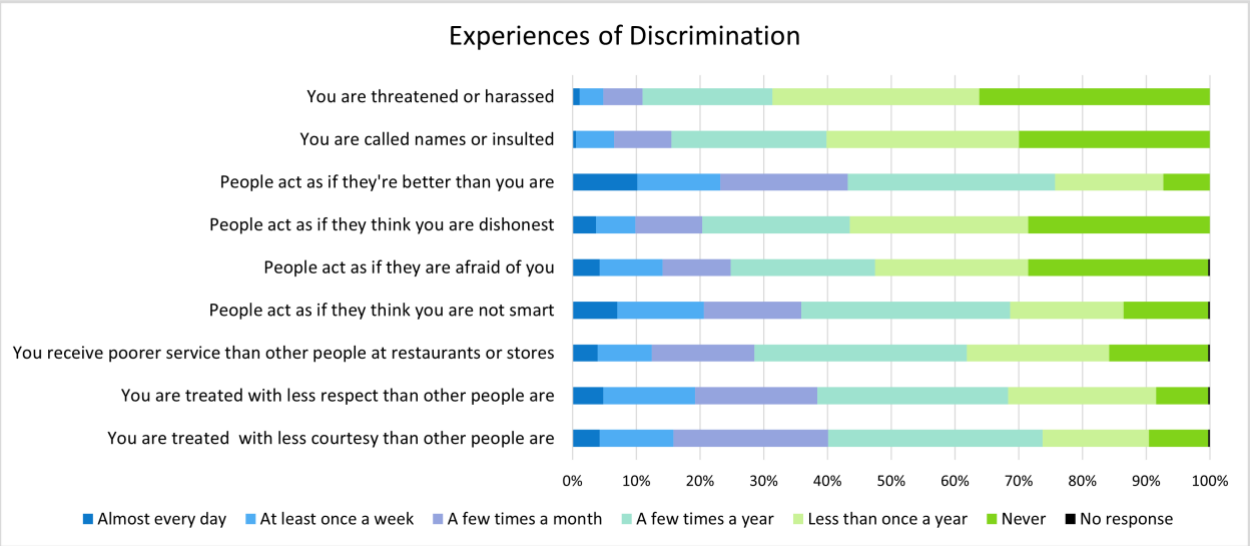
On the Experiences of Discrimination scale (Figure 3, Panel B), the frequencies of experiences for each type of discrimination varied. For example, participants' experience of being treated with less courtesy ranged from never (9%) to those who reported it happening a few times a year (34%) to those who are experiencing it monthly (24%) or even more frequently (12% weekly, 4% almost every day). Similarly, for experiences of being treated with less respect than other people, participants responses ranged from never (8%) to happening a few times a year (30%) to monthly (19%) or even more frequently (14% weekly, 5% daily). A majority of respondents attributed their experiences of discrimination to their Indigeneity or their Ancestry or National Origins (58%), and/or gender (45%), and/or race (45%) (Table 1). Additionally, 20% of respondents identified their sexual orientation as a reason for their experiences of discrimination.

Figure 3. Medical Mistrust and Experiences of Discrimination

Panel A



Panel B



Note. Participants were asked to rate how strongly they agree to the following experiences with doctors and other health care providers where they seek health care most of the time, as well as their experiences of discrimination happening to them in their day-to-day life.

Table 1.
Reasons for discrimination (N = 354)

Characteristic	N	%
Indigeneity	189	53.4
Your Ancestry or National Origins	97	27.4
Either of the above	206	58.2
Gender	158	44.6
Race	158	44.6
Shade of skin color	142	40.1
Age	97	27.4
Education or Income Level	84	23.7
Sexual Orientation	69	19.5
Religion	26	7.3
Others thinking that you use illicit drugs or prescription medication illicitly	18	5.1
HIV status	1	3.1
PrEP use	10	2.8

Associations between Perceived PrEP Stigma and Hypothesized Drivers

In the bivariate analysis (Table 2), perceived PrEP stigma was statistically significantly associated with perceived drug use stigma (β =0.28, CI 0.22-0.35, p<0.001), perceived HIV stigma (β =0.05, CI 0.04-0.06, p<0.001), and perceived sexuality stigma (β =0.29, CI 0.23-0.35, p<0.001).

There were also statistically significant associations between perceived PrEP stigma and medical mistrust (β =0.15, CI 0.10 – 0.21, p<0.001) and experiences of discrimination (β =0.007, CI 0.001 – 0.12, p = 0.01). These estimates were similar after adjustment for potential confounders: age, gender identity, sexual orientation, and living on tribal lands.

