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An Exploration of Syndemic Factors that Influence Engagement in HIV Care Among Black Men

Katherine G. Quinn,

Center for AIDS Intervention Research, Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, 2071 N. Summit, Milwaukee WI 53202, 414-955-7736

Sarah J. Reed,

Center for AIDS Intervention Research, Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, 2071 N. Summit, Milwaukee WI 53202, 414-966-7715

Julia Dickson-Gomez, and

Center for AIDS Intervention Research, Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, 2071 N. Summit, Milwaukee WI 53202, 414-955-7774

Jeffrey A. Kelly

Center for AIDS Intervention Research, Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, 2071 N. Summit, Milwaukee WI 53202, 414-955-7700

Abstract

Syndemic theory seeks to understand the interactions and clustering of disease and social conditions and explain racial disparities in HIV. Traditionally applied to HIV risk, this study characterizes the syndemic challenges of engagement in care among Black men living with HIV and provides insight into potential HIV treatment interventions to retain vulnerable individuals in care. Interviews were conducted with 23 HIV-positive men who were either out-of-care or non-adherent to antiretroviral therapy. Interviews were audio-recorded, transcribed verbatim, and coded using MAXQDA qualitative software. Researchers analyzed data using thematic content analysis to identify syndemic factors associated with disengagement in care or suboptimal ART adherence among Black men. Analyses revealed the syndemic nature of 4 themes: intersectional stigma, depression, substance use, and poverty. Findings from this study offer numerous opportunities for intervention including social and structural-level interventions to address syndemic processes and the influence of stigma and poverty on engagement in care.

Keywords

Syndemics; HIV/AIDS; Stigma; Substance Use; Mental Health

In the United States, only 66% of persons living with HIV are linked to care, and even fewer are retained in care (37%) and achieve suppressed viral load (25%; Hall et al., 2013). Poor retention in care is associated with delays in HIV antiretroviral initiation, virologic failure,

and death (Giordano et al., 2007). Antiretroviral therapy (ART) is an essential component of HIV prevention and treatment, and is the single most important factor in achieving undetectable viral loads (Flynn et al., 2004). In addition to viral suppression, ART adherence is correlated with reductions in hospitalizations (Paterson et al., 2000), mortality (Lima et al., 2009), slowed HIV disease progression (Benator et al., 2015), and improved quality of life (Burman et al., 2008). There are also important public health implications. ART adherence and subsequent viral suppression decreases the likelihood that people living with HIV will transmit the virus even when engaging in condomless intercourse (The Lancet HIV, 2017) and poor adherence has been linked to the emergence of drug-resistant strains of HIV (Tang & Pillay, 2004).

The efficacy of ART depends on optimal adherence and previous research has revealed that many individuals with HIV do not achieve optimal adherence (MacDonell, Jacques-Tiura, Naar, Fernandez, & ATN 086/106 Protocol Team, 2016). Furthermore, there are significant racial disparities in adherence; Black Americans have lower rates of adherence than White Americans (Sullivan et al., 2007) and are less likely to be retained in HIV medical care (T. P. Giordano, Hartman, Gifford, Backus, & Morgan, 2009). Engagement in care and adherence to antiretrovirals are associated with numerous factors including exposure to community violence (Quinn, Voisin, Bouris, & Schneider, 2016), lack of social support (MacDonell, Naar-King, Murphy, Parsons, & Huszti, 2011), low self-efficacy (Naar-King et al., 2006), and depression and anxiety (Reisner et al., 2009). There is also strong evidence that HIV stigma contributes to poor medication adherence (Quinn et al., 2017) by reducing self-efficacy for adherence and self-care and raising concerns about inadvertent disclosure of HIV status (Sweeney & Vanable, 2016). Furthermore, discrimination based on HIV serostatus, race, and sexual orientation is associated with poor treatment adherence over a 6-month period among Black men (Bogart, Wagner, Galvan, & Klein, 2010). These disparities in adherence and care subsequently contribute to greater vulnerability to poor HIV outcomes and may help explain the continued racial disparities in HIV (Maulsby et al., 2014).

