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## HIV Treatment Adherence Strategies Among Virally Suppressed Black Sexual Minority Men in Baltimore, Maryland and Los Angeles, California: A Theory-Based Qualitative Study

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### Abstract

The goals and strategies of Black sexual minority men living with HIV (BSMMLWH) who achieve viral suppression require further investigation. This study explored treatment adherence strategies among BSMMLWH with sustained viral suppression. We conducted 27 in-depth qualitative interviews with BSMMLWH in Baltimore, Maryland and Los Angeles, California between December 2018 and May 2019. Interviews included questions guided by Positive Deviance and Life Course theoretical frameworks regarding multi-level factors and explicit strategies for antiretroviral therapy (ART) adherence. Themes regarding intentional, age group-specific strategies such as using technology (among younger men) and taking HIV medications with other daily pills (among older men) were identified. Participants also reported symbiotic goals and values that encouraged adherence, such as having a desire to live, strong familial relationships with clinicians, and support networks. Identifying personal goals and having

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#### Author Contributions

All authors on this paper meet the four criteria for authorship as identified by the International Committee of Medical Journal Editors (ICMJE); all authors have contributed to the conception and design of the study, drafted or have been involved in revising this manuscript, reviewed the final version of this manuscript before submission, and agree to be accountable for all aspects of the work. Specifically, using the CRediT taxonomy, the specific contributions of each author is as follows:

Conceptualization & Design: D. T. Dangerfield II, A. J. Ober, R.N. Bluthenthal; M.J. Li; S. Allen; Formal Analysis: D. T. Dangerfield II, M. J. Li; Writing – original draft: D. T. Dangerfield II; Writing/Revising: D. T. Dangerfield II, A. J. Ober, M. J. Li, S. Allen, R.N. Bluthenthal.

#### Disclosures

The authors report no real or perceived vested interests related to this article that could be construed as a conflict of interest.

supportive clinical and social relationships could be key to improving treatment adherence and viral suppression among BSMMLWH.

### Keywords

disparities; HIV; life course; men who have sex with men; positive deviance

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### Introduction

Because people living with HIV (PLWH) who have undetectable viral loads do not transmit the virus to others (Eisinger et al., 2019), antiretroviral therapy (ART) adherence and viral suppression are key to reducing transmission risk. However, despite extensive improvements in HIV treatment regimens, Black sexual minority men living with HIV (BSMMLWH) are less likely to adhere to ART or be virally suppressed than other SMMLWH (Beer et al., 2016; Jeffries IV et al., 2020), even after accounting for socio-economic differences (Buchacz et al., 2018; Hoots et al., 2017; Jeffries IV et al., 2020). Only 61% of BSMMLWH are virally suppressed (Centers for Disease Control and Prevention, 2020; Jeffries IV et al., 2020). Additionally, BSMMLWH younger than 35 years of age are less likely to be virally suppressed than those older than 35 years of age (Sheehan et al., 2020; Singh et al., 2017). Barriers to health care maintenance and treatment adherence among BSMMLWH include multi-level factors such as stigma, racism, medical mistrust, substance use, and depression (Bogart et al., 2016; Dale et al., 2016; Dangerfield II et al., 2018; Quinn & Voisin, 2020). Solutions to address these barriers are not well understood.

For BSMM of different ages and life phases (e.g., men ages 35 and older vs men younger than 35), improvements in ART regimens could impact adherence. Older BSMMLWH could be more invested in ART adherence and viral suppression as a result of their exposure to AIDS-related deaths in the 1990s (Dangerfield II et al., 2018; Mutchler et al., 2019). Comparatively, younger men could have competing priorities such as housing insecurity due to being low- resourced young adults (Creasy et al., 2019; Dangerfield II et al., 2018). However, although a high proportion of BSMMLWH are not adherent to ART, little focus is given to the 60% of BSMMLWH who achieve viral suppression despite the known barriers.

Little attention is given to the “positive” proportion that has achieved long-term viral suppression (Brion, 2014; Carey et al., 2018). Although apparent factors such as having health care coverage, “good” relationships with clinicians, social support, and single treatment regimens are established (Altice et al., 2019; Carey et al., 2018; Friedman et al., 2017; Jemmott et al., 2019; Turan et al., 2017), few studies have described how BSMMLWH maintain ART adherence to achieve durable viral suppression. Likewise, little is also known regarding how adherence strategies differ by age group given their various exposures to stigma, discrimination, and drug use trends.

