Getting PrEPared for HIV Prevention Navigation: Young Black Gay Men Talk About HIV Prevention in the Biomedical Era

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Abstract

Biomedical HIV prevention strategies, such as pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP), represent new opportunities to reduce critically high HIV infection rates among young black men who have sex with men (YBMSM). We report results of 24 dyadic qualitative interviews ($N=48$), conducted in Los Angeles, CA, exploring how YBMSM and their friends view PrEP and PEP. Interviews were analyzed using a grounded theory approach. Participants had widely divergent levels of knowledge about these prevention methods. Misconceptions and mistrust regarding PrEP were common, and concerns were expressed about PrEP-related stigma and the potential for gossip among peers who might assume a person on PrEP was HIV-positive. Yet participants also framed PrEP and PEP as valuable new options within an expanded “tool kit” of HIV prevention strategies that created possibilities for preventing new HIV infections, dating men with a different HIV status, and decreased anxiety about exposure to HIV. We organized themes around four main areas: (1) information and misinformation about biomedical HIV prevention; (2) expectations about PrEP, sexual behavior, and stigma; (3) gossip, disclosure, and “spreading the word” about PrEP and PEP; and (4) the roles of PrEP and PEP in an expanded HIV prevention tool kit. The findings suggest a need for guidance in navigating the increasingly complex array of HIV-prevention options available to YBMSM. Such “prevention navigation” could counter misconceptions and address barriers, such as stigma and mistrust, while helping YBMSM make informed selections from among expanded HIV prevention options.

Introduction

WITH THE WIDENING ARRAY OF HIV PREVENTION options now available, the days of a “one size fits all” approach are gone. Gay men have long been faced with a complex set of sexual health options, including condom use, negotiated safety, partner selection, and abstinence. However, today there are still more options, some carrying more complex biomedical implications. Biomedical interventions incorporate a biological and/or medical component to prevent HIV transmission, such as PrEP (pre-exposure prophylaxis), PEP (post-exposure prophylaxis), TasP (treatment as prevention), and others.¹ In light of this expanding range of options, each of which may be used as an element of a “tool-kit” to help reduce new HIV infections, many healthcare professionals are open to using PrEP and PEP as part of a “combination prevention”² strategy, par-

ticularly with individuals who are considered to be at high risk for HIV infection.

Young black men who have sex with men (YBMSM) are at extremely high risk for HIV infection in the US.^{3,4} According to a recent CDC report on estimates for HIV incidence, YBMSM are at the forefront of new HIV infections,⁵ and there was a 22% increase in HIV incidence among young MSM from 2008 to 2010.⁶ Overall, YBMSM accounted for 55% of new HIV infections among young MSM and 45% among black MSM.⁵ YBMSM accounted for more new HIV infections than any other age and racial group of MSM.⁷ In fact, recent data from a 21-city surveillance study shows that YBMSM are almost four-times more likely to be HIV infected than their Hispanic and white peers.⁸ Current estimates indicate that 24.9% of black MSM who are seronegative at age 18 will become HIV-positive by age 25;³ however, the introduction of PrEP into this community may make a critical

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difference, especially since younger black MSM may be more likely to accept PrEP than older black MSM.⁹ Black MSM continue to be highly impacted in Los Angeles County (LAC) as well, where the HIV incidence rate for blacks was three-times the rate for whites and Latinos.¹⁰

On July 16, 2012, the US Food and Drug Administration approved Truvada in combination with condom use and other safer sex practices to reduce the risk of sexually acquired HIV-infection as a form of PrEP.¹¹ The Centers for Disease Control and Prevention has provided guidelines that reflect input from providers, HIV patients, partners, and affected communities for use of PrEP.¹² These guidelines recommend that PrEP be considered for people who are HIV-negative and are at high risk of HIV infection, defined as: being in an ongoing relationship with an HIV-positive partner, not in a mutually monogamous relationship with a partner who recently tested HIV-negative, and being a gay or bisexual man who has anal sex without condoms, or has been diagnosed with an STD in the past 6 months.

Several PrEP demonstration projects have been conducted or are currently being conducted in LAC, likely increasing awareness of PrEP in this region.¹³ There is strong and growing evidence that biomedical options such as TasP (treatment as prevention), PrEP, and PEP (post-exposure prophylaxis) protect individuals from HIV infection when used properly.¹⁴ PEP has long been considered an effective way to prevent HIV infections after HIV exposure.¹⁵ Studies have also confirmed that TasP is also very effective in reducing new HIV infections.¹⁶ Recently, findings from the iPrEX OLE study showed that PrEP is up to 99% effective in preventing new HIV infections when participants took the medication daily, and up to 96% if taken at least four times per week.¹⁷ Given these recent results for PrEP trials and relevance for YBMSM in the US, our focus is on this particular biomedical intervention in our analyses.

While recent studies suggest that some gay men are interested in using PrEP,¹⁸ there are still issues that need to be addressed regarding awareness, education, access, and uptake of these biomedical HIV prevention tools. For instance, several exploratory studies of PrEP attitudes and acceptability among gay men have identified potential barriers, including lack of awareness, concerns about access, efficacy, cost, and side effects, fear of HIV-related stigma, and self-perceptions of not being a suitable candidate for PrEP.¹⁹ In a study of young black urban adults, participants also expressed concerns about the possibility that PrEP use would lead to risk compensation (reductions in other prevention behaviors, such as condom use, as a result of reliance on PrEP). By contrast, some felt that using PrEP could enhance the reputation of users.¹⁹ Kubicek et al.²⁰ conducted focus groups with 53 black and Latino YMSM and found a high degree of acceptability, despite a low level of knowledge about biomedical HIV prevention methods such as PrEP and rectal microbicides. Another study of MSM using an Internet social networking site found that interest in PrEP increased after exposure to information about PrEP.²¹

PrEP has also faced resistance among some gay men due to stigma and misinformation about the medication. Much like the early reactions to birth control use by women, stigma against PrEP may be rooted in viewing gay men as deviant, and viewing sexual behaviors that transmit the virus as “immoral.”²² In a similar vein, research into PrEP attitudes

in Peru revealed deep concerns about being labeled as “promiscuous” for engaging in risky sex by family and friends.²³ Another study in Kenya also found fear of stigma and susceptibility to local slander or gossip among high-risk HIV negative populations.²⁴ In a study of African-American young adults, participants expressed apprehension about sharing their use of PrEP within their networks for fear of being mistakenly labeled as HIV-positive or as sexually indiscriminate.¹⁹ Liu and colleagues found that in addition to fear of being stigmatized by family and peers, potential PrEP users sensed judgment and resistance from medical providers providing PrEP.²⁵

Most notably, among all of these studies, concern around users being labeled as sexually deviant or too sexually adventurous seems to be a critical barrier to widespread acceptance of PrEP use. The insights gained from these exploratory studies highlighting stigma as a barrier are crucial to understand in more depth as biomedical interventions for HIV prevention become more widespread. Yet very little research thus far has actually explored stigma related to sexual behavior or PrEP use among YBMSM and particularly among those who have had some experience with PrEP.