The co-occurrence of multiple psychosocial and health conditions that contribute to health disparities is known as syndemics (Singer, 1994). Syndemics theory suggests that social inequalities contribute to the clustering of factors that increase HIV vulnerability (Singer, 1994) and provides context to the disproportionate burden of HIV experienced by Black men who have sex with men (MSM; Wilson et al., 2014). There are numerous factors that influence syndemic HIV risk, particularly for Black MSM. Research suggests that early-life adversities (e.g. sexual or physical abuse) contribute to psychosocial endemics (e.g. substance use, depression), which in turn increase HIV risk and disparities (Stall, Coulter, Friedman, & Plankey, 2015). This is supported by epidemiological data, which show that psychosocial health conditions are often interrelated among Black men and are subsequently associated with HIV risk (Dyer et al., 2012). Emerging research has also examined how social and structural factors interact to enhance HIV risk. Dyer and colleagues (2012) demonstrated how multiple negative life events including parental abuse, gay-related victimization, masculinity attainment, and internalized homonegativity, are associated with greater HIV risk for Black MSM. Additional research has demonstrated the syndemic nature of socioeconomic status, racism, homonegativity, and HIV status (Mizuno et al., 2012). Experiences of stigma associated with race or sexuality can increase stress and limit social

support, subsequently increasing risk for HIV via increased sexual and drug-related risk behaviors (Rosario, Scrimshaw, & Hunter, 2006). Similarly, Millett and colleagues (2012) demonstrated the impact of incarceration, low education, and low socioeconomic status on HIV risk among Black MSM.

While much of the existing literature focuses on syndemic HIV risk, only recently has a syndemic framework been used to understand antiretroviral adherence and engagement in care. Recent work suggests that syndemic factors are associated with reduced adherence and having a detectable viral load (Friedman et al., 2015). For example, the overall effect of syndemics on HIV risk and treatment outcomes increases with each additional syndemic factor. Much like the odds of unprotected anal intercourse increase based on number of syndemic factors (O'Leary, Jemmott, Stevens, Rutledge, & Icard, 2014), among HIV-infected men, every increase in the number of concomitant syndemic factors (namely, polysubstance use, depression, and sexual risk) is associated with higher HIV viral load (Friedman et al., 2015). However, little qualitative work has examined how syndemic factors emerge and operate to influence engagement in care. The goal of this qualitative study was to characterize syndemic challenges of engagement in care among HIV-infected Black men and examine the factors that synergistically influence engagement in care and ART adherence. This qualitative data can provide insight into factors that must be addressed to inform HIV treatment interventions for vulnerable individuals in care and strengthen our understanding of the effects of syndemics on HIV care among Black men.

Methods

This study took place in Milwaukee, Wisconsin, a city that, like much of the United States, experiences significant racial disparities in HIV. In 2016, the HIV diagnosis rate for Black males was fourfold higher than White men and the median age at HIV diagnosis was 28. Estimates indicate that only approximately 56% of persons living with HIV in Milwaukee are retained in care and 63% are virally suppressed (Wisconsin Department of Health Services, 2017). The aim of this study was to identify factors that contributed to being out-of-care or non-adherent to ART in an effort to improve engagement along the care continuum and reduce racial disparities in HIV.

Inclusion criteria were: being 18 years or older, HIV-positive, and self-identifying as Black or African American. We acknowledge that race is a social construct, yet given racial disparities in HIV, it is an important construct to consider. Thus, we situate the experiences of the men in this study within the context of institutionalized inequality and historical and political patterns of power inequity and racism. Additionally, participants had to be out-of-care (not receiving HIV care in the previous 6 months) or ART non-adherent (less than 90% adherence in the previous 30 days). Research assistants trained in qualitative and community-based participatory research methods conducted outreach at LGBT organizations, HIV/STI clinics, coffee shops, bars, homeless shelters, and other community organizations. Online outreach was done through Craigslist and LGBT newspapers.

The research assistants responsible for recruitment also conducted the interviews. The research coordinator conducted quality reviews on a sub-sample of each of the research

assistants' interviews to ensure consistency across interviews and improve interview techniques. Informed consent was received from each participant before the interview. Semi-structured interviews covered experiences with HIV testing, history of HIV care, treatment barriers, ART use and adherence, and social and family relationships. Medication adherence was measured using the Visual Analog Scale (VAS; Giordano, Guzman, Clark, Charlebois, & Bangsberg, 2004). Participants indicated on a visual scale of 0 to 100, the percentage of the time when they took their medications as prescribed in the previous month. After the interview, participants received \$30 and a resource guide, which provided resources for mental health, substance use, and HIV treatment. Interviews (lasted 45–75 minutes) were audio-recorded and transcribed verbatim. The research protocol was approved by the Institutional Review Board at [BLINDED].

