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BARRIERS AND FACILITATORS TO PREP INITIATION AND ADHERENCE AMONG TRANSGENDER AND GENDER NON-BINARY INDIVIDUALS IN SOUTHERN CALIFORNIA

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While transgender and gender non-binary (trans/nb) individuals are disproportionately affected by HIV, pre-exposure prophylaxis (PrEP) uptake remains low in this underserved population. We conducted four focus groups with 37 trans/nb individuals in San Diego and Los Angeles to assess barriers and facilitators of PrEP usage. Transcripts were coded for qualitative themes. Although overall PrEP awareness was high, participants reported limited knowledge and misinformation about PrEP. Barriers to PrEP use included: structural access (e.g., discrimination from health care providers, lack of trans-inclusive services, financial barriers), mental health struggles limiting ability to access PrEP, and concerns about potential side effects, drug-drug interactions with hormone therapy, and lack of other STI protection. Facilitators of PrEP usage included: increased PrEP availability, prior experience taking daily medications, and motivation to have active and healthy lives without fear of contracting HIV. Addressing both structural and psychosocial/behavioral factors in trans-affirming health care environments is crucial to designing inclusive, effective PrEP interventions.

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Transgender and gender non-binary (trans/nb) individuals are disproportionately affected by HIV and often experience severe discrimination and inadequate medical care, limiting their utilization of medical services including HIV prevention. Transgender, or the shorthand trans, is an umbrella term referring to people whose gender does not correspond with the sex assigned to them at birth, and includes transgender women, transgender men, and other gender diverse people whose gender is defined outside the static, binary constructs of "man" or "woman," such as: gender non-binary, genderqueer, and gender-fluid individuals, among other identities. For this article, we will use the term trans/nb to refer to transgender individuals across the gender spectrum including binary and non-binary individuals. Although pre-exposure prophylaxis (PrEP) has been shown to be effective in preventing HIV in several populations (Mayer & Ramjee, 2015), few studies have specifically evaluated PrEP use in this important and marginalized population.

While a number of behavioral strategies are effective against HIV acquisition (Kaufman, Cornish, Zimmerman, & Johnson, 2014), recent statistics estimate that approximately 40,000 individuals in the U.S. receive a new diagnosis of HIV each year, suggesting that current methods, including traditional behavioral strategies, of preventing HIV infection are inadequate to address the epidemic (Hess et al., 2018). Given the complex nature of HIV transmission, combined behavioral, biomedical, and structural approaches grounded in a systemic analysis of the epidemic's dynamics in local contexts are necessary (Hojilla et al., 2016; Martinez et al., 2016), and a combination HIV prevention strategy has emerged (Cáceres et al., 2015). Over the last decade, multiple randomized controlled trials and pharmacological modeling studies have demonstrated the efficacy and safety of PrEP (Anderson et al., 2012; Grant et al., 2010), and daily oral PrEP can be used in conjunction with other evidence-based measures and practices.

Following approval by the Food and Drug Administration (FDA) in 2012 and availability to the public, rates of PrEP utilization have grown and estimates of PrEP uptake across the U.S. suggest a 73% yearly increase such that, in 2016, approximately 77,000 individuals were on PrEP (AIDSVu, 2016; Bush, Ng, Magnuson, Piontkowsky, & Mera Giler, 2015). However, despite increasing PrEP usage, the number of individuals on PrEP is only a small fraction of the estimated 1.2 million for whom PrEP is indicated (Smith et al., 2015). Furthermore, PrEP uptake has been highly unevenly distributed, with large disparities in rates of utilization relative to the incidences of new HIV diagnoses by sex/gender, race/ethnicity, age, socioeconomic status, and geographic location (AIDSVu, 2016). In particular, trans/nb individuals are a highly vulnerable population at high risk for HIV. Recent statistics suggest that percentages of newly confirmed HIV-positive tests are highest among transgender individuals and are up to three times higher than among the general population (Centers for Disease Control and Prevention, 2016). Most research on HIV risk among transgender populations has focused specifically on transgender women and transfeminine individuals, who experience HIV prevalence rates of around 21.7%, far outpacing prevalence estimates among men who have sex with men (MSM) and other cisgender adults (Baral et al., 2013). There is limited research on the HIV prevention needs of transgender men. While transgender men show lower rates of HIV infection and prevalence and compared to transgender women, there is evidence that some subgroups of transgender men who have unprotected sex with cisgender