To fill this gap, this study used Positive Deviance (Marsh, 2004) and Life Course Theory (LCT; Elder, 1998) as frameworks to explore ART adherence strategies among BSMMLWH who have achieved long-term viral suppression. Positive deviance refers to uncommon practices, symbiotic, interdependent goals and values, and other less-known factors that

foster positive outcomes among groups that typically have high probabilities of negative outcomes (Berggren & Wray, 2002; Friedman et al., 2008; Marsh, 2004; Ober, Dangerfield et al., 2017). In this study, a “positive deviant” is someone who deviates from a high-risk trajectory (i.e., BSMMLWH who experience stigma, discrimination, and/or substance use) but still maintains HIV treatment adherence and achieves viral suppression. LCT highlights the role of generational differences in exposure to HIV treatment and prevention options on HIV outcomes among BSMMLWH (Dangerfield II et al., 2020; Dangerfield II et al., 2017; Jones et al., 2019). Together, these frameworks can be used to explore strategies and pathways to ART adherence among virally suppressed BSMMLWH. Findings from this study could be incorporated into behavioral and clinical interventions to circumvent multi-level barriers to ART adherence among BSMMLWH.

## Methods

In-depth qualitative interviews were conducted with 27 BSMMLWH in Baltimore, Maryland and Los Angeles, California between December 2018 and May 2019. Participants were recruited using active (i.e., contacting participants from existing studies) and passive (i.e., posting fliers in HIV care clinics) strategies and stratified by age group due to virological suppression differences as previously described—18 to 34 years and 35 years and older. Interested individuals were screened for eligibility by phone and then invited for an additional in- person eligibility screening. Participants were eligible based on the following criteria: self- identifying as Black or African American, being 18 years of age, LWH, and having an undetectable viral load for at least 1 year prior to study enrollment. HIV status and viral load were confirmed by reviewing standard of care labs from patient records provided by participants or verifying their medical records upon their signature on a release of health information form.

In-depth interviews were audio-recorded and conducted in a private, designated clinical research space at the Johns Hopkins School of Nursing in Baltimore or the University of California Los Angeles (UCLA) Vine Street Clinic in Hollywood. Interviews were conducted by the principal investigator (D.T.D.) or a trained research assistant (M.J.L.) and lasted 50 to 75 minutes. The interview guide was designed using Positive Deviance and LCT frameworks and included questions regarding treatment initiation, the times that medications are taken, where medications are stored, and strategies for treatment adherence (see Supplemental Document). Interviewers also asked targeted questions regarding experiences of stigma, substance use, ART adherence challenges, and how participants overcome multi-level barriers. Example questions included, “How do you manage to take your medicine at that time everyday?,” “How does your drug use or drinking impact the way you take your medication?,” and “How does your relationship with your health care provider impact your medication adherence?” Participants were also probed on experiences of HIV stigma and discrimination and how they overcome stigma from family members, friends, potential partners, and society. All participants provided written informed consent. Study procedures were approved by the Johns Hopkins School of Medicine (IRB #: IRB00185960) and the UCLA Institutional Review Boards 18-002022-CR- 00001).

## Data Analysis

The audio-recordings from interviews were transcribed verbatim. Data analysis involved an iterative, multi-step process to identify the range of themes regarding treatment adherence strategies. Transcript coding was conducted using Atlas.ti 8.4. The study team designed an a priori codebook guided by Positive Deviance and LCT domains in the interview guide. The first author then read a sample of transcripts exploring the appropriateness of the codebook relative to the transcripts and updated the codebook accordingly. Themes were identified as patterns that were associated with specific research questions or expressions that provided novel responses related to the theoretical framework (Denzin & Lincoln, 2011; Ober, Dangerfield II et al., 2017; Ryan & Bernard, 2003). We then used an adapted “pile sorting approach” (Ober, Dangerfield II et al., 2017; Ryan & Bernard, 2003) to identify the range of strategies and other multi-level factors that support BSMMLWH with ART adherence. Specifically, all quotes that were associated with specific codes in Atlas.ti were copied and pasted electronically in an Excel sheet and organized by code. These quotes were reviewed by the research team and sorted for similar responses within the Excel sheet. The study team discussed these decisions and agreed on electronic “piles” (Dangerfield II, Heidari et al., 2020; Ober, Dangerfield II et al., 2017). These piles represented the themes (range of ART strategies and multi-level factors) associated with treatment adherence for BSMMLWH. To identify a range of themes, novel responses of which at least one person mentioned were also considered (Dangerfield II et al., 2020). To explore how themes were distributed across age groups, we assessed the ages of participants who mentioned each theme and explored how salient those were by age group.

The consolidated criteria for reporting qualitative research (COREQ) was followed throughout the research process to maximize the analytic rigor process and the trustworthiness of findings (Tong et al., 2007). For credibility, the study team included a culturally diverse and interdisciplinary membership with expertise including social science, behavioral health, drug use, sexual health among BSMM, LCT, and Positive Deviance. For confirmability, the team participated in ongoing biweekly meetings to review audio-recordings and intentionally discuss the team members’ social positions relative to BSMMLWH, their research motivations, and limitations of expertise (Dangerfield II, Heidari et al., 2020). This process allowed the team to identify potential biases and limitations in perspectives to gather high-quality data, identify theoretical saturation, and explore the extent to which findings were applicable to other contexts (Dangerfield II, Heidari et al., 2020; Tong et al., 2007; White et al., 2019).