Transcripts were uploaded to MAXQDA. Data analysis was grounded in thematic content analysis and utilized a three-stage analytic coding strategy including open, axial, and selective coding, as described by Corbin and Strauss (Corbin & Strauss, 2015). We began with an inductive approach to analysis to develop and refine codes. Five members of the research team independently read two interviews and constructed a list of themes that emerged from the interviews, which were used to develop an initial codebook. An additional list of deductive codes was added based on the interview guide and existing literature about syndemics and engagement in care among Black men. The codebook was applied to two additional interviews and the research team continued to refine the codebook (e.g. combine or split codes, enhance code definitions, etc.) until consensus on codes and definitions was reached. Four members of the research team applied the finalized codebook to all interviews. The final codebook included HIV attitudes (e.g. stigma, gossip), HIV diagnosis (e.g. time since diagnosis), medical care, general health, and antiretrovirals (e.g. reasons for nonadherence). Interviews were also coded by demographic variables (e.g., age, sex at birth, race, years since HIV diagnosis, and adherence). Coded interviews were analyzed using thematic content analysis to identify prevalent and overarching themes, explore relationships among codes, examine demographic differences among participants, and uncover how syndemic factors emerged in the lives of these participants.

Results

We conducted interviews with 24 HIV-infected Black men who reported being out of care or having suboptimal medication adherence. All but one participant was biologically male and as such, the only female participant was excluded from analyses. The remaining 23 participants self-reported being Black men. Nineteen of the 23 participants were gay or bisexual. Participants' ages ranged from 20 to 55 ($m = 36.1$ years). Fourteen (60%) were diagnosed with HIV within the previous five years. Medication adherence rates based on the VAS ranged from 0% to 99% ($m = 43.45\%$). Six (26%) reported taking their medications 90% of the time or greater, thirteen (56.5%) reported taking medications as prescribed less than 50% of the time, and eight (34.8%) reported taking no medication. Fourteen (60%) reported depression and five (22%) reported suicidal ideation or attempts following HIV diagnosis. Problematic drug and alcohol use was reported by 39% of the sample ($n=9$). Analyses revealed the interconnection of intersectional stigma, depressive symptoms associated with HIV, HIV as a catalyst for substance use, and syndemics within the context

of poverty, which collectively contributed to disengagement in HIV care or suboptimal antiretroviral adherence. The results are organized around these four themes. Pseudonyms are used throughout.

Intersectional stigmas

Intersectional stigmas, the overlapping stigmas associated with race, gender, sexual orientation, HIV status, and other marginalized identities (Logie, James, Tharao, & Loutfy, 2011), was a prominent barrier to engagement in care. Across the interviews, participants recalled experiences of HIV stigma, racism, and homonegativity, and described the challenges associated with the intersectional nature of these stigmas.

Milwaukee is a small city. The African-American community is smaller. And you go through stages of disclosure and you want to let people know when you feel comfortable letting them know. You don't want to get out in the community. It's very vicious. . . . It's like twice that negative stigma. Because they automatically assume that you are gay. They automatically assume that you got [HIV] as a punishment, and they automatically assume that it's contagious. The gay community is more educated. African American is not nearly as caught up. . . it's a double whammy.

–Geoffrey, age 55

The intersection of race, sexuality, and HIV status was particularly evident among gay and bisexual men. Participants felt like a 'stereotype' for having contracted HIV or assumed their HIV diagnosis "comes with the territory" of being Black and gay. Furthermore, as indicated in the excerpt above, several participants described enhanced HIV stigma within the African American community. Participants described antiquated misconceptions about HIV transmission and assumptions about sexuality from friends and family members.

Given perceived community-wide HIV stigma, several participants expressed concerns about being seen in HIV clinics, risking inadvertently revealing their status.

Only thing that was in the back of my head was, "there's going to be a lot of people looking at you going into this building." Regardless, they automatic are going to say "he have this, he have that" and I don't need be labeled. I'm already a Black, African American, gay male. Labeling me for that, I don't need you to label me for any other reason or what I have in my system. So when they gave me the diagnosis, I wasn't going to that building to receive no treatment nor medicine because my peers, how judgmental they are.

