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## Biomedical HIV Prevention among Gay Male Couples: A Qualitative Study of Motivations and Concerns

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### Abstract

Pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) are highly efficacious biomedical prevention strategies, which significantly reduce the risk of HIV transmission. Yet, partnered sexual minority men (SMM) continue to exhibit poorer uptake rates especially those in a non-monogamous or serodiscordant relationship for who PrEP is recommended. The purpose of the study was to identify factors that may facilitate or impede uptake of PrEP or PEP among partnered SMM. This qualitative study conducted semi-structured interviews with 10 sexual minority male couples recruited from the New York City metropolitan area. Thematic analysis identified relationship-specific and structural-level factors, which influence motivation and willingness for biomedical prevention uptake. Specifically, results highlighted the tension between relationship functioning and HIV prevention, as well as stigma and access to knowledgeable health care providers served to diminish interest in biomedical prevention. Findings suggest a need for interventions that frame biomedical prevention in ways that minimize social perceptions of mistrust between partners and improve access.

### Keywords

Same-sex couples; sexual minority men; pre-exposure prophylaxis (PrEP); post-exposure prophylaxis (PEP); HIV prevention; biomedical prevention

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Sexual minority men (SMM) accounted for 66% of new HIV infections in 2017 (Centers for Disease Control and Prevention, 2018b). Approximately 492,000 sexually active SMM in the United States are at high risk for HIV, however many of these men are not aware of their risk nor utilizing the range of efficacious HIV prevention strategies (Centers for Disease Control and Prevention, 2017). Of particular concern is the increasing rate of HIV infections among SMM within the context of a main partnership. Estimates suggest 35% to 68% of new HIV infections among SMM were transmitted between main partners (Goodreau et al., 2013; Sullivan, Salazar, Buchbinder, & Sanchez, 2009).

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Substance use among SMM has been identified as a correlate of sexual risk taking behavior, specifically greater rates of condomless anal sex (CAS) (e.g., Rendina, Moody, Ventuneac, Grov, & Parsons, 2015; Tomkins, George, & Kliner, 2018). SMM report greater rates of substance dependence and substance use relative to their heterosexual counterparts (Flentje, Heck, & Sorensen, 2015; Kerridge et al., 2017), potentially contributing to HIV-related disparities in this population. Among partnered men specifically, findings suggest that substance use prior to or during sex is associated with a greater likelihood of reporting CAS with both a primary or casual partner (Hoff, Campbell, Chakravarty, & Darbes, 2016; Mitchell, 2016; Mitchell, Pan, & Feaster, 2016). While drug use is generally associated with greater HIV risk, recent findings have indicated the potential that substance use may be associated with increased receptivity specifically to biomedical HIV-prevention strategies among partnered SMM. Those SMM in a relationship who used substances were more likely to report willingness to convince their partner to use biomedical HIV prevention methods (John, Parsons, Rendina, & Grov, 2018).

In 2012, the Federal Food and Drug Administration (FDA) approved a once daily oral medication, Truvada (tenofovir disoproxil/emtricitabine), for use as pre-exposure prophylaxis (PrEP) to prevent HIV infection among HIV-negative individuals (U.S. Food and Drug Administration, 2015). Since FDA approval, a series of reports have demonstrated that – taken daily – PrEP significantly reduces risk of HIV acquisition specifically among SMM (Centers for Disease Control and Prevention, 2015). Despite being shown to be highly efficacious at reducing HIV infection risk, PrEP uptake among SMM continues to be a challenge as only 7% of the 1.1 million individuals who are viable candidates for PrEP were prescribed PrEP in 2016 (Centers for Disease Control and Prevention, 2018a). The lower rates of PrEP uptake for those identified as candidates is particularly prevalent among racial/ethnic minorities, specifically among Black men (Huang, Zhu, Smith, Harris, & Hoover, 2018; Roth, Tran, Piecara, Shinefeld, & Brady, 2019; Smith, Van Handel, & Grey, 2018).