In addition, we are aware of no research that has examined how communication with peers may affect YBMSM's willingness to adopt biomedical HIV prevention strategies. Research has shown that peer norms for safer sex are associated with lower levels of sexual risk behavior among YBMSM.^{26–29} These studies have also revealed that both perceptions of peer sexual behavior and direct conversations with peers can influence one's safer-sex practices. Studies focused on African Americans have found that if peers were perceived to use condoms, then respondents were more likely to report condom use themselves. Similarly, if peer norms were perceived to be unsupportive of safer sex, YBMSM were more likely to engage in condomless intercourse.²⁷ Additionally, supportive peer sexual communication about safer sex norms is one way that YBMSM and their friends may influence each other to engage in safer sex behaviors.³⁰

However, sexual communication regarding perceived norms can also be harmful if it is perceived to be judgmental or stigma-based.³¹ Gossip and rumor are primary drivers of stigma with which young gay men must contend,²⁹ since fear of judgmentalism that they experience from peers can have negative health consequences on behaviors related to HIV prevention.³² Given that sexual communication among peer groups has the potential to create change in sexual behavior perception and actions,³¹ it is important to assess current conversations and perceptions among YBMSM with their friends concerning PrEP.

Given the number of complex issues related to HIV transmission prevention in this new era of combination prevention options, it is important to identify the kinds of information and support that could assist YBMSM in making the best sexual health decisions for their individual needs over time.³³ While PrEP is a novel tool that can be useful for HIV prevention, it is important to bear in mind that we now have a larger toolbox that still contains other useful biomedical, structural, and behavioral tools. In addition, it is important to ensure that people are using the right tool for them. When we asked YBMSM about PrEP, their conversations inevitably included their thoughts about PrEP in relation to other prevention tools such as condoms and partner

selection. Therefore, our purpose in this article is to explore their thoughts about PrEP use in the context of the larger toolbox for HIV prevention that will be increasingly available nationally and globally.

Methods

We conducted dyadic qualitative interviews to explore how YBMSM discuss sexual health topics, including HIV prevention strategies such as PrEP, with their friends. Twenty-four pairs of friends were interviewed together in Los Angeles, CA, in 2014, with each interview lasting approximately 2 h. The dyadic interview format provided opportunities to compare and contrast the two friends' perspectives, and to facilitate active discussions between friends about how they communicate. We also conducted individual interviews with the target participant lasting about 15 min in order to identify any issues he may not feel comfortable discussing with his friend in the dyad interview and to ask about his sexual communication with other friends.

Participants completed a screener and a brief quantitative survey before the qualitative interviews, and received \$50 compensation for their time. The study protocol was approved by the institutional review boards California State University, Dominguez Hills and the University of Alabama; additional interviews were conducted in Birmingham, Alabama but these were not included in these analyses since PrEP and PEP were not asked about in those interviews, as very few participants had heard about these biomedical interventions in Birmingham, Alabama. There were several PrEP and PEP demonstration projects being carried out in Los Angeles at the time of our interviews.¹³

Sampling and recruitment

A total of 48 individuals participated in the study in the Los Angeles arm, 24 target participants and 24 friends. To be eligible for inclusion, the target participant had to be (a) between 19 and 24 years of age, (b) self-identify as black or African American, (c) living in Los Angeles for at least 2 years, (d) in a friendship with someone between the ages of 19–29 with whom they discussed sexual health topics, and (e) out as gay to this friend for at least a year. "Friend" was defined as a person the participant selected based on our criteria that included: had to be friends for at least a year, had to be out to this person, and had to discuss sexual health topics with this person; we did not place any restrictions on gender or race/ethnicity of the friend. It was requested that the participant select his closest friend and that the friend was not a family member, boyfriend, or lover. The minimum age for all participants was 19 instead of 18 because 19 is the age of consent for the IRB at the University of Alabama.

Participants were recruited through purposive methods, through direct outreach at youth groups at LGBT community organizations, as well as targeting commonly used smartphone "dating" apps. Purposive sampling methods are well-suited to exploratory research that seeks to identify particular types of cases, such as friendship dyads, for in-depth investigations.³⁴ We purposively sampled roughly equal numbers of target participants from physical venues versus apps in order to include a diverse range of participants (i.e., not all from physical venues or apps). Sampling numbers were predetermined based on the number of interviews typically required to achieve

theoretical saturation in qualitative research,³⁵ and our previous experience conducting research with this population. Theoretical saturation on major themes was reached, confirming that the sampling numbers were adequate. Demographic data for the sample are presented in Table 1.

Measures

The dyad interviews focused on the content of participants' communication about sex and sexual health related to several salient topics, such as relationship issues, dating, and sexual activities; as well as on the topic we are focusing on for this analysis: their knowledge of and thoughts about PrEP, PEP, and other forms of prevention, such as condom use. We probed for how they communicated about topics found to be salient in our own preliminary research with young gay men and their friends, and other research with young men who have sex with men.^{30,31,36–38} Table 2 lists sample interview topics alongside sample interview items.

The style of interviewing followed qualitative methods designed to provide opportunities to explore both anticipated and unanticipated themes,^{39–41} and to limit the influence of social desirability bias. This process involved building rapport, assuring confidentiality, sequencing interview items to begin with less personal topics, and using neutral, open-ended questions followed by probes to elicit participants' descriptions of experiences with sexual communication. We also collected limited quantitative data in our eligibility screener and a brief survey administered before the interview. These items included age, gender, sexual orientation, race/ethnicity and some basic sexual risk and PrEP/PEP items.

