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Barriers, Motivators, and Facilitators to Engagement in HIV Care Among HIV-infected Ghanaian Men who have Sex with Men (MSM)

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Abstract

In Ghana, men who have sex with men (MSM) bear a high burden HIV. Identifying factors that influence engagement in HIV care among HIV-infected Ghanaian MSM is critical to devising novel interventions and strengthening existing programs aimed at improving outcomes across the HIV care continuum. Consequently, we conducted an exploratory qualitative research study with 30 HIV-infected Ghanaian MSM between May 2015 and July 2015. Common barriers were fear of being seen in HIV-related health facility, financial difficulties, and health system challenges. Major motivators for engagement in care included social support, fear of mortality from HIV, and knowledge of effectiveness of HIV treatment. Key facilitators were enrollment in health insurance, prior relationship and familiarity with hospital personnel, and positive experience in healthcare setting. Our findings highlight the need for new and innovative care delivery mediums, affirming and competent healthcare providers, and increased access to health insurance.

Introduction

Sub-Saharan Africa has consistently bore the highest burden of the human immunodeficiency virus (HIV) epidemic[1, 2]. In Ghana, the national prevalence of HIV

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Compliance with Ethical Standards:

Conflict of Interest: None of the authors have any conflict of interests to declare.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.

was 1.4% in 2012, with were an estimated 235,982 individuals living with HIV and AIDS[3]. The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has invested over $78 million in Ghana since 2007 to address the HIV epidemic. The Ghana Health Service and Ministry of Health is responsible for the delivery of HIV-related health services which includes prevention, treatment, and care and implementation of the National Strategic Framework[4]. In 2015, a progress report by the Ghana AIDS Commission found that access to antiretroviral treatment increased from 38,000 in 2010 to 97,494 in 2014[5]. Additionally, the number of sites providing HIV testing and counseling increased from 1,178 in 2009 to 2,335 in 2014, with 798,763 clients reached in 2014.[5] Despite significant progress in addressing the HIV epidemic in Ghana, key populations such as sex workers, people who inject drugs, and men who have sex with men (MSM) face unique challenges that might further exacerbate their vulnerability to HIV infection and result in poorer outcomes, if HIV-infected.

Historically, there has been critical gaps in data on HIV and other sexually transmitted infections (STIs) incidence and prevalence among most-at-risk populations which include MSM, sex workers, and people who inject drugs. A comprehensive review of the epidemiology of HIV in African MSM found a pooled HIV prevalence of 18%[6]. In 2011, a national behavioral epidemiological surveillance study of MSM was conducted in Ghana[7]. The study’s primary objective was to estimate the incidence and prevalence of HIV among MSM in Ghana and to measure the prevalence of syphilis, hepatitis B, and herpes simplex virus type 2 and their associated risk behaviors. The study (N=1302) estimated a 17.5% HIV prevalence among MSM nationwide, with the highest rates in the Greater Accra (34%) and the Ashanti (14%) regions[7]. This disparity can be further worsened by multi-faceted challenges faced by HIV-infected Ghanaian MSM in the health seeking process.

There are various unique barriers that HIV-infected African MSM encounter while seeking HIV care and services. Prior studies have shown that African MSM experience high levels of stigma due to sexual orientation, social isolation and discrimination due to HIV status[8, 9]. Additionally, same-sex sexual behavior is illegal in more than 30 African countries[10]. In Ghana, same-sex sexual practices are punishable by “imprisonment for a term of not less than five years and not more than twenty-five years” under the Criminal Code, 1960 (Act 29; Section 104. Unnatural Carnal Knowledge)[10]. The combination of these factors may result in a hostile and unaccepting environment for HIV-infected Ghanaian MSM. In addition, previous work has shown that the combination of sexual stigma, gender non-conformity stigma and HIV-related stigma negatively impact mental health outcomes in MSM communities[11] These roadblocks may negatively influence health-seeking behaviors and health outcomes for HIV-infected Ghanaian MSM. However, there are evidence-based strategies that might help ensure engagement and retention in HIV care.