The Centers for Disease Control and Prevention (CDC) prioritizes dissemination of PrEP to SMM in either a serodiscordant relationship or a seroconcordant negative and non-monogamous relationship (Centers for Disease Control and Prevention, 2015). Evidence suggests PrEP is an appealing HIV prevention strategy for partnered SMM who view condoms as a barrier to intimacy, engage in anal sex with casual partners, and perceive themselves to be at greater risk for HIV (Gamarel & Golub, 2015). In serodiscordant relationships, HIV-positive men exhibit greater motivation for their partners' PrEP adoption as a strategy to decrease risk and concerns regarding HIV transmission to the HIV-negative partner (Brooks et al., 2011). Couples who report anal sex with casual partners as well as perceive themselves at greater risk of HIV acquisition are more likely to report a greater willingness to adopt PrEP (Gamarel & Golub, 2015; Mitchell, Lee, et al., 2016). While sexual behavior with casual partners might shape the importance of PrEP use among partnered SMM, it has been suggested that sexual agreements in general, are a strong predictor of willingness to communicate about PrEP adoption (John, Starks, Rendina, Grov, & Parsons, 2018). This expression of willingness is congruent with previous findings that men in non-monogamous relationships perceive themselves to be at a lower risk for HIV acquisition therefore are less likely to test regularly for HIV (Stephenson, White, Darbes,

Hoff, & Sullivan, 2015). This may explain the reason why many men remain unaware of their HIV serostatus.

A number of barriers may reduce motivation for PrEP uptake among SMM including PrEP-related stigma and concerns about adherence. PrEP-related stigma might be grounded in the social accusations of being sexually promiscuous or mistakenly labeled as HIV-positive (Calabrese & Underhill, 2015). In addition to stigma incited by peers, potential PrEP adopters have reported judgment and resistance to prescribing PrEP from medical providers (Oldenburg et al., 2015). Concerns specific to the actual medication include potential side effects, burden of daily regimen, healthcare accessibility, medication-related costs, and medical mistrust (Arreola et al., 2015; Calabrese & Underhill, 2015; Doblecki-Lewis et al., 2017).

A majority of the findings related to barriers of PrEP uptake came by data provided by unpartnered SMM or from only one member of a couple. The small number of studies on partnered SMM has provided indications that both relationship-specific as well as sexual-health promoting factors influence motivation for and against PrEP adoption. In line with CDC recommendations, greater interest in PrEP adoption was reported by SMM in serodiscordant relationships (Brooks et al., 2011; Mitchell & Stephenson, 2015) and men in non-monogamous relationships were more likely to persuade a partner to use PrEP (John, Starks, et al., 2018). The subjective utility of PrEP and decisions related to potential uptake – among partnered SMM – draws upon both intrapersonal and interpersonal factors (Starks, Doyle, Shalhav, John, & Parsons, 2019). Although partnered SMM perceive the utility of PrEP as a strategy to enhance sexual intimacy and reduce transmission risk, men also view it as a potential impediment to relationship functioning. Therefore, SMM may avoid initiating a PrEP-related conversation with their partner as it might incite negative connotations related to betrayal, infidelity, mistrust, and sexual promiscuity (Mimiaga, Closson, Kothary, & Mitty, 2014).

Separate from relationship-related concerns, a growing body of research has demonstrated how structural and social factors influence potential uptake of biomedical HIV prevention strategies (Arreola et al., 2015; Hubach et al., 2017). SMM who report PrEP-related stigmatization from the gay community, as well as health care providers, are less likely to demonstrate a willingness for uptake (Calabrese & Underhill, 2015; Oldenburg et al., 2015). Perceived stigma from health care providers as well as less access to LGBT-affirming services may discourage SMM from accessing health care services necessary to promote sexual health and overall well-being (Hubach et al., 2017). The association between structural-level stigma and PrEP adoption has been understood within the motivational PrEP cascade framework, as reports of structural stigmatization at the PrEP contemplation stage—willingness or desire to adopt PrEP—are likely to decrease motivation to adopt PrEP in the future (Parsons et al., 2017).

Prior to the development of PrEP, post-exposure prophylaxis (PEP) – a short course of ART (typically Truvada) was used to prevent HIV infection after an actual or potential exposure to HIV (Kalichman, 1998). In 2005, PEP was approved for sexual and other non-occupational exposures (U.S. Department of Health & Human Services, 2005). Research on

attitudes toward biomedical prevention has primarily focused on PrEP; a smaller body of literature has examined attitudes toward PEP adoption. Men reporting a history of PEP use perceived themselves at high risk of HIV transmission (Kalichman, 1998) and perceived PEP as a “wake-up call” to the consequences of engaging in high risk sexual behaviors (Körner, Hendry, & Kippax, 2006). Overall, PEP is perceived as beneficial to one’s sexual health, as it provides an urgent sense of hope and safety against seroconversion (Körner, Hendry, & Kippax, 2005). Although PEP might reduce HIV acquisition anxieties, Körner et al. (2006) stated PEP offers individuals uncertain protection from HIV at the expense of considerable side effects and financial costs. To date no study explores how partnered SMM view PEP as a potential HIV prevention strategy.