Table 2.
Linear regression model of associations between perceived stigma and drivers of PrEP use stigma

	Mean (SD)	Association with perceived stigma score	
		Unadjusted β, 95% CI, p-value	**Adjusted* β, 95% CI and p-value**
Perceived HIV stigma score (range 5-25)	16 (4.7)	0.05 (0.04, 0.06) <0.001	0.05 (0.04, 0.06) <0.001
Perceived sexuality stigma score (range 1-5)	2.7 (0.8)	0.29 (0.23, 0.35) <0.001	0.28 (0.22, 0.34) <0.001
Perceived drug use stigma score (range 1-5)	3.7 (0.7)	0.28 (0.22, 0.35) <0.001	0.27 (0.20, 0.34) <0.001
Medical mistrust (range 1-5)	2.6 (0.8)	0.15 (0.10, 0.21) <0.001	0.14 (0.08, 0.21) <0.001
Experiences of discrimination (range 0-45)	16.6 (9.5)	0.007 (0.001, 0.12) 0.01	0.007 (0.001, 0.12) 0.02

* Adjusted for age, gender identity, sexual orientation, and living on tribal lands.

DISCUSSION

This study illuminates three key findings on drivers of perceived PrEP use stigma in Indigenous communities, grounded in cultural, historical, and social realities. First, respondents perceived that people in their communities associated PrEP use with behaviors and identities often stigmatized within their communities, including drug use, being 2SLGBTQ+, living with HIV, and having multiple sexual partners. Second, high levels of stigma tied to these behaviors, alongside experiences of discrimination and deeply rooted mistrust of the medical systems, were consistently reported. Third, the correlation between HIV, sexuality, and drug use stigma, discrimination, and medical mistrust with perceived PrEP stigma among the respondents reinforces our hypothesis that these factors may impact PrEP use within Indigenous communities.

Our findings echo previous studies that link PrEP use with stigmatized identities, such as men who have sex with men (MSM), women living with HIV, as well as other people living with HIV. Specifically, studies focused on diverse populations of MSM and women living with HIV

reported community perceptions that PrEP use indicated living with HIV, sexual orientation and gender identity status, and being sexually promiscuous (Andrade et al., 2023; Brooks et al., 2020; Calabrese et al., 2018; Eaton et al., 2017; Golub, 2018; Golub et al., 2017; Goparaju et al., 2017; Grace et al., 2018; Quinn et al., 2019). Our study adds a critical perspective by identifying similar stigma within a general Indigenous population, while also introducing new data on the association of PrEP use and drug use. This association may stem from early public health messaging that framed PrEP as primarily for "high-risk groups" such as people who inject drugs, sex workers, and men who have sex with men (Golub, 2018; Özdener-Poyraz et al., 2020). This initial messaging for PrEP resulted in assumptions that PrEP users must belong to one of those groups. Such messaging has been perceived to create a lasting impact, which fosters assumptions that reinforce the stigma around PrEP use. In Indigenous communities, where historical and present-day trauma related to healthcare remains a potent reality, such assumptions can discourage providers from initiating conversations about sexual health, substance use, or PrEP eligibility. When providers do not proactively ask or offer, patients who could benefit from PrEP may never be identified, further limiting access and perpetuating existing health disparities.

Consistent with previous studies of racial and gender diverse populations, the respondents of our study perceive high levels of stigma around HIV, sexual orientation, gender identity, and drug use stigma from members of their community (Hatala et al., 2018; Jongbloed et al., 2019; Lydon-Hassen et al., 2022; Padilla et al., 2022; Prescott et al., 2024). The experiences of stigma have profound implications for the health and wellbeing of individuals. The social isolation and marginalization, mental health strain, and barriers to care that stigma produces exacerbate systemic inequities and further entrench health disparities within Indigenous populations (Díaz et al., 2001; Hatzenbuehler, 2009; Pachankis, 2007; Stangl et al., 2019). Furthermore, stigma can exacerbate systemic inequities and health disparities by reducing healthcare utilization such as preventative care and treatment (Dubov et al., 2018; Hatzenbuehler et al., 2013; Pachankis, 2007; Stangl et al., 2019). For Indigenous people, these stigmas intersect with historical trauma and ongoing marginalization, contributing to the stark disparities in HIV prevention and care seen today (Armenta et al., 2021; Burks et al., 2011; Lydon-Hassen et al., 2022; McCall et al., 2009).

