

RESEARCH ARTICLE

# “They recognize me as a doctor”: A peer mobilisation training programme to promote oral HIV self-testing and referral for acute HIV infection screening among gay and bisexual men and transgender women in coastal Kenya, an exploratory study

Shaun Palmer<sup>1,2\*</sup>, Maartje Dijkstra<sup>3</sup>, Alex Kigoro<sup>4</sup>, Khamisi Mohamed<sup>4</sup>, Nana Mukuria<sup>4</sup>, Shally Mahmoud<sup>4</sup>, Evanson Gichuru<sup>4</sup>, Elise M. van der Elst<sup>4,5</sup>, Eduard J. Sanders<sup>5,6,7</sup>

**1** Stichting IAVI, Amsterdam, The Netherlands, **2** Athena Institute, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands, **3** Division of Infectious Diseases, Department of Internal Medicine, Amsterdam Institute for Infection and Immunity, Amsterdam University Medical Center, Academic Medical Center, University of Amsterdam, The Netherlands, **4** Kenya Medical Research Institute–Wellcome Trust Research Program, Kilifi, Kenya, **5** Department of Global Health, Amsterdam University Medical Center, Academic Medical Center, University of Amsterdam, Amsterdam, The Netherlands, **6** Sir William Dunn School of Pathology, University of Oxford, Oxford, United Kingdom, **7** The Aurum Institute, Johannesburg, South Africa

\* [spalmer@iavi.org](mailto:spalmer@iavi.org)



**OPEN ACCESS**

**Citation:** Palmer S, Dijkstra M, Kigoro A, Mohamed K, Mukuria N, Mahmoud S, et al. (2025) “They recognize me as a doctor”: A peer mobilisation training programme to promote oral HIV self-testing and referral for acute HIV infection screening among gay and bisexual men and transgender women in coastal Kenya, an exploratory study. *PLoS One* 20(12): e0322255. <https://doi.org/10.1371/journal.pone.0322255>

**Editor:** Juan Pablo Gutierrez, Universidad Nacional Autónoma de México Facultad de Medicina; Universidad Nacional Autónoma de México Facultad de Medicina, MEXICO

**Received:** March 17, 2025

**Accepted:** November 6, 2025

**Published:** December 4, 2025

**Peer Review History:** PLOS recognizes the benefits of transparency in the peer review process; therefore, we enable the publication of all of the content of peer review and author responses alongside final, published articles. The editorial history of this article is available here: <https://doi.org/10.1371/journal.pone.0322255>

## Abstract

### Background

Targeted peer mobilisation can improve access to HIV testing and care and may impact onward HIV transmission. We describe a qualitative exploration of the experience with a peer mobilisation training programme for oral HIV self-testing (OST) and referral for acute HIV infection (AHI) testing among gay and bisexual men (GBMSM) and transgender women (TGW) in coastal Kenya.

### Methods

The training programme covered five modules: 1) safe sex, 2) OST, 3) AHI, 4) HIV partner notification services, and 5) mobilisation skills. Mobilisers attended two training sessions and weekly meetings between March and June 2019. Mobilisers offered OST to GBMSM and TGW peers and extended an AHI referral card for point-of-care HIV-RNA testing when peers reported AHI symptoms. Two focus group discussions with 18 mobilisers and 15 in-depth interviews with mobilised clients who were newly HIV diagnosed were conducted to explore the experiences of the training programme.

**Copyright:** © 2025 Palmer et al. This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Data availability statement:** All relevant data are within the paper and its [Supporting Information](#) files. Consisting of data provided by the authors to benefit the reader, the posted materials are not copyedited and are the sole responsibility of the authors, so questions or comments should be addressed to the corresponding author.