Analysis

The interviews were transcribed by a professional transcription service, and reviewed by staff for accuracy. All personal identifying information was removed, and pseudonyms chosen by the participants were used in place of their actual names. Pairs of friends were asked to select pseudonyms with matching first letters (e.g., Anthony and Art). Data analyses followed a modified version of grounded theory incorporating analytical induction,⁴² in which emergent themes were reviewed alongside a close reading of salient themes in the HIV/AIDS, sexual communication, and sexual health literatures. This approach allowed us to identify themes based on participants' own views of their sexual communication, HIV prevention strategies, and their friends' influence on their behaviors.

Using this method, the research team first reviewed a subsample of transcripts and developed a working codebook that included both emerging themes and themes relevant to existing theoretical frameworks and our own preliminary work. Transcripts were entered into a qualitative data analysis software program (Dedoose) for coding. The research team then conducted the first level of coding ("open coding"), including such basic codes as "peer influence" and "safer sex talk." Team members discussed these coded data reports, reviewed remaining transcripts, and identified emergent subthemes. This strategy of investigator triangulation^{43,44} facilitates analytical cooperation and exchange. The process entailed the active involvement of multiple team members, with diverse backgrounds. We prioritized team consensus over individual interpretations of the data, reaching unanimous agreement on all major themes.

TABLE 1. DESCRIPTION OF THE STUDY SAMPLE (N=48)

Variables	Categories	Targets		Friends		Overall	
		<i>n</i>	<i>Mean/ range/SD</i>	<i>n</i>	<i>Mean/ range/SD</i>	<i>n</i>	<i>Mean/ range/SD</i>
Age		24	22.1/20–24/1.4	24	22.1/19–28/2.5	48	22.1/19–28/2.0
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Sex	Male	23	95.8	17	70.8	40	83.3
	Transgender (female to male)		0	1	4.2	1	2.1
	Female	0	0	5	20.8	5	10.4
	Transgender (male to female)	1	4.2	1	4.2	2	4.2
Race/ethnicity ^a	Black	24	100	18	75.0	42	87.5
	Latino	3	12.5	4	16.7	7	14.6
	White	4	16.7	4	16.7	8	16.7
Sexual identity	Gay	18	75	15	62.5	33	68.8
	Bisexual	5	20.8	4	16.7	9	18.8
	Heterosexual	0	0	3	12.5	3	6.3
	Other	1	4.2	2	8.3	3	6.3
School status	In school	7	29.2	12	50	19	39.6
	Not in school	17	70.8	12	50	29	60.4
Education	Some high school	5	20.8	3	12.5	8	16.7
	High school diploma	10	41.7	9	37.5	19	39.6
	GED	1	4.2	0	0	1	2.1
	Trade/vocational degree	0	0	2	8.3	2	4.2
	Some college	8	33.3	9	37.5	17	35.4
	College degree	0	0	1	4.2	1	2.1
Current housing status	Stable housing	22	91.7	22	91.7	44	91.7
	Homeless/shelter	2	8.3	2	8.3	4	8.3
HIV status	HIV positive	5	20.8	4	16.7	9	18.8
	HIV negative	17	70.8	19	79.2	36	75.0
	Unknown	2	8.3	1	4.2	3	6.3
Sexual behavior	Unprotected anal intercourse in past 30 days? ^b	12	50.0	5	27.8	17	40.5
PrEP and PEP awareness ^c	Heard of PrEP or PEP ^d	16	66.7	15	65.2	31	66.0
	Know someone who has used PrEP or PEP ^e	9	42.9	7	35.0	16	39.0

^aTotal percentage sums to more than 100 because participants could select multiple ethnicities.

^bTotal number is 42 because only males were given this item.

^cDuring interviews, 5 participants said they have used PrEP and 3 participants said they have used PEP ($n=8$).

^dTotal number is 47 due to missing data from 1 participant.

^eTotal number is 41 due to missing data from 7 participants.

As subthemes were identified, they were coded and then compared with other subthemes for similarities and differences for categorization using a constant comparison method.⁴⁵ In this second level of “axial coding,” some of the original codes were refined or re-organized around these subthemes. For instance, “confusion about PrEP” was re-named as “lack of information about PrEP” since the data suggested that participants were not so much confused as they were lacking enough information to fully understand how PrEP works. Emerging categories were subjected to a process of member validation in which community stakeholders offered feedback to assess credibility.⁴⁶ Finally, we engaged in “selective” or “targeted” coding to focus on the data relevant to our analysis. The first and second author discussed any discrepancies between coders, reconciling differences by consensus. We established inter-rater reliability for coding of key themes by using rates of agreement, with 80% as a baseline criterion for reliability. Analyses were complete once we reached theoretical saturation.⁴¹

TABLE 2. SAMPLE INTERVIEW ITEMS

Safer sex talk

1. Have you ever discussed PrEP? What about PEP? Can you tell us about those conversations?

Gossip

2. Have you ever heard anyone gossip about PrEP or PEP? Do you think it's something people would gossip about if you did use these?
3. Would people assume someone has HIV because he or she is on PrEP?
4. Have you heard people being judgmental about people who may be using PrEP or PEP? If so, what are they saying?

Relationships

5. How do you think being on PrEP could affect meeting men or dating someone?

Results

Information and misinformation about biomedical HIV prevention options

The sample consisted of 48 participants. All of the target participants ($N=24$) were young gay or bisexual men who have sex with men, and were between the ages of 19 and 24. The friends ($N=24$) selected by the target participants were primarily also young black gay or bisexual men, but there was some variability in terms of demographics: friends were 71% male, 75% black, and about 80% gay or bisexual. All male friends identified as either gay or bisexual. Among all participants, 40% were in school and more than 91% had stable housing. About one-fifth of participants tested positive for HIV while 40% of male participants reported unprotected anal sex in the past 30 days. Most participants (66%) had heard of PrEP or PEP, while 39% knew someone who had used PrEP or PEP. See Table 1 for more details. Participants differed widely in the extent of their knowledge about biomedical prevention methods. Among those who had heard of them, most had limited knowledge, but a few possessed a fairly thorough familiarity with them and even an awareness of current debates in the popular and scientific press.