– Patrick, age 26

Patrick's narrative highlights how intertwined HIV status, sexuality, and race were for these men and how these stigmas directly influenced decisions about engagement in care. Not only was being seen in an HIV clinic putting an individual at risk of others learning of their HIV status, it was also perceived as a risk of disclosing their sexuality. Men described how being HIV-positive was seen as synonymous with being gay, which made disclosing HIV status particularly difficult for men who were not openly gay or bisexual within their social networks. Although the risk of dual disclosure was most prominent among gay and bisexual

men, even for heterosexual men, their HIV status could confer both HIV-stigma and homonegativity, due to the nature of HIV stigma and assumptions about sexuality.

The fears about the consequences of HIV disclosure were not unfounded, as several participants discussed marginalization from friends and family. Experiences of stigma were characterized by isolation from potential social support networks, shame, depressive symptoms, and secrecy around HIV status. The loss of relationships was often internalized, leading individuals to doubt their self-worth and accept negative perceptions about people living with HIV. My first time seeking medical care was like about a year [following diagnosis]. I was just dealing with family and so-called friends. I went through a lot. Like, my family throwing away cups and plates after I eat. And the word got out and it was just like my whole image was just thrown. My only focus was trying to regain everything . . . It played with my intellect, it played with my self-esteem, it played with my courage, my voice, and every aspect of all my strengths it tore down.

– **Jeremy, age 23**

Although this participant grew comfortable with himself, the reaction he faced from friends and family made it difficult to engage in treatment. His situation was not unique; several individuals described how stigma interfered with their ability to access social support. The following participant, for example, explained why he had not disclosed his status to HIV-positive friends.

I: Do you have friends that are HIV-positive?

P: Yes. About 5 friends.

I: How have people close to you reacted to your HIV diagnosis?

P: No one knows. Not besides the care workers.

I: What are the reasons you have chosen not to tell people about your HIV status?

P: Stigmas around it. Maintaining value, relationships. Like, it's hard to explain, 'cause I do have friends that have disclosed to me, but then I just sat back like, "oh."

I: And you never disclosed to them?

P: Exactly . . . I'm pretty sure that it goes back to stigmas. And also when you looking for support system, you don't want nobody to tell you that you are wrong when you know that you are wrong. When you get the HIV status, I was already told that, 'shame on me'. I don't need you to also say 'shame on me'. So, I'm already down in the dumps, so don't stand on my back.

– **Daniel, age 40**

Although HIV-positive individuals have the potential to be a unique source of support for one another, there were a few participants whose internalized stigma was so prominent that they could not tap into that support.

Depressive symptoms associated with HIV

The stigma and shame associated with HIV were primary drivers of depression, especially among younger participants. Following an HIV diagnosis, depressive symptoms were among the most commonly cited factors affecting linkage to care. Participants reported feelings of shock, grief, and sadness following diagnosis. For some, receiving an HIV diagnosis contributed to immediate depression and suicidal ideation and limited individuals' willingness to seek social and medical support.

My initial reaction was that I was at first, I was like depressed, but I was so depressed that I didn't care. . . My life was changing because I was getting ready to be an adult and I was trying. I was getting ready to get a job and try and see if I wanted to go school and try and see a bunch of my stuff. But my life has stopped like a screeching halt.

– Jerome, age 21

Although Jerome was immediately linked to care, his depression limited his engagement in care over time. When asked why he stopped seeing his doctor he explained, "I was really going through a lot at the time. Basically, I didn't feel like nobody was in my corner. . I just didn't want to go through a lot no more. I was tired." Understanding the disease, figuring out treatment and care, and attending numerous medical appointments within the first several months following diagnosis was overwhelming and made even more challenging for participants with depression. Although necessary, for some individuals these tasks were burdensome and created barriers to engagement in care.

I: How often would you say that you saw a doctor between September and January?

P: A lot yes. Every couple of weeks. . . It was hard because like I said, I was depressed because I was HIV-positive so I really didn't want to do much. I stayed in bed a lot of time, but I did have to get up to go to school. On top of having homework I had to go to the doctor I had to meet with a high-risk counselor. So even though it doesn't sound like a lot, it felt like a lot at the time.