The current qualitative study explored the ways in which same-sex male couples view PrEP and PEP through the use of a semi-structured interview. More specifically, the purpose of the study was to recruit men in a same-sex partnership to further understand the barriers to and facilitators of PrEP and PEP uptake for men in same-sex relationships. Consistent with the current literature, we anticipated that structural-level factors (i.e., stigmatization, accessibility to medications, health insurance, and other financial costs) would meaningfully shape the willingness or desire for partnered SMM to adopt PrEP or PEP. In addition, there is a reason to believe that interpersonal communication related to PrEP and PEP uptake might incite accusatory motivations related to sexual promiscuity and infidelity thereby negatively affecting relationship functioning.

## Method

### Recruitment and Eligibility

Data were gathered from semi-structured interviews conducted with 10 same-sex male couples ( $n = 20$  individuals) residing in the New York City area between May to August 2017. The interviews were conducted during the formative phase of the *Couples Health Project (CHP)* (R34 DA043422), a larger study testing Motivational Interviewing strategies to reduce drug use and sexual HIV transmission risk among same-sex male couples.

All participants were recruited on site after completion of Couples HIV Testing and Counseling (CHTC) as part of a separate ongoing study, *We Test* (DA036419), a randomized controlled trial testing adjunct components for CHTC. Couples that completed *We Test* and did not receive a new HIV-positive test result were offered the opportunity to participate in this study.

Eligible participants for *We Test* were recruited through online and outreach-based methods between January 2016 and August 2017. Online recruitment efforts included the distribution of study information via listservs and websites targeting sexual minority men. Outreach strategies included attendance by study staff at community and social events frequented by SMM in the New York City area. Inclusion criteria for *We Test* specified that couples report being sexual active together in the 3-months prior to screening and in a relationship for at least 3 months. Eligible couples included those in which both participants were at least 18 years of age, indicated a male sex at birth and gender identity, lived in the NYC metropolitan area, and were able to communicate in English. In addition, at least one member of the

couple must be 18-29, self-report a negative or unknown HIV status, and report at least one recent use of illicit substances. Couples were excluded if either member reported the occurrence of severe physical or sexual intimate partner violence. Both members of the male couple were required to attend the session.

## Procedure

Eligible couples were offered the opportunity to complete an interview conducted by their HIV tester following the conclusion of the *We Test* session. Couples were provided with informed consent information for *Couples Health Project (CHP)* and subsequently completed the qualitative interview. All interviews were conducted with both partners of the couple together. The interview explored couples' general attitudes towards PrEP and PEP; potential challenges related to communication or discussions regarding PrEP and PEP uptake in the context of a relationship; and suggestions for future interventions to increase awareness and education. Follow-up prompts were used to encourage couples to elaborate for further discussion and understanding. All interviews were digitally recorded, transcribed verbatim, checked for accuracy, and de-identified.

## Analytic Approach

Following transcription and quality assurance review, the transcripts were imported into NVivo version 11. A thematic analysis was utilized to generate in-depth descriptive understandings of the general attitudes toward biomedical HIV prevention strategies among partnered SMM. After a preliminary review of the transcripts, key themes were established to produce a coding scheme that focused on barriers to and facilitators for PrEP and PEP uptake within the context of a main partnership. The key themes were reviewed by study staff and refined to maximize relevance to the specific research question. The codebook included detailed code descriptions in order to facilitate inter-coder agreement in the application of codes to subsequent transcripts. After establishing a systematized codebook in NVivo, the first author trained an MA level research assistant on the coding protocols. To establish reliability, the coding team conducted two rounds of coding on an initial interview. The Cohen's Kappa was .73 across all relevant codes, indicating a substantial agreement between coders. Once reliability was established, the coding team applied the codes to the remaining interviews. The coding team coded each interview twice in order to maintain inter-rater reliability.