Sources of information. Participants learned about PrEP and PEP from various sources, including prevention education programs, youth groups, health care providers, friends, or the Internet. Many obtained information from multiple sources and then integrated this information. Some also described how they would share what they learned with friends, since they considered biomedical prevention an important topic to discuss with peers. For example, Chenet learned about PrEP at a youth group and shared this information with his best friend Ciara. Chenet felt that this repetition helped reinforce the new information about PrEP:

When we talk about [PrEP] in the group and then [Ciara and I] revisit it, it makes me better understand what's going on, so I can go and share the information with my other friends who don't go to the group, or who are not inside the conversation. (Chenet, male, age 21, target)

Often, if a participant was unsure about something related to PrEP, he would turn to a friend for clarification, often appearing to prefer friends to other possible sources of information about sexual health. For example, in the following conversation, Noho was able to learn more about PrEP from his friend Nial, who had gotten information from a hospital youth group.

NOHO (male, age 22, target): I knew about like, the morning after and like you have to take it before you have the sex—or—I forgot.

NIAL (male, age 22, friend): No, you have to get to it before three days is over. So you go to the hospital saying I had bareback sex and I think I may...

NOHO: And it only lasts for a month—right.

NIAL: Yeah, you are on it for about a month.

NOHO: I don't know much about it.

NIAL: PrEP is basically just Truvada. It is how it is prescribed and how you are using it that really defines what PrEP and PEP are.

These types of detailed discussions were mostly reported by dyads that contained two males rather than dyads that had one male and one female. Female participants were generally less likely to have heard about PrEP, and if they had, prior discussions about the topic between the friends were minimal.

Concerns about PrEP and PEP. Participants expressed a variety of concerns about potential problems with biomedical prevention, particularly uncertainties about efficacy. Eric (male, age 23, target) said, “They’re just coming out with a pill. I kind of question that. Is it really effective?...I don’t even know if it’s FDA approved.” Yet, even some participants who were skeptical about the efficacy of PrEP and PEP sometimes endorsed them as strategies that might provide an added measure of safety, however limited. For example, Penny (female, age 20, friend), who doubted PrEP’s efficacy, said, “I’d probably recommend it to my friends just to make sure that we’re all on the safe side.” And as another participant put it, “Who wouldn’t want to [take PrEP], just in case?”

A variety of other concerns were mentioned less frequently. One dyad worried that taking PrEP might cause people to develop HIV, based on an assumption that PrEP functioned similarly to a vaccine, and that taking PrEP might involve exposure to a small amount of HIV. However, they were also confident that such fears could be allayed if they could discuss it with a doctor who could give them a “clear mind about the studies or whatever they tested [PrEP] on.” Some participants mentioned concerns about side effects, such as diarrhea, nausea, and fatigue. One participant, Ulysses (male, age 23, target), attributed his significant liver damage to use of PrEP and PEP along with alcohol consumption. A few participants also thought that PrEP might be connected to conspiracies within the medical establishment. One believed that PrEP was opposed by a local medical clinic because biomedical prevention could lead to fewer HIV infections and thus less income for the clinic. A more common assumption was that pharmaceutical companies were encouraging the use of PrEP while withholding a cure for HIV in order to generate income from medication sales.

Expectations about PrEP, sexual behavior, and stigma

PrEP and PEP are for “other people.” Many participants felt that PrEP and PEP were associated with having multiple sexual partners or frequent condomless intercourse, and that they were only appropriate for people who “have a lot of sex.” Thus, a kind of “profile” emerged of the type of person who was seen by participants as a likely candidate for PrEP and PEP. Importantly, this profile was one with which few participants identified, instead being perceived as an “other” who was seen as much riskier than the person being interviewed. For example, Noho (male, age 22, target) stated that he did not see himself as a good candidate for PrEP, because “I don’t really go to bathhouses” —a setting that he associated with risky sexual encounters. Even participants who were sanguine about the potential usefulness of biomedical strategies tended to view them as methods more suited to “someone else.”

Concerns about being stigmatized for using PrEP or PEP. Because biomedical strategies were mainly seen as

suited to sexually promiscuous or risk-prone individuals, some participants felt that using these methods would lead to being stigmatized. For example, Judith expressed a concern that to disclose use of PrEP would mean risking a judgmental response from others, who might assume that one was more sexually risky because they were on PrEP. In her view, sharing that one is on PrEP would lead to possibly being thought of in these terms: “Oh, you’re on PrEP, so what have you been doing? Are you always having unprotected sex?” For some, such anticipated negative judgments from others were a factor in not wanting to disclose use or uptake of PrEP or PEP.⁴⁴

Concerns that PrEP would be used as “an excuse to bareback.” Many participants were concerned that PrEP might be used to intentionally engage in more frequent condomless intercourse. Although almost no participants said they would do this themselves, they felt that others might. Some said that using biomedical strategies represented an “easy way out” of the challenge of staying safe from HIV. For example, Edmund described a youth group in which he participated, and his sense that some of his peers were overly optimistic about PrEP as an opportunity to engage in safer sex without the need for condoms. Yet, like nearly all of the others we interviewed, Edmund himself felt it would be unwise to forgo condom use:

We had a whole discussion about it and they were saying, “Oh, you don’t gotta use a condom because they got these pills.” And I’m like, “No.” I think, especially with the kids, like the younger men than my age, they came out with this pill, and now they’re just using that as an excuse to not use condoms. I don’t think it’s the greatest idea. (Edmund, male, age 24, friend)

In general, relying on biomedical methods alone or as a substitute for condom use was considered by many to be ill-advised or “sketchy.” This view was compounded with the notion among some that people might misuse PrEP, for example by assuming that it could be taken after sex, or by intending to take PrEP but not actually carrying out this intention:

CHENET (male, age 21, target): My concern is people abusing it. For the folks who like to do it raw, they meet someone who is HIV positive, and they’re like, “I’m using PrEP, so it’s alright. God is on my side. He’s supplying me with these special pills.”

CIARA (male, age 28, friend): “These miracle pills.”

CHENET: And, you know, “I’ll just take one after we finish. And that’s abuse, ’cause they know that that pill is there now.”