**Funding:** This work was supported by the International AIDS Vaccine Initiative (IAVI) [[www.iavi.org](http://www.iavi.org)] and the KEMRI Wellcome Trust Research Programme [[www.kemriwellcome.org](http://www.kemriwellcome.org)] at the Centre for Geographical Medicine Research—Kilifi, supported by core funding from the Wellcome Trust [[www.wellcome.org](http://www.wellcome.org)] (number 203077). This study was made possible by the generous support of the American people through USAID [[www.usaid.gov](http://www.usaid.gov)]. This work was also supported in part through the Sub-Saharan African Network for TB/HIV Research Excellence [[www.santheafrica.org](http://www.santheafrica.org)], a DELTAS Africa Initiative (DEL-15-006). The DELTAS Africa Initiative is an independent funding scheme of the AAS Alliance for Accelerating Excellence in Science in Africa and is supported by NEPAD [[www.nepad.org](http://www.nepad.org)] with funding from the Wellcome Trust (grant number 107752) and the UK government [[www.gov.uk/government/organisations/foreign-commonwealth-development-office](http://www.gov.uk/government/organisations/foreign-commonwealth-development-office)]. E. J. S. received research funding from IAVI, NIH (grant number R01AI124968) and the Wellcome Trust. M. D. received funding through a PhD Scholarship from the Graduate School of Amsterdam UMC—Academic Medical Center [[www.amsterdamumc.org/en/phd-student.htm](http://www.amsterdamumc.org/en/phd-student.htm)]. The sponsors played no role in the study design, data collection and analysis, decision to publish, or preparation of the manuscript.

**Competing interests:** The authors have declared that no competing interests exist.

## Results

Mobilisers felt empowered through the training programme, which enhanced their mobilisation skills across two areas: (1) networking skills and (2) client empowerment. Facilitators for HIV testing were confidentiality of the OST, presence of STI symptoms, and building trust between mobilisers and clients. Mobilisers and clients reported challenges as: (1) misconceptions regarding OST and symptoms of AHI, (2) logistical and financial issues, and (3) stigma and security concerns.

## Discussion

Our training programme facilitated peer mobilisers to extend OSTs among GBMSM and TGW in coastal Kenya while it was more difficult to refer clients directly for AHI testing. Mobilisers felt empowered through enhanced mobilisation skills which helped them to mobilise clients for HIV testing. A targeted training programme was helpful in mobilising peers to take up HIV testing.

## Introduction

Gay and bisexual men and transgender women who have sex with men (GBMSM and TGW) represent key and vulnerable populations for HIV acquisition in Kenya. A 2019 study in coastal Kenya demonstrated an incidence of 5.1 (95% confidence interval [CI], 2.6–9.8) per 100 person-years (PY) among GBMSM and 20.6 (95% CI, 6.6–63.8) per 100 PY among TGW [1]. Tailored approaches to engage people in HIV testing, by way of peer mobilisation, can help prevent HIV transmission among GBMSM and TGW if newly diagnosed participants can be linked to care and HIV negative participants initiated on PrEP [2–7].

Targeted testing approaches such as oral self-testing (OST) can reduce access barriers to testing among key and vulnerable populations [5,8]. While OST can diagnose chronic HIV infection, antibody self-tests perform poorly in diagnosing acute HIV infection (AHI) [9] AHI occurs during the first weeks after infection, characterised by a peak in viral load during which anti-HIV-1 antibodies are undetectable but HIV-1 RNA or p24 antigen are present [10–12]. It is estimated that 30–50% of onward transmission events occur during AHI [10,11,13,14]. Identifying individuals with AHI and immediately starting HIV treatment may substantially reduce onward HIV transmission [15].

Furthermore, early detection of HIV and starting treatment during AHI offers clinical benefits to the individual, including reduction of the viral reservoir and preservation of immune function [16–19]. However, diagnosing AHI is challenging due to its non-specific symptoms and insufficient point-of-care RNA testing facilities in high burden areas. Individuals presenting with symptoms of AHI can be referred for AHI testing with point-of-care RNA testing as part of a comprehensive set of HIV testing service [10,12,20–22].