## Results

The mean age of participants was 41.3 years (range, 23-64, SD 13.0). Nineteen (70.3%) participated in Baltimore, and the remaining eight participated in Los Angeles. Twelve (44%) were younger than 35 years of age; the remaining 66% were age 35 and older. Most (89%) were renting or owned their own place; 30% were working full time, 14.8% were working part time, and 37% reported being disabled. The majority (67%) also reported an annual income of less than \$20,000 per year. Most (78%) reported being single.

## Thematic Findings

Overall, interviews yielded common adherence patterns, such as taking medicine at the same time every day (either morning or night), taking medicine when eating, using pillboxes, and leaving medication in places they could see and that others could not see. Of note, one participant shared that he takes his medicine every morning after he feeds his dog, although he did not refer to this as an intentional strategy. However, we found a theme of generation-specific strategies, with similar motivations across groups such as having a will to live and wanting to avoid AIDS-related complications. Having trusted, caring clinicians and supportive social networks to check in on well-being and adherence were also identified as factors related to adherence. Additionally, we found a theme of strategic substance use that was intended not to interfere with adherence. No patterns in medication brand or prescribed medication regimen emerged, although no one mentioned using more than two pills for treatment. Participant IDs have been maintained for privacy.

### **Age-group-specific strategies: Taking multiple daily medications**

**simultaneously and using technology for reminders.**—Across age groups, participants shared that they initially began their treatment adherence using pillboxes to organize their medications. However, most older than 35 years of age mentioned that their ART adherence coincided with adherence to other medications for chronic conditions, such as diabetes or hypertension. When asked how they have adhered to HIV medications for so long, one man said, “Well, I take blood pressure medicine. I take acid reflux medicine. I take medicine for my prostate.” (Participant 008, age 63, 17 years undetectable). Older participants mentioned how needing to manage multiple chronic illnesses along with HIV helped them maintain treatment adherence for all of those conditions. Another man put it this way,

“I take basically all of them at the same time, so I won't forget. Because normally when I tried it in the past, like, ‘I will take this one at this time,’ it never works. So, then I just get up, once I eat, and it doesn't bother me. I just take all three of them.” (Participant 003, Age 58, 3 years undetectable)

Comparatively, younger participants (younger than age 35) mentioned using technologies such as smartphones and gaming systems to set daily reminders for their medication. One said, “I just set it. ‘Take your medication.’ I set alarms for everything...It's a daily alarm that goes off every day” (Participant 007, Age 32, 3 years undetectable). Another mentioned leaving his medicine in front of and relying upon the clock on his Xbox gaming system that he sees and uses every day to remind him to take his medicine every night. When asked about concerns if anyone would see the alarms on their phones or devices, most younger men who used this strategy said, “I don't really care.” Despite sharing that medicines were located in places where others could not see them, younger participants who set reminders on their smartphones mentioned prioritizing the need to take their medicine over potential feelings of stigma if someone saw their phones. Older men mentioned that taking medications for multiple conditions shielded them from scrutiny from visitors about any one condition. This suggests age or generational differences in reactions to and concerns about stigma related to HIV.

**Symbiotic goals and values: Avoiding AIDS and wanting to live.**—Men across age groups described interdependent attitudes, goals, and values that motivated ART adherence, which also could have impacted treatment initiation. For example, when asked why they consistently take their medications in the midst of HIV stigma, men consistently said, “I want to live.” One of the younger participants described his decision to initiate treatment immediately this way,

“I was like, ‘Okay. There’s two choices. Either I can give up now and become a statistic, or I can move forward and do something about it. Catch it early and get into treatment.’ Either you want to die or do you want to live? It’s pretty much like that. And I chose to live because I have so much to do, so much to accomplish. And I want to leave my footprint on this world—my imprint on this world that I did something with my life. I made a difference.” (Participant L160212, Age 30, 6 years undetectable)

Most participants mentioned wanting to live to achieve future goals, to support younger family members, and be a role model for younger BSMM, even though some men reported a history of suicide ideation after their diagnosis. Of note, some also described their initial AIDS diagnosis as a “wake up call” that helped them refocus on their lifestyles and health after seasons of negative health behaviors such as drug use and condomless sex to cope with histories of trauma.

Participants also mentioned maintaining adherence to avoid an AIDS diagnosis or related complications because of the increased stigma associated with AIDS symptoms. When asked why they managed to maintain medication adherence for so long, one man said,

“Because I got sick. In the hospital, I was dying. My kidney failed. I couldn’t breathe. I kept getting thrush in my mouth. I got boils under both of my arms, on my ass... They know I’m sick. And then when I told my parents, they alienated me. My momma had a chair she let me sit in, my own silverware. I couldn’t use our bathroom. If I had to take a shit, I had to go to the gas station, because they weren’t knowledgeable. So I took all of that into consideration.” (Participant 010, Age 49, 4 years undetectable)

Statements such as this revealed how experiencing AIDS-related stigma from family motivated men to adhere to treatment to avoid future rejection.