PrEP use as a sign of personal responsibility. In contrast to the majority, a few participants felt that if someone was using PrEP, they would not be stigmatized, but instead respected because they would be caring for their own health and that of others. Thus, Queen Bee (male, age 25, friend) framed PrEP as a way of “being responsible,” and compared it to the kind of attitude of personal responsibility that would be involved in actively preventing other risky scenarios, such as drinking and driving. His friend Quincy expanded on this theme:

I feel like if they’re [on PrEP], they’re not only protecting themselves. It’s also for the well-being of other people that

they’re having sex with. I don’t think there’s anything bad. I think it’s all positive. (Quincy, male, age 24, target)

Considering condomless intercourse as an option. As mentioned, although many participants thought that other people were engaged in risk compensation (using PrEP instead of condoms), almost none of them stated that they would personally be inclined to do it. In fact, nearly all of them stated that, for a variety of reasons, they would continue to use condoms even if they did adopt PrEP. One exception to this pattern was Queen Bee, who felt that he might be more inclined to engage in condomless intercourse if he were on PrEP. Yet, unlike the caricatures that some participants described of reckless risk compensation and “sketchy” behavior, he articulated fairly nuanced thoughts about his relative likelihood of engaging in condomless sex under those circumstances. He and his friend Quincy held different views about this:

QUEEN BEE (male, age 25, friend): I’m not saying once I’m on it, I’m gonna be barebacking, like, “Hey, baby! She’s on PrEP. I’m prepared. They call me PrEP!” [laughter] But if I had someone that said, “Hey, I’m negative. Here’s my card and I’m also on PrEP,” I would. Wouldn’t you?

QUINCY (male, age 24, target): It’s still one of those things. I’m not gonna sit there and say, “Yeah, as long as they’re showing you all that [proof], go ahead and let them have sex with you, raw. Of course that would make me definitely think about it more. But at the same time, I don’t believe in promoting unsafe sex at all. I think that we should all just be safe.”

For Queen Bee, being on PrEP while having condomless sex with someone who was also on PrEP was a form of safer sex, whereas for Quincy (who was more representative of the overall sample), safer sex meant using a condom, particularly since, as he later pointed out, PrEP would provide no protection from other sexually transmitted infections and would therefore not be considered fully safe.

People will talk: Gossip, disclosure, and “spreading the word” about PrEP and PEP

Expectations of gossip about PrEP and PEP users. Participants had much to say regarding how their peers might talk about people who use PrEP and PEP. Some felt that this would lead to PrEP and PEP users being assumed to be HIV positive, and thus also expose them to HIV stigma. In general, participants felt that gossip about these topics would be common, and that this would cause some people to be hesitant to use these methods or to disclose their use of them. By contrast, some felt that to use them was a point of pride, and these participants said they would want to talk openly about PrEP and PEP in order to educate their peers and correct misinformation. They believed that they could benefit their communities by increasing acceptability and use of biomedical prevention. Many participants expected gossip to become a problem for those who adopted these prevention methods. Sometimes this was also linked with concerns about the spread of misconceptions about biomedical prevention:

People will gossip. People will come up with things. Like how [Penny] was thinking, “What if [PrEP] could give you [HIV]?” They’ll come up with stuff like that and try to make it seem like it was fact. They would come up with all kinds of things. (Peter, male, age 20, target)

Assumptions that people using PrEP and PEP are HIV-positive. Many participants also expected some of their peers to assume that PrEP or PEP users were HIV-positive, or to engage in stigmatizing gossip about HIV status on this basis. For example, Deandre (female, age 21, friend) began taking PEP after she had unprotected sex with her boyfriend, whom she later found out was HIV-positive. As she put it, “When I was taking PEP, a friend of mine started to judge me...They assumed that I had something ‘cause I was taking PEP...They think that I had HIV.” Some participants said that because they anticipated gossip, they would avoid disclosing use of PrEP or PEP. For example, after Deandre told her friend Dominic (male, age 20, target) about the reaction she received when she used PEP, Dominic decided that if he were to use PrEP or PEP, he would keep it private because, “I don’t need anybody judging me...This is my business.”

Spreading the word about PrEP and PEP. Some participants were passionate advocates for PrEP and PEP, and saw conversations with peers as an opportunity to promote these new prevention options. They tended to be less worried about gossip and stigma. For example, Icarus said that he tells everyone he can that he is taking PrEP because he believes it is something that can help his community:

I let everyone know that I do PrEP. [They] might want to get into it, you know. It is a great program and if you are consistent with it, then you are being safer by being in this program and I think it could benefit anyone...I think we should be able to help out everyone in our community. And I think if this is lowering my chance to catch HIV, that’s just awesome...That is how I talk about it—I try to recruit people. (Icarus, male, age 21, target)

In some cases such advocates of PrEP were viewed skeptically by peers, especially if they appeared to disregard any potential drawbacks of biomedical prevention methods. Chenet and Ciara recalled one such peer they met at a youth group:

He was just like, “Hands down, I’m for it. [PrEP] is a blessing. Jesus has brought it to my people himself, on a golden chariot...” He’s so optimistic and he’s so open to new things. But everyone else [in the youth group] was just like...“Oh, [PrEP] is cute. It’s nice that we finally have something like that...” But this certain person, he’s like, campaigning for it...And he didn’t voice any negativity about it. Or even concerns about it. (Chenet, male, age 21, target)

A responsibility to tell others about PrEP and PEP. Consistent with previous findings on sexual health communication with young gay men and their friends,³⁰ most participants cared about their friends’ health. Thus, even some participants who voiced concerns about gossip or HIV stigma related to PrEP and PEP felt a responsibility to talk about it if they saw opportunities to educate their friends about these newer prevention options. As mentioned, Dominic initially felt that he would not disclose use of biomedical methods due to concerns about stigma. However, he stated that he would make an exception if he was talking with a friend who might benefit from PrEP:

I would disclose [my PrEP use], when I needed to, if I had a friend who I felt was somewhat at risk, or doing things that [put him or her] at risk. I would say, “Hey, I’m doing [PrEP]

right now,” and just kind of use word of mouth. That’s how things get heard. (Dominic, male, age 20, target)

For Dominic, what made such a situation worth the risk of disclosure was that it presented an opportunity to help a friend in need of guidance. He felt that because of stigma, friends might not initially acknowledge a need for PrEP or PEP, but might seek it out if they knew someone who was already using it.

The need for HIV prevention navigation: PrEP and PEP as tools in an expanded “tool kit”

Although many participants expressed concerns about who would use biomedical prevention methods and how they might misuse them, most felt that the availability of these alternatives represented an improvement over the limitations of existing prevention methods. Participants often framed PrEP and PEP as new options available for various situations, such as “slip ups” involving unplanned intercourse without condoms, broken condoms during intercourse, serodiscordant relationships, or individuals who already do not use condoms. The interviews also made clear that participants’ choices of various options, whether biomedical or other methods, would reflect their individual values and preferences. For example, some disliked the fact that PrEP and PEP were intangible—in contrast to condoms, which would constitute visible proof of being protected. Some also felt that the possibility of HIV transmission with PrEP use, even if it was in the range of 1% or lower, still constituted too great a risk, while others were willing to accept a small risk in exchange for the benefits that PrEP might afford them.