The HIV care continuum is a model of sequential steps of health services for HIV-infected communities, with the ultimate goal of achieving HIV viral load suppression (undetectable levels of HIV in blood)[12]. The stages of the continuum include: HIV testing and diagnosis, linkage to HIV care, retention in HIV care, prescription of antiretroviral therapy, and viral load suppression[12]. Various barriers to health services along the HIV care continuum exists for MSM globally. A study conducted among MSM in Brazil identified health-services related barriers, psychosocial challenges, costs, and problems with antiretroviral treatment as major barriers to positive outcomes along the HIV care continuum[13]. Low and middle income countries have been shown to have low rates of outcomes across all indicators on the care continuum[14]. However, little is known about the experiences and outcomes of HIV-infected African MSM as they relate to the HIV care continuum, especially linkage to care, a pivotal step in the continuum.

Previous empirical research on MSM in Ghana have been epidemiological studies designed to estimate the incidence and prevalence of HIV and STIs[7]. A few qualitative studies have been conducted but the sample consisted predominantly of HIV uninfected MSM and were focused on sexual health topics such as sexual risk, HIV knowledge, HIV stigma, and condom use[15–17]. Identifying and understanding barriers, motivators, and facilitators to engagement in HIV care among adult HIV-infected Ghanaian MSM is critical to devising novel interventions and strengthening existing programs aimed at improving outcomes across the HIV care continuum. Consequently, we conducted an exploratory, qualitative study to understand factors that influence engagement in HIV care among HIV-infected adult Ghanaian MSM. The main research questions were: 1) What barriers existed in seeking and staying engaged in HIV care? 2) What factors motivated initial HIV medical care seeking behavior? and 3) What were major facilitators of engagement in HIV care?

Methods

Study Design and Context

The study design utilized was qualitative description, which employs less emphasis on theory development and stems from naturalistic inquiry [18, 19]. This approach was deemed more appropriate than grounded theory, ethnography, or phenomenology due to limited work on this topic. This study was conducted with an ethnically diverse (Ga-Adangbe, Ewe, Fante, etc) sample of HIV-infected MSM in Accra, Ghana. The project was carried out in Accra because it has the highest prevalence of HIV among MSM (34% vs. 5-14% in other regions of Ghana)[7] and has the highest population (ranging from 4,187-20,822) of MSM in Ghana[20]. The study was conducted between May 2015 and July 2015. It was designed as an exploratory study to investigate the personal experiences of HIV-infected MSM in Ghana across various health domains.

Research Team

The research team was composed of both academic scholars and community based organization leaders with prior experience working on sexual and reproductive health issues both domestically and globally [21–23].

Eligibility and Recruitment

Eligibility criteria to be enrolled in the study were: (1) birth-assigned male sex, (2) aged 18 years or older, (3) self-reported HIV-infected serostatus, and (4) any history of oral or anal sex with another birth-assigned male. Written informed consent was obtained from all participants at the time of the interview. All participants were assigned randomly generated unique identifier numbers to maintain confidentiality and no identifying information was collected throughout the study.

A total of 30 HIV-infected MSM were enrolled in the study. All participants were recruited through referral from three key informants within the MSM community due to the highly stigmatized nature of MSM and HIV status in Ghana[24]. The three key informants were identified and vetted by the executive director of a community based organization that provides HIV and other sexual health-related services to this community in Accra, Ghana. Key informants are members of the MSM community in Ghana but were utilized solely for mobilization of participants and not included in the study sample. Public spaces where MSM socialize openly don't exist in Accra, making conventional recruitment strategies not feasible in this setting.

Procedures

Participants completed face-to-face, semi-structured interviews, followed by a brief demographic questionnaire. All interviews were conducted in a private office at a local community-based organization in Accra, Ghana and were digitally recorded. Interviews were conducted either entirely in English or English and a Non-English (Ga or Twi) local language. Providing participants with a non-English language option allowed for narration of certain experiences that could only be effectively described in native language. Each interview lasted between 50 minutes to 1 hour. All study protocol and materials were approved by both Yale University institutional review board (IRB) and a convened local community IRB in Accra, Ghana. After the interview, participants received 80 Ghana Cedis (equivalent to U.S. $20 in summer 2015) for their time and participation. Participants were also provided with refreshments during the interview. Interviews were conducted until thematic saturation was reached. Thematic saturation was defined as the point at which no new themes emerged from the interviews. Thematic saturation was reached after 30 interviews were completed.