**Strong Health Care Provider Relationships**—Another theme across groups was the relationship with clinicians as an integral part of BSMMMLWH maintaining ART adherence. Participants mentioned having clinicians who “cared about them” and with whom they had genuine, trusted relationships regardless of race, gender, or sexual orientation. They said they could share personal concerns, trust that their clinicians would not express judgment or stigma, and expected their clinicians to share resources to help them. Some participants regarded their clinicians as family members. Many described how these clinicians rarely emphasized ART or reducing drug use during follow-up appointments. One man described it this way,

“First of all, every time I came to see him he made me feel like I was a star or something. Because when I first started coming to him, he was like, ‘I want to know everything that's going on with your life. What's going on?’ So I told him that I did pageants and I was a dancer and everything like that. So whenever I came in, he's like, ‘Oh my god, it's my favorite client, my celebrity client.’ And I'm like, ‘Wow, I'm a celebrity?’ And he'd be like, ‘Do you got pictures, videos of anything you did?’ He became very personal. He always wanted me to call him by his first name...Because he wanted it to be a thing of a personal relationship... I felt like I can trust him. He wanted to know more about me.” (Participant 005, age 36, 10 years undetectable)

Although men also described facilities with co-located mental health and social services, their clinicians were regarded as the greatest motivation for attending the facility and inspired them to retain their care. Some men shared that they adhered to treatment to please their providers (which also could be considered a symbiotic goal). One participant said,

“I know she'll (my doctor) want me to take it. That would be her main concern, ‘Why aren't you taking it?’ And then if you give her a dumb answer, she's going to work with you for a little while, you're not going to follow her directions, then she's going to let you go.” (Participant 001, age 55, 20 years undetectable).

This man also described a history of homelessness and leaving his medication with a trusted social worker at a clinic where he could shower daily and take his medication. One participant also shared a novel perspective related to how clinical visits provided an opportunity to see his progress since his diagnosis. He mentioned how seeing his viral load decrease and T-cell count increase over time inspired him to maintain his undetectable viral load, like a game.

**Social Support and Friendly Social Pressure**—Most older men mentioned that their family did not know they were LWH or gay/bisexual men. However, men across groups described going to support meetings at clinics and community-based organizations for PLWH (not necessarily Black or gay-identified) where they could discuss personal issues and learn life skills such as professional development, health care navigation, and medical news. Participants also mentioned having both formal and informal social support networks that helped them maintain adherence. Younger men discussed having a “group chat” in which other friends who were BSMMLWH checked in on each other daily with “good morning” text messages and assessed each other's medication adherence. Some younger men described how any indication that someone in the network was non-adherent resulted in a friendly social pressure intervention in which the group (or a leading member) galvanized to inquire about their challenges and inspire them to maintain their regimen. For example, one person said this when describing times when he told the group he was not taking his medicine,

“They cuss me out. And it's not a regular cuss out. I don't need that kind of negative energy in my life because I like to fight, bro. [But I know] they're doing it out of love. And if I really didn't want the help, I wouldn't open my mouth. They



only know information that you tell them.” (Participant 013, age 30, undetectable 9 years)

Of note, participants who mentioned having a history of suicide ideation after their diagnosis mentioned that these kinds of social networks also provided emotional support that prevented attempts to harm themselves.

**Strategic Substance Use**—Among participants who described current drug and alcohol use, most discussed ensuring that they took their medication long before drinking and/or drug use in the day to ensure that the substances did not “interact with” their HIV medications and potentially impact the efficacy of their medication. This strategic substance use could inadvertently result in lower substance use and greater ART adherence among BSMMLWH. For example,

“I generally try to take my medicine before I start drinking throughout the day. That's just my general practice that I try to do. I try to keep my medicine on a steady schedule. And I do the same with my drinking. So they don't really clash with each other.” (Participant 017, age 35, undetectable 2 years)

Some who mentioned that they were not necessarily monitoring their substance use shared that they typically take their medications as a part of their morning routine anyway and did not use drugs before morning routines such as showering or eating breakfast.

## Discussion

This study identified treatment adherence strategies, motivations, and other supportive factors among virally suppressed BSMMLWH. Overall, we found nuanced motivations and age-related differences in strategies for adherence, along with how interrelated, symbiotic goals and values, close relationships with clinicians, and social support with friendly social pressure supported ART adherence among BSMMLWH. Findings support the need for multi-level intervention strategies targeting social, behavioral, and clinical activities to support BSMMLWH of different age groups and HIV stages with ART adherence.

We found some age-related differences in ART adherence strategies and supportive factors. However, it is important to highlight that regardless of age, men shared experiences navigating anticipated and enacted HIV stigma from family and society despite high levels of adherence. Although it is well established that HIV stigma decreases ART adherence (Camacho et al., 2020; Quinn & Voisin, 2020), men of all ages in the present study adhered to medications despite the pervasiveness of HIV stigma in their lives. Identifying personal values and goals for the future, having strong relationships with providers, and being connected with social support networks could be key components in supporting BSMM of different HIV stages in ART adherence, despite the prevalence stigma.

