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HIV testing among sub-Saharan African migrants in the Netherlands: a comprehensive analysis of barriers and facilitators

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ABSTRACT

In the Netherlands, sub-Saharan African migrants (SSAM) are disproportionately affected by HIV, and late HIV diagnoses remain a significant challenge. Using a socioecological framework, we explored barriers and facilitators to HIV testing from the perspectives of a diverse group of 32 SSAM and 13 key informants (KI) through semi-structured interviews. Interview data were analyzed using inductive thematic analysis. Identified barriers to HIV testing included risk perception, limited availability of HIV-related information and awareness of testing possibilities and opportunities, loss of social capital concerns, HIV testing-related stigma, intersectional stigmas, cultural norms, and difficulties in accessing HIV testing services at the primary care level. Our analysis revealed the prominent overarching influence of HIV stigma operating both directly and indirectly across socioecological levels. Identified gaps in community collaboration, mobilization, and ownership regarding testing interventions acted as barriers but, conversely, also as facilitators to HIV testing when implemented in practice. SSAM and KI perspectives aligned, except for views regarding the availability of HIV-related information. Our findings indicate a critical need for integrated, multi-level, community-driven interventions, including healthcare strategies and policies that foster increased testing uptake among SSAM.

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Introduction

Sub-Saharan African migrants (SSAM) in Europe are disproportionately affected by the HIV epidemic (European Centre for Disease Prevention and Control/WHO Regional Office for Europe, 2023; WHO Regional Office for Europe, European Centre for Disease Prevention and Control, 2024). In the Netherlands, similar to other Western European countries, SSAM account for the highest prevalence of HIV among heterosexual individuals, ranking second to men who have sex with men (MSM), who have the most significant contribution to HIV prevalence and new HIV diagnoses (Op de Coul et al., 2015; van Sighem et al., 2023; van Sighem et al., 2024). At the end of 2023, SSAM accounted for 13% of all people with HIV in care (van Sighem et al., 2024), while representing less than 2% of the total population in the Netherlands (Centraal Bureau voor de Statistiek (CBS), 2022). SSAM face a risk for HIV infection before, during, and after migration (Alvarez-del Arco et al., 2017; Desgrées-du-Loué et al., 2015; Nöstlinger et al., 2022; Rice et al., 2012a). Thus, this population shows a substantial need for HIV testing and prevention interventions (Shobowale et al., 2024).

In the Netherlands, at the end of 2023, 94% of people living with HIV were aware of their HIV status (van Sighem et al., 2024). Despite this achievement, a large proportion of SSAM with HIV are diagnosed at late stages of HIV infection (Op de Coul et al., 2016; van Sighem et al., 2023; van Sighem et al., 2024), and are more likely to be diagnosed at secondary and tertiary healthcare levels (e.g., hospital/specialist care) (Op de Coul et al., 2016; van Sighem et al., 2019). This suggests that there may be gaps in the provision and uptake of relevant HIV testing services for SSAM, including missed opportunities for early diagnosis at the primary care level, such as through general practitioners (GP) and sexual health clinics (SHC), which are the main providers of testing services in the Netherlands. Therefore, there is a need for a better understanding of the

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barriers and facilitators SSAM experience in accessing HIV testing in the Netherlands. Furthermore, to gain a comprehensive understanding, it is vital to investigate these barriers and facilitators from multiple perspectives, including SSAM and key informant (KI) perspectives. In this study, we set out to explore the factors influencing HIV testing among SSAM in the Netherlands.

Previous qualitative studies conducted among SSAM in other European countries (Adedimeji et al., 2015; Burns et al., 2007; Evans et al., 2016; Lindkvist et al., 2015; Manirankunda et al., 2009; Manirankunda et al., 2012; Navaza et al., 2012; Thomas et al., 2010) have reported testing barriers such as low-risk perception, low HIV knowledge, cost of testing, general financial difficulties, stigma, cultural differences, location and organization of services, discrimination in healthcare settings, and language difficulties. Furthermore, systematic reviews examining the factors influencing HIV testing among general populations in Europe (Deblonde et al., 2010) and globally (Leblanc et al., 2016), including among migrant populations in Europe (Owusu et al., 2023) and high-income countries (Alvarez-del Arco et al., 2013; Blondell et al., 2015), have also synthesized identified barriers and facilitators along socioecological levels (individual, interpersonal, social/community, healthcare provider, and structural levels). Nonetheless, there has been limited evidence on how these factors (barriers and facilitators) interact across the different levels to influence HIV testing. Although these reviews provide valuable insights into the barriers and facilitators to HIV testing, which, in many cases, may be similar across contexts, there is a need for studies exploring the specific barriers and facilitators unique to the Dutch context, taking into account the Dutch healthcare system (testing policies, service provision modalities, and health financing models), as well as other broader systemic characteristics and migration dynamics. SSAM demographics vary across European countries. For example, national statistics indicate that more than half of first- and second-generation SSAM in the Netherlands possess higher educational attainment (Centraal Bureau voor de Statistiek (CBS), 2023a, 2025), with approximately 49% in paid employment (Centraal Bureau voor de Statistiek (CBS), 2023b). Furthermore, recent disaggregated migrant data (Eurostat, 2024) show that non-EU citizens in the Netherlands experience comparatively lower levels of socioeconomic exclusion than their counterparts in other European countries, such as France and Spain.

With most of the available research in the Netherlands being of quantitative nature and focusing on people with HIV (Bil et al., 2019; Op de Coul et al., 2016; Schouten et al., 2013; van Bilsen et al., 2022), there is limited qualitative research specifically addressing SSAM and KI perspectives on the barriers and facilitators to HIV testing among SSAM. Prior qualitative studies investigating the reasons for late HIV diagnosis among people with HIV in the Netherlands (Bedert et al., 2021; Van Opstal et al., 2018) identified underlying factors such as low-risk perception, fear of HIV consequences, problematic client-provider communication, and the lack of recognition of HIV symptoms by healthcare providers. However, the incorporation of KI perspectives is absent in these studies. Perspectives from KI, including healthcare providers, migrant community leaders or representatives, policy officers, and researchers, are vital as they can provide additional practice-informed, cultural, social, systemic, and structural insights, thereby enriching our understanding of the underlying factors for late testing (Marshall, 1996). To our knowledge, this is the first study explicitly focusing on SSAM to explore the factors influencing HIV testing from multiple perspectives within the Dutch context.

This study aims to improve our understanding of the factors influencing HIV testing by exploring both SSAM and KI perspectives using a socioecological framework. The socioecological approach posits that individual (health) behaviors occur within the broader context of a complex interplay among individual, interpersonal, community, societal, and organizational factors (Bronfenbrenner, 1977). Given the complex nature of health behaviors, such as HIV testing, and the vast array of determinants, we deem it appropriate to explore the factors influencing HIV testing across different socioecological levels. By integrating SSAM and KI perspectives and utilizing the socioecological framework to showcase various experiences and perspectives, we strive to generate an in-depth and nuanced insight into the multi-layered barriers and facilitators to HIV testing among SSAM in the Netherlands.

Methods

Study design and context

Our study was conducted within the Dutch context, given that in the Netherlands, late HIV diagnoses have remained high among SSAM over the last two decades (Op de Coul et al., 2016; van Sighem et al., 2023).

This study is part of a research project focusing on HIV testing and linkage to care among SSAM in the Netherlands that was approved by the Ethics Review Committee at Maastricht University Faculty of Psychology and Neuroscience (reference number: OZL_188-10_02_2018_S70). We adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines (Tong et al., 2007) for this research, including the reporting of study findings (Appendix 1).

Sampling and recruitment

In total, 32 SSAM and 13 KI were recruited. SSAM were recruited purposively through social media platforms and community-based organizations with access to SSAM individuals and groups, and through snowball sampling. In recruiting, we sought to establish a diverse sample in terms of gender, sexual orientation, immigration/residence status, and HIV status, which, at times, intersected. Eligibility criteria for SSAM included having SSA origin or having at least a parent originating from SSA (second-generation migrant), being 18 years or older, and having a current residency of more than six months in the Netherlands. Our consideration and inclusion of second-generation SSAM is grounded on the biosocial inheritance framework and the idea that social processes influencing health disparities can be transmitted across generations (Hoke & McDade, 2014). KI were recruited purposively through existing professional networks and collaborations. Eligibility criteria for KI included having substantial work experience in an HIV and migration context and familiarity or close contact with SSAM as a community member, leader, representative, and healthcare provider.

Participants who signified interest were sent detailed background information about the study's purpose and procedure, as well as their rights to withdraw participation and measures for ensuring confidentiality, before the interviews and contacted via email or phone to schedule interviews. Seven SSAM recruited declined participation (three due to lack of interest in participating in HIV research, three cited time constraints, and one did not provide a reason), and four did not attend scheduled interviews. Three potential KI invited for the study did not respond to the invitation. Recruitment was discontinued once data saturation was reached.