– Marcus, age 22

Marcus received a lot of formal support following his diagnosis, yet depression interfered with his ability to remain in care. He ultimately found the numerous appointments, the process of establishing care, and signing up for the AIDS Drug Assistance Program 'time consuming and stressful.' Later, he explained how his depression negatively influenced medication adherence.

I had moments where I would get really sad and I would think, what is the point, you know? Just stop taking [medication] so I can die naturally. . . HIV can make you sometimes pretty depressed and when you are depressed you really don't want to do much and sometimes you just feel like "oh, I just want to die."

– Marcus, age 22

The stigma, shame, and embarrassment that some individuals experienced also contributed to depression, prevented them from building a support system, and reinforced secrecy around their HIV status.

I pretty much knew enough information about taking care of myself, it's just that I had given up on myself. That was really my struggle going through it. To live so many years and be openly gay and live without the virus and take such good care of myself. I was very disappointed with myself. . . I gave up on myself. I didn't want to take the medicine. I didn't want to help myself. I felt like I really didn't want to live.

– DJ, age 29

In contrast to the participant who suggested his HIV diagnosis was inevitable, DJ's depression stemmed from his perceived personal failings to prevent HIV. For him and others, the shame and disappointment for putting himself at risk and contracting HIV contributed to depression and resistance to engagement in care. The internalization of prejudice and stereotypes is strongly related to depression (Li, Mo, Wu, & Lau, 2017) and medication nonadherence (Earnshaw, Smith, Chaudoir, Amico, & Copenhaver, 2013).

Depression was often exacerbated by other life challenges including homelessness, relationship issues, unemployment, and financial stress, which, collectively, created barriers to care. For example, the participant below experienced depression following his HIV diagnosis, which delayed his entry into care.

I: So, it was a year after diagnoses you went into care. How was that?

P: It was scary. It was a process of learning, it took a lot of courage. It was something I really didn't want to do but I felt that since I had reached my goal of getting myself back up it was something I had to do. It was a personal goal. . . I stayed for 2 years . . . I had another boyfriend and I was going through some personal struggles. I had lost a job and it was like my life was feeling like it was falling into shambles and I was just like I have to step back after reconciling and getting back into perspective again.

–Jeremy, age 23

Life challenges and external stressors frequently led individuals to cycle in and out of care and disrupted medication adherence.

HIV diagnosis as a catalyst for substance use

While depression and anxiety appeared to be more prevalent among younger participants, substance use prior to and following diagnosis was more common among participants over 40 years old, and all four of the heterosexually-identified participants described significant histories of substance use. Substance use was not directly assessed in the interviews, but emerged organically from many participants' narratives. While younger participants more frequently noted occasional, social alcohol or marijuana use, nine participants described crack, heroin, and alcohol addiction. While most of these men noted using drugs prior to diagnosis, several recalled an increase in substance use immediately following diagnosis. For these individuals, drug use and depression were often mutually reinforcing and individuals frequently used drugs as a coping mechanism for their HIV diagnosis and depression.

It was positive and I was crushed. I was devastated, I was hurt. The first thing that I thought about was how I was going to kill myself. That was the first thing, because back then, people died a very ugly death. . . I started drinking and doing drugs extremely heavily. I drank to numbness and I wouldn't do anything and I didn't care and I didn't have a conscience. I had anonymous random sex. So that was a way of me doing what I wanted to do without having accountability for it. So yeah, the alcohol was helping. If I alcohol or drugged enough, I would get the strength to take my own life. Yeah, it was an exit plan.

– **Geoffrey, age 55**

Participants who were using drugs prior to diagnosis often explained that the combination of HIV and substance use was overwhelming and a significant barrier to care.

I: What was your initial reaction to your HIV-positive test results?

P: That I wanted to die . . . cause, I already had this disease of addiction that was just taking me. . . drugs had affected every area of my life. This was just one more thing that I had to deal with and, you know, at that point, I really didn't want to live because I couldn't control my use of drugs.

– **David, age 40**

As this participant explained, HIV was often just one of many crises individuals were dealing with, and the HIV diagnosis often exacerbated mental health concerns and substance use. At the time of his interview, he had not received any HIV care and reported wanting to be sober prior to starting treatment. He was living in a drug treatment facility, had recently stopped using heroin, and described institutional barriers to HIV care.