Although interventions utilizing technology and social networks to remind BSMMLWH to take their medication have been promising, data from the present study provide additional insight regarding the larger role of social networks as being emotional support systems for overall well-being, which includes ART adherence. More information is needed regarding the role of peers as interventionists to support BSMMLWH in ART adherence. Specifically,

more clarity is needed related to whether or not the relative impact of the social support is simply due to having a homogenous group of BSMMLWH, or whether having close personal friends of any demographic has a similar impact on adherence for this group. Potentially, a patient-provider intervention could utilize clinicians who provide clinical and emotional “care” or leverage existing friendship networks in behavioral interventions to promote ART adherence for BSMMLWH.

Having a will to live inspired by goals for the future influenced treatment adherence for BSMMLWH. This is important to note because suicide ideation is prevalent among people of different stages of living with HIV (Ferlatte et al., 2017; Kalichman et al., 2000). However, the present study suggests that having personal future goals could inadvertently improve ART adherence to achieve viral suppression to realize those goals. Of note, interviews suggested that men clarified their will to live and goals for the future after receiving their diagnosis. Other research showed how some PLWH reframe HIV/AIDS diagnoses as an opportunity to receive support and live a healthier lifestyle that may have been better than before their diagnosis (Garrido-Hernansaiz et al., 2017; Watkins-Hayes, 2019). Interventions to support BSMMLWH could identify personal goals and values that may inspire men to be healthy and achieve viral suppression through ART adherence.

We found that having close, personal relationships with health care providers could also contribute to ART adherence among BSMMLWH. Many studies have documented stigmatizing and discriminatory experiences with health care providers among BSMM, which can increase medical mistrust and poor quality of care (Arnold et al., 2014; Cuevas et al., 2016; Quinn, Dickson-Gomez, Zarwell, et al., 2018). Additionally, experiences of stigma due to HIV status and rejection from family members is associated with poor ART adherence and HIV management (Li et al., 2014; Quinn, Dickson-Gomez, Broaddus, et al., 2018; Rueda et al., 2016). Conversely, a family-like and caring relationship between patients and providers is key in medication adherence and successful disease management across chronic conditions (Brion, 2014; Dawson-Rose et al., 2016). Positive engagement with health care providers regularly could provide BSMMLWH an opportunity to receive emotional “care” that they did not receive from family (Dangerfield II et al., 2020). Finding ways to build rapport with BSMMLWH could be a crucial component of supporting retention in HIV care and ART adherence for this group because health care providers need to know the details related to patient lifestyles and health (Brion, 2014). Having a goal to please health care providers could result from having a closer, trusted relationship and subsequently improve adherence to treatment recommendations. Future research should continue to investigate the specific components and dialogue of positive patient-provider communication for rapport building with this population, because many studies show high prevalence of medical mistrust and provider dissatisfaction among BSMM (Bogart et al., 2016; Dale et al., 2016; Quinn, Dickson-Gomez, Zarwell, et al., 2018).

There are limitations to consider. This study included a convenience sample and may not be representative of BSMMLWH. Participants were recruited from urban contexts and may not necessarily represent the experiences and perspectives of those from rural or suburban jurisdictions. Additionally, analysis by age group was limited to two age groups, which may not highlight the full scope of the role of age-group differences among BSMMLWH.

Data from the present study also do not quantify enacted or anticipated stigma. Therefore, inferences on the prevalence and relative impact of stigma on adherence is limited.

This research provides important insight into how a highly stigmatized, high-need population may be maintaining adherence to ART. Future research could expand upon this study by increasing this sample size and exploring potential differences among more distinct age groups of BSMM. Behavioral interventions could find ways to leverage existing personal strengths and goals along with the social networks of BSMMLWH to improve ART adherence. Clinical interventions should include patient-provider communication strategies to build rapport with BSMMLWH. Interventions could also find ways to gamify ART adherence and viral suppression. HIV providers should understand how having a positive, trusted relationship with their BSMMLWH patients can improve adherence and viral suppression for this population. Conversely, providers should also understand that intersectional experiences of being low- resourced minority men with potential histories of stigma and trauma can impact patient communication with providers and treatment adherence for BSMM (Brion, 2014; Dangerfield II, Cooper et al., 2020). A positive deviance framework in which uncommon or understudied supportive factors and strategies are leveraged could inform a multi-level intervention in community-based or clinical settings.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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## References