Participant characteristics

Five diverse subgroups of cisgender SSAM (i.e., heterosexual male and female, MSM, undocumented individuals, and people with HIV), which, at times, intersected, participated in the study (Table 1). Overall, participants were mostly men (65.6%) between the ages of 25 and 49 years, first-generation migrants, and residing in the Netherlands for less than five years. Two-thirds had a university education or were studying at Dutch universities. Fifteen had never tested for HIV, eleven had previously tested, and six were persons with HIV. Ten participants were previously in the asylum system, of which five were granted approval to stay in the Netherlands, four applications were rejected (now undocumented), and one was still in procedure. Participants came from twelve African countries. KI participants in the study came from diverse professional backgrounds (see Table 1 for a full description); most were cis-male (61.5%), and 5 were cis-female (38.5%). Ages ranged from 34 to 54 years, with a mean age of 40.7 years ($SD = 6.8$). All KI had bachelor's degrees or advanced (postgraduate) degrees. Years of professional experience in the Netherlands ranged from 2 to 25 years ($M = 11.2$; $SD = 8.4$).

Data collection

Data were collected through semi-structured interviews between February 2021 and May 2023. Due to COVID-19 restrictions, most interviews were conducted via Zoom or telephone. Only one interview was conducted face-to-face at a location chosen by a KI after COVID-19 restrictions were lifted. All interviews were conducted in English and digitally recorded. Interviews with SSAM ranged from 40 to 87 min ($M = 63.2$ mins; $SD = 13.1$), and KI interviews ranged from 37 to 141 min ($M = 71.3$ mins; $SD = 28.2$). The lead author or community interviewer conducted the interviews. The lead author (OS) is a cis-male, heterosexual physician with HIV program experience and a PhD candidate of Nigerian nationality. The community interviewer is a cis-female, heterosexual woman with Ghanaian nationality and extensive experience in conducting interviews with SSAM in the Netherlands. Participants provided informed consent and completed a

Table 1. Participant characteristics.

	SSAM (n = 32)	KI (n = 13)
Age		
<25	12	0
25–49	18	10
50+	2	3
Migrant Generation Status		
First-Generation	30	Not assessed
Second-Generation	2	Not assessed
Gender identity		
Cis-male	21	8
Cis-female	11	5
Educational background		
Below high school	2	0
High school	7	0
University	20	13
Not disclosed	3	0
Sexual orientation		
Heterosexual	17	Not assessed
Gay/Homosexual	10	Not assessed
Bisexual/Lesbian/Queer	5	Not assessed
Religion		
Christian	21	Not assessed
Muslim	3	Not assessed
Other (Atheist/Indigenous/Spiritual)	5	Not assessed
Not Disclosed	4	Not assessed
Residence status		
Documented	23	Not assessed
Undocumented	8	Not assessed
Asylum seeker	1	Not assessed
Countries of origin		
Botswana	1	0
Cameroon	4	0
Gambia	1	0
Ghana	8	2
Kenya	6	0
Nigeria	3	2
Sierra Leone	2	0
South Africa	2	0
Tanzania	1	0
Togo	1	0
Uganda	2	0
Zimbabwe	1	0
Aruba ^a	0	1
Netherlands ^a	0	8
Years of residence in the Netherlands		
<5years	21	Not assessed
5–10 years	7	Not assessed
>10 years	4	Not assessed
Region of residence		
North Holland	11	6
South Holland	8	4
Utrecht	1	1
Groningen	2	0
North Brabant	2	1
Limburg	5	0
Gelderland	2	1
Not disclosed	1	0
HIV testing history		
Tested	17	Not assessed
Never tested	15	Not assessed
HIV status		
HIV negative	11	Not assessed
HIV positive	6	Not assessed
Status unknown	15	Not assessed
Time since HIV diagnosis		
<10 years	3	Not assessed
>10 years	3	Not assessed
Profession/Affiliation		
GP (General Practitioner)	na	2
HIV Specialist (Doctor/Nurse)	na	2
Sexual Health Physician	na	1
Researcher	na	1

(Continued)

Table 1. Continued.

	SSAM (n = 32)	KI (n = 13)
Policy/Program Officer	na	1
Testing service provider (Sexual Health Nurse/Outreach Manager)	na	3
Community representative/Opinion leader	na	3
Professional experience in the field of HIV		
<5 years	na	3
>5 years	na	10

^aKI country of origin; na: not applicable

short sociodemographic questionnaire before the interviews. Furthermore, participants were also allowed to ask questions about the study and participation at any point before and during interviews. Participants received a € 30 gift voucher as reimbursement for the time taken to participate in the study.

Interviews were conducted using interview guides developed based on the socioecological framework in collaboration with the research team (OS, KJJ, and SES). Interview guides (Appendix 2) were pretested at Maastricht University's interfaculty HIV lab and adjusted after receiving feedback. Interview guides covered the following topics: (1) migration experiences, (2) access to healthcare in the Netherlands, (3) perceptions relating to HIV knowledge and views on HIV within SSAM communities (in the Netherlands), (4) awareness of HIV testing options and experience with HIV testing in the Netherlands, (5) barriers and facilitators to HIV testing on each socio-ecological level, (6) HIV self-testing, (7) barriers and facilitators to linkage to HIV care on each socio-ecological level and, (8) suggestions on increasing testing uptake and improving testing services and linkage to care for SSAM. KI interviews focused on research questions 5, 6, 7, and 8. In this paper, we restrict our report only to findings on HIV testing.

Data processing and analysis

Digitally recorded interviews were transcribed verbatim by three research assistants (one bachelor- and two master-level students) and through professional transcription services. Transcripts were reviewed thoroughly while listening to interview recordings and verified by OS. OS ensured that all personal information was redacted from transcripts. Atlas Ti 23.1.2 was used for data processing and analysis. The first transcript was coded and discussed by OS and SES. OS did the subsequent coding of study data in parallel with conducting interviews. All discrepancies in coding and analysis were iteratively addressed and resolved through consensus with co-authors (KJJ and SES). Inductive thematic analysis was performed to identify, analyze, and outline patterns of themes in our study data. We adhered to all the six stages of thematic analyses outlined by Braun and Clarke (Braun & Clarke, 2006). First, we thoroughly reviewed the study data through repetitive reading of transcripts and creating notes of initial ideas. Second, we generated initial codes for potential themes across the study data. Third, generated codes were reviewed and clustered into identifiable patterns under potential themes. Fourth, we reviewed the initial themes and developed an analytic thematic map. Fifth, we defined and named themes by re-evaluating the meaning of themes and categories. SSAM and KI data were coded and analyzed independently and compared to identify areas of thematic convergence (similarities) and divergence (differences). Examples of our theme development and analytic approach can be seen in Appendix 3. Last, we drafted an analysis report for this paper. Pseudonyms were used to present quotes to protect participants' identities, and in specific instances, selected quotes were reviewed and slightly adjusted grammatically to enhance reading and coherence.

Results

In this section, we describe the underlying barriers and facilitators to HIV testing and interactions under the socioecological framework (Figure 1), using illustrative quotes to expound on key concepts. Table 2 contains corresponding quotes to themes (and subthemes).

Barriers and facilitators of HIV testing

Risk perception: re-adapting to HIV/STI narratives in the Dutch context

At the individual level, risk perception emerged as a prominent barrier to HIV testing, and this was influenced by societal, community, and interpersonal level factors. First, many participants perceived a

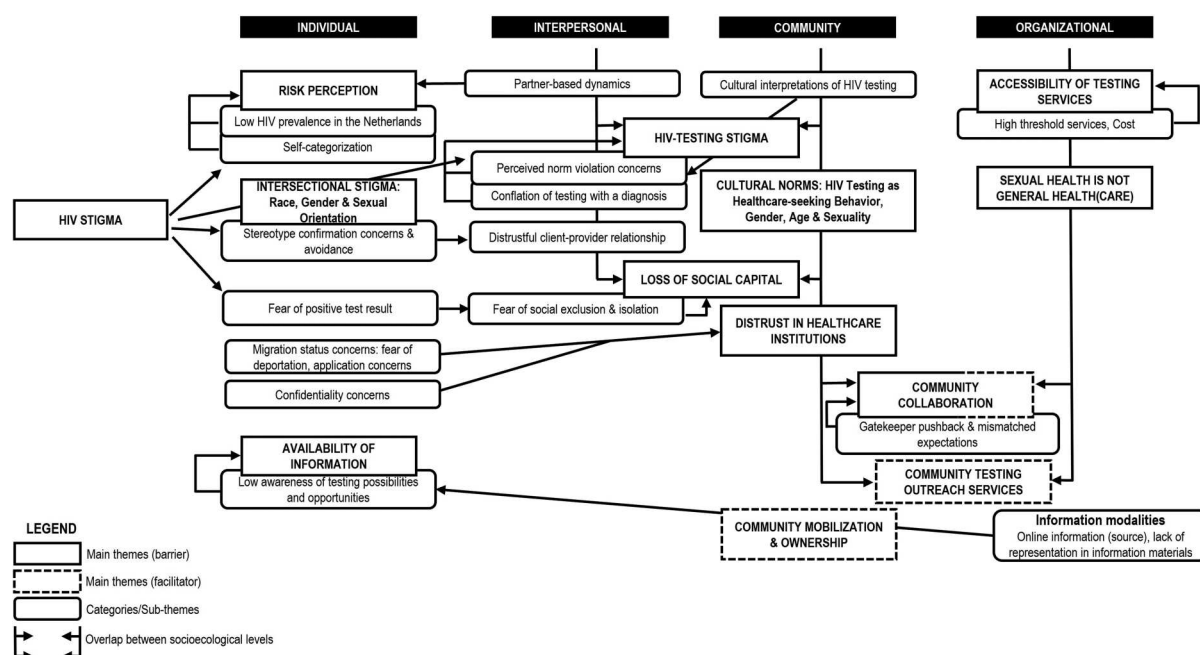


Figure 1. Socioecological framework depicting the barriers and facilitators to HIV testing on the individual, interpersonal, community, and organizational levels among SSAM in the Netherlands.