Measures/Data Collection

Interview Guide—The interview guide contained open-ended questions across 6 main domains: 1) narrative of experiences around time of HIV diagnosis, 2) engagement in HIV care, 3) HIV medication, 4) patient-provider relationship, 5) clinical experiences, and 6) stigma (HIV and MSM-status related). The guide was developed based on literature review and feedback from field experts. Open-ended questions were utilized to garner broad responses. Based on participant response, interviewers asked probing questions (e.g. “Tell me more about that?” “Could you clarify what you mean by this?”) to elicit fuller and more robust responses. Prior to the start of the project, the principal investigator and a research assistant reviewed the interview guide for clarity and interviewed each other for practice and uniformity. In this paper, we focus on questions asked in the “engagement in HIV care” domain. Sample questions are provided in Table I.

Demographic survey

The survey collected demographic data such as age, ethnicity, sexual orientation, education level, employment status, religious affiliation, etc. Means and frequencies for the demographic survey were computed using Microsoft Excel.

Thematic Analysis

All interviews were translated (where applicable) and transcribed verbatim by one interviewer and qualitative analysis software (NVIVO 10, Version 10.2.1 QSR International, 2012) was utilized for organizing data and facilitating retrieval. A codebook (constituting 119 distinct codes) was developed from the six main interview guide domains. The codes were derived from the interview guide probes and refined throughout the coding process. A study member trained in qualitative research methods read all transcripts thoroughly to facilitate familiarity with the data. Next, in vivo coding was applied to all transcripts with the existing codebook and new codes not contained in the original codebook were added as needed. A new code was added if a similar construct arose from at least three different participants. Next, discrepancies in coding were discussed until consensus was reached. Consensus was reached by comparing the code ascribed to a specific quote. In the event of a disagreement, a senior research team member was consulted and a final decision was reached based on his recommendation. Preliminary findings were discussed with two senior research team members to ensure coders were interpreting quotes in the appropriate cultural context. To ensure systematic application of qualitative methods, analysis and presentation of study findings, we utilized the consolidated criteria for reporting qualitative research (COREQ) checklist[25]. COREQ is a 32-point item checklist that helps ensure that researchers report the most pertinent components of their qualitative project including research team, study methodology, study findings, context of participants, and data interpretation[25]. Representative quotes describing each theme and subtheme are represented below[26].

Results

The demographic characteristics of the sample are presented in Table II. The average age of participants (n=30) was 29 years (standard deviation (SD)=7.7). More than half (*n* =16, 53.3%) self-identified as gay/homosexual and about two-thirds (n=20, 66.7%) had a secondary education or higher. Most participants reported being single (*n* =21, 70.0%) and were currently unemployed (*n*=22, 73.3%). Participants had been living with HIV for an average of 4.7 years (SD=3.6). Most (n=21, 70.0%) participants reported being engaged in HIV care at time of the study. Several themes emerged on barriers, motivators, and facilitators related to seeking and being engaged in HIV care among Ghanaian MSM.

Barriers to HIV Care

The main themes that emerged on barriers to engagement in HIV care were: (1) fear of being seen in HIV-related healthcare setting, (2) financial difficulties, and (3) health system challenges.

Fear of being seen in HIV-related healthcare setting

A majority of participants who expressed having difficulties receiving HIV care cited the uneasiness and stigma associated with been seen and identified at a HIV-related healthcare setting as a major barrier. Many described HIV as highly stigmatized in Ghana and being seen receiving medical care or filling prescription medication at a known HIV clinic dissuaded them from being engaged in care. This 22-year-old, homosexual participant described the need to take extra precautions to avoid being seen at Poly Clinic (a widely used primary health delivery center in Accra, Ghana):

> "[When] you go for your drugs, you don't want anyone to see you at the hospital, like the Poly Clinic. If you are going there for a check-up or for your ART, you need to make sure no one sees you because of the stigma people have against HIV. That's why I said I was asking myself all these question before getting my treatment."