men or are engaged in sex work are at increased risk of HIV transmission (Reisner, White Hughto, Pardee, & Sevelius, 2016; Sevelius, 2009). Individuals who are gender non-binary or gender-fluid are highly understudied in terms of their risk for HIV and their access to preventive HIV programs. Overall, despite the clarion need for PrEP as an effective HIV prevention strategy among transgender individuals across the gender spectrum, rates of PrEP awareness and utilization remain low (Caponi, Burgess, Leatherwood, & Molano, 2019; Wilson, Jin, Liu, & Raymond, 2015).

Many of the factors conferring augmented risk of HIV infection also likely contribute to the relatively low rates of PrEP utilization observed among trans/nb individuals. In addition to behavioral factors such as consistent condom use, HIV counseling and testing, and adherence to harm reduction strategies, underlying the heightened vulnerability to HIV infection, trans/nb individuals are also marginalized and stigmatized in society, experiencing discrimination, victimization and violence, incarceration, poor access to health care and insurance, housing instability, and unemployment at rates higher than the general population (Bockting & Avery, 2006; Feldman, Romine, & Bockting, 2014; Sanchez, Finlayson, Murrill, Guilin, & Dean, 2010; Santos et al., 2014; Wilson, Santos, & Raymond, 2014). Additionally, trans/nb individuals are often underrepresented in epidemiological studies, in HIV prevention efforts, and in treatment programs, and subsumed under the behavioral category MSM. The vast majority of HIV prevention programs are designed for cisgender MSM, while the unique sociocultural contexts of trans/nb individuals remain comparatively understudied and under-addressed (Escudero et al., 2015; Grant et al., 2011; Sevelius, Deutsch, & Grant, 2016; Sevelius, Keatley, Calma, & Arnold, 2016). Recent focus group studies have begun to examine PrEP acceptability and accessibility among adult transgender women showing that acceptability is influenced by low levels of PrEP awareness, concerns about the lack of trans-specific PrEP information, prioritization of gender-affirming hormone therapy and concern regarding its potential drug interactions with PrEP, and medical mistrust due to transphobia (Klein & Golub, 2019; Rael et al., 2018; Sevelius, Keatley, et al., 2016). In order for PrEP to have a population-level impact on rates of HIV incidence among the trans/nb community, barriers to widespread uptake must be understood in local contexts, and trans/nb community input on strategies to increase PrEP must be promoted.

In preparation for an open-label PrEP demonstration project designed for trans/nb individuals in Southern California, the present study was designed to explore PrEP awareness and identify trans-specific perceived barriers and facilitators of PrEP uptake. Focus groups with trans women, trans men, and non-binary individuals were conducted in Los Angeles and San Diego to inform how to best support PrEP initiation and adherence in this community. The goal of this article is to identify the broad PrEP-related themes raised by focus groups, and to provide an in-depth exploration of the multiple, intersecting factors identified by trans/nb individuals pertinent to increasing PrEP awareness and access.

METHODS

PARTICIPANTS AND RECRUITMENT

Four focus groups in San Diego (n = 9; n = 9) and Los Angeles (n = 9, n = 10) were conducted with 37 trans/nb individuals 18 years or older between December 2016 and January 2017, as a part of the California HIV/AIDS Research Program-funded

(CHRP) PrEP for Transgender People. Focus groups took place at the University of California, San Diego (UC San Diego) Antiviral Research Center (AVRC) in San Diego and the Los Angeles LGBT Center (the Center) in Los Angeles, and were conducted primarily in English. Participants who identified as transgender, gender non-binary, or gender non-conforming were recruited through local clinics, community-based organizations and advisory boards, HIV/STI testing sites, and local participant referral of trans/nb social network members. While we did not recruit for people with HIV, three individuals with HIV and three individuals with unknown HIV status participated in the focus groups. In order to maintain a highly inclusive approach to community-centered research, we did not turn away any individuals recruited through peer networks who met the inclusion criterion of identifying as trans/nb. Approval for the study was obtained from the UC San Diego Institutional Review Board.