lesser likelihood of acquiring HIV due to the low prevalence of HIV in the Netherlands (quote 1). A fundamental assumption among some SSAM participants was the belief that the perceived low risk of HIV within the SSAM community in the Netherlands still acted as a barrier to testing, despite the presence of indicators such as having symptoms indicative of HIV, multiple sexual partners, and engaging in condomless sex (quote 2). SSAM and KI also mentioned the lack of awareness, low visibility, and direct personal experiences with HIV in the Netherlands as influencing HIV risk perception within the community.

Second, there was evidence of self-categorization intertwined with stigma. Some participants shared the belief that certain groups in the Netherlands, such as gay men, were at a higher risk of acquiring HIV. Some even referred to HIV as a “gay disease,” thereby minimizing their own perceived risk. One participant’s reflection on this is particularly illuminating: “If I were sexually involved with other men, [...] then I’d be like, “Hmm, this is first in the list. Everybody says this is the highest-risk group. So maybe I should test”. But, that’s not the case [...]. I really don’t have a reason to.” (Etienne, heterosexual cisgender man, 23, Cameroon). Another participant raised a crucial point on how stigma significantly influences risk assessment: “I’ve generally been safe, and I’ve only had sex with women. You see the stigma there! (laughs)” (Lethabo, heterosexual cisgender man, 22, South Africa).

Third, interpersonal (partner-based) dynamics played a significant role in risk assessment and HIV testing. For example, one KI attributed better-informed risk assessment and the likelihood of seeking or accepting HIV testing to the higher acceptance of open relationships among gay couples (quote 3). Among heterosexual SSAM individuals, especially male participants, low perceived susceptibility to HIV was often linked to trust in sexual partners and, among older men, the belief in strict adherence to cultural norms that deterred engagement in certain sexual practices (quote 4), while women and MSM stated altruistic and responsibility motivations (quotes 5–6). The recognition of the benefits of (early) treatment and prevention played a role in facilitating testing, mainly in MSM and women.

Availability of information: low awareness of testing possibilities and opportunities

At the individual and organizational level, limited awareness of testing possibilities and opportunities emerged as a barrier to testing. Several participants were unaware of available testing options and emphasized the lack of widely available HIV-related information in the Netherlands (quotes 7–8). In contrast, KI, working in public health facilities, mentioned that HIV-related information is exclusively available online and that the current modalities of available information present potential barriers, limiting accessibility to

Table 2. Barriers and facilitators to HIV testing among SSAM.

Sub-theme	Barrier/ Facilitator	Quote Number	Quote	Participant
Theme 1: Risk perception				
Low prevalence of HIV in the Netherlands	Barrier	1	It's just something that is not prevalent here in the Netherlands. [...], when we think of STIs, we're thinking more of chlamydia or other types of diseases or infections. [...] HIV never really crosses my mind. I always assume it's something back home.	Fredrick, heterosexual cisgender man, 22, Kenya
Low prevalence of HIV in the Netherlands	Barrier	2	There's no imminent threat like there's no, "Oh, this is a possibility." There are so many other things that you could have here that are not HIV. [...]. They could have symptoms but may not immediately connect the dots.	Mercy, heterosexual cisgender woman, 25, Kenya-Nigeria
Partner-based dynamics	Barrier	3	When it comes to heterosexual couples, [...] there's this belief, [...]. When we say, "Would you like to get tested?", "No, I don't need to because I'm married; I don't need to get tested [...], I'm in a relationship". With the MSM community, we noticed that even people in relationships tend to get tested because there's more acceptance of open relationships within this.	KI 4, Testing Service Provider
Adherence to (preventive) sociocultural norms	Barrier	4	We see from ourselves, the African community, [...] people go to redlight (sex workers) or some places without protection, but our community, we know ourselves, and we trust ourselves, we don't do a lot of these things.	Abronomia, heterosexual cisgender man, 56, Ghana
Desire to protect others	Facilitator	5	I was thinking about having a child, but I did not know exactly [...]. You just want to check yourself.	Nafissa, heterosexual cisgender woman, 31, Cameroon
Benefits of early treatment	Facilitator	6	The decision to have a test is individual. And you make that decision regarding what has transpired within you, what you have done, or if you suspect you might be infected. You want to get medication early.	Kiserian, cisgender MSM, 33, Kenya
Theme 2: Availability of information				
Perceived lack of HIV-related information, including for testing	Barrier	7	Information is not their strongest suit. I can tell you, if I go outside there, I can see the latest Samsung or whatever on the billboard or the tram, you know? I think this is important. [...] because it is a mess, people don't get tested!	Timothy, cisgender MSM, person with HIV, 46, Kenya
Perceived lack of HIV-related information, including for testing	Barrier	8	The information about HIV in this community is the information that they have from the countries they are coming from. They are not getting any information from the Netherlands. [...] Since I have stepped into the Netherlands in four years, I'm not sure that I've come across any [HIV information]. We do not get anything from [the National Public Health Institute and SHCs] about HIV or anything to remind us of a regular checkup or check for HIV. No, nothing is coming from there!	KI 1, Community Representative
Nature/characteristics of HIV-related information	Barrier	9	Yes, we are online. So, if you Google STD check, you will find us. [...] You have to know that you have to Google the STD check. It's not like we have all these big flyers or information on the streets [...]. Online, there's a lot of information, but you have to know. You have to come online to find information.	KI 9, Testing Service Provider
Nature/characteristics of HIV-related information	Barrier	10	The information on our website is a bit too complicated, and how we inform may be too complex.	KI 3, Sexual Health Physician
Nature/characteristics of HIV-related information	Barrier	11	It's easy to access HIV information in the Netherlands. It's just that it's not in-depth. [...] in the sense that newcomers are not put into consideration in that information. The information is disseminated mainly to benefit those already in the system.	KI 7, Migrant LGBTIQ + Community Leader

(Continued)

Table 2. Continued.

Sub-theme	Barrier/ Facilitator	Quote Number	Quote	Participant
Nature/characteristics of HIV-related information	Barrier	12	The information is there and accessible. But, for our community members, one thing I see lacking is representation. When you have information about HIV/STI, then most times, it is in the Dutch language. [...], the people in the video [...] it's all Dutch people and in Dutch. When the information reflects us, we can relate in a way.	KI 7, Migrant LGBTIQ + Community Leader
Knowledge of the Dutch healthcare system	Barrier	13	If your network is still very African and you don't know a lot of Dutch people, and you don't know the language, I can imagine that is another hindrance for why you wouldn't get tested or at least have easy access to testing.	Mercy, heterosexual cisgender woman, 25, Kenya-Nigeria
Knowledge of the Dutch healthcare system	Barrier	14	English is still insufficient because our presence is online, but they need to know that the GGD (SHC) provides these services. And that's a difficult thing. I think the first barrier is knowing that the GGD is the place you can go for STI testing.	KI 4, Testing Service Provider
Knowledge of the Dutch healthcare system	Facilitator	15	How do heterosexual migrants know they can go to GP or can go to GGD? It's us, as healthcare professionals, who need to inform people better.	KI 10, HIV Specialist
Theme 3: Loss of social capital				
Fear of social exclusion	Barrier	16	They don't want to do it (testing) because they feel like when they do it, people know they'll be isolated.	Akwete, heterosexual cisgender woman, 30, Ghana
Fear of social exclusion	Barrier	17	Community is everything for sub-Saharan Africans; they don't want anything that can take them away from that or (cause them to) lose trust. [...], anything that can make people not use the same cup or share things with you is something they try to avoid.	KI 1, Community Representative
HIV and lack of social benefits	Barrier	18	High blood pressure, diabetes, they are welfare diseases, and it's so widespread that you're a bit of an outcast if you don't have them, it sometimes gives you status as well, in the community, [...] they get certain benefits from having an accepted chronic disease. That's not the case for HIV at all!	KI 13, GP
Theme 4: HIV testing-related stigma				
Perceived norm violation	Barrier	19	What is quite important in our culture is no sex before marriage, and when you are married, you are faithful to one, [...] but if you are going for HIV testing, you are implying that you are having sex before marriage, or you are having sex outside your marriage, and people like that are not wanted in our community. We frown at that.	KI 1, Community Representative
Perceived norm violation	Barrier	20	I cannot afford the neighbor knowing that I have tested for HIV. Like if I tested, it means there's probably some reason why I tested, which is on the suspicion. I mean, I cannot. I can feel how our community works, and it's just that people are in everybody's business sometimes.	Etienne, heterosexual cisgender man, 23, Cameroon
Conflation of testing with diagnosis	Barrier	21	If people were to talk about it, and you know, bringing these ideas, then some people just opt not to or wouldn't want to get tested because the thought about getting tested is associated with being sick, with having the virus.	Tumaini, heterosexual cisgender man, 20, Kenya
Theme 5: Intersectional Stigma				
Stereotype confirmation concerns and avoidance	Barrier	22	I think just like that, "Oh, you come from a black country or an African country." So that already is kind of like I am confirming a stereotype. It's kind of like HIV is either a gay or an African thing. So I do not want to be coming into this community (country/society) where I am looking to be aware [...], but if the community (country/society) is always kind of [...], it is not like they would say it; it's more like just a feeling, I feel myself that it is not welcoming for people to be aware.	Boipelo, heterosexual cisgender woman, 24, Botswana