- Altice F, Evuarherhe O, Shina S, Carter G, & Beaubrun AC (2019). Adherence to HIV treatment regimens: Systematic literature review and meta-analysis. *Patient Preference and Adherence*, 13, 475–490. 10.2147/PPA.S192735 [PubMed: 31040651]
- Arnold EA, Rebhook GM, & Kegeles SM (2014). “Triply cursed”: Racism, homophobia, and HIV-related stigma are barriers to regular HIV testing, treatment adherence, and disclosure among young Black gay men. *Culture, Health & Sexuality*, 16(6), 710–722. 10.1080/13691058.2014.905706
- Beer L, Bradley H, Mattson CL, Johnson CH, Hoots B, & Shouse RL (2016). Trends in racial and ethnic disparities in antiretroviral therapy prescription and viral suppression in the United States, 2009–2013. *Journal of Acquired Immune Deficiency Syndromes (1999)*, 73(4), 446–453. 10.1097/QAI.0000000000001125 [PubMed: 27391389]
- Berggren WL, & Wray JD (2002). Positive deviant behavior and nutrition education. *Food and Nutrition Bulletin*, 23(4 Suppl), 9–10. PMID: 12503226. [PubMed: 12503226]
- Bogart LM, Wagner GJ, Green HD, Mutchler MG, Klein DJ, McDavitt B, Lawrence SJ, & Hilliard CL (2016). Medical mistrust among social network members may contribute to antiretroviral treatment nonadherence in African Americans living with HIV. *Social Science & Medicine*, 164, 133–140. 10.1016/j.socscimed.2016.03.028 [PubMed: 27046475]

- Brion J (2014). The patient–provider relationship as experienced by a diverse sample of highly adherent HIV-infected people. *Journal of the Association of Nurses in AIDS Care*, 25(2), 123–134. 10.1016/j.jana.2013.01.006
- Buchacz K, Armon C, Tedaldi E, Palella FJ, Novak RM, Ward D, Hart R, Durham MD, Brooks JT, & the HIV Outpatient Study Investigators. (2018). Disparities in HIV viral load suppression by race/ethnicity among men who have sex with men in the HIV Outpatient Study. *AIDS Research and Human Retroviruses*, 34(4), 357–364. 10.1089/aid.2017.0162 [PubMed: 29316797]
- Camacho G, Kalichman S, & Katner H (2020). Anticipated HIV-related stigma and HIV treatment adherence: The indirect effect of medication concerns. *AIDS and Behavior*, 24(1), 185–191. 10.1007/s10461-019-02644-z [PubMed: 31432297]
- Carey JW, Carnes N, Schoua-Glusberg A, Kenward K, Gelaude D, Denson D, Gall E, Randall LA, & Frew PM (2018). Barriers and facilitators for clinical care engagement among HIV-positive African American and Latino men who have sex with men. *AIDS Patient Care and STDs*, 32(5), 191–201. 10.1089/apc.2018.0018 [PubMed: 29668307]
- Centers for Disease Control and Prevention. (2020, 2 4). HIV and African American gay and bisexual men | HIV by Group | HIV/AIDS | CDC. Retrieved from <https://www.cdc.gov/hiv/group/msm/bmsm.html>
- Creasy SL, Henderson ER, Bukowski LA, Matthews DD, Stall RD, & Hawk ME (2019). HIV testing and ART adherence among unstably housed Black men who have sex with men in the United States. *AIDS and Behavior*, 23(11), 3044–3051. 10.1007/s10461-019-02647-w [PubMed: 31456200]
- Cuevas AG, O'Brien K, & Saha S (2016). African American experiences in healthcare: “I always feel like I’m getting skipped over”. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association*, 35(9), 987–995. 10.1037/hea0000368
- Dale SK, Bogart LM, Wagner GJ, Galvan FH, & Klein DJ (2016). Medical mistrust is related to lower longitudinal medication adherence among African-American males with HIV. *Journal of Health Psychology*, 21(7), 1311–1321. 10.1177/1359105314551950 [PubMed: 25293970]
- Dangerfield DT II, Cooper J, Heidari O, Allen S, Winder TJA, & Lucas GM (2020). Nursing and health care preferences among opioid and stimulant using Black sexual minority men: An exploratory study. *Journal of the Association of Nurses in AIDS Care*, *Publish Ahead of Print*. 10.1097/JNC.0000000000000201
- Dangerfield DT II, Harawa NT, McWells C, Hilliard C, & Bluthenthal RN (2018). Exploring the preferences of a culturally congruent, peer-based HIV prevention intervention for black men who have sex with men. *Sexual Health*, 15(5), 424–430. 10.1071/SH18057 [PubMed: 30185352]
- Dangerfield DT II, Heidari O, Cooper J, Allen S, & Lucas GM (2020). Motivations for opioid and stimulant use among drug using black sexual minority men: A life course perspective. *Drug and Alcohol Dependence*, 108224. 10.1016/j.drugalcdep.2020.108224 [PubMed: 32777690]
- Dangerfield DT II, Smith LR, Anderson JN, Bruce OJ, Farley J, & Bluthenthal R (2017). Sexual positioning practices and sexual risk among Black gay and bisexual men: A life course perspective. *AIDS and Behavior*, 22(6), 1919–1931. 10.1007/s10461-017-1948-6
- Dawson-Rose C, Cuca YP, Weibel AR, Solís Báez SS, Holzemer WL, Rivero- Méndez M, Sanzero Eller L, Reid P, Johnson MO, Kemppainen J, Reyes D, Nokes K, Nicholas PK, Matshediso E, Mogobe KD, Sabone MB, Ntsayagae EI, Shaibu S, Corless IB, ... Lindgren T (2016). Building trust and relationships between patients and providers: An essential complement to health literacy in HIV care. *Journal of the Association of Nurses in AIDS Care*, 27(5), 574–584. 10.1016/j.jana.2016.03.001
- Denzin NK, & Lincoln YS (2011). *The SAGE handbook of qualitative research*. Sage.
- Eisinger RW, Dieffenbach CW, & Fauci AS (2019). HIV viral load and transmissibility of HIV infection: Undetectable equals untransmittable. *JAMA*, 321(5), 451–452. 10.1001/jama.2018.21167 [PubMed: 30629090]
- Elder GH (1998). The life course as developmental theory. *Child Development*, 69(1), 1–12. 10.1111/j.1467-8624.1998.tb06128.x [PubMed: 9499552]