The recurring process of engaging in thematic analysis enabled the emergence of patterns from the narratives provided by the couples. The reported results reflect the key themes endorsed by the couples as they pertained to general attitudes toward PrEP and PEP regarding relationship-specific and structural-level factors, as well as stigmatization. The term "P1" refers to partner one, while "P2" refers to partner two.

## Results

A total of 10 same-sex male couples ( $n=20$  individuals) completed the qualitative interview. Demographic data on all study participants is presented in Table 1. Dyadic-level demographic data is presented in Table 2. All participants reported having condomless anal

sex (CAS) with their main partner in the past 90 days. The majority of participants reported using a condom with casual sex partners (75%). In terms of individual PrEP use, only 25% of participants reported a current prescription and 40% of couples have at least one member currently prescribed PrEP.

The results that follow highlight the barriers to and facilitators of future PrEP and PEP adoption among partnered SMM. Findings were organized around two overarching thematic categories. First, couples identified relationship-specific barriers to (e.g., impact on commitment and trust) and facilitators of (e.g., sexual health-promoting and HIV-risk reduction) PrEP and PEP adoption. Second, couples discussed a range of structural-level factors that affect rates of PrEP and PEP uptake among partnered SMM. More specifically, couples' highlighted how PrEP- and PEP-based stigma perpetuated by structural-level factors (e.g., health care providers, health insurance, and lack of awareness) influence the decision-making process. Both themes depict the potent impact PrEP- and PEP-related stigma on potential uptake among partnered SMM.

### Relationship-specific factors related to PrEP and PEP uptake

**Concerns related to biomedical prevention.**—Throughout the interviews, couples identified a range of relationship-specific factors that may impede PrEP and PEP uptake rates the context of a same-sex male partnership; specifically, the perceptions that adopting a biomedical prevention strategy might affect relationship functioning. Regarding PrEP uptake, a majority of couples described wariness about communicating PrEP adoption to a main partner as uptake might threaten the quality of the relationship. Both monogamous and non-monogamous couples reported that PrEP-related conversations might evoke negative perceptions of a partners' motivation for uptake particularly for monogamous couples.

“**P1:** Probably because their partner would think, ‘Oh you wanna go on PrEP so like –’ **P2:** You’re gonna have all this unsafe sex... they might think ‘Oh, like if we’re monogamous like why would you even need that.’ **P1:** Cheating.” (12473, **Monogamous**)

“**P1:** I guess just thinking in like a couple situation right, like if someone in a couple asked you to go on PrEP ... all of sudden that calls into question the trust between the people, right? Or, it could, if they’re not communicating about it and they don’t actually trust each other’s behavior. ‘Well why do you want to be on PrEP, because you’re sleeping with a bunch of other boys that I don’t know about?’ ...” (12461, **Non-monogamous**)

These narratives illustrate the potentially potent interpersonal concern that discussing PrEP willingness might lead to diminished relationship functioning. In addition, these quotes demonstrate the presence of prominent negative connotations of PrEP being associated with infidelity and mistrust within a relationship.

Similar relationship-specific concerns also emerged as barriers to PEP uptake. Couples highlighted a link between PEP and relationship-specific challenges related to relational mistrust and intimacy. Couples also identified how communicating a need for PEP may



signify that a partner engaged in sex with a casual partner who is either HIV-positive or unaware of their status, in turn threatening the sexual health of the couple.

“**P1:** Yeah, I think it’s probably easier for fully autonomous single people to make that decision than it is for a person in a committed relationship. There’s just a lot of things going on in your head at that point, like you and your partner’s health, the potential that you betrayed your partner’s trust, the time limit that you’ve got.”  
(12407, **Non-monogamous**)

“**P1:** I think PEP over PrEP also has the fear of, ‘oh no it’s also post exposure, so you also have to admit to this behavior.’ **P2:** I also feel like, if you need to have a conversation with your partner that you took PEP, or that you need PEP, it might be outside of the relationship ground rules.” (12427, **Non-monogamous**)

**Benefits of biomedical prevention.**—Although couples expressed a range of relationship-specific concerns related to communicating a need or willingness for PrEP and PEP, couples were able to highlight the potential benefits of PrEP and PEP uptake within the context of a main partnership. These benefits typically centered on enhancing the couples’ sexual health and sexual satisfaction. These quotes emphasized the potential benefits couples might experience regarding biomedical HIV prevention as simultaneously promoting sexual health and reducing the risk of HIV acquisition. In terms of facilitators of PrEP and PEP uptake, couples identified the utility of PrEP and PEP to reduce anxieties related to HIV and enhance sexual liberation.