New tools for prevention. Some characterized biomedical strategies as a new set of tools that was now available, among an array of options that together comprised an overall set of alternative means of reducing the risk of HIV infection. For example, some described how the availability of PrEP meant that there was now a viable option for people who habitually do not use condoms, whether because they simply dislike them or for other reasons. Similarly, PEP provided a new option in case a condom broke during intercourse or someone had unprotected sex under unanticipated circumstances. In general, participants tended to feel that occasional “slip ups” such as these were virtually inevitable, since “mistakes are gonna happen,” and that PrEP and PEP represented useful options in light of that reality. As Nial put it,

My feeling is that [PrEP] is just another tool to use for safe sex. Like you don’t need to be on it; you can get off it if you need to. And also like with PEP being sort of the morning after [pill], and you are on this just to make sure that if you had the slip up, it is not going to get you. That is a good thing. (Nial, male, age 22, friend)

PrEP as “peace of mind.” PrEP in particular was often characterized as a “back-up” strategy that could confer protection if for any reason other strategies failed. For example, Queen Bee described a frightening experience in which he had been high on crystal meth and engaged in unprotected intercourse with a man whom he later learned was HIV-positive. This experience was particularly stressful for him, as he was unable to obtain PEP afterward (though he

knew about it and requested it from a local clinic). He felt that, had he been on PrEP, he could have avoided much of the anxiety entailed in this situation:

If I had PrEP, I would have been a little bit more easy on the mind. I'm not saying I'm gonna sleep around, but it's a little easier. Even as far as condoms, those aren't always 100 [percent]. They break. Or someone says they are using a condom, and behind you they really don't. (Queen Bee, male, age 25, friend)

A new option for serodiscordant dating. Some HIV-negative participants discussed how PrEP would open up the possibility of dating someone who was HIV positive, or vice versa, and that, as Icarus put it, it would “help people who have HIV date more men.” Similarly, Nial felt that PrEP was a boon in part because it would make it possible for men who are HIV negative to date men who are HIV positive:

I actually would go into a relationship with a person who is HIV positive, just as long as I am on top of my own health care and like if I do make that choice, then I will be on PrEP, and as long as we know what we are doing, and we are not cheating on each other, and he is still up to date on his meds. (Nial, male, age 22, friend)

Comparisons to the range of options for birth control. In discussing potential benefits of biomedical prevention, some participants compared it to birth control and the increasing contemporary acceptance of diverse birth control methods. They mentioned how, like birth control, biomedical prevention provides both “before” and “after” options, comparing PrEP to “the pill” and PEP to “the morning after pill.” While participants generally felt that one should not rely on PEP exclusively as a failsafe method, several expressed a sense of optimism that this option was available for distressing “HIV scares” involving possible exposure to HIV.

A preference for condoms. As mentioned, some participants said they liked the idea of PrEP but simply felt that it was not necessary as an option for them. Although they might have multiple partners, they liked using condoms, rendering PrEP superfluous in their view:

I know the knowledge about [PrEP], but I don't feel I am going to ever use it. I don't feel like I need to use it, because I like the methods that I have to be protected, but it is a great idea...I like condoms, you know. (Noho, male, age 22, target)

For some, condoms were preferable because of being a visible and tangible prevention method (whereas it would be impossible to tell whether a partner who claimed to be on PrEP was actually taking it). For example, Eric and Edmund both felt more comfortable with condoms than with a pill, because a condom “is 99% safe,” and because “it’s visible. I can see it. I can put it on.”

Preferring little or no risk. For some participants, the comparatively high rates of efficacy possible with biomedical prevention methods did not outweigh their concerns about the small possibility that infection might occur despite using PrEP or PEP. For example, even after being provided with a brief overview of current findings regarding PrEP efficacy, such participants tended to be particularly concerned about

the potential situations in which these methods might fail. As Ciara asked, “What about that 1%? That one unlucky person?” These individuals tended to view biomedical strategies as “a gamble” in comparison with other methods. Notably, they did not necessarily express mistrust regarding the research basis for estimates of drug efficacy or other factors. Instead they seemed to be demonstrating a lower degree of risk tolerance than others who felt that PrEP or PEP might be good options for them:

So you go out, and you know you're having sex with someone who is HIV positive, and you're unprotected. Then the next day, you go and take the pill? You're putting yourself at risk for being that 1%. You might get that 99%, but you might not. You might be that 1% that does get it after the drug. (Ciara, male, age 28, friend)

A range of individual values. One relatively striking aspect of the participants’ responses to questions about PrEP was the diversity of individual values that was revealed regarding biomedical prevention strategies, condom use, and other methods. The topic of PrEP, in particular, seemed to touch on a range of other complex issues and personal values related to health, the medical establishment, and sexual preferences. Noho, for instance, liked using condoms, and felt that for this reason among others, PrEP would not be right for him. By contrast, another participant stated that he never uses condoms under any circumstances. Likewise, another said that he was uncomfortable taking pills for any reason, and thus he would not be interested in PrEP as an option. Others were amenable to taking medication to reduce the risk of HIV infection, with some even feeling that “everyone” should be on PrEP. In many cases, individuals’ values were more nuanced than these, making the prospect of selecting a prevention option (or suitable combination strategy) a particularly complex process, underscoring the need for HIV prevention navigation counseling.

Discussion

In this study, we found a diverse array of assumptions, expectations, and feelings regarding biomedical prevention strategies among YBMSM and their close friends. Participants had widely divergent levels of knowledge about these prevention methods, and sometimes evinced skepticism about their efficacy. While some wondered whether PrEP and PEP might be the result of a conspiracy, others demonstrated a fairly extensive familiarity and high degree of comfort with them. Some participants also appeared to make stigmatizing comments regarding PrEP users, based on their presumed sexual behaviors and inclinations. Many participants also expressed concerns that to take PrEP would lead to gossip and assumptions among peers that one was HIV positive and thus to becoming a target for HIV stigma.