(Continued)

Table 2. Continued.

Sub-theme	Barrier/ Facilitator	Quote Number	Quote	Participant
Stereotype confirmation concerns and avoidance	Barrier	23	Some people feel that because they're black, or they're mixed (race), or whatever, the doctors view them differently. So, I think there's sometimes a bit of distrust between the doctor and the patient.	Fredrick, heterosexual cisgender man, 22, Kenya
Stereotype confirmation concerns and avoidance	Barrier	24	I didn't really want to go because it constantly felt like you were confirming someone's bias every time you went, just people view you in a certain way. And then if you say you've had these many sexual partners, and you're from the African continent [...], I feel like a white woman would be granted the benefit of the doubt, like, "Oh, she was just having fun" [...]. But when you're Black and African especially, you feel like every time you're there, you're ticking a box in their head. Then you just don't want to go.	Mercy, heterosexual cisgender woman, 25, Kenya-Nigeria
Stereotype confirmation concerns and avoidance	Barrier	25	Then same with stereotypes, just the sexuality thing, but also the race thing. So like, oh, yeah, of course, like, all that, like, Africans do is like, I don't know fuck around and stuff. And that's why he wants to get tested, and so, shame in that regard.	Arthure, cisgender MSM, 19, Cameroon
Theme 6: Cultural norms (Preventive) Healthcare-seeking behavior	Barrier	26	We don't have this health culture of check-up [...]; we go to the hospital when we are sick or something is wrong. We don't have this idea that maybe you have to see your huisarts (GP) at maybe after six months for a check-up.	Ngono, cisgender MSM, 41, Cameroon
(Preventive) Healthcare-seeking behavior	Barrier	27	We Africans, we believe in something when you really feel you're sick	Namazzi, heterosexual cisgender woman, Asylum seeker living with HIV, 46, Uganda
(Preventive) Healthcare-seeking behavior	Barrier	28	You're doing well if you're feeling healthy; you don't have any symptoms. Why should you do a test? No, you're not sick. [...] "we don't need this test".	KI 9, Testing Service Provider
Gendered norms and healthcare-seeking behavior	Barrier	29	With men [...], they want to feel "Macho." I know the men are more reluctant, [...] but women, I don't think they have difficulties; they will be more open to test.	Jean, heterosexual cisgender man, 51, Togo
Gendered norms and healthcare-seeking behavior	Barrier	30	A lot of toxic masculinity. I experienced among the youngster boys about how they talk; they always send the women to get themselves tested [...] they don't get themselves tested.	KI 3, Sexual Health Physician
Gendered norms and healthcare-seeking behavior	Barrier	31	With African women, I find there's more the pressure of the community than in other populations, that load, or the stigma of having to be a proper virtuous woman who only sleeps with her husband and doesn't have sex premaritally, but it happens. So it's also a bit of a barrier to have that talk, okay, this is what you're supposed to do, but what you actually do [...]. So, the community is a much bigger part of the conversation between doctor and patient.	KI 13, GP
Gendered norms and healthcare-seeking behavior	Barrier	32	A lot of the time, women are more shamed for sex than men. There is a stigma about women being sexually promiscuous.	Ada, heterosexual cisgender woman, 20, Nigeria
Gendered norms and healthcare-seeking behavior	Barrier	33	What I notice is that [...] rarely have African men coming, saying that they're gay, [...]. Whereas in another culture, they will come right out and say: "Okay, I'm a man having sex with other men; I'd like to protect myself or test." That rarely happens in African men.	KI 13, GP
Lack of intergenerational discourse on sexual health	Barrier	34	If your parents don't tell you, you don't have this intimate link to the topic. So, since I was never taught about it by my parents or my dad, I never made the link between HIV and me.	Arthure, cisgender MSM, 19, Cameroon

(Continued)

Table 2. Continued.

Sub-theme	Barrier/ Facilitator	Quote Number	Quote	Participant
Lack of intergenerational discourse on sexual health	Barrier	35	Sexual health is not a subject that is discussed at home. This is something you have to learn from school or maybe your friends [...].	KI 12, Testing Service Provider
Theme 7: Community collaboration				
Community Partnership	Facilitator	36	You need to find people within the community [...] because it is people within the community that others will talk to, most of the time, not from the outside. [...], church is a very big part of our community. So having a sort of alliance with the church leaders with regards to [testing interventions].	Nana Adua, heterosexual cisgender woman, 24, Ghana
Community Partnership	Facilitator	37	Working together with the communities to get to the people you need to get to. So if we do it by ourselves, it's not going to work.	KI 9, Testing Service Provider
Consistency in collaboration and interventions	Barrier	38	The best thing would be to ally ourselves with some churches [...], but it's very difficult because they don't want to include us [...] in whatever activities they organize. We got a lot of criticism that the [Sexual Health Clinic] always tries to start something, but nothing stays.	KI 4, Testing Service Provider
Consistency in collaboration and interventions	Facilitator	39	It's important to keep a durable relationship with the community. Not like there's a big thing (project), "okay, we are now going to target the community again," [...] and then after a few months or years, [...] nothing happens again.	KI 5, Policy Officer
Consistency in collaboration and interventions	Facilitator	40	It needs to be sustainable – not just implementing or starting it. It has to be a sustainable process.	KI 7, Migrant LGBTIQ + Community Leader
Tokenism	Barrier	41	There should be more of a co-creation process [...], that the municipal health service invests in relationships, [...] not only contacting community leaders for a project [...] because then it really feels a lot like tokenism.	KI 5, Policy Officer
Tokenism	Barrier	42	If things need to be more successful, like more testing [...], there will need to be more people from sub-Saharan Africa [...], already from the start in intentions to work with and to improve it and not only at the end, when there are already programs; like sort of "excuustruus" (a form of tokenism related to gender diversity in workspaces) – we have one person from sub-Saharan Africa!	KI 10, HIV Specialist
Power imbalance	Barrier	43	One of the most important things is that when policy about HIV testing is being formed, it usually has a top-down approach.	KI 5, Policy Officer
Power imbalance	Barrier	44	When working for [organization], those are quite mainstream and privileged organizations, with, not only with all the power and the money, and the testing facilities, but because they are so mainstream and predominantly white, you see that there can be a big lack of cultural sensitivity as well.	KI 5, Policy Officer
Mismatched goals and expectations	Barrier	45	I hesitated because I said [...], "What is he (pastor) expecting from me"? Because I have different feelings about sexuality and testing than he probably does.	KI 9, Testing Service Provider
Mismatched goals and expectations	Barrier	46	I have worked with a lot of Muslim people, and they are working a lot through the radio, doing all kinds of interviews. [...], but you couldn't discuss the sexual risk things because that was too much, and it was only for the older people [...] and young children shouldn't be made happy about sexual contact because that was not a thing.	KI 12, Testing Service Provider
Theme 8: Community mobilization and ownership				
Role and influence of faith/religious groups	Facilitator	47	I think just the church, in general, has a significant huge impact [...] on Africans in Africa and those living in Holland. [...]. I think with the influence that the church has, if they encouraged people to do so (testing), they would.	Harriet, heterosexual cisgender woman, 20, Zimbabwe

(Continued)

Table 2. Continued.