We earlier conducted a systematic review and meta-analysis of studies reporting strategies to mobilize GBMSM and TGW for AHI testing, finding that targeted AHI

testing resulted in substantially higher AHI yields than universal AHI testing [23]. Considering the costs of HIV RNA testing, increasing AHI yield through targeted testing may be an efficient strategy in less-resourced settings [21]. Knowledge about AHI among GBMSM and TGW is generally low, thus targeted testing must include information about symptoms of AHI and AHI referral pathways [12,13,20,24–31]. Further, recognising symptoms of AHI at the time of PrEP initiation is important and PrEP initiation should be delayed if AHI is suspected [32,33].

Same-sex sexual behaviour is criminalised in Kenya, based on British colonial law, and stigma against GBMSM and TGW persists in communities and during care-seeking at health facilities [12,20,30,31,34–36]. Peer mobilisation represents an effective and proven community-led approach to engage people living with and disproportionately affected by HIV, including GBMSM and TGW who have been unsuccessfully engaged for HIV testing [4,5,21,37–39]. Peer mobilisers (*henceforth: mobilisers*) are also viewed as credible sources of sexual health information by their peers [2,3]. GBMSM and TGW in sub-Saharan Africa are also often part of large and active social and sexual networks [40,41]. Peer mobilisation can be delivered systematically and discretely within these networks in a social climate where more overt strategies, such as targeted publicity campaigns, are not possible [37,38,40,42]. Extensive input from the local Lesbian, Gay, Bisexual, Transgender, Queer, Intersex (LGBTI) community is a prerequisite to reflect the local socio-cultural context [13,14,28,42].

Our research team earlier described the feasibility and effectiveness of a peer mobilisation-led strategy in the delivery of HIV partner notification services, OST and AHI testing referral, and linkage to ART and PrEP services in coastal Kenya [21,41,43]. As part of this parent study, we developed and implemented a training programme for GBMSM and TGW peer mobilisers about sexual health, and OST and AHI testing mobilisation. In this exploratory study, we qualitatively assessed the experience with this training programme and the related peer mobilisation processes from the perspective of the peer mobilisers and their mobilised clients. We identified facilitators for and challenges with peer mobilisation for OST and AHI testing referral.

## Methods

### Study setting and population

Between March and June 2019, we delivered a three-month peer mobilisation training programme on sexual health, OST, and AHI testing referral to GBMSM and TGW, in the context of the parent study on peer mobilisation-led HIV testing [44]. The study took place at two Kenyan Medical Research Institute (KEMRI) sites in Kilifi county: 1) Malindi Sub-County Hospital and 2) KEMRI—Wellcome Trust Research Programme (KEMRI-KWTRP) research clinic Mtwapa. These clinics provided HIV testing and counselling services (HTC) and routinely engaged GBMSM and TGW in research [45,46]. Mobilisers were purposively selected by clinic staff due to participation in previous studies and being representative of their GBMSM and TGW peers. Mobilisers were 18 years or older and cisgender men or transgender women (TGW) who have sex with men. The majority were living with HIV.

### Parent study overview

The parent study investigated the feasibility and effectiveness of a peer-mobilisation self-testing strategy, combined with AHI testing and HIV partner notification services (HPN) for GBMSM and TGW [44]. We included AHI testing as a relevant component of the promotion of HIV testing throughout the entire life course of HIV infection. Before and during protocol development, we conducted focus group discussion with members and leaders of two LGBTI community organisations in coastal Kenya, during which they provided input to the study protocol. Detailed study procedures of the parent study can be found elsewhere [44]. In short: each week, six to 10 mobilisers at each study site were instructed to recruit five GBMSM and TGW peers for HIV testing via their peer network, including via hot spots and social media. Eligible peers were those found to be behaviourally vulnerable to HIV infection, defined as aged 18 years or older, cis-gender men or TGW (i.e., male sex assigned at birth), and engaging in one or more of the following behaviours: group sex, multiple

sexual partners, and condomless receptive anal intercourse, in accordance with a risk score previously developed by our study team [45]. The risk score details statistically significant predictors of incident HIV-1 infection among GBMSM and TGW in coastal Kenya and thus guided the peer mobilisers to assess HIV-1 acquisition risk among their peers. Detailed eligibility criteria are reported in [S1 Table](#) in the electronic Supporting Information.