“**P2:** It’s [PrEP] very useful, you never know who is lying about their status, so its extra protection for yourself. **P1:** It’s also, you know the spontaneity risk where it may be on your mind, but you just don’t realize at the time what you’re doing. So, as long as you are being regular with your medication, your PrEP, then it’s very useful.” (12422, **Non-monogamous**)

“**P2:** If my partner went outside the relationship, if I were to be a like a good person with a stable mind, I should just encourage that person to do it [get PEP] for their own safety regardless of how I’m going to react in response to that. I guess just withholding your personal emotions and anger towards that person because, at the end of the day, like this is a human that should be taking care of their health... **P1:** It’s like the health is paramount.” (12481, **Monogamous**)

“**P1:** Well especially for our relationship, I think it’s good because we decided not to use condoms. I’m HIV positive. He’s negative. Even though I’m taking my medication, even though I’m undetectable, he feels like he’s taking his PrEP for me and I’m taking my medication for him. For him, he feels he’s doing something for himself too. You know, because we don’t only have sex with ourselves, we have sex with another person. So, I think it’s really important ‘cause it’s something to prevent an HIV...for example, for a couple, a gay couple that have sex without a condom or with a condom, I think that’s [PrEP] something that can prevent you, reduce your risk— **P2:** Or when we do it with a guest star (laughter) it’s like we don’t use condoms at least I’m taking PrEP.” (12458, **Non-monogamous**)

Taken together, these narratives highlight a dissonance between sexual health promotion and relationship functioning as well as indicating how biomedical prevention strategies can reduce anxiety related to HIV transmission among men in a serodiscordant relationship. Couples were aware that biomedical prevention strategies present an option through which they could protect their sexual health; however, among some couples' conversations about the need for biomedical prevention were viewed as threatening to relationship functioning while other couples viewed biomedical prevention as a strength to their relationship. Overall, willingness for biomedical prevention was perceived as an indicator of sexual behavior and sexual health. As such some couples discussed challenges related to the conversation while others highlighted the sexual benefits.

### Structural-level factors related to PrEP and PEP uptake

**Access to biomedical prevention.**—Couples expressed two distinct kinds of structural-level barriers to biomedical prevention uptake. The first was associated with healthcare access and costs associated with medical care. This domain was comprised primarily of concerns about accessibility of biomedical prevention and health insurance.

“**P1:** I guess just where to access it and then you know it's like right now I have shitty health insurance. So, also where to get tested you know when you don't have a general practitioner. Those two would be really helpful.” (12481, **Monogamous**)

“**P2:** Yeah, I think, finances I mean I don't know, finding a doctor that will prescribe it. **P1:** Which is not a big issue in New York, but I have friends back in [STATE] that their doctors have literally never heard of it. Doctors have not heard of Truvada.” (12407, **Non-monogamous**)

**Stigma and shame in medical settings.**—In addition to these concerns related to healthcare accessibility, a distinct set of medically related concerns dealt with the belief that healthcare providers would stigmatize or shame men for seeking out biomedical prevention. In particular, men were concerned about locating healthcare services and being seen by healthcare providers that were knowledgeable about biomedical prevention.

“**P1:** I think it's getting rid of that stigma...So, you're at the ER asking for PEP and you're wondering what's this doctor thinking. For instance, one time I went to the health department and they ask you how many sexual partners you've had in the last 3 months and I gave the doctor a number, and they had a lot to say about the number that I gave them. And I'm like; this is not how people should feel...I think because those things happen it builds this whole stigma. And so even doctors who aren't gonna say anything to whatever number you give them, it compels me not to be truthful...” (12407, **Non-monogamous**)

“**P2:** But the problem is that I know some people who are like, ‘no that is for whores’, and I am like— **P1:** The stigma. **P2:** It's a mass stigma— **P1:** Also, I have heard some providers could be against it...I don't know, I think there are some old attitudes that need to be changed. **P2:** I just grab the table when they are like, ‘it's for whores.’ So, what is birth control? What is that then?” (12427, **Non-monogamous**)



**Prevention stigma.**—A second structural barrier to potential uptake discussed was focused on the stigma within the gay community. This content suggested that fears of stigmatization and sexual shaming extended beyond healthcare professionals. The belief that biomedical prevention is viewed negatively was portrayed as a pervasive structural concern.