This quote demonstrates how stigma was a key concern for this participant prior to getting engaged in HIV care.

For some participants, the fear of encountering someone familiar at a medical facility resulted in delayed engagement in HIV care. This participant described how not wanting to be seen in a clinic that served HIV-infected individuals caused him to delay engaging in HIV care for two months after his diagnosis:

> "I felt shy and was just thinking 'what if I went there[hospital] and saw someone who knew me?' 'What will I tell them I am doing here, a place that is known to provide HIV treatment?' That's why it took me about two months before I started going for treatment." -29 y/o bisexual male

Lastly, the fear of being seen at a HIV clinic and that information being relayed to friends and family was a major concern for participants. This participant relayed such a scenario but described how advice from a friend helped him overcome initial apprehension and ultimately seek care:

> "I was thinking 'if I go to see her [doctor], who works at a STI clinic., won't people say I am positive?' 'Won't I see people who are also positive, won't they spread the news?' 'If they see me outside, won't they point fingers to relatives and friends?' I discussed with my friend and he said 'who cares, your life depends on it [HIV treatment] let them say what they will say.' I don't care what they say about me, it's my life and my life depends on going to the hospital. So I just forgot about the whole thing and got treatment" -26 y/o bisexual male

Financial difficulties

Inability to afford HIV medication, laboratory fees, hospital visit fees, and other treatment related expenses were barriers to care identified by a majority of participants. Nearly three-fourths (73.3%) of the sample were unemployed at the time of study, which may have contributed to their inability to afford these expenses. While antiretroviral medication is covered under the Ghana National Health Insurance Scheme, there are other health expenses that are out-of-pocket costs. This participant described having no money for medical expenses and having to delay seeing a doctor as a result:

> "I didn't have money at the time, it wasn't in my plans to see a doctor so I waited for some time before seeing the doctor because I didn't have money" - 25 y/o bisexual male

Lack of employment was a major contributor to inability to afford direct and indirect health expenses such as lab tests and transportation to the health facility. This 29-year-old, bisexual participant mentioned financial difficulties because of loss of employment and currently not being engaged in care due to inability to afford transportation and medication costs.

> "I had employment in the past, so I didn't have a problem paying for my transportation and drugs because I knew my life was important. Presently, I'm not employed so it is difficult for me to pay for my transportation and drugs."

Health system challenges

About a third of participants described health systems related barriers as additional obstacles to receiving HIV care. These barriers included long wait times for HIV medication, and physician mistakes. These barriers impacted their decision to either continue to be engaged in care or to delay due to anticipated long waiting time at the clinic or risk of losing one's job due to too many days taken off for medical reasons.

This participant detailed having to wait in long lines for an extended period to get HIV medication:

> "When I come for my medication, I have to join a long queue. Sometimes, I spend one hour, sometimes even two hours at the hospital just to get my medicine" -29 y/o bisexual male

These long wait times for medication coupled with far distance of healthcare facilities made health visits a day long commitment, which impacted continued engagement in care for participants with jobs and other responsibilities.

Another participant described an instance in which lack of attention to detail and instructions, on the part of his physician, prevented him from being able to be excused from work to make his hospital appointments:

> "Where I used to work, they wanted to know why I went to the hospital so frequently, so they gave me a medical form to fill out. I went to see a doctor and told him I come to the hospital every month and my employers wanted to know the reason. The doctor wrote on the form that I was fit and nothing was wrong with me instead of writing that I had to see a doctor every month." -29 y/o bisexual male

This participant summed up how a combination of various barriers, including work time conflict, far distance of the healthcare facility, and financial hardship, contributed to his inability to be engaged in care:

> "The barriers are: the hospital was far, I didn't have money to afford medication, I didn't feel comfortable going to the hospital, and I had to take off work to go to the

> hospital. These are some of the things that inhibited me from receiving medical care “-26 y/o homosexual male

Motivators for HIV care

Major sources of motivators identified for engagement in HIV care included: (1) social support, (2) fear of mortality from HIV, and (3) knowledge of effectiveness of HIV treatment.