FOCUS GROUPS AND ANALYSES

A semistructured format, with a series of open-ended questions, was utilized to elicit discussion about PrEP. Across the four focus groups, group discussion was guided by questions related to the following topics: (1) general medication adherence, (2) barriers and supports to current medication adherence, (3) familiarity and experience with PrEP, (4) questions and concerns about PrEP, (5) barriers to PrEP use, (6) facilitators of PrEP use and adherence, and (7) using text messages to support PrEP adherence. All focus groups were audio-recorded and transcribed without identifiable information of participants.

All transcripts were coded using a content analysis approach to identify emerging themes across the four focus groups (Joffe & Yardley, 2004; Vaismoradi, Turunen, & Bondas, 2013). Two researchers (CWW, EP) independently coded all transcripts using MAXQDA and constructed a coding dictionary of mutually exclusive code definitions. While initial interrater reliability was suboptimal, coding differences were resolved through discussion and establishment of consensus. The final coding structure consisted of five major themes, 39 subthemes, and 423 coded statements.

RESULTS

PARTICIPANT CHARACTERISTICS

Demographic characteristics of the focus groups at presented in Table 1. Participants included trans women, trans men, gender non-binary individuals, and individuals who did not specify their gender identity. Participants included Black, Latinx, Asian, and White individuals, and individuals who did not specify their racial/ethnic identity, the vast majority were not living with HIV, and a minority had previously used PrEP.

OVERVIEW OF FOCUS GROUP THEMES

Based on thematic coding, five major themes with related subthemes were identified. The major themes were: (1) perspectives on PrEP, (2) trans-specific experiences in society and health care, (3) sexual risk and prevention strategies, (4) experiences with other medications, and (5) opinions about study intervention design. The great majority of focus group content revolved around theme 1: perspectives on PrEP.

TABLE 1. Characteristics of Focus Group Participants ($N = 37$)

	San Diego Focus Groups ($n = 9$; $n = 9$)	LA Focus Groups ($n = 9$, $n = 10$)
	n (%)	*n* (%)
Gender		
Trans women	8 (44.4)	10 (52.6)
Trans men	4 (22.2)	6 (31.6)
Gender non-binary	4 (22.2)	0 (0)
Gender unspecified	2 (11.1)	3 (15.8)
Race/ethnicity		
Black/African American	6 (33.3)	3 (15.8)
Latinx/Hispanic	2 (22.2)	4 (21.1)
Asian	0 (0)	2 (10.5)
White, non-Hispanic	10 (55.5)	5 (26.3)
Race unspecified	0 (0)	5 (26.3)
HIV status		
Living without HIV	17 (94.4)	14 (73.7)
Living with HIV	1 (5.6)	2 (10.5)
Unknown HIV status	0 (0)	3 (15.8)
PrEP Experience		
No prior PrEP experience	14 (77.8)	15 (78.9)
Currently on or previously took PrEP	4 (22.2)	1 (5.3)
Unknown PrEP experience	0 (0)	3 (15.8)

Thus, for the current article, this theme and three of its subthemes: PrEP awareness and knowledge, barriers to PrEP, and facilitators of PrEP were explored in detail as they provide a wide-ranging overview of issues that face the trans/nb community in terms of PrEP access and care.

PREP AWARENESS AND KNOWLEDGE

Overall PrEP awareness was relatively high across the four focus groups and some participants reported prior positive experiences taking PrEP. For instance, one individual with PrEP experience noted a sense of security while using PrEP and minimal side effects: "There was basically nothing [no side effects on PrEP] except the feeling that I have this shield around me, which is great." Another prior PrEP user noted: "It was just a daily pill. It was an insurance policy for any mistake that I might make."

Many participants voiced questions and concerns about PrEP, and a number of participants reported unfamiliarity with PrEP: "I've never heard of this. Why is this so? Is this a secret? . . . It's not common knowledge." "With that one pill? Not using anything else to prevent HIV, just that one pill is gonna do it?"