- Ferlatte O, Salway T, Oliffe JL, & Trussler T (2017). Stigma and suicide among gay and bisexual men living with HIV. *AIDS Care*, 29(11), 1346–1350. 10.1080/09540121.2017.1290762 [PubMed: 28278571]
- Friedman MR, Coulter RWS, Silvestre AJ, Stall R, Teplin L, Shoptaw S, Surkan PJ, & Plankey MW (2017). Someone to count on: Social support as an effect modifier of viral load suppression in a prospective cohort study. *AIDS Care*, 29(4), 469–480. 10.1080/09540121.2016.1211614 [PubMed: 27456040]
- Friedman SR, Mateu-Gelabert P, Sandoval M, Hagan H, & Jarlais DC (2008). Positive deviance control-case life history: A method to develop grounded hypotheses about successful long-term avoidance of infection. *BMC Public Health*, 8(1), 94. 10.1186/1471-2458-8-94 [PubMed: 18366699]
- Garrido-Hernansaiz H, Murphy PJ, & Alonso-Tapia J (2017). Predictors of resilience and posttraumatic growth among people living with HIV: A longitudinal study. *AIDS and Behavior*, 21(11), 3260–3270. 10.1007/s10461-017-1870-y [PubMed: 28741136]
- Hoots BE, Finlayson TJ, Wejnert C, Paz-Bailey G, & National HIV Behavioral Surveillance (NHBS) Study Group. (2017). Updated data on linkage to human immunodeficiency virus care and antiretroviral treatment among men who have sex with men-20 cities, United States. *The Journal of Infectious Diseases*, 216(7), 808–812. 10.1093/infdis/jix007 [PubMed: 28368493]
- Jeffries WL IV, Dailey A, Jin C, Carter J, & Scales L (2020). Trends in diagnosis of HIV infection, linkage to medical care, and viral suppression among men who have sex with men, by race/ethnicity and age—33 jurisdictions, United States, 2014–2018. *MMWR. Morbidity and Mortality Weekly Report*, 69. 10.15585/mmwr.mm6938a1
- Jemmott JB, Zhang J, Croom M, Icard LD, Rutledge SE, & O’Leary A (2019). Barriers and facilitators to engaging African American men who have sex with men in the HIV care continuum: A theory-based qualitative study. *Journal of the Association of Nurses in AIDS Care*, 30(3), 352–361. 10.1097/JNC.0000000000000087
- Jones NL, Gilman SE, Cheng TL, Drury SS, Hill CV, & Geronimus AT (2019). Life course approaches to the causes of health disparities. *American Journal of Public Health*, 109(S1), S48–S55. 10.2105/AJPH.2018.304738 [PubMed: 30699022]
- Kalichman SC, Heckman T, Kochman A, Sikkema K, & Bergholte J (2000). Depression and thoughts of suicide among middle-aged and older persons living with HIV-AIDS. *Psychiatric Services*, 51(7), 903–907. 10.1176/appi.ps.51.7.903 [PubMed: 10875956]
- Li MJ, Murray JK, Suwanteerangkul J, & Wiwatanadate P (2014). Stigma, social support, and treatment adherence among HIV-positive patients in Chiang Mai, Thailand. *AIDS Education and Prevention*, 26(5), 471–483. 10.1521/aeap.2014.26.5.471 [PubMed: 25299810]
- Marsh DR (2004). The power of positive deviance. *BMJ*, 329(7475), 1177–1179. 10.1136/bmj.329.7475.1177 [PubMed: 15539680]
- Mutchler MG, Bogart LM, Klein DJ, Wagner GJ, Klinger IA, Tyagi K, & McDavitt B (2019). Age matters: Differences in correlates of self-reported HIV antiretroviral treatment adherence between older and younger Black men who have sex with men living with HIV. *AIDS Care*, 31(8), 965–972. 10.1080/09540121.2019.1612020 [PubMed: 31072114]
- Ober AJ, Dangerfield DT II, Shoptaw S, Ryan G, Stucky B, & Friedman SR (2017). Using a “positive deviance” framework to discover adaptive risk reduction behaviors among high-risk HIV negative Black men who have sex with men. *AIDS and Behavior*, 22(5), 1699–1712. 10.1007/s10461-017-1790-x
- Quinn K, Dickson-Gomez J, Broaddus M, & Kelly JA (2018). “It’s almost like a crab-in-a-barrel situation”: Stigma, social support, and engagement in care among Black men living with HIV. *AIDS Education and Prevention*, 30(2), 120–136. 10.1521/aeap.2018.30.2.120 [PubMed: 29688770]
- Quinn K, Dickson-Gomez J, Zarwell M, Pearson B, & Lewis M (2018). “A gay man and a doctor are just like, a recipe for destruction”: How racism and homonegativity in healthcare settings influence PrEP uptake among young Black MSM. *AIDS and Behavior*. 10.1007/s10461-018-2375-z
- Quinn KG, & Voisin DR (2020). ART adherence among men who have sex with men living with HIV: Key challenges and opportunities. *Current HIV/AIDS Reports*, 17, 290–300. 10.1007/s11904-020-00510-5 [PubMed: 32557117]