Social support

A majority of participants identified individuals who motivated and encouraged them to seek treatment after HIV diagnosis and to continue with treatment regimen once engaged in care. These relationships were either long-standing relationships with family and friends prior to HIV diagnosis or relationships that materialized because of diagnosis. This 26-year-old homosexual participant described how his mother initially motivated him to get tested for HIV and to seek treatment:

> “My health has always been paramount to me but nothing was really motivating me to get tested for HIV. My mother motivated me to seek medical care. It was as if God was telling my mom ‘take your son to the hospital’. If I hadn’t gone to the hospital, I wouldn’t have even known my status. The motivator is my mom.”

In other cases, close friends served as the motivators for health seeking behavior. In these instances, friends provided participants with information about the benefits of HIV medications and possible detrimental outcomes, if treatment was not sought. One participant recounted how a concerned friend stressed the need for him to seek treatment:

> “My friend told me that I have to go for treatment early, because if I don’t take any medicines, the virus will increase in my system and kill me. Then everyone will see that I have AIDS. However, if I go for my treatment no one will say that I have AIDS because I’m taking the medicine. The virus will reduce in my body. So I said ‘that’s fine’ and went to the doctor and got treated” -24 y/o homosexual male

While family and friends were common motivators for getting engaged in HIV care, medical professionals such as nurses and doctors also played a major role in encouraging care-seeking behavior. This participant expressed how a nurse motivated him to seek treatment and helped mitigate subsequent barriers to getting HIV medication:

> “The nurse encouraged me because she would call me often and even when I am unable to go to the clinic, she’d get my medication for me and then I’ll go collect it at her house.” -24 y/o bisexual male

Fear of Mortality

A few participants explained that fear of dying motivated them to seek treatment. The fear of mortality was described in relation to witnessing the death of someone from AIDS- related complications, wanting to achieve life goals and leave behind a legacy, and not wanting to disgrace their family as a result of dying from HIV.

One participant narrated a scenario in which someone he knew died from AIDS, which made death as a result of HIV a reality for him:

> "If you are not on medicine, you'll die. In my hometown, a lady felt very sick and didn't seek treatment. They were just going to churches and praying. Later on they found out it was HIV but by that time it was too late, she died." -20 y/o bisexual male

The knowledge that HIV can cause death resonated with this participant and as a result motivated care-seeking behavior.

Additionally, participants expressed seeking HIV treatment to stay alive long enough to achieve their destiny, fulfill dreams, and leave a legacy to be remembered by. This 26-year-old homosexual participant described this life goal:

> "I didn't want to die young. I was 25 when I was diagnosed. I didn't want to die at 25. I want to leave a legacy before I leave this world. That was one of the things I thought about which is why I wanted to get treatment because I wanted to leave a legacy, I wanted to let people know 'HIV is there and if you have HIV, you can still live'. I will be happy to tell people 'Hello, I'm HIV positive and I have been positive for 20 years'"

Lastly, participants attributed premature death with bringing shame to one's family. Consequently, they decided that being on treatment will help prolong their lives and therefore avoid embarrassment for their families. This participant described it this way:

> "[I sought treatment because] after I was diagnosed, I did a lot of thinking. I talked to my family and said 'I won't allow myself to die young' I didn't want them to have to wonder what killed me and find out it was HIV. I knew they will be very disappointed. My mum will be very sad. I decided I wouldn't let myself go because I'm HIV positive. I will take care of myself and make sure I live long." -29 y/o homosexual male

All in all, the realization that one's mortality was in constant threat due to HIV motivated various participants to continue to be engaged in care.

Knowledge of Effectiveness of HIV treatment

About one-fourth of participants stated that knowledge of HIV treatment and its' effectiveness motivated them to seek care once diagnosed. This information convinced participants that they too could benefit from the high potency and effectiveness of HIV medication. Many expressed receiving HIV-related information from television interviews and print media. This 29-year-old bisexual participant described a print advertisement that provided specific information about the importance of early engagement in HIV care once diagnosed:

> "I saw an advertisement that said if you have HIV, you have to go to the clinic to get your treatment. The medicine will keep you strong but not taking it might cause you to just die at any moment. If you test positive, you have to be fast and start taking your drugs. The encouragement made me go get care."