Sub-theme	Barrier/ Facilitator	Quote Number	Quote	Participant
Community positive role models and stories	Facilitator	48	Having successful stories of HIV-positive people would encourage more people to test.	Bitalo, cisgender MSM, 29, Uganda
Community positive role models and stories	Facilitator	49	I think having positive examples so that people can know that it's not a death sentence [...], I think we tend to be very fatalistic about HIV [...], it would be great to have role models with HIV.	KI 13, GP
Diversity and representation in service provision	Facilitator	50	We don't resemble the environment. Yes, it's still a pretty white clinic. I think people also want to find something that they recognize and that can maybe [...] make it easier for them to come to us or to like, see, she or he or they (healthcare provider) understand where they're coming from.	KI 9, Testing Service Provider
Theme 9: Community testing outreach services				
Involvement with LGBTIQ community organizations	Facilitator	51	If you are part of the LGBTIQ community (organization), what they do is that, in every of their forum, everyone is taught health care. They teach you how to go for testing [...].	Abdul, cisgender MSM & Asylum seeker, 39, Sierra Leone
Lack of outreach (for specific groups)	Barrier	52	We don't have that focused testing for heterosexual migrants, to my knowledge, I don't know where I can find that.	KI 10, HIV Specialist
Lack of outreach (for specific groups)	Barrier	53	There are Wijkpolis (satellite clinics) for youth under 25 [...], but there's no such thing for the adult community.	KI 4, Testing Service Provider
Lack of outreach (for specific groups)	Barrier	54	I think when you get older, or you pass the 26 age mark, it might get a bit more difficult.	Mercy, heterosexual cisgender woman, 25, Kenya-Nigeria
Integrated community testing/ health screening programs	Facilitator	55	[...] programs like "Your Health is Your Wealth (community health promotion program)," [...] normally, you test for high blood pressure, you test your diabetes, you test for your HIV. So, making it logical.	KI 13, GP
Theme 10: Accessibility of HIV testing services				
High-threshold services	Barrier	56	In the past, [...] when you came from [...] South America, Africa, or Asia, you also had a reason to come to the (SHC). But nowadays, we say, "Well, you can also go to your GP."	KI 12, Testing Service Provider
High-threshold services	Barrier	57	If (you) have some symptoms of sexual disease, you can have an appointment very fast. However, if it is for normal tests, maybe it will take time like maybe sometimes three weeks, one month.	Ngono, cisgender MSM, 41, Cameroon
High-threshold services	Barrier	58	If you call, you have to be tricky. [...] I think you don't have to be honest because if you're honest, they'll say they are busy. But then, if you mentioned symptoms you're getting [...], they will get them quickly to come and test. For somebody who doesn't have symptoms, you have to wait.	Bitalo, cisgender MSM, 29, Uganda
Culture & Communication Challenges	Barrier	59	The first question they asked me was like, "Are you a sex worker?", and then, to me, I think like, "strange that he asked me about that because it's not a nice way" [...], it's like, you mean that when I have sex, it's like I'm going in for money. [...] Not every gay person is a sex worker!	Bitalo, cisgender MSM, 29, Uganda
Culture & Communication Challenges	Barrier	60	A lot of my colleagues in (city) don't speak English. They don't know how to address these people [...]. I think that for this group, it's very difficult to pick up the phone, make an appointment, and answer all these open questions. We have a lot of direct questions about your sexual health and what kind of sex you have, and asking someone on the phone if he has sex with men or if he has had a risk [...].	KI 12, Testing Service Provider
Cost (limited health insurance coverage)	Barrier	61	At the huisarts (GP), it is hard; my insurance has to pay. If my insurance doesn't pay, I have to pay.	Ngono, cisgender MSM, 41, Cameroon
Cost (limited health insurance coverage)	Barrier	62	My group, of course, is limited to being in a refugee center, [...] they don't have the same kind of health insurance package that we all have here. It's very limited, mostly only for emergencies [...], very basic care.	KI 2, Migrant LGBTIQ + Community Representative

(Continued)

Table 2. Continued.

Sub-theme	Barrier/ Facilitator	Quote Number	Quote	Participant
Cost (bureaucratic healthcare arrangement)	Barrier	63	If you don't have a BSN (Social Security number), I cannot even send you online to the laboratory. [...] The referral is very difficult. [...], going to the lab is also very difficult; usually, the laboratories bill the patients and let the patients do the paperwork. [...], it's very difficult.	KI 11, GP
Bureaucratic burden	Barrier	64	It's more work, that's all. It's not much more work, but it is; if you don't have that many undocumented people and you don't have this setup for it, it's just a matter of it being more of an effort. [...] but can't be bothered to put in the extra effort.	KI 13, GP
Theme 11: Sexual health is not general health(care)				
Fragmentation of sexual healthcare provision	Barrier	65	In our society, we have developed an idea that sexual health is not part of general health. [...] a lot of people consider it to be not their territory, "go to the SHC."	KI 11, GP
Fragmentation of sexual healthcare provision	Barrier	66	Even if I want to do the test, my doctor cannot do it for me. My doctor will also refer me to either (SHC) or another facility.	KI 1, Community Representative
Fragmentation of sexual healthcare provision	Barrier	67	They don't dare; they're not thinking of it. They feel like that's the role of the (SHC). And maybe they would mention it, "Oh, maybe you should get tested"; "Oh, you have a sexual health issue". Okay, maybe you should get tested at the (SHC).	KI 4, Testing Service Provider
Perceived lack of healthcare provider sexual health skills	Barrier	68	We hope that most of our group eventually gets status and get to stay here, which then, we come to a whole other set of new challenges and issues, because then they get a general practitioner ... , which is just like [...] Russian roulette in this country, like you either get a really good one, or you can get a really bad one, let alone, somebody who really understands HIV, PrEP, the multitude of challenges that come with an LGBTIQ + community. Sadly, we have great doctors. [...], but some of them just are terrible!	KI 2, Migrant LGBTIQ + Community Representative
Theme 12: Distrust in healthcare institutions				
Perception of healthcare facilities/institutions as governmental agencies	Barrier	69	For those who are still in procedure or who are undocumented, [...] They feel all government institutions communicate with each other.	KI 7, Migrant LGBTIQ + Community Leader
Perception of healthcare facilities/institutions as governmental agencies	Barrier	70	We are still the government, the (SHC), within the municipality. And I know in a lot of African countries, they don't trust the government.	KI 9, Testing Service Provider
Allaying confidentiality concerns	Facilitator	71	We have to work harder to make people believe in us, rely on us, and feel they can trust us with their information. And that we keep it in our system, and it doesn't go anywhere else.	KI 12, Testing Service Provider

only those who proactively seek such information (quote 9). Additionally, the information presently available may pose a challenge for specific groups due to its complexity (quote 10).

Some participants indicated using the Internet to seek sexual health information or seeking information from the GP if needed. However, regarding the former, further discussions revealed that a particular subset of SSAM were not privy to such information. A community representative further validated this observation: *"There are a lot of assumptions that everything's on Google, but not everybody's going to Google. Our community does not really use Google."* (KI 1, Community Representative). In some cases, available information did not fit the needs of specific groups, such as newly arrived migrants (quote 11) and was unrepresentative of SSAM (quote 12).

Few participants cited linguistic difficulties, with some further suggesting how this challenge can be exacerbated by the lack of access to pertinent information from acquaintances and social networks familiar with the intricacies of the Dutch healthcare system (quote 13). While information is available online in English, KI noted that SSAM were still not sufficiently aware of testing services at SHCs (quote 14). To combat this lack of awareness, participants articulated the need for HIV-related information to be presented in a

manner that is accessible and understandable to diverse audiences. Specifically, SSAM stressed the importance of using visual and graphic forms such as flyers, pamphlets, leaflets, videos, and phone applications to convey relevant information in multiple languages beyond English to different SSAM nationalities in the Netherlands. In addition, KI emphasized the need for healthcare providers to play a proactive role in disseminating relevant information (quote 15). In summary, while SSAM focused on the lack of visible HIV information as a barrier to testing, KI responses highlighted information dissemination modalities and characteristics that may not be suitable for SSAM. Overall, these interview responses indicate limited awareness of HIV testing options.

Loss of social capital

Interviews revealed that HIV stigma is strongly interwoven with individual apprehensions of receiving a positive test result and its consequences on interpersonal and community-level factors, such as social exclusion, which posed significant barriers to HIV testing. SSAM significantly rely on the community's social capital to adequately navigate day-to-day life and migration trajectory. A shared view among both SSAM and community representatives (KI) was that any disruption to this support system is deemed detrimental by SSAM (quotes 16–17). Although some participants viewed HIV as a chronic health condition, it was not regarded in the same light as other chronic health conditions. Specifically, HIV did not provide the same level of social benefits as those offered within the community to individuals with other chronic conditions (quote 18). These responses highlight the profound impact of HIV stigma on the acquisition of vital social capital at both interpersonal and community levels, posing a substantial barrier to HIV testing.