Conversely, others felt that use of these methods should be disclosed to friends whenever possible, because it represented an opportunity to be a role model for sexual health and responsibility. Some participants also framed PrEP and PEP as new options within an expanded toolkit of HIV prevention strategies—options that created possibilities for serodiscordant dating, safer intercourse without condoms, and less anxiety about possible exposure to HIV. Although within some friendship dyads these diverse issues related to

PrEP and PEP had never been discussed, in others they were regular topics of conversation, especially when both of the friends were gay men. Some participants even sought to engage in conversations about PrEP and PEP to “spread the word” among friends and other peers.

Levels of knowledge about biomedical prevention methods were strikingly different between participants, pointing to the need for wider community education about them. Still, a considerable amount of peer education and dialogue appears to be occurring at this time among some YBMSM in Los Angeles. In part, this may reflect the fact that several PrEP demonstration trials are currently being conducted in Los Angeles; thus, this city is a testing ground for how YBMSM and other groups may respond to PrEP.¹³ Yet, as PrEP awareness and education grow, it is likely that such dialogue between friends will also increase in other regions.

Some participants also said that they expected some peers would use PrEP or PEP carelessly or incorrectly, for example, by taking it the day before sex and assuming they were fully protected, although (like the birth control pill) PrEP must be taken daily in order to maintain sufficient medication in the system to prevent HIV infection.¹⁷ This concern underscores the need for substantive guidance and support around the use of biomedical strategies—comparable to prior community-based efforts aimed at educating people at risk of HIV infection about proper use of condoms. Given the greater complexity of implementing biomedical prevention, and the time constraints typically placed on doctors (especially in the context of managed health care), it could be useful for designated personnel to provide education about these methods and guide youth in their correct implementation.

Among certain participants, misinformation appeared to reflect a fairly widespread sense of mistrust toward medical institutions and providers. For example, some believed that PrEP is part of a conspiracy, or that taking PrEP may cause HIV infection. These findings are consistent with previous research indicating comparatively greater degrees of caution, skepticism, and mistrust regarding medical treatments among African Americans, primarily due to a long history of well-documented racial bias, discrimination, and maltreatment in medical and other contexts.^{48,49} The present research extends this finding to YBMSM, and shows that mistrust can apply not only to medical treatments, but also to prevention methods that involve drugs, such as Truvada. Because of the mistrust that some participants described, some YBMSM may initially feel more comfortable discussing prevention options in a community setting with their peers than in a clinic. Yet we have also found that mistrust can be effectively addressed if it is approached in an appropriate manner by staff who are culturally knowledgeable—and especially if they are willing to offer perspectives based on their own experiences.⁵⁰ Naturally, any such intervention would also need to be designed to anticipate the presence of such misconceptions and to provide accurate information to counteract them.

Many participants expected use of these prevention methods to lead to increased sex without condoms, behavior that has been termed “risk compensation,” but almost none felt personally inclined to intentionally abandon condom use. This is reassuring, as there may be an increased risk of other sexually transmitted diseases if condom use wanes among YBMSM. Still, given the efficacy rates that have been identified for PrEP at this time, it may be questioned whether

non-condom use in the context of consistent PrEP use should be called “risk compensation,” since it may actually involve a very low level of risk for HIV infection if taken properly. A more accurate conceptualization for this shift in behavior could be, as some participants described it, adopting a different, but also effective, “tool” from today’s larger toolbox of prevention strategies.

Most participants portrayed a characteristic type of person whom they considered to be a candidate for PrEP, namely someone who had frequent unprotected sex with multiple partners, and was cavalier, if not indifferent, regarding prevention of HIV. Consistent with our previous findings regarding assumptions about risk assessments young gay men make about who should use condoms, participants in this study also tended to “other” those who would be good candidates for PrEP, thus allowing themselves to feel safe.³⁰ This risk-oriented profile was one that few participants identified with, consistent with the findings of Gallagher et al.⁵¹ that many men who could be viable candidates for PrEP do not view themselves as such. Our qualitative study extends this finding to YBMSM specifically, and illustrates how this perception could be linked with stigma by associating PrEP with an imagined other who tended to be devalued based on characteristic traits or sexual behaviors.

Consistent with Goffman’s definition of stigma,⁴⁷ we found two forms of PrEP-related stigma that involve devaluing certain individuals based on their characteristics or behaviors. We propose the term *multiple partner stigma* for devaluation of individuals who engage in sex with multiple partners, and *sexual risk stigma* for stigma targeting people who engage in sexual risk behavior. The latter form of stigma often involved stereotyping PrEP users as seeking an “excuse” to not use condoms. While much prior research has shown that there are a range of barriers to uptake and adherence to biomedical prevention tools, including concerns about efficacy, cost, and side effects of medications,^{21,23,33} the present findings demonstrate the presence of both multiple partner stigma and sexual risk stigma as additional possible barriers. YBMSM may wish to avoid being stigmatized, and thus avoid the associated prevention methods. Further research should examine associations between biomedical prevention and forms of sexual stigma, as well as whether interventions targeted at addressing these associations may effectively support uptake.

Addressing such associations via individualized conversations with trained prevention staff and with close friends may diminish these barriers and improve uptake. An effective intervention would likely need to contend with and challenge such stigma, as well as assumptions that one is not a suitable candidate for PrEP or PEP simply because one does not fit the stigmatized stereotypes. Additionally, such an intervention would need to provide clarification that PrEP and PEP may be useful for people who are not unduly risk-oriented, and that “ordinary people” also may use these methods. In this vein, public campaigns to normalize these methods may also be of considerable value.

Fears of gossip and HIV stigma may also be barriers, since many participants expressed concerns that peers would find out about one being on PrEP or PEP, and assume that they were HIV positive. The consequences of being viewed by peers as HIV-positive could be substantial—affecting, for example, one’s opportunities to obtain a desired romantic love

partner. This finding parallels related research showing that individuals may delay seeking care or have impaired adherence to ART due both to internalized HIV stigma and expectations of being stigmatized if one is discovered to be HIV-positive.⁵² Like barriers to adherence, HIV stigma associated with PrEP and PEP would likely need to be addressed effectively within interventions in order to minimize the negative impact they might otherwise have on uptake and adherence.⁵³

Several participants used language that compared biomedical prevention strategies to birth control options for women. The increasing normalization of a variety of birth control options may bode well for the future of the similarly stigmatized biomedical prevention strategies under consideration here, especially if community education strategies are successful in promoting the normalization of PrEP and PEP. This may reflect the possibility that over time, a wider swath of the public, and perhaps gay and bisexual men in particular, will be likely to similarly frame PrEP and PEP as health-oriented options that are comparably low in associations with stigma.