Public messages such as this one motivated participants to seek out care options.

Another participant narrated watching a television interview about HIV and internalizing the messages he heard:

> "I know if I take the medicine it would let the virus reduce and I'll go back to my normal self. I have been watching interviews on TV with this HIV ambassador. I heard from them that if you take your medicine, you are going to be fine. So when I take my medicines, I'll be like them, I'll come back to normal and live a normal life." -20 y/o bisexual male

Facilitators of HIV care

Major facilitators of engagement in HIV care were: (1) enrollment in National Health Insurance Scheme (NHIS), (2) prior relationship and familiarity with hospital personnel, and (3) positive experience in healthcare settings.

Enrollment in National Health Insurance Scheme (NHIS)

Of the participants currently enrolled in care, a vast majority (>90%) cited being enrolled in the NHIS described insurance as a major facilitator engagement in HIV care. Under the NHIS, antiretroviral medication is provided free-of-charge to those enrolled. This 27-year-old homosexual participant outlined how coverage under the NHIS helped facilitate engagement in care:

> "The doctor automatically registered me into the health insurance policy because he said the medication requires you to pay. It has been helpful. I get medication for free"

Prior relationship and familiarity with hospital personnel

Most participants engaged in care stated that having a prior relationship with healthcare providers and hospital personnel was a common facilitator to being engaged in HIV care. These relationships helped provide certain perks such as avoiding long queues, waiving of medication costs and other health service fees, and extension of normal clinic hours, all of which helped make care more accessible to participants.

One participant described being able to skip long lines at the health facility due to his relationship with a provider at the clinic, this helped him avoid being late to work:

> "Sometimes before I get to the hospital I call a nurse so I won't have to join a queue for medicine and it enables me to go to work early." -29 y/o bisexual male

It was common for participants to describe utilizing relationships with medical personnel to facilitate quicker access to health services and defray costs.

This 20-year-old homosexual participant cited instances where he could not afford to pay for labs and the nurse waived the fee:

> "When I went to the hospital, I didn't tell my parents and I did not have any money. The nurse that counseled me, she paid for my labs. I needed labs before they could

> put me on the medicine. The nurse I went to see paid for my labs and she is the one who made everything easier for me”

In addition, there were instances of regular office hours being extended and personalized care being provided to accommodate participants’ busy schedule:

> “I happen to live near one of the nurses so [the doctor] would give my medication to her to give to me. Sometimes I go to see her alone during the weekend for a medical checkup, she takes my weight, and sees how the medication is treating me”
>
> -26 y/o homosexual male

Positive experience in healthcare setting

About a third of participants noted that socially supportive and nonjudgmental atmosphere experienced in the hospital setting made the care process easy and accessible. One participant described:

> “You know when you go to the hospital, they take care of you. Sometimes I even forgot that I have any disease. The way they talk to and welcome me is very good. Sometimes they throw a party for us and provide us with something to eat and drink. It is very nice.” - 24 y/o homosexual male

HIV and MSM status are highly stigmatized in Ghana and individuals with dual identities experience harsh treatment and ridicule, especially in public spaces. The opportunity to be in an affirming and judgment-free setting, especially in the context of HIV care facilitated sustained engagement in care.

Discussion

This is the first known study to explore barriers, motivators, and facilitators to engagement in care among HIV-infected MSM in Ghana. Common barriers identified were: fear of being seen in HIV-related healthcare setting, financial difficulties, and health system challenges. Major motivators included social support from specific people such as friend and family, fear of mortality from HIV, and knowledge of effectiveness of HIV treatment and care. Facilitators of engagement in HIV care were: enrollment in national health insurance, prior relationship with healthcare providers and hospital personnel, and positive experience in healthcare setting. This study adds to our limited knowledge of factors that affect the HIV care continuum as it relates to HIV-infected Ghanaian MSM.