P: The treatment plan that I'm in, you can't be on any medication. That is the one requirement of living in this beautiful place is that they have no nurses. And so this program is completely privately funded and I've neglected the health things.

I: So you're in a living space that deals with your addiction, but not with your HIV?

P: I got off the drugs, I transitioned into treatment. I knew I had to stop if I was going to take care of the HIV. And now that concerns me because about a month ago I started to get really sick and I'm like, "oh fuck!" I wasn't ready to leave and now I'm just completely uneducated about [HIV]. . . . the drug addiction had me believing that I was going to die anyway, so [HIV] was just the added bonus until now everything has changed.

–**David, age 40**

Whether a real or perceived barrier, David was not alone in describing the tension between drug treatment and HIV care. Rules of residential drug treatment facilities can make access and adherence to ART difficult (Wood, Kerr, Tyndall, & Montaner, 2008). Clinical guidelines and policy recommendations support the integration of substance use treatment and HIV care, yet fragmented health care systems and insurance coverage, as well as providers' inadequate knowledge and comfort co-treating addiction and HIV, limit provision of integrated services (Finkelstein et al., 2011).

Participants also perceived a choice between HIV treatment and drug use, and drug use often prevailed. Some participants, for example, believed that substance use reduced ART effectiveness.

After I stopped getting high I'd pop a pill (HIV medication). They say, 'You can't do that, get high and then go take your medication . . . It don't mix, it's not going to work.' That's what they say with the HIV. You can't mix them. . . they will tell you, 'Do not take any other medicine that you are doing with drugs because it defeats the purpose. It's not going to work if you are doing drugs.'

-Mike, age 45

It is unclear whether this participant's ideas about mixing illicit drugs and antiretroviral medications were from providers, social norms, or other resources, but it led to a deliberate interruption of adherence. For some, the possibility of negative interactions between drugs and HIV medications prevented them from initiating ART. Others saw their HIV diagnosis as a motivator to get clean, although as highlighted in the quote above, this often meant a delay in ART initiation. While there are possible negative interactions between recreational drugs and ART, there have been no documented medication interactions between marijuana, cocaine, or heroin and antiretroviral medications (New York State Department of Health AIDS Institute, March 2008).

Syndemics within the context of poverty

Syndemic theory posits that synergistic health conditions emerge due to social inequality and poverty (Singer, 1994). This is reflected in our data, as engagement in care and antiretroviral adherence were frequently disrupted by financial crises. Financial distress, unemployment, and housing instability contributed to depression, isolation, and substance use, which further inhibited engagement in care and social support. In such situations, individuals tended to prioritize their basic needs (e.g. securing housing, finding employment) over their health.

I went [to HIV care] for 2 or 3 months and then stopped. Then started again. Then it just got to the point where I just didn't go at all due to how many times I was having to go to the appointments. And then, by me working 10–12 hours some days. It just, everything at one time trying to make schedules, trying to make appointments, it was getting kind of rough, you know. Especially being on the bus and stuff like that. . . and like I said, about me being homeless, I move around a lot. I tend to lose things. And I don't have any insurance. . . I guess I was wallowing in self-pity. I'm still, 'how did this happen to me?'

– Eric, age 37

Two factors inhibited Eric's engagement in care: the initial, overwhelming requirements of treatment and housing and employment instability. He was homeless at the time of diagnosis, which prevented entry into care. Although he entered care once he had a job and health insurance, the challenges associated with transportation and scheduling resulted in disengagement. Many jobs provide little flexibility for employees to attend medical appointments, making it difficult for low-income workers to receive the care they need.

Unemployment and loss of health insurance was also a barrier for several individuals. Although Milwaukee has clinics that serve uninsured individuals, stigma made some men resistant to accessing care there. The following participant described how HIV stigma complicated engagement in care after losing his job and insurance.

I was diagnosed when I was at a good point in life. I had good insurance and a good job. I was seeing a doctor out at [the] Hospital. I lost my job at that point . . . So once I lost my insurance they would send me to [community health center]. I felt uncomfortable because it's the same community that I live in. I'm not ashamed of my status but at the same time it's nothing I need to be branded with . . . I would prefer to go to my initial healthcare provider who I developed a relationship with, who knows me. But I can't go to him without the insurance. The [clinics] that are free to me, I'm afraid to go to because of the stigma. It's not only the stigma, but I have developed a relationship somewhere else. So I would have to relive what I went through all over again. Explain this and then on top of that, I am wondering who is going to walk into the room while I am there.