HIV testing-related stigma: perceived norm violation and conflation of testing with diagnosis

On the interpersonal level, the stigma attached to HIV testing was a prominent barrier that emerged in interviews. Cultural interpretations of HIV testing largely influenced this, with participants expressing concerns regarding norm violation assumptions attached to HIV testing within the community (quote 19). This is further exacerbated by the prospect of gossip and the spread of rumors within the community (quote 20). Furthermore, conversations about HIV testing were often conflated with the possibility of being infected with HIV (quote 21). This participant specifically mentioned that his involvement in our study led to suspicions of being HIV positive: *“It’s also the immediate assumption after hearing that I was doing a study for it was that I had the virus.”* (Tumaini, heterosexual cisgender man, 20, Kenya).

Intersectional stigma: stereotype confirmation concerns and avoidance

Participant narratives revealed that HIV stigma was linked to various social identities, such as race, gender, and sexual orientation. Specifically, younger SSAM participants expressed concerns regarding the possibility of validating racial biases and stereotypes surrounding HIV (quote 22). This perceived racial bias was further noted as generating a distrustful client-provider relationship with healthcare providers (quote 23). Interviews revealed that a significant number of participants, both cis-male and cis-female, were apprehensive about the impact of intersecting stereotypes on their decision to undergo HIV testing. Female participants reported the detrimental impact of the hypersexualization of Black women in Western societies as a stereotype threat that influenced their HIV testing decisions, citing intersecting racial and gender stereotypes (quote 24). Conversely, cis-male participants, especially those identifying as MSM, articulated their shame and a sense of burden due to the double stereotypes they faced based on their race and sexual orientation (quote 25).

Anticipated stigma solely based on sexual orientation also influenced testing decisions, with the same participant reflecting on his hesitations: *“I can talk about why I keep not wanting to go [...]. There are multiple things – there’s a shame just because it’s a taboo topic. [...] Something that would bother me is not wanting to fall into a stereotype. So yeah, of course, like the gay guy who goes to get tested for STDs, like, yeah, right!”* (Arthure, cisgender MSM, 19, Cameroon). Participant responses highlight the intricate impact of stigmatized identities and the range of intersectional stigmas based on race/ethnicity, gender, and sexual orientation on HIV testing.

Cultural norms: HIV testing as healthcare-seeking behavior, gender, age, and sexuality

Participants pointed out that routine healthcare-seeking behavior, including preventive sexual healthcare, was not a prevalent norm among SSAM (quote 26). Both SSAM and KI commonly expressed the perception that many SSAM tend to delay seeking care until they experience severe symptoms or debilitating illness (quote 27), with the absence of symptoms and the perception of good health posing notable barriers to testing (quote 28). Participants with HIV indicated that they were diagnosed after falling very ill, at late-stage infection, and mostly cited the same reasons as responsible for delayed testing: *“I never felt sick, or anything. So I always thought I was okay.”* (Donkor, Undocumented, cisgender MSM living with HIV, 34, Ghana).

Additionally, some SSAM and KI framed generalizations around deeply ingrained gendered masculine cultural barriers to HIV testing (quotes 29–30). However, despite the narrative of women having a higher tendency to undergo HIV testing, one KI (GP) mentioned that cultural norms still hindered disclosure of sexual behavior and testing (quote 31), with female participants bringing attention to the existence of pervasive and harmful gendered cultural norms existing beyond HIV stigma (quote 32). Furthermore, cultural norms regarding sexuality and sexual orientation also influenced disclosure and HIV testing among MSM from SSA (quote 33). Finally, both young SSAM and KI cited cultural norms as a factor influencing the lack of intergenerational discourse on sexual health with young SSAM (quote 34) and how this potentially poses a barrier to testing, especially if young individuals cannot access the necessary information from peers or social networks (quote 35).

Community collaboration: gatekeeper pushback and mismatched expectations

SSAM and KI widely acknowledged that community collaboration and partnership play a crucial role in facilitating HIV testing (quotes 36–37). However, SSAM interpretations of “community” varied, ranging from faith/religious and ethnic diasporan social groups to migrant LGBTIQ+ groups, particularly among MSM, due to the discrimination experienced within the SSAM community.

Several barriers to community collaboration emerged in interviews. First, KI mentioned pushback from community leaders and gatekeepers due to inconsistent engagement and limited presence within the community (quote 38), highlighting the need for consistent engagement and interventions to nurture trust (quotes 39–40). However, policy-driven challenges affecting budgets and human resource capacity hindered the development of sustainable partnerships, as most collaboration opportunities were limited to short-term projects. Second, KI mentioned that a dearth of co-creation engendered a perception of tokenism, which diminished the meaningful participation of the SSAM community (quotes 41–42) and highlighted existing power imbalances (quote 43). This was perceived as contributing to cultural insensitivity (quote 44) and insufficient intersectionality in care approaches for SSAM and other migrants. Lastly, KI noted that misaligned goals and unclear expectations complicated collaborations, especially with religious SSAM communities (quotes 45–46). While participants were optimistic about the potential of community collaboration in facilitating HIV testing, KI acknowledged that improvements were needed in current collaborative efforts.

Community mobilization and ownership

Participants overwhelmingly emphasized the importance of SSAM community-oriented and community-owned interventions in facilitating HIV testing among SSAM: *“Give resources to African communities to take care of themselves.”* (Ngono, cisgender MSM, 41, Cameroon). Community-led approaches were seen as most effective when grounded in cultural relevance and trust, with both SSAM and KI mentioning the pivotal role of influential faith communities (quote 47) and the active involvement of people with HIV from the community as “positive role models” in correcting the fatalistic misconceptions about HIV to promote testing (quotes 48–49).

Participants also stressed the importance of diversity and representation in both decision-making and service delivery processes, underscoring the need for cultural humility, sensitivity, understanding, and empathy in healthcare interactions. However, the current health workforce did not reflect some priority groups (quote 50). While a few participants expressed concerns about confidentiality, especially within tightly-knit communities, the majority of participants viewed culturally concordant care (through SSAM and Black healthcare professionals) as essential for the provision of HIV testing interventions within the community. These views were shaped by negative experiences such as discrimination and othering, as

well as perceptions of cultural insensitivity within mainstream public services, including the Dutch health-care system.

Community testing outreach services

SSAM and KI mentioned outreach services outside conventional facility-based settings as a facilitator of HIV testing. One participant explained: *“No, I didn’t choose it. [...] they bring their services to you [...]. I didn’t willingly wake up and say, ‘I’m gonna do this.’ They came to me; it’s easier when you go to people than people taking themselves.”* (Kiserian, cisgender MSM, 33, Kenya). However, interviews further revealed that outreach services predominantly target MSM, with only MSM from SSA who participate in LGBTIQ + community activities accessing such services (quote 51). KI mentioned the lack of outreach testing services for heterosexual individuals (quote 52), with SHCs only providing outreach services to young individuals under 25 years as a barrier to testing in older heterosexual SSAM (quotes 53–54). Furthermore, incorporating HIV testing into general health promotion interventions in community spaces was mentioned during interviews to lower the testing threshold and facilitate uptake (quote 55).

Accessibility of HIV testing services

Participants reported multiple barriers to accessing HIV testing, citing a high threshold and a complex test-seeking process. First, difficulties in securing appointments at SHCs were identified as a significant obstacle to HIV testing. SHCs offer free testing services to specific groups such as MSM, individuals from high HIV/STI prevalence countries, people exhibiting STI symptoms, those notified for an STI, and individuals under the age of 25 years. However, SSAM and KI noted inconsistent implementation of eligibility policies in some SHCs (quote 56). Some SSAM believed symptomatic individuals were prioritized (quote 57), with some admitting to exaggerating symptoms to secure appointments (quote 58). KI also corroborated these findings: *“It’s not easy to make an appointment with us. I have to be honest. It’s not easy.”* (KI 9, Testing Service Provider). Communication difficulties further impeded access, with a participant recounting: *“They have so many intrusive questions [...] And I’m like, ‘yeah, you’re making it way too difficult.’”* (Nafissa, heterosexual cisgender woman, 31, Cameroon). In some instances, interactions were perceived as discriminatory (quote 59). KI attributed these challenges to language barriers and cultural differences in communication styles (quote 60).

Second, interviews revealed that some participants considered testing costs through GPs without insurance reimbursement as a major obstacle to HIV testing (quote 61). Specific groups, such as refugees and asylum seekers, are only provided with limited health insurance coverage (quote 62). Furthermore, KI mentioned out-of-pocket payments for HIV testing among undocumented individuals due to bureaucratic healthcare arrangements (quote 63). While mechanisms exist to cover such costs, KI noted that healthcare providers often find these bureaucratically burdensome (quote 64). In summary, these responses illustrate the perceived complexities of the Dutch healthcare model and the obstacles it presents to HIV testing in various ways.