The pervasive medical mistrust reported by respondents is another crucial factor for understanding PrEP stigma within Indigenous communities. Distrust in healthcare systems is rooted in generations of medical exploitation and mistreatment. Historical examples, such as non-consensual medical practices and forced sterilization, continue to shape healthcare interactions

today (Armenta et al., 2021; Guadagnolo et al., 2009; Roberson, 1994). This mistrust, coupled with discrimination in healthcare settings, has profound implications on whether individuals seek to continue to engage with medical services. For example, individuals who mistrust medical providers and the health care system may delay seeking or utilizing healthcare services and adhering to treatment. Discrimination in healthcare settings further magnifies distrust and negatively impacts treatment-seeking behavior. Our findings demonstrate that discrimination and mistrust are associated with increased PrEP stigma, which in turn hinders PrEP uptake and adherence. These results align with previous research that have linked these factors to poor healthcare outcomes in AI/AN populations (Burks et al., 2011; Lyons et al., 2015).

Our findings underscore that PrEP stigma in Indigenous communities is closely tied to broader stigmas around HIV, drug use, Two-Spirit and LGBTQ+ identities, medical mistrust, and ongoing experiences of discrimination. These findings contribute to the growing body of literature on stigma as a barrier to PrEP and HIV care in marginalized populations (Cahill et al., 2017; Grace et al., 2018; McCall et al., 2009; Mustanski et al., 2024) and offer a novel focus on Indigenous communities, where these challenges are often intertwined with the legacies of colonization and systemic oppression.

The results of this study call for culturally tailored interventions that address the unique drivers of PrEP stigma in Indigenous communities. Educational campaigns that emphasize PrEP as a tool for wellness rather than solely as an HIV risk-reduction strategy could help shift harmful narratives and reduce stigma (Rosen et al., 2023). These campaigns must be rooted in Indigenous values, traditions, and history and delivered through trusted community members who can offer culturally responsive, community-led approaches to health promotion (Burks et al., 2011). Utilizing community health workers could provide for a more effective, sustainable, and tribal-led approach to stigma reduction in the Indigenous communities. In a study of gay, bisexual, and two-spirit AI/AN men, the participants reported that they believe HIV prevention and intervention efforts would be more effective if American Indian outreach workers provided the peer and community education (Burks et al., 2011). Additionally, training healthcare providers to be culturally humble and responsive to the specific needs of Indigenous individuals is crucial in rebuilding trust and ensuring equitable access to PrEP and other healthcare services (Hoover et al., 2023).

Finally, adopting a harm reduction approach that bridges HIV prevention with substance use support can be an effective way to reduce stigma associated with both PrEP use and drug use.

Harm reduction, when led by Indigenous communities, can offer a person-centered and culturally grounded approach to health promotion, risk reduction, and healing. Tribal communities that already implement harm reduction strategies are uniquely positioned to transform perceptions around drug use and PrEP, ultimately working towards the reduction of both HIV and substance use-related stigma.

This study has several key limitations. First, our study utilized a convenience sample approach which resulted in our study population not being fully representative of Indigenous People in the United States. Specifically, our study population included a limited number of rural and reservation-based participants, which makes it difficult to draw meaningful conclusions about stigma within these populations. Although not necessarily underrepresented relative to national demographics (U.S. Department of Health and Human Services Office of Minority Health, 2025), the small sample size from non-urban and reservation-based communities may limit our understanding of how stigma varies across demographics such as gender, age, and geographic region. These communities may experience different social dynamics, cultural contexts, and healthcare challenges that shape perceptions of PrEP use. Within our sample, there was a disproportionate representation of women and older adults with comparatively fewer responses from men and younger adults. Nonetheless, our methodology enabled us to efficiently engage a broad spectrum of Indigenous individuals ensuring diversity across geographic regions, sexual orientations, and gender identities. Second, we were not able to validate the PrEP stigma scales utilized with Indigenous respondents. There is a risk that some of the items lack relevance to the focus of our study or were misunderstood by the participants. Third, with our cross-sectional study design, we were not able to distinguish causation in the association between the drivers of PrEP stigma and perceived PrEP stigma. Finally, there may be other drivers of stigma that we did not assess.

CONCLUSION

This study highlights the complex drivers of PrEP stigma in Indigenous communities, emphasizing the intersection of HIV, drug use, 2SLGBTQ+ stigma, medical mistrust, and historical trauma. The association of PrEP use with stigmatized identities and behaviors, compounded by discrimination and mistrust in healthcare, creates barriers to PrEP uptake and adherence. Culturally grounded interventions are needed to address these drivers of stigma,

emphasizing PrEP as a tool for wellness. Community-led approaches, such as the use of trusted health workers and harm reduction strategies, can support Indigenous people in reclaiming their health and reducing disparities in HIV prevention.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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