“**P1:** I believe it is the stigma of ‘oh why are you on PrEP? Are you having sex outside of your relationship? You wanna be a hoe?’” (12458, **Non-monogamous**)

“**P2:** I feel like there’s a stigma. Like some people think oh if I’m on drugs then people will think that I’m promiscuous or like— **P1:** Yeah that’s definitely true... But if they are in an open relationship, I don’t know, maybe they would think that would be like less safe if they have PEP.” (12473, **Monogamous**)

“**P2:** Um, yea it can be very useful um it can also be troublesome in some situations ... **P1:** I hear the argument about PrEP and PEP that’s like it will allow you to be more promiscuous, but that doesn’t—to me it’s like so crazy for people to argue that giving condoms to teenagers means they will have more sex, no I don’t think so. But that’s my opinion.” (12467, **Monogamous**)

These quotes highlight a series of mixed messages regarding biomedical prevention within the gay community. In response to these negative connotations associated with PrEP and PEP, couples acknowledged the importance of supportive and well-informed conversations to actively understand the motivations for future uptake. From a structural perspective, couples stated that removing PrEP- and PEP-related stigma might enhance motivations for future uptake.

“**P2:** If you’re both knowledgeable about it. **P1:** Yeah, if you both have the knowledge of it and you’re able to own your mistakes or be real with what happens in your life you, and accept reality for what it is. That would definitely make it easier.” (12436, **Non-monogamous**)

“**P2:** I guess like the benefits it would bring to a couple. Like how it can, help couples even if they’re not in an open relationship, as extra security, even if you are in a monogamous couple. **P1:** Trying to remove the stigma that is also on PrEP. I know like, in [STATE] I can see that it’s a stigma on people that are on PrEP, especially in the Hispanic community.” (12422, **Non-monogamous**)

“**P1:** I would go with them to the doctor... Be like ‘Hey, we’re a team, right? We’re in this together, so let’s do this together; let’s make this an adventure together.’ They just be like, ‘Yo, listen I am protecting you’. I think also, what was important – what made me stray away from PrEP was the effects of PrEP weren’t fully explained to me... ‘Well it could happen like this or you could have these side effects, but it is good for you still.’ Just doing that I think is important.” (12501, **Monogamous**)

## Discussion

These narratives provided insight into the ways in which relationship-specific and structural-level factors influence potential uptake of biomedical HIV prevention among partnered

sexual minority men (SMM). Notably, results indicated the potential for interpersonal tension to arise between relational factors versus HIV prevention. Relationship-specific factors illustrate a potential for dissonance between the desire to adopt PrEP and PEP to reduce HIV risk at the couple-level, and concerns that doing so will diminish relationship functioning. In addition, couples highlighted the role of structural-level factors (particularly stigma and health care-related challenges) in decision-making around PrEP and PEP uptake.

Couples responses varied in the extent to which they emphasized relationship-specific factors versus HIV prevention. Consistent with previous research (Brooks et al., 2011; Hoff et al., 2015), many couples endorsed PrEP as a beneficial HIV risk reduction strategy. At the same time, concerns related to intimacy and perceived infidelity emerged as barriers to uptake. Similar to previous qualitative studies (Körner et al., 2005, 2006; Mimiaga et al., 2014; Mitchell, Lee, et al., 2016; Starks et al., 2019), this concern was particularly salient for men in monogamous relationships. These couples viewed receptivity to PrEP as likely to evoke assumptions of infidelity, mistrust, and HIV transmission risk.