Mobilised peers (*hereafter: clients*) were eligible to receive three types of HIV test. Mobilisers first provided Ora-Quick OSTs to their clients. Clients were encouraged to use the OST at home or at a study clinic. All clients were then invited to report to a study clinic for study enrolment, which included confirmation testing at the clinic via HIV rapid antibody testing and point-of-care HIV RNA testing via GeneXpert™. As the antibody-based oral self-test and rapid tests perform poorly in diagnosing AHI, mobilisers were also instructed to identify clients with AHI symptoms and to immediately refer them to the study clinic for a direct point-of-care RNA test by giving them an AHI referral card to present at the clinic. AHI symptoms, referred to as malaria-like symptoms, included fatigue, fever, sore throat, body pain, and diarrhoea, and sexually transmitted infection (STI) symptoms, including genital ulcers and genital or anal discharge [43,47].

Clients newly diagnosed with HIV were invited to enrol as participants to undergo HPN as part of the parent study. Enrolled participants were reimbursed 350 Kenyan Shillings (KSh) for travel costs. Mobilisers were reimbursed 1500 KSh (~USD 15) weekly once five peers had attended the clinic for confirmation testing. They additionally received 500 KSh (~USD 5) weekly for travel reimbursement. The rate provided was in line with the standard rates provided by KEMRI so as to not leave the participants financially worse off as a consequence for taking part in the study, which may impact recruitment and retention based on socioeconomic status [48]. There was no additional target or reimbursement for AHI referral as it was unclear how many symptomatic peers they would meet during the recruitment period.

### Patient Consent Statement

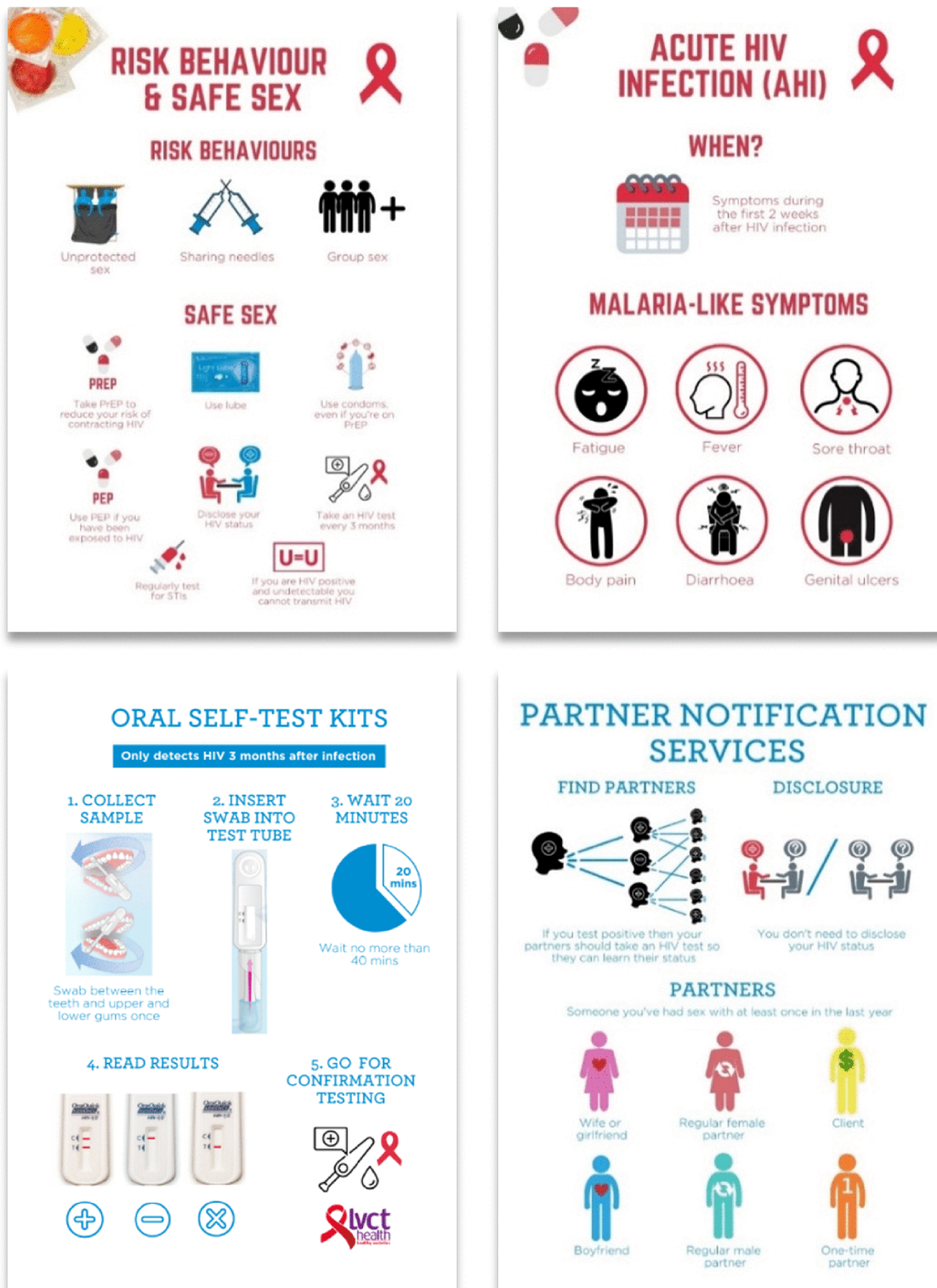
The KEMRI Scientific Ethical Review Unit approved the study (135/3747). All participants provided written informed consent prior to enrollment in the parent study following peer mobilisation.