The finding that being seen in an HIV-related medical setting was a major barrier to engagement is consistent with findings from previous studies conducted both with MSM and other groups including adolescents and women [13, 27–29]. A study conducted among MSM in southern African countries found that fear of being blackmailed due to sexual orientation and history of being denied health services based on sexual orientation were significantly associated with higher odds of not seeking healthcare services[30]. These findings underscore the need for privacy in delivery of healthcare services and safeguarding confidentiality of HIV status. A possible solution may be the integration of HIV health services with other health services and wellness initiatives. Various studies have suggested that an integrated approach to health service delivery might help reduce HIV stigma and improve healthcare seeking and utilization[31–33]. Additionally, it might be valuable to explore the feasibility and acceptability of mobile health technology (mHealth) for providing HIV services to Ghanaian MSM. A recent systematic review exploring the use of mobile technology for HIV/AIDS health services provided support for mHealth interventions, showing it to be associated with better outcomes across the HIV treatment cascade[34]. The authors also noted a gap in the literature regarding use of this health innovation in key populations including MSM[34]. More research is needed to show how the adoption of mHealth in health delivery for HIV-infected MSM might help increase linkage to care, retention in care, and adherence to antiretroviral treatment, especially in low resource settings. We propose that technology which directly connects healthcare providers with patients, possibly decreasing felt stigma in healthcare settings, might be the most relevant and effective for Ghanaian MSM. In the meantime, the implementation of confidentiality training in regards to patient records that stresses the sensitivity of MSM and HIV-related issues for all healthcare professionals might help ease concerns about confidentiality.

Health system issues such as long wait times both for physician services and accessing HIV medication were also identified as major barriers to being currently engaged in HIV care. Previous studies conducted in various sub-Saharan African countries have found long waiting times in clinical settings to be a barrier to antiretroviral adherence[35, 36]. A study conducted on HIV-positive women found that lack of problems with appointment timing and shorter appointment waiting time were both significantly associated with high number of primary care visits[37]. This suggests that waiting time in hospitals and clinics might significantly impact health outcomes in HIV-infected individuals. Physicians, pharmacists, nurses, and other allied-health professionals can play a major role in decreasing waiting time for patients seeking services at their facilities. One strategy to be considered is switching from a manual patient record system to a streamlined electronic system that allows automatic scheduling of patients, reminders for follow-up visits and better care coordination between allied health professionals. This type of scaling up of HIV care and treatment services, which requires substantial financial investment, has been argued to increase efficiency and improve the overall strength of the health system[38]. Better coordination of care, specifically cutting down on patient waiting time, might increase engagement in care, positively impact productivity of the health system, and be highly cost-effective.

Social support, fear of mortality from HIV, knowledge of effectiveness of HIV treatment were identified as motivators to engagement in HIV care, consistent with previous studies[39–41]. These findings underscore the importance and need for social connection, social support and affirmation for HIV-infected Ghanaian MSM. Participants described how family members and friends motivated them to seek treatment. Instituting programs that debunk myths about HIV and humanize those affected might help reduce stigma and increase social acceptance of HIV-infected people and sexual minority communities. Additionally, public health campaigns that provide evidence-based and scientifically driven information on the effectiveness of HIV treatment might be beneficial both for HIV-infected people and a more general public audience. These messages could be distributed across public media outlets such as social media, television, radios, and newspapers. This might help educate people not currently engaged in care about its benefits.

A major facilitator of engagement in HIV care was enrollment in a health insurance plan (NHIS). The National Health Insurance Scheme (NHIS) covers an estimated 95% of all health needs in Ghana including hospital visits and lab fees but not antiretroviral therapy, which is subsidized by another government program (National AIDS Program)[42]. The latest annual report by the National Health Insurance Authority reported that only 38% of Ghanaian citizens was enrolled under the NHIS[43]. New initiatives aimed at extending coverage to poor and vulnerable communities includes increased outreach to HIV-infected communities. Streamlining enrollment in NHIS as part of routine protocol once a patient is diagnosed with HIV might help reduce personal financial burden due to health costs.