The current narratives provided by the sample did not address previous findings suggestive of “PrEP sorting” behaviors. Recent findings demonstrated that HIV-negative SMM—either on PrEP or not currently on PrEP—show a greater sexual preference for PrEP-using individuals as a strategy to reduce HIV risk (Martinez & Jonas, 2019; Storholm, Volk, Marcus, Silverberg, & Satre, 2017). While the participants in these studies reported a sexual preference for men on PrEP, they also reported an increase in condomless anal sex (CAS), which indicates a perceptual shift in HIV risk among those men taking PrEP (Storholm et al., 2017). While these previous findings provided novel insight into PrEP sorting behaviors, the results were based on samples consisting of primarily single, HIV-negative SMM not currently prescribed PrEP or not adherent to the recommended regimen. The potential that SMM prefer casual or anonymous sex partners who are on PrEP, but view a primary partner’s PrEP use as problematic illustrates the extent to which relationship factors uniquely contextualize perceptions of biomedical prevention.

In contrast, PEP-specific conversations were perceived as deleterious to relationship functioning regardless of sexual agreement. The differences in concerns associated with agreements align with the proactive prevention strategy of PrEP and the reactive prevention strategy of PEP. Men conceptualized monogamy as a closed relationship – sex is not permitted outside of the relationship – in turn expressing a willingness of PrEP uptake symbolizes the potential for future agreement violation. While, a partner voluntarily disclosing a need for PEP indicates a risk of HIV acquisition that may represent an insult to relationship functioning irrespective of sexual agreement.

Similar to previous work (Calabrese & Underhill, 2015; Haire, 2015; Hubach et al., 2017; Starks et al., 2019), couples indicated concerns about stigmatization from both healthcare professionals and the gay community broadly as barriers to biomedical prevention uptake. The impact of experienced or anticipatory stigmatization from both healthcare professionals and peers is associated with decreased awareness of biomedical prevention strategies as well as motivation for uptake (Haire, 2015; Oldenburg et al., 2015). Men in the current study

supported this association as they identified concerns related to uptake and being labeled as sexual promiscuous or HIV-positive.

Findings suggested that healthcare access is a substantive barrier to biomedical prevention uptake. In line with previous studies (Haire, 2015; Hubach et al., 2017; Oldenburg et al., 2015), couples reported accessibility challenges being promoted by a lack of PrEP- and PEP-related knowledge among healthcare professionals. The financial burden of PrEP and PEP medication, combined with required laboratory and medical services continues to put PrEP and PEP out of reach for many who could benefit (Horberg & Raymond, 2013; Körner et al., 2005). Programs and policies, which facilitate access and financial assistance, may meaningfully enhance biomedical prevention uptake. Gilead, the manufacturer of PrEP, has developed financial assistance as well as insurance programs, to assist those interested in PrEP but who may not have health insurance or the financial means to begin a PrEP regimen. However, the unintentional burden of these assistance programs can be overwhelming for patients as continuous enrollment is dependent upon proof of income and lack of health insurance.

These themes have implications for the development of HIV prevention interventions for SMM couples. Interventions, which facilitate dyadic communication about HIV prevention, may represent a forum to have conversations about biomedical prevention, which might be challenging to initiate independently. Testing Together (TT), previously referred to as Couples HIV Testing and Counseling, is an intervention that focuses on providing HIV-testing services to couples together (CDC, 2018c), which has demonstrated efficacy in reducing HIV-related risk among partnered SMM (Sullivan et al., 2014). In TT, partners learn their HIV status and participate in a facilitated discussion of sexual agreements and the formulation of a joint prevention strategy (Grabbe, Bachanas, Moore, Rogers, & Fenley, 2012; Sullivan et al., 2014). Discussions of biomedical prevention can easily be incorporated into such discussions and frequently emerge organically (Starks et al., 2019). These results highlight a need for interventions with health care providers to reduce health care-related stigma as well as educate providers on PrEP and PEP, so they are better able to help potential PrEP and PEP users feel comfortable engaging in care and discussing HIV prevention.

The influence of PrEP- and PEP-related stigma as a barrier to potential uptake signals a public health concern regarding how messages about biomedical prevention strategies are packaged and disseminated. Current narratives highlight that the interconnection of medical mistrust and lack of culturally competent healthcare providers, PrEP- and PEP-related stigma from the gay community, as well as negative connotations of sexual promiscuity and infidelity promoted by a main partner; may be potent contributors to HIV among partnered SMM. PrEP and PEP messages that motivate uptake by suggesting to SMM that they cannot trust their partner perpetuates the association between biomedical prevention and sexual promiscuity and infidelity (Starks et al., 2019). Public policy officials should tailor messages to promote sexual health and destigmatize PrEP and PEP to increase motivation and willingness. These messages are particularly important for PEP as most messages focus on PrEP thereby decreasing awareness on the benefits of PEP. Taken together, PrEP and PEP

messaging needs to be tailored towards SMM in relationships through addressing their potential risk of HIV transmission without attacking the quality of their relationship.