These perspectives highlighted a lack of widespread knowledge of PrEP as a viable method of HIV prevention. One participant expressed concern with the way

PrEP was being presented to the trans/nb community and how some community members had limited knowledge about PrEP:

> What I'm seeing is an ineffectiveness in the way it's presented, where a lot of people are thinking that if you take PrEP, you don't need to use a condom, because they think takin' PrEP is gonna protect you from everything.

Another participant worried about their friend who was taking PrEP and having sex without a condom: ". . . and he said, 'You can take PrEP, you can have relations without a condom.'"

One participant who lived outside of an urban area stated: "I live up in XX and I go to school up in XX, no one in XX knows about PrEP really. And the people who do kind of know about it have very twisted facts about it."

For these participants, limited and inaccurate information about PrEP was prominent, suggesting that accurate PrEP educational programming is not reaching some members of trans/nb communities.

Participants also wanted more information about various aspects of PrEP including side effects, recommended PrEP adherence practices, and alternative routes of PrEP administration. Participants' questions highlighted their interest in gaining accurate information about PrEP in the context of variability in an individual's sex life: "Can you take it like when you're sexually active and then not take it or once you commit to taking it; do you have to take it all the time?" Other participants were interested in learning about and taking future formulations of PrEP such as injectables, patches, and implants.

One participant who stated they cannot take pills asked: "Is it only pill type of thing or are you lookin' into other forms of administration later? . . . some sort of Depo-type of thing or patches?"

Another participant expressed interest in a PrEP formulation for people who would have difficulty remembering a daily medication. "This pill, can they develop something like an IUD?"

BARRIERS TO PREP USAGE

Among study participants, themes related to barriers to PrEP initiation and adherence included limited structural access, mental health, concerns about side effects and drug interactions (particularly with gender-affirming hormone therapy), and lack of STI protection.

Limited Structural Access. Participants reported past discrimination from doctors and hospital systems, limited access to trans-inclusive service centers and providers, high PrEP co-pays and lack of reliable health care insurance, and a need for financial reimbursement to incentivize PrEP usage in the trans/nb community.

In terms of past discrimination, participants noted that health care providers express transphobia and a lack of knowledge about transgender health care issues. Participants also stated that they have often had to educate their doctors on health issues related to medical transition and using correct pronouns and names: "That's really embarrassing when a doctor doesn't even know how to address you." Some participants perceived judgment when requesting PrEP from providers and felt that stringent eligibility criteria for PrEP made it difficult to obtain PrEP. For instance, a participant noted that during the first two years when PrEP was made available,

they heard of many people in the community having difficulty accessing PrEP if they weren't considered "high risk" enough by being a woman, not having a partner with HIV, or not being sexually active enough. One participant stated, "I've even heard of doctors like straight up telling women like, 'You don't need to take it, you're not a gay man so you don't need to take it.' It's not for you." In regards to barriers community members faced in attempting to get on PrEP, another participant stated that PrEP coverage by insurance was unreliable and based upon doctors' discretion.

> I've heard lots of horror stories . . . their doctor wouldn't prescribe it or they couldn't get it covered, or wouldn't, their doctor wouldn't even send something to the insurance to say something about it, or whatever weird barriers that lots of companies put up.

Some participants also discussed a lack of local trans-inclusive doctors in San Diego and Los Angeles with whom they would feel comfortable discussing PrEP.

> You can have PrEP all day, everywhere you want, whole world could be shouting it and everything. You're not gonna get shit done with trans people unless you go where they feel comfortable going because there are so few places, so few clinics and everything that even have something for it.

Furthermore, participants reported the cost of PrEP and cost of transportation to health care appointments as prohibitive for some members of the community. Lastly, participants emphasized that adding financial incentives to PrEP initiation and adherence initiatives would make them much more appealing to members of the trans/nb community facing economic marginalization. In a discussion regarding motivation to take PrEP regularly, one participant noted that even small incentives made a difference when they were houseless/homeless in the past:

> Actually I'm kind of thankful for those programs that, you know, started off with five-dollar gift cards, you know, for homeless people, that's like, that's like, "Whoa! That's a buffet" . . . no, seriously, when I first came back to school, I still was homeless. I was, you know, hoppin' around from couch to couch and sometimes, you know, I had someone in the community, they paid for a motel for a month and that was the nicest thing people had done in a long time for me. Yeah—no, those gift cards.