– Daniel, age 31

For individuals with insurance, deductibles and co-payments were financially burdensome enough to create barriers to treatment. Most participants were knowledgeable about where to access care, the availability of the ADAP, and health insurance options available to them. However, care remained unaffordable and free clinic services and HIV-specific clinics were often seen as stigmatizing.

Discussion

Although syndemics has been used to understand HIV risk, little work has applied syndemics to linkage and engagement in care and ART adherence for HIV-positive men. This study sought to fill that gap by qualitatively examining the factors that contribute to poor engagement in care or ART adherence among HIV-infected Black men. Our findings reveal the syndemic nature of intersecting stigmas, depression, substance use, and poverty, and point to new opportunities for the application and conceptualization of syndemic theory.

First, our findings highlight the importance of intersecting stigmas. The men in this study were all Black and HIV-positive. Their race, gender, HIV-status, class, and sexual identity are intertwined such that their experiences with engagement in care and ART adherence cannot be understood without considering all facets of their identity. Intersectional stigma, which is rooted in systems of power and oppression, prevented men from building mutual support systems, inhibited family and peer support, and contributed to poor medication adherence. For example, HIV-related stigma, along with homonegativity, prevented several men from disclosing their HIV status, even to other Black men living with HIV. Non-disclosure of HIV status is often used as a self-protective strategy, especially when the immediate and long-term risks of exposure are perceived to outweigh any potential benefits (Murphy, Hevey, O'Dea, Ní Rathaille, & Mulcahy, 2016). HIV-stigma rarely operates independently of other stigmas including racism and homonegativity, and participants explained how intersecting stigmas influenced treatment decisions. It is important to note

that not all men in this study identified as gay or bisexual. Although the sample size did not allow for in-depth comparisons, it is likely that the experiences of Black heterosexual men differ from those of Black gay and bisexual men, even though they share their race, gender, and HIV-status. Such differences should be explored in future research to better understand the impact of multiple social statuses and identities.

Stigma that exacerbates syndemic conditions and decreases engagement in care takes place not only in the context of homonegativity, but also racism, and HIV-status. Men described how HIV status and sexual orientation were often conflated, and both were noted as being highly stigmatized within the African American community. HIV stigma remains grounded in cultural norms of morality and presumptions about deviance and irresponsibility among gay men, presumptions which many men in this study internalized. As a result, many men, regardless of sexuality or mode of HIV transmission, noted fears of HIV status disclosure given the nature of HIV stigma and homonegativity. Research on syndemics should continue to examine the intersection of race, sexuality, and HIV status and the stigmas associated with those characteristics. Understanding the collective influence of these factors on syndemics may provide greater insight into how we can increase engagement in care among vulnerable populations.

The high prevalence of depression (60%) and problematic substance use (39%) in this sample are a reflection of the continuing stigma surrounding HIV. Despite treatment advancements, some individuals still perceived HIV to be an acute fatal illness. Such perceptions contributed to depression and substance use and reinforced HIV stigma. Depression and substance use were mutually reinforcing, as individuals used substances to cope with depression and anxiety, which often contributed to dropping out of HIV care. Among individuals who are in care, nearly half screen positive for at least one psychiatric disorder and 40% report substance use disorders (Bing et al., 2001; Tegger et al., 2008). Our research supports previous work that demonstrates that out-of-care people living with HIV may have even greater levels of mental illness and substance use disorders (Blashill et al., 2015). A generational cohort effect was evident with substance use; while younger men tended to use alcohol and marijuana as a temporary escape from depression, stress, or anxiety, men over 40 were more likely to have histories of hard drug use or problematic alcohol use. Although some participants were more likely to use substances immediately following their diagnosis to cope with stress and depression, others, as found in similar research (Mosack, Abbott, Singer, Weeks, & Rohena, 2005), used their HIV diagnosis as an opportunity to get clean. For some however, this also resulted in a delay in ART initiation, as they wanted to get their substance use under control before dealing with their HIV diagnosis.