These findings must be understood in light of several limitations. First, the data were generated from a small sample of primarily self-identified White partnered men recruited in a single large urban area. Previous research on access to health care among LGBT individuals in rural areas (Cain et al., 2017; Hubach et al., 2017; Oldenburg et al., 2015), would suggest that some structural barriers—mentioned by men in this study—may be even more salient for men in rural areas. Furthermore, recent epidemiological data indicated that Black men, regardless of sexual orientation, represent a community with the greatest need for PrEP when compared to other racial/ethnic communities (Smith et al., 2018). Second, the sample was limited to couples in which at least one member was between the ages of 18 and 29 and reported an HIV-negative serostatus. While these limitations are reasonable as the study's focus was on attitudes related to the use of PrEP and PEP as an HIV prevention strategy in the context of a main partnership, these findings may not apply to older SMM couples or couples in which both partners are HIV-positive. Finally, the current study did not include a detailed focus on PrEP adherence, for those currently prescribed, or a history PrEP use. The current study did not assess for any level of PEP use. Future studies should examine the reasons as to why SMM would adopt and/or discontinue PrEP as well as the decisions related to PEP use while in a relationship. Future work would also benefit from investigating the impact of stigmatization elicited by both social and structural factors related to sexual promiscuity as a potential deterrent from the adoption of biomedical HIV prevention strategies.

Despite these limitations, current findings extend and reinforce knowledge related to the dissemination of biomedical prevention options to partnered SMM. This study provides information on SMM couples' attitudes regarding future PrEP and PEP use. Couples acknowledged the utility of PrEP and PEP use within the context of a relationship, while also identifying relationship-specific barriers to future uptake. At the structural-level, motivation for future uptake was inhibited by stigma from healthcare professionals as well as other community members. The results provide evidence that both relationship-specific factors and structural stigma affect PrEP and PEP uptake among partnered SMM, underscoring the importance of interventions, which facilitate partner communication around HIV prevention, and addressing sources of stigma and interpersonal concerns.

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**Table 1**

## Individual Descriptive characteristics (N=20)

	<b>n (%)</b>
Overall	20 (100.0)
Race/Ethnicity	
White	2 (10.0)
African American	4 (20.0)
Latino	10 (50.0)
Mixed/Other	4 (20.0)
Education	
Less than four year degree	7 (35.0)
4 year degree or more	13 (65.0)
Income	
Less than \$20K	9 (45.0)
\$20K or more	11 (55.0)
HIV Status	
Negative/Unknown	19 (95.0)
Positive	1 (5.0)
Currently on PrEP	
No	15 (75.0)
Yes	5 (25.0)
Sexual Agreement <sup>†</sup>	
Monogamous	6 (30.0)
Monogamish	8 (40.0)
Open	6 (30.0)
<b>M (SD)</b>	
Age	26.0 (3.6)

<sup>†</sup> *Monogamous* refers to a couple where sex outside of the relationship is not allowed.

*Monogamish* refers to a couple where sex with outside partners is permitted only when both members of the couple are present. *Open* agreement refers to a couple where members are allowed to have sex with outside partners independently.

**Table 2**

## Couple Descriptive characteristics (N=10)

	<b>n (%)</b>
Overall	10 (100.0)
Race/Ethnicity	
Both White	1 (10.0)
At least one partner of color	9 (90.0)
Age	
Both between 18-29 years	7 (70.0)
At least one 30 or older	3 (30.0)
Education	
Both less than a 4-year degree	2 (20.0)
At least one 4-year degree or more	8 (80.0)
Income	
Both earn less than \$20K	3 (30.0)
At least one earns more than \$20K	7 (70.0)
Couple HIV Status	
Concordant negative	9 (90.0)
Discordant	1 (10.0)
Currently on PrEP	
Both not on PrEP	6 (60.0)
At least one partner is on PrEP	4 (40.0)
Sexual Agreement	
Both agree	9 (90.0)
Do not agree	1 (10.0)
	<b><i>M (SD)</i></b>
Relationship duration (months)	<i>23.7 (26.2)</i>