Another participant stated that in regards to whether they would take PrEP and participate in a research study: "It's all about the money." Still another participant pointed out that a more substantial monetary compensation to take PrEP would be highly motivating. "To stay on it a whole year? . . . A hundred bucks a month. [group laughter]. I'm just keepin' it real. So, 12 hundred dollars."

Finally, a participant emphasized that financial incentives tied to PrEP could allow economically vulnerable individuals to pay for basic needs such as electric bills and transportation to clinic.

> I think it's a wonderful idea because it could potentially save lives. So I'm for that. Maybe get like a sponsorship somehow and then try to provide like living for someone, I don't know. Or maybe pay their electric bill, I don't know . . . [is transportation an issue in accessing PrEP?] It is for me. Not to everybody but to some people . . . But I think there's got to be a way to just get, reach more people with it, you know?

Mental Health. Participants highlighted mental health concerns, including anxiety, post-traumatic stress disorder (PTSD), and depressed mood as impeding their ability to access PrEP and regular medical care. One participant stated:

> I have a hard time just making the call and setting an appointment with anyone that's outside of this building [the Center]. . . I'm dealing with PTSD, so when things are left in my hands they become very overwhelming.

Another participant emphasized that before finding the LGBT Center, their struggles with depression made it difficult to access any services, including HIV prevention care. "I used to not care about my health at all until I started coming here. I was very deliberately trying to let myself waste away."

Side Effects and Drug Interactions. Many participants voiced concerns about the potential side effects of PrEP. Participants asked: "Is it gonna weaken my immune system?" "What are the side effects of this medication . . . like to your organs and everything else?" Multiple participants highlighted worry over the possibility of negative interactions or complications with gender-affirming hormones or other medications for chronic health issues.

One participant stated, "I think that would be the line in the sand [if PrEP interfered with gender-affirming hormones]."

Another participant noted, "As long as it [PrEP] doesn't mess with my overall health and as long as it doesn't mess with my hormones, . . . as long as it doesn't mess with those two, I would have no problem takin' it at all."

Lack of STI Protection. Some participants noted they were less interested in PrEP, given that it only protects against HIV transmission and not other STIs. One participant stated, "I am more scared about hepatitis C. . . . I am not scared about HIV because actually they have a lot of treatments; they have a lot of life quality for people taking the right medications."

Another participant noted this limited protection was concerning for contracting other STIs. "Truvada don't cover, or don't protects me . . . if I have sexual relations without condom, I can get other . . . diseases."

FACILITATORS OF PREP USAGE

Among focus group participants, themes of facilitators for PrEP included: recent PrEP advertising, willingness of some doctors to prescribe, prior experience with regular medication usage, and PrEP allowing for sex- and romance-positive lives without fear of contracting HIV.

Access to PrEP and Trans-inclusive Providers. A few participants emphasized that their health care providers had spoken to them about PrEP and expressed willingness to prescribe it: "I mentioned having fears of catching STDs when I started becoming sexually active, and she [my doctor] brought it up to me then."

Another participant offered to connect other participants to their doctor: "I know my doctor does PrEP right here."

Other participants reported learning about PrEP through advertisements on public transportation, billboards, and the dating app Grindr. Another participant had familiarity with one trans-inclusive health care center providing PrEP in a suburban

area with very low PrEP access and dissemination: "that's the clinic that has . . . the only trans training out there at all . . . they're the only ones in XX."

Experience With Other Medications. Participants highlighted that some members of the trans community were already taking daily medications in the form of gender-affirming hormones, had familiarity with use of alarms and other reminder systems, and that adding another pill to a daily regimen would not be burdensome. One participant reported, "In general I think that the trans community, since we're already kinda used to taking something on a schedule, it doesn't seem to be, at least for me, very difficult to remember to take another pill kinda thing."

Another participant emphasized that while this is true for many members of the community, not all trans individuals take pills; some use patches, injections, and some trans and non-binary individuals do not take any hormones at all.

Motivators to Stay Healthy. Participants cited several PrEP motivators. Many described PrEP as allowing them to live long and healthy lives and engage in sex and romance-positive relationships without fear of contracting HIV as an important benefit. One participant stated: "Honestly, just how scared like we get just for having to know that you could get HIV. Then to have, and to know this drug counters that is an amazing feeling."