Additionally, our findings revealed that poverty and economic factors play a significant role in engagement in care and are often intertwined with other syndemic factors. With regard to HIV, socioeconomic status is predictive of engagement in HIV care, viral suppression (Muthulingam, Chin, Hsu, Scheer, & Schwarcz, 2013), and mortality (McMahon, Wanke, Terrin, Skinner, & Knox, 2011). For many individuals in this study, poverty contributed to or exacerbated mental health issues, substance use, and stigma, ultimately inhibiting optimal HIV care.

Syndemics suggests that just as an increase in psychosocial conditions increases vulnerability to poor HIV outcomes, mitigation of one or more psychosocial conditions decreases poor HIV outcomes. Accordingly, interventions addressing substance use or mental health among people living with HIV will likely indirectly improve HIV treatment and care (Herrick et al., 2011) and engagement in care interventions should be coupled with efforts to address psychosocial concerns. Several participants in our study cited misconceptions about the effectiveness of antiretrovirals while using substances or receiving substance abuse treatment, which inhibited engagement in care and adherence. This finding highlights the need for integrated care options for persons living with HIV and using substances. Coordinated service provision minimizes difficulties individuals face keeping track of providers, treatment locations, and appointments, and the provision of case management services helps increase engagement in care by addressing social needs (Zaller, Gillani, & Rich, 2007).

Social and structural-level interventions are also needed to address syndemic processes and the influence of stigma and poverty on engagement in care and antiretroviral adherence. Specifically, we need to identify ways to intervene in intersecting stigmas, which likely demand multifaceted, coordinated strategies at the micro, meso, and macro levels. Stigma-informed approaches to care may be especially salient immediately following diagnosis and initiation of antiretrovirals. In this study, stigma was a barrier to building support systems and inhibited family and peer support, particularly from other HIV-infected men. Not only was there evidence of HIV-related stigma, but participants also noted anticipated homonegativity and fears of sexuality disclosure. Macro-level societal-wide stigma-reduction interventions can have broad public health implications and improve mental and physical health among HIV-positive men (Hatzenbuehler et al., 2012).

Incorporation of individual support persons and referrals to supportive community networks and organizations, beyond the standard community resource guide, may also help mitigate the effects of stigma (Quinn et al., 2017). Interventions that capitalize on existing peer and familial networks may be particularly important following diagnosis, when depressive symptoms and substance use were most frequently noted. Although many men described experiencing stigma from potential support persons and facing challenges to harnessing necessary social support, identifying opportunities to intervene with dyads, families, or social networks to enhance support and minimize stigma may be effective at reducing stigma and enhancing adaptive coping, resilience, and self-worth. Finally, although not discussed in this manuscript, it appears more research is needed on how various factors may protect people living with HIV from poor health outcomes, despite the presence of syndemic processes. For example, resilience factors and social resources prevent the majority of gay men from experiencing negative health outcomes (Herrick, Stall, Goldhammer, Egan, & Mayer, 2014) and may similarly help many people adhere to ART and remain engaged in care.

The results of this study should be considered in the context of several limitations. Data were obtained via self-report and participants may have over- or underestimated engagement in care or medication adherence. Especially for men experiencing substance use, depression, or extreme poverty, adequately recalling most recent doctor's visits or medication adherence

regiments can be difficult. Furthermore, self-reports of ART adherence may be influenced by desirability bias. Additionally, it was difficult to identify and recruit people who were out of care. Individuals who are out of care may be more socially isolated, less likely to disclose HIV status, and less willing to discuss lack of HIV care with researchers. However, the themes that arose in these interviews (stigma, depression, substance use, and poverty) may be even more prominent among men who we were unable to identify and enroll in the study. Finally, there was a wide age range among participants in this sample (20–55 years old). The small sample and qualitative nature of the study does not allow for comparisons by age, but there were a few noted differences by age cohort (e.g. substance use). Future research on engagement in care and ART adherence should seek to examine syndemic factors by age with more depth.

In spite of these limitations, our findings provide evidence that syndemic factors influence retention and engagement in HIV care. The qualitative nature of this study demonstrates how descriptions of lived experience can provide context to syndemic theory and reveals how these factors influence engagement in care over time. In addition to factors commonly investigated within syndemic theory (i.e. mental health and substance use), our findings reveal the importance of addressing broader social and structural factors, including intersectional stigma. This work is part of an important expansion of syndemic theory to engagement and retention in care for HIV-infected individuals. Future work should continue to investigate how syndemics influence health outcomes for people living with HIV and interventions should be designed to address these factors.

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