- Rueda S, Mitra S, Chen S, Gogolishvili D, Globerman J, Chambers L, Wilson M, Logie CH, Shi Q, Morassaei S, & Rourke SB (2016). Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: A series of meta-analyses. *BMJ Open*, 6(7), e011453. 10.1136/bmjopen-2016-011453
- Ryan GW, & Bernard HR (2003). Techniques to identify themes. *Field Methods*, 15(1), 85–109. 10.1177/1525822X02239569
- Sheehan DM, Dawit R, Gbadamosi SO, Fennie KP, Li T, Gebrezgi M, Brock P, Ladner RA, & Trepka MJ (2020). Sustained HIV viral suppression among men who have sex with men in the Miami-Dade County Ryan White Program: The effect of demographic, psychosocial, provider and neighborhood factors. *BMC Public Health*, 20(1), 326. 10.1186/s12889-020-8442-1 [PubMed: 32169065]
- Singh S, Mitsch A, & Wu B (2017). HIV care outcomes among men who have sex with men with diagnosed HIV infection—United States, 2015. *MMWR. Morbidity and Mortality Weekly Report*, 66, 969–974. 10.15585/mmwr.mm6637a2 [PubMed: 28934185]
- Tong A, Sainsbury P, & Craig J (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, 19(6), 349–357. 10.1093/intqhc/mzm042 [PubMed: 17872937]
- Turan B, Hatcher AM, Weiser SD, Johnson MO, Rice WS, & Turan JM (2017). Framing mechanisms linking HIV-related stigma, adherence to treatment, and health outcomes. *American Journal of Public Health*, 107(6), 863–869. 10.2105/AJPH.2017.303744 [PubMed: 28426316]
- Watkins-Hayes C (2019). *Remaking a life: How women living with HIV/AIDS confront inequality*. University of California Press.
- White JJ, Dangerfield DT II, & Grieb SM (2019). Methodological considerations for conducting focus groups in HIV prevention research among Black men who have sex with men. *Public Health Nursing*, 36(3), 439–445. 10.1111/phn.12592 [PubMed: 30761620]

**Table 1.**

Demographic Characteristics Among Virally Suppressed BSMM LWH in Baltimore, Maryland and Los Angeles, California, 2018-2019 (n = 27)

	<i>n</i> (%)
Age	
Range	23-64
Mean ( <i>SD</i> )	41.3 (13.0)
Younger than 35 years	12 (44.4)
35 years and older	15 (65.6)
Highest level of education completed	
1st-11th grade	2 (7.4)
High school diploma or GED	7 (25.9)
Some college	6 (22.2)
Associates degree	3 (11.1)
College degree or higher	7 (25.9)
Vocational training	1 (3.7)
Housing status	
Renting or owning own place	24 (88.9)
Living with a friend	3 (11.1)
Employment status	
Full-time	8 (29.6)
Part-time	4 (14.8)
Unemployed	2 (7.4)
Disabled	10 (37.0)
Retired	3 (11.1)
Sexual orientation	
Gay, homosexual, same gender loving	24 (88.9)
Bisexual	2 (7.4)
Something else	1 (3.7)
Annual income	
< \$10,000	5 (18.5)
\$10,000-\$20,000	13 (48.1)
\$20,000-\$30,000	2 (7.4)
> \$30,000	6 (22.2)
Relationship status	
Single or not in a relationship	21 (77.8)
In a committed relationship	3 (11.1)
Married to a man	2 (7.4)
Married to a woman	1 (3.7)
Study location	

	<i>n</i> (%)
Baltimore, Maryland	19 (70.3)
Los Angeles, California	8 (29.6)

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