Another participant stated: "You want an active, healthy, sex life, this is, this is something you can do to empower that healthy sex life."

DISCUSSION

This focus group study identified barriers and facilitators of PrEP use among trans/nb individuals, demonstrating the importance of understanding the unique sociocultural contexts of this population in designing future PrEP programs. Although levels of PrEP awareness and knowledge were relatively high in our sample, participants noted significant barriers to PrEP use including provider discrimination and cultural incompetency, high cost and unreliable insurance coverage, mental health comorbidities, and medication side effects. Despite barriers, access to some doctors who prescribe PrEP, experience taking other daily medications, and promotion of healthy and positive sex lives were primary facilitators. While the majority of previous qualitative work on PrEP barriers and facilitators has focused specifically on trans women, our focus groups included a broader gender diversity of transgender individuals, including trans men and non-binary individuals, whose PrEP access needs are poorly understood.

In contrast to previous focus groups with transgender women (Sevelius, Keatley, et al., 2016; Wood, Lee, Barg, Castillo, & Dowshen, 2017), we found relatively high levels of PrEP awareness among our sample of trans/nb individuals living in Los Angeles and San Diego in 2016–2017, although some participants had not heard of PrEP and were perturbed that information about PrEP was not more widespread. Misinformation about PrEP during the focus group discussions was notable, highlighting the importance of local PrEP education campaigns in Southern California that clarify its dosage and frequency, side effects, and possible drug interactions in the trans/nb community. Furthermore, positive attitudes toward a future with long-acting PrEP injections and implants indicate these alternative administration and dosing methods could be well received by trans/nb individuals, in particular those

for whom a daily pill is not an ideal route of administration. While structural and socioeconomic PrEP barriers have been previously identified (Cahill et al., 2020; Sevelius, Keatley, et al., 2016; Wood et al., 2017), unique to our focus groups was an emphasis on unmet mental health needs and concerns that PrEP leaves individuals vulnerable to STIs beyond HIV as barriers to PrEP acceptability. Further, many participants advocated for financial incentives tied to PrEP use, stating these would facilitate uptake and likely be necessary to reach some of the most economically vulnerable members of the trans/nb community.

Participants' experiences seeking health care illustrate how a lack of PrEP knowledge and the application of inappropriate eligibility criteria among health care providers can prevent trans/ nb individuals from receiving PrEP. Furthermore, our study echoes others in the finding that while there is no evidence to suggest that PrEP interacts with gender-affirming hormone therapy, some trans/nb individuals have concerns over the potential for negative drug-drug interactions, and prioritization of hormone therapy is key for many. Thus, PrEP dissemination for the trans/nb community should include explicit, tailored messaging regarding this topic, as the absence of clear information may limit PrEP uptake and adherence. Training providers to be knowledgeable about transgender medicine, keep abreast of research on PrEP and gender-affirming hormones, and to be respectful of the diversity of gender/sex presentations and behaviors relevant to sexual health and HIV risk is crucial. Our findings corroborate other research noting that provider transphobia and stigmatization contribute to medical mistrust among transgender women (Klein & Golub, 2019; Sevelius, Keatley, et al., 2016), and highlight the need for gender-affirming providers and clinic environments in which trans/nb individuals feel safe and comfortable to access PrEP and other medical services (Sevelius, Deutsch, & Grant, 2016). Many participants noted a local unmet need specifically in Southern California for accessible, affordable, trans-affirming health care services that provide PrEP. The overlap of PrEP facilitators and barriers noted by this study's participants living in Los Angeles and San Diego with previous qualitative literature in other U.S. cities such as San Francisco and New York City points to a convergence of unmet needs. In order to meet the goal of ending the HIV epidemic by 2030 as outlined in the U.S. Department of Health and Human Services' *Ending the HIV Epidemic: A Plan for America* (Fauci, Redfield, Signounas, Weahkee, & Giroir, 2019), these trans community-specific unmet needs require national attention, funding, and tailored programming as well as a commitment to community-led initiatives and health equity principles (Valdiserri & Holtgrave, 2019).