A few participants even spoke about seeing PrEP use as a responsible act of benefit to their community. This finding could be capitalized on within promotional campaigns by promoting a view of PrEP adoption as a community-oriented ethical act, both as a means of helping to reduce the spread of HIV and reducing community viral load. This would be consistent with the implications of previous research in which we found that many youth feel strongly motivated to support friends and other peers in staying safe from HIV infection.³⁰

Some participants noted that PrEP and PEP could provide peace of mind by reducing anxiety about possible HIV infection, especially in the context of “slip ups,” broken condoms, or other unintentional unprotected sex that may occur. Future research could examine whether PrEP does in fact help reduce anxiety about HIV among gay men or similarly at-risk populations. While the recent CDC guidelines recommend PrEP mainly for “high risk” gay men,¹² it seems productive to consider the emotional benefits of PrEP for other gay men who use condoms fairly consistently but worry about HIV infection occasionally in response to individual risk incidents, or who lack access to PEP.

We found that personal values could affect YBMSM's preferences regarding these new options. Such values could vary between individuals, while reflecting social and cultural issues, as well as evolving life circumstances—particularly during emerging adulthood, with its emphasis on exploration of one's values, relationship possibilities, and life goals.⁵⁴ Individuals' preferences for or against condoms, pills, or higher or lower levels of risk could all affect their willingness to consider PrEP or PEP. For this reason an intervention is not likely to be useful if it simply is based on providing accurate information about PrEP efficacy, and would instead need to afford flexibility to account for individual values and levels of risk tolerance.

We found that many YBMSM in Los Angeles have had fairly extensive conversations with friends about PrEP and PEP, and that they appear to influence each other's views about these prevention methods. This is consistent with our previous research that indicated that YBMSM's conversations with close friends may influence how they view prevention behaviors, such as condom use.³⁰ In that research we found that many YBMSM and their friends already engage in much positive reinforcement of prevention behaviors (e.g.,

reminding a friend to use condoms or asking whether condoms were used during a recent sexual encounter). We did not find these types of positive reinforcement around PrEP use, in part because few participants were on PrEP, but also because friends (and the target participants) were unlikely to be well-informed about the newer biomedical prevention strategies. Educating and engaging friends may represent an under-utilized opportunity to support uptake to PrEP by building on friends' existing concern for each other and investment in helping each other stay healthy.³⁰ Unlike physicians or even prevention navigators, close friends could provide support on a day-to-day basis, for example, by checking in on PrEP intentions or uptake. In this way interventions could capitalize on the support of close friends as a means to support prevention behaviors and make discussions regarding different prevention options the norm.

Given that emerging adults are often highly influenced by peer norms, the involvement of friends in prevention interventions could help facilitate the adoption of new norms and behaviors regarding innovative biomedical advances such as PrEP and PEP. For example, identifying one close friend who could be a peer supporter in following through on a prevention plan could be helpful. Such a “peer supporter” could receive basic training in prevention strategies themselves. Future research could explore whether there is an added benefit to training close friends to assist YBMSM with navigating the current HIV prevention terrain. Including close friends in interventions could also help mitigate possible negative influences from friends, such as reinforcement of HIV stigma, medical mistrust, or sexual stigma around PrEP and PEP. Properly informed friends could challenge stigma and mistrust, thus providing a buffer between these factors and negative health outcomes for YBMSM.

Individual guidance from a trained prevention professional could be one effective way to help YBMSM select among multiple prevention options, develop individually tailored prevention plans, implement these plans over time, and modify them as their life circumstances unfold. Such individual tailoring could strengthen uptake for the most appropriate and efficacious prevention strategy for any given individual. The professional staff providing such an intervention could be in the role of a “prevention navigator,” whose primary aim would be to help support YBMSM as they weigh their options regarding sexual behaviors and prevention strategies. Prevention navigation would be modeled on the concept of the “patient navigator,” a health professional that serves as a liaison between healthcare providers and patients, helping patients navigate the medical care system and treatment options.^{55,56}

A prevention navigator may be helpful in advocating for YBMSM since many healthcare providers may still be reluctant to prescribe PrEP to MSM unless they are in an HIV-serodiscordant relationship.⁵⁷ Since a client-centered approach is recommended for PrEP treatment in order to address barriers to PrEP adherence, the patient navigator model is consistent with recommendations for next steps in the continuum of care for MSM.⁵⁸ A prevention navigator could help YBMSM sort through their prevention options and address barriers to help them implement a workable plan that can evolve over time.

Several limitations of these findings should be considered. Like other exploratory studies, the findings of this study are limited in their generalizability, and thus do not encompass

the experiences of all YBMSM, as local and individual differences are also present, and some do not attend the types of venues or apps where we recruited. Additionally, the sample included only YBMSM and their friends; most of the friends were other YBMSM, as they were selected by the target participants. Future research should examine attitudes and expectations for biomedical prevention among women, as well as other racial/ethnic groups of YMSM. The proportion of participants who had direct experience using PrEP is unknown, thus disallowing analyses comparing PrEP users to non-users. Further research is needed to explore potential differences in attitudes and experiences between YBMSM who have used PrEP and those who have not used PrEP.

The addition of PrEP and PEP to the toolbox of prevention strategies can potentially help YBMSM reduce their chances of becoming infected with HIV, if used properly. However, at the same time, these new tools raise a number of important questions, among which is the possibility of risk compensation. Participants were concerned that their peers may stop using condoms if they were on PrEP, citing the fact that PrEP does not protect against other STIs. There is limited knowledge and some confusion about these methods that varies greatly from person to person, so that few were well enough informed to make proper use of them. There also seems to be a considerable amount of stigma that could form a significant barrier to PrEP uptake. Many participants felt that PrEP is a promising new HIV prevention tool that may help reduce HIV infections among YBMSM, making an important difference in health disparities. Some also felt that those using PrEP should be seen as positive role models supporting safer sex and health among their peers. Thus, there appears to be a need for both education about proper use of these methods and supportive intervention to address these complex barriers to PrEP uptake and support growing interest in PrEP among YBMSM.

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