### Training programme

The training programme included two training sessions, weekly meetings during the three month study period, and communications materials ([Fig 1.](#)). The programme covered five modules: 1) safe sex, 2) OST, 3) AHI, 4) HPN, and 5) peer mobilisation skills (i.e., soft skills) [21,35,36,40,43,45]. Peer mobilization skills included clarity of communication and empathy. These skills were trained through iterative review and discussion with the study team and fellow mobilisers to explore what these concepts mean, why they are important, and how they can be applied. This included mobilisers sharing reflections on how they applied these skills during mobilisation and any challenges that arose, followed by group discussion on potential solutions.

We developed the training programme and communication materials in a collaborative and inclusive way to ensure that all resources were culturally relevant and sensitive. This was done in partnership with LGBTI study staff and mobilisers participating in the programme during a series of preparatory meetings and iteratively throughout the programme, as well as with representatives from two local LGBTI organisations during two preparatory meetings. All materials were developed in English and Kiswahili. Partners were invited to share feedback and suggestions on all aspects of the resources, including comprehension of the overall content, the depth and breadth of the content, the quality of the English to Kiswahili translations, and the choice of imagery (i.e., graphics and icons).

Each mobiliser received print and digital versions of the communication materials to share among clients. A WhatsApp group was also created for mobilisers and study staff to share ideas and resources and facilitate a dynamic learning process.



**Fig 1. Example of pages from the English communication materials.** To note, the item on 'DISCLOSURE' in the lower-right page on Partner Notification Services (PNS) refers to the fact that an individual newly diagnosed with HIV does not need to disclose their HIV status to a partner as part of the PNS process, for example, if they would choose the partner to be notified by a health provider.

<https://doi.org/10.1371/journal.pone.0322255.g001>

## Training and weekly meetings

At the programme's inception, 16 mobilisers attended a full-day training session facilitated by LGBTI KEMRI clinic staff covering the five modules. The session included role plays to practice peer mobilisation skills. The role plays were led by one of the local study team members in Kiswahili with individuals mobilisers where they would simulate an interaction with a client. The role plays focused on how to clearly and accurately communicate about OST, AHI testing, and sexual health and how to do so in a patient and empathetic way in order to more effectively addresses the questions and concerns of clients. We held a second training session six weeks later, attended by 11 new mobilisers and the 16 existing mobilisers to review the modules. During weekly meetings, experiences with mobilisation were discussed, communication materials were reviewed, and mobilisers received new OSTs and AHI referral cards. The training sessions and weekly meetings were led by two researchers and one or two HIV counsellors or outreach workers with extensive experience working with GBMSM and TGW. The study team provided daily supervision to the mobilisers, in person and via telephone, to review study procedures and address issues such as scheduling conflicts.