Sexual health is not general health(care)

There was a common perception among participants, especially KI, that sexual health is not considered a part of general healthcare (quote 65). For example, participants highlighted the challenges associated with accessing HIV testing through GPs (quotes 66–67). Furthermore, some participants perceived that GPs lacked the requisite skills to provide adequate care for sexual health-related issues, including those relevant to LGBTIQ + migrants with more specific sexual healthcare needs (quote 68). From a provider perspective, challenges in initiating and establishing meaningful dialogue with SSAM on HIV testing were found to be a significant impediment: *“It’s bringing up the conversation, and especially for people from the African community, it’s even more difficult”* (KI 13, GP).

Distrust in healthcare institutions

At the individual and community level, healthcare services and SHCs were predominantly perceived as government-oriented institutions with the potential to share information with other government agencies. KI, who were community representatives, suggested that this perception led to a lack of trust, fear of deportation, confidentiality concerns, and apprehension about the consequences of testing outcomes on migration

status, such as failed asylum applications (quote 69). Furthermore, another KI attributed this collective skepticism on the community level towards healthcare services to government distrust in African countries (quote 70). This led to the avoidance of contact with healthcare institutions. Building trust and addressing confidentiality concerns within communities was highlighted as crucial to facilitating HIV testing (quote 71). The interview responses highlight the profound influence of longstanding apprehensions regarding government agencies on the utilization of HIV testing services in SSAM. Further, these findings implied a lack of understanding of confidentiality principles and practices within healthcare settings.

Discussion

This study explored the barriers and facilitators to HIV testing from the perspectives of both SSAM and KI in the Netherlands. Utilizing the socioecological approach, our research elucidates the multi-level factors impacting HIV testing and their interactions among SSAM within the Dutch context. This study identified risk perception, low awareness of testing possibilities and opportunities (availability of information), HIV testing-related stigma, intersectional stigmas, cultural norms, and limited accessibility to testing services as barriers to testing among SSAM. Furthermore, difficulties with community collaboration, mobilization, and ownership were found to act as both barriers and, conversely, facilitators to HIV testing when implemented. From interviews, our analysis revealed the prominent overarching influence of HIV stigma acting directly (concerns with loss of social capital) and indirectly on other barriers (risk perception, testing stigma, and intersectional stigmas) at all socioecological levels. SSAM and KI perspectives largely overlapped but diverged on organizational-level barriers to HIV testing (availability of information). Furthermore, SSAM mainly highlighted individual, interpersonal, and community-level barriers and facilitators, while KI further emphasized interpersonal and organizational (health system- and policy-level) factors influencing HIV testing among SSAM.

Our finding on risk perception as a barrier to HIV testing is corroborated by existing research literature on SSAM in the UK and Belgium (Burns et al., 2007; Evans et al., 2016; Manirankunda et al., 2009), other migrant populations (Alvarez-del Arco et al., 2013; Blondell et al., 2015; Owusu et al., 2023), and studies done in the Netherlands (Bedert et al., 2021; Van Opstal et al., 2018). We extend this finding by highlighting how low individual risk perception in many SSAM participants in our study was influenced by the epidemiological context in the Netherlands, stigma-based self-categorization, and partner-based (interpersonal) dynamics. This first finding is in line with the study done by Evans and colleagues (Evans et al., 2016) on HIV testing mHealth interventions for African communities in England, reporting a lower perception of HIV susceptibility based on place of residence. In addition, we further identified instances of stigma-driven HIV risk misclassification based explicitly on HIV stereotypes associated with social identities, such as gay men, within the Dutch context. This misclassification stems from beliefs and mechanisms used among heterosexual individuals to avoid HIV stigma by attributing HIV to marginalized groups (Gwadz et al., 2018) and other norm-violating behaviors (Burns et al., 2007; Manirankunda et al., 2009). Lastly, our study also highlighted variations in risk perception between heterosexual individuals and MSM within relationships, and this aligns with prior research reporting that heterosexual SSAM often exhibit diminished risk perception, primarily attributed to their belief in the exclusivity of their relationships or marital status (Aidoo-Frimpong et al., 2021; Loos et al., 2016).

Similar to previous studies done in Belgium (Manirankunda et al., 2009), Ireland (Adedimeji et al., 2015), the United Kingdom (Shangase & Egbe, 2015), and Canada (Mittra et al., 2006), our study identified the low awareness of HIV testing options as a prominent barrier to HIV testing. Interestingly, SSAM and KI held differing perspectives on this finding. SSAM emphasized the lack of HIV-related information. In contrast, KI noted that information was available but highlighted the nature/characteristics and modalities (delivery methods) of available information as barriers to testing, illustrating how incompatible information and dissemination modalities at the organizational level drove the perceived lack of information among SSAM. Despite the availability of online information, most participants were more acquainted with and relied on non-Internet-based traditional sources and informal intra-community communication exchanges. This finding aligns with a previous study by de Gee and colleagues (de Gee et al., 2022), exploring the sexual health experiences of youth with a migration background in Amsterdam, reporting that participants commonly sought sexual health information through trusted social networks (friends, family) and only turned

to online sources after experiencing serious symptoms. Furthermore, some SSAM may lack the skills to navigate and acquire relevant online information effectively and prefer to acquire information directly from healthcare providers such as GPs (Koschollek et al., 2020; Yakubu et al., 2010).

Considering the vast research literature on HIV stigma (Alvarez-del Arco et al., 2013; Blondell et al., 2015; Burns et al., 2007; Leblanc et al., 2016; Manirankunda et al., 2009; Sullivan et al., 2020), our finding on the pervasive influence of HIV stigma as a barrier to HIV testing is not surprising. Although not directly reported in the majority of studies on HIV testing among SSAM, the cultural perceptions and interpretations of HIV testing often revolved around the notion that testing or the decision to undergo testing is associated with the violation of social norms, particularly concerning engaging in sexually promiscuous behavior. Furthermore, participants experienced the conflation of HIV testing with living with HIV (diagnosis) as a barrier to testing, echoing findings from other studies done among SSAM in Sweden (Lindkvist et al., 2015), Black MSM in the U.S. (Lott et al., 2022), and ethnic minority groups in Australia (Ziersch et al., 2021). Altogether, these findings highlight how cultural beliefs and the fear of the potential repercussions of HIV stigma hinder SSAM from seeking HIV testing.

Our findings on intersecting stigmas and the different pathways (race/ethnicity, gender, and sexual orientation) through which they act as barriers to HIV testing corroborate research on HIV-related intersectional stigmas (Earnshaw et al., 2022; Logie et al., 2011; Logie et al., 2021; Lott et al., 2022) and align with previous studies highlighting the negative impact of stigmas associated with intersecting identities on HIV testing among SSAM, such as race/ethnicity (Adedimeji et al., 2015) and gender, immigration status, and sexual orientation (Daniel et al., 2022; Nnaji & Ojikutu, 2022). Interestingly, at the organizational level, none of the participants in our diverse sample reported experiencing any specific instances of enacted stigma from healthcare providers. Consequently, our findings largely reflect perceived, anticipated, and internalized stigma at the individual level, which negatively influenced HIV testing decisions.

At the community level, we also highlighted the negative impact of gendered and age-related cultural norms regarding sexuality on testing in women, MSM, and young individuals. Sociocultural norms that stigmatize female and adolescent/youth sexuality, including same-sex relationships, served as a barrier to HIV testing uptake in this subset of our study sample. Cultural expectations regarding chastity in women and young individuals, and those that uphold heteronormativity, hindered disclosure to healthcare providers, exacerbated HIV-testing stigma, and the lack of HIV awareness in young individuals (Clark et al., 2017; Tirado et al., 2022). Young individuals, including young MSM from SSA, may lack social support networks to effectively navigate the multifaceted challenges associated with their racial/ethnic identity and sexual orientation (intersecting stigmas). This may lead to the inability to communicate their sexual behavior to healthcare providers openly and hinder adequate access to essential sexual health information and requisite services such as HIV testing (Martinez & Hosek, 2005; Threats et al., 2021). This study also highlighted the influence of masculine ideologies on HIV testing among migrant men (Blondell et al., 2015), a trend consistent with existing literature reporting that heterosexual SSA men often “test by proxy” (reliance on a sexual partner’s HIV test result as a measure of one’s serostatus) (Camlin et al., 2016; DiCarlo et al., 2014; Lavender et al., 2019; Loos et al., 2016; Mak et al., 2016), and raises noteworthy concerns as we found in our study that a prevailing rationale cited by male participants for never testing is trust in sexual partners.