Prior relationship and familiarity with healthcare providers and hospital personnel, and positive experience in healthcare setting were found to facilitate engagement in care. Studies have found that effective patient-provider relationships and affirming clinical spaces improve engagement in HIV care[44, 45]. Consequently, it is important that health providers and clinical staff are trained on how to be competent in their interaction with Ghanaian MSM within the healthcare setting. Emphasis should be placed on creating a safe and non-judgmental environment where patients feel comfortable and affirmed in their varied identities and self-expression. Additionally, integrating LGBT-related content into the curriculum of health professional schools will help build a health workforce that is aware of the unique challenges vulnerable populations such as Ghanaian MSM face and how to tailor health services to meet their needs. Similar initiatives have been shown to be effective in the past[46]. Ultimately, increased knowledge about and acceptance of HIV-infected Ghanaian MSM might help improve their health outcomes.

This study has to be interpreted in light of several limitations. Three key informants recruited all participants in the study. Consequently, the findings of this study may not be generalizable to the entire community of HIV-infected Ghanaian MSM. However, the sample was diverse across ethnic, sexual orientation, education level, and religious affiliation lines. Secondly, participants were relatively young (mean age=29 years) and had been living with HIV for an average of 4.7 years, which might exclude the experiences of older and newly diagnosed Ghanaian MSM. This might be pivotal to gaining a fuller picture of the experience of MSM living with HIV in Ghana. Thirdly, the HIV status of participants was not verified during the study through a study-administered HIV test at time of interview. This could result in fabrication of information by participants and thereby bias our findings due to financial incentive provided by the study or other motives. However, some participants voluntarily provided documentation of HIV diagnosis. Additionally, it is important to note that with HIV and MSM- status being highly stigmatized in Ghana, it is highly unlikely that participants would falsely and voluntarily identify with these identities.

In spite of these limitations, this is the first known study to investigate factors related to engagement in HIV care among HIV-infected adult Ghanaian MSM. The results of this study have important implications for policy change to improve health outcomes for HIV-infected Ghanaian MSM.

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Table I

In-depth interview sample questions

Domain	**Questions**
Engagement in HIV care	Are you currently receiving medical care for your HIV?
Participants engaged in HIV care	How soon after your HIV diagnosis did you see a medical provider? Depending on response, probe on length of time between diagnosis and treatment.
	Why did you decide to seek treatment for your HIV?
	Was there anything that made it hard for you to receive HIV medical care?
	What were the things that made it easy for you to get the treatment you needed?
	What factors/people motivated you to seek HIV medical care?
Participants **not** engaged in HIV care	Why are you currently not in HIV medical care?
	What, if anything, made it hard for you to receive HIV medical care?
	What were some barriers you faced when you were first diagnosed with HIV?

Table II

Descriptive characteristics of participants (N=30)

Characteristic	N (%)
Age (in years)	
Mean (SD)	29.07 (7.7)
Ethnicity	
Ga	7 (23.3%)
Ewe	5 (16.7%)
Fante	5 (16.7%)
Ga-Adangbe	4 (13.3%)
Twi	3 (10.0%)
Mole-Dagbani	2 (6.7%)
Other Akan	2 (6.7%)
Other ethnicity	2 (6.7%)
Sexual Orientation	
Gay/homosexual	16 (53.3%)
Bisexual	12 (40.0%)
Straight/Heterosexual	1 (3.3%)
Don’t know	1 (3.3%)
Highest Level of Education	
Primary School	2 (6.7%)
Middle School/ JSS	8 (26.7%)
Secondary School/ SSS	7 (23.3%)
University or higher	13 (43.3%)
Relationship Status	
Single, non-dating	21 (70.0%)
Dating (Male)	3 (10.0%)
Dating (Female)	2 (6.7%)
Married	1 (3.3%)
Divorced	1 (3.3%)
Separated but still married	1 (3.3%)
Widowed	1 (3.3%)
Currently Employed	
No	22 (73.3%)
Yes	8 (26.7%)
Stable Housing	
No	11 (36.7%)
Yes (living with family)	12 (40.0%)
Yes (living alone)	7 (23.3%)
Number of years living with HIV	

Characteristic	**N (%)**
Mean (SD)	4.66 (3.6)
Religious Affiliation	
Christian (Other)	11 (36.7%)
Christian (Pentecostal)	7 (23.3%)
Christian (Anglican)	5 (16.7%)
Christian (Catholic)	4 (13.3%)
Islam/Muslim	2 (6.7%)
None	1 (3.3%)