Addressing unmet mental health care for trans/nb individuals was viewed as critical by multiple participants to facilitate PrEP access; participants detailed how PTSD and anxiety disorders in particular impeded their ability to consistently engage health care services. These experiences point to the need for integrated and comprehensive mental and physical health care services tailored to the psychosocial needs of trans/ nb individuals. Due to transphobia and other overlapping forms of structural injustice and discrimination, traumatic and stressful experiences such as interpersonal violence are common and contribute to elevated rates of mental health disorders among trans/ nb people (Grant et al., 2011; Valentine & Shipherd, 2018). Medical services that are trauma-informed for trans/nb individuals may be beneficial in improving PrEP access, and can build upon recent developments in HIV prevention programs to address trauma and its associated sequelae (Sales, Swartzendruber, & Phillips, 2016).

The motivators and facilitators to PrEP uptake and persistence that emerged from the discussion may be important for developing messaging and educational

initiatives. Participants voiced emotional relief from the fear of contracting HIV, empowerment of healthy romantic and sexual relationships, and prioritization of health to live a long life. As mentioned earlier, participants emphasized that financial opportunities tied to PrEP uptake are particularly motivating, given that many individuals in the trans/nb community face high rates of economic vulnerability.

Our study is not without limitations. The generalizability of our findings is circumscribed by a relatively small convenience sample from Los Angeles and San Diego. Although our focus group recruitment was open to all individuals who identified as transgender, gender non-binary, or gender non-conforming with the aim of being as inclusive as possible, due to confidential transcription methods, an individual's gender was often not clear in context of specific quotes from the focus groups; thus, we were not able to distinguish directly between experiences and perspectives from trans women versus trans men versus non-binary individuals. Thus, issues and differences in PrEP access specific to each of these groups were not highlighted in the current findings; future work on PrEP facilitators and barriers specific to gender non-binary, genderqueer, and gender-fluid individuals is warranted. Furthermore, given our study's privacy procedures to protect participants' identities, quotes were also not linked to important dimensions of identity such as race/ethnicity, immigration status, and other experiences. Trans people of color, and in particular Black and Latina trans women face multiple types of discrimination and stigma that are relevant to PrEP access (Brooks, Cabral, Nieto, Fehrenbacher, & Landrian, 2019). Future research should examine geographic and cultural factors relevant to PrEP uptake, and explicitly include minority trans/nb communities that are highly understudied, such as Native Two Spirit people, as they may benefit from specifically tailored service provisions. Further, much of the research on PrEP use among trans/nb individuals is highly skewed towards urban populations, restricting generalization to rural populations where distinct local dynamics influence access to HIV prevention services and trans-informed care (Williams, Bowen, & Horvath, 2005). Future studies should specifically examine PrEP accessibility and usage in rural populations and other trans/nb communities in underserved geographical and cultural settings.

CONCLUSIONS

Focus group participants identified many overlapping, critical factors relevant to increase PrEP access and uptake among trans/nb individuals in Southern California. Findings provided clear priorities for our PrEP initiation and adherence intervention and helped to tailor initial study design and implementation towards a flexible, holistic, client-centered approach assessing unmet needs, including identifying local trans-inclusive resources, access to health insurance and health care, hormone access, stable housing, mental health care, and substance use treatment. In following a community-based, participatory research model, input from trans/nb individuals is fundamental to the effective dissemination of HIV prevention efforts and increasing PrEP uptake with awareness of specific, local barriers and facilitators. Our findings emphasize the diverse needs of trans/nb individuals not previously acknowledged in previous PrEP studies and programming, which have largely focused on MSM or solely on trans women. Subsuming trans/nb individuals within the category of MSM in HIV prevention research and clinical care can have significant downstream effects upon PrEP implementation and exacerbate existing HIV prevention disparities, such

that despite increased PrEP awareness, uptake and adherence among trans/nb individuals is limited (Caponi et al., 2019; Poteat, Reisner, & Radix, 2014). As PrEP interventions for trans/nb populations increase (Poteat, Malik, Scheim, & Elliott, 2017), our study's findings suggest that both structural and psychosocial/behavioral factors must be addressed in tandem with biochemical HIV prevention in trans-affirming environments for effective and inclusive PrEP linkage and uptake.

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