Our research revealed that implementing community-level strategies, such as community collaboration, mobilization, ownership, and community testing outreach, potentially facilitates HIV testing and corroborates existing literature on HIV testing among SSAM in Ireland, Belgium, and the UK (Adedimeji et al., 2015; Burns et al., 2007; Evans et al., 2016; Loos et al., 2016; Shangase & Egbe, 2015). The meaningful involvement of communities is critical to developing effective, culturally appropriate interventions and initiatives, as evidenced by experiences in the UK and France (Evans et al., 2019; Gosselin et al., 2019), and reiterates the need for power and resource balances in collaborative health sector engagements, which put communities in the driver’s seat. Our findings also further highlighted the need for SSAM and Black community representation in the Dutch HIV workforce. This aligns with a previous study conducted in the UK (Shangase & Egbe, 2015), which identified the lack of Black community healthcare providers as a barrier to accessing HIV services among SSAM. In our study, we also identified a demographic mismatch that potentially underscores this dynamic within the HIV healthcare sector. A significant majority of interviewed healthcare professionals working within the HIV/healthcare sector were non-SSAM ($n = 8/10$). Participant responses on the importance of cultural competency and non-discriminatory healthcare

environments in facilitating HIV testing reinforce conclusions drawn from a prior study (de Gee et al., 2022), reporting that the Dutch healthcare service continuum is structured to favor White Dutch individuals, with the potential for implicit biases against individuals who do not conform to the White cultural norm. This can lead to SSAM inherently perceiving testing services as unwelcoming.

The findings from this study on access challenges at the organizational (healthcare facility) level indicate that perceived and experienced testing barriers do not stem from availability but primarily from the ease of accessing these services at the primary care level. This finding aligns with a previous study from the Netherlands (Bedert et al., 2021), citing testing eligibility misconceptions and long waiting times as barriers to testing. Our analysis revealed that these challenges were also driven by problematic interactions with healthcare providers, which stemmed from language and cultural differences in communication, reinforcing existing SSAM literature in other European countries (Adedimeji et al., 2015; Burns et al., 2007; Evans et al., 2016; Lindkvist et al., 2015; Manirankunda et al., 2012; Navaza et al., 2012; Shangase & Egbe, 2015). Interestingly, studies from the Netherlands have only reported provider-side language barriers (Twisk et al., 2023) and among migrants accessing general healthcare (Bil et al., 2019). Our findings further highlight access challenges, including the additional burden of financial costs due to the lack of reimbursement for HIV testing. This finding confirms other studies conducted with SSAM in Ireland, Belgium, and England (Adedimeji et al., 2015; Manirankunda et al., 2009; Thomas et al., 2010) and other regions (Mitra et al., 2006), reporting HIV testing cost as a barrier. Altogether, our findings suggest that these experiences with navigating HIV testing within the Dutch healthcare system can instill frustration and apprehension, potentially compounding the impact of intersectional stigmas and creating a significant barrier to testing.

Implications for policy and practice

This study has several practical implications and recommendations for improving HIV testing among SSAM. First, our findings on HIV stigma and intersectional stigmas as a prominent barrier to HIV testing underscores the critical need for multi-level HIV stigma reduction interventions. Intervention models incorporating intersectionality, exemplified by the work of Stutterheim and colleagues (Stutterheim et al., 2024) in reducing internalized stigma among people with HIV, present a potential framework for adaptation in future research among SSAM. Second, considering our findings on risk perception and cultural norms that hinder HIV testing, we recommend the development and implementation of tailored HIV awareness and sensitization campaigns with SSAM communities based on the core principle of HIV destigmatization and the normalization of HIV testing as an integral component of both individual and community health promotion (Van Landeghem et al., 2024). This can be bundled with HIV testing and incorporated into general health screening/check (outreach) services (Aidoo-Frimpong et al., 2021; Kwakwa et al., 2017; Nnaji et al., 2016; Roberts et al., 2019; Twisk et al., 2023; Woyah et al., 2014). Notably, there should be an enhanced focus on reaching older heterosexual SSAM, especially men who may not have equitable access to testing opportunities compared to women and MSM (Colvin, 2019; Dovel et al., 2015; Leal et al., 2015; Shand et al., 2014). Broader community-based testing initiatives targeting the African diaspora have demonstrated effectiveness in reaching SSAM men in precarious situations who often lack access to healthcare services in France (Gosselin et al., 2020) and among older SSAM in Belgium (Loos et al., 2016). Adapting and implementing similar approaches in the Netherlands may enhance testing uptake within this underserved SSAM subpopulation. However, these initiatives must be community-driven, led by community leaders, influential figures, and health professionals within the SSAM community, and executed in close collaboration with community members (Kingori et al., 2016). Third, to effectively address the information gap on testing opportunities and possibilities among SSAM, it is essential to explore complementary approaches for information dissemination, moving beyond relying solely on web-based/online platforms to tailoring dissemination strategies that align with the (health) information source norms of SSAM. Potential strategies can include distributing informational materials, such as posters and flyers, through trusted (peer-led) community organizations, community events/spaces, community television and radio programs, text messaging (SMS), and actively disseminating information through GPs to enhance testing uptake (Alvarez-del Arco et al., 2013; Bouaddi et al., 2023; Evans et al., 2016; Gray et al., 2019; Rice et al., 2012b). In addition, expanding comprehensive insurance coverage to include full reimbursement for GP HIV testing costs, as implemented in France (Champenois et al., 2024), may serve to eliminate financial

barriers to testing among SSAM. Lastly, healthcare organizations need to prioritize non-discriminatory, culturally inclusive, and sensitive care for SSAM (Kamenshchikova et al., 2024).

Strengths and limitations

To our knowledge, this is the first socioecological study from the Netherlands to examine the barriers and facilitators of HIV testing among SSAM from both a SSAM and KI perspective. Our study findings contribute to the scarce literature by demonstrating the multiple interacting and intersecting socioecological factors influencing HIV testing among SSAM within the Dutch context, which may be applicable and relevant to other contexts and settings with similar SSAM subpopulations. Furthermore, including a diverse and intersecting sample of SSAM in terms of gender, sexual orientation, immigration/residence status, and HIV status, including triangulation with KI data, enabled us to uncover multiple perspectives relevant to our study objectives. In addition, the first author and the community interviewers' ethnic/migration background and healthcare professional status may have enhanced rapport building and trust in encouraging participants to share their experiences and views. Nonetheless, this study also has some limitations. First, a significant portion of our sample consisted of relatively young and highly educated SSAM, which, while matching the SSAM demographic in the Netherlands, may have facilitated more nuanced reflections and engagement during interviews, as well as their decision-making regarding testing. Consequently, this may limit the applicability of some of our findings to broader SSAM populations, particularly older SSAM (50 years and above) and those with lower educational attainment. There were additional methodological limitations. Notably, our study only recruited two second-generation SSAM participants, potentially limiting the robustness of our findings for this subgroup, despite their responses on the barriers and facilitators to HIV testing aligning with those of first-generation SSAM. Furthermore, we were unable to recruit transgender SSAM, which would have further increased the diversity of our sample. Lastly, our SSAM sample predominantly comprised individuals from Anglophone (English-speaking) African countries. As interviews were exclusively offered and conducted in English, this may have led to selection bias and limited the representativeness of our study sample. Altogether, the applicability of our findings may be most relevant to countries with similar SSAM demographic characteristics, and extrapolation beyond these contexts should be approached with caution. Although markedly different findings are not anticipated among these SSAM subgroups, future research should prioritize the inclusion of more demographically diverse SSAM participants and build upon our findings in these subgroups. Second, religious leaders as KI declined participation in the study. Their inclusion would have enriched our understanding of the reluctance to collaborate with healthcare organizations. Similarly, we encountered several challenges during recruitment, with many SSAM not engaging with our call for participation or declining to participate. Future research may be needed to investigate the underlying reasons for SSAM participation and non-participation in HIV-related research. Third, most MSM in our study were part of LGBTIQ+ organizations that have contact with healthcare organizations or outreach services. While we could not directly inquire about the perceptions and experiences of MSM not reached by these services, our interview guide and discussions with MSM from SSA and KI offered an indirect avenue to explore shared and collective experiences through those who participated in our study. Fourth, data collection occurred during COVID-19 restrictions, which led to an extended interview phase and associated difficulties in recruiting participants. Furthermore, most interviews were conducted online, which may have led to us missing out on nonverbal cues and behaviors. Based on the sensitivity around HIV, conducting online interviews could have influenced participant responses due to the lack of perceived unsuitable environments for discussions (Varma et al., 2021). On the contrary, this could also have stimulated participation by reducing geographical barriers and facilitating flexible interview scheduling (Gillespie et al., 2022; Johnson et al., 2021; Sah et al., 2020).

Conclusion

SSAM in the Netherlands experience several multi-level barriers to HIV testing. HIV stigma was a prominent testing barrier operating directly and indirectly across different levels. Other testing barriers included risk perception, cultural norms, access challenges to HIV-related information and testing services at the community and organizational (healthcare) level, and the lack of community-driven activities and strategies

such as collaboration, mobilization, and ownership. Overall, our study highlights the need for integrated, multi-level interventions to enhance HIV testing uptake in SSAM. It is crucial to develop evidence-based, community-driven interventions that reduce stigma and increase awareness of HIV and HIV testing opportunities in collaboration with SSAM. Additionally, healthcare system interventions and policy changes promoting, normalizing, and alleviating the financial burden of HIV testing are needed to increase testing uptake among SSAM.

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Author contributions

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CRediT statement

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Data availability statement

Participants did not consent to data sharing. Consequently, supporting data is unavailable.

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