## Data collection and analysis

We qualitatively explored the experience of the training programme and the related mobilization activities through two focus group discussions (FGD) with mobilisers. We also qualitatively explored via in-depth interviews (IDIs) the experience of mobilization of clients newly diagnosed with HIV. All mobilisers were invited to participate in the FGDs and all clients newly diagnosed with HIV were invited to participate in IDIs, with only the mobilisers and peers willing to participate included in the sample. FGDs lasted approximately two and a half hours, interviews up to one hour. We explored mobilisers' and clients' experience with the mobilisation process. FGDs explored the challenges mobilisers faced with mobilising clients, how the training programme influenced their role and how it could be improved, and how we can better identify AHI among GBMSM and TGW. In-depth interviews explored motivations for HIV testing, how clients experienced the information and support received from mobilisers, and recommendations for future mobilisation strategies. Participants were reimbursed 500 KSh (~USD 5) for travel costs. The FGDs and IDIs were moderated, transcribed, and translated by three bilingual (English and Kiswahili) members of the study team. Transcripts were coded using atlas.ti 8 for Windows by three members of the study team independently and inconsistencies between coders were resolved by discussion. Two researchers conducted the subsequent analysis. A thematic analysis was employed to highlight similarities and differences across the dataset while generating unanticipated insights throughout the coding and analysis [49]. Extensive fieldnotes recorded during training events and weekly meetings informed the thematic analysis.

## Results

Eighteen of the 27 mobilisers who were engaged in the parent study participated in the two FGDs. Participants had a median age of 26.5 years (interquartile range [IQR]: 24–30), half were TGW, half identified as bisexual, and less than a quarter (22.2%) identified as gay. Most participants had secondary level education or less. All had engaged in sex work in the last six months. All had experience with peer mobilisation, including mobilising with OSTs in previous studies, with a median number of years of experience of 4.5 years (IQR: 2–10). Detailed demographic characteristics of the FGD participants are available in [S1 Table](#) in the electronic Supporting Information.

Of the 23 clients who were mobilised through peer mobilisation in the parent study and identified to be living with HIV, fifteen participated in IDIs (two with early HIV infection, 13 with chronic HIV infection, and three were later reclassified as known positive). All clients interviewed were male and identified as bisexual. The median age was 25.5 years old (IQR: 22–29). Demographic characteristics of the IDI participants are available in [S2 Table](#). To note, 18 newly diagnosed clients participated in IDIs in the parent study, three of whom were not mobilised by a peer mobiliser, and therefore not included in the current study. Eligibility criteria of mobilised participants and index participants in the parent study are available in [S3 Table](#).

## Experience with the training programme

The mobilisers described the training programme as a valuable and informative process through which they developed their mobilising skills. They highlighted that both the interactive format of the training sessions and regular interactions with the study team during weekly meetings were key to helping them understand and remember the training content. They described feeling able to provide accurate information to their clients, including on HIV symptoms, how to use an OST, and the importance of knowing their HIV status. They further commented that the weekly meetings with their fellow mobilisers and the study team motivated them in their role by providing regular opportunities to discuss challenges and identify solutions together. The communication materials were also found to be useful reference materials by the mobilisers, however, a substantial number of clients reported that the communication materials were not shared with them.

*“I think they [the training sessions and weekly meetings] were very helpful because we used to remind each other of things we might have forgotten because some of us were starting to maybe forget their roles and in those meeting[s], we help each other out.” [Mobiliser, male, 31-35 years old]*

## Mobilisation skills

Mobilisers described how the training programme enhanced their mobilisation skills under two thematic areas: 1) networking skills, and 2) client empowerment.

### Networking skills

Mobilisers described how the training programme and conducting mobilisation improved their networking skills, including their confidence. They reported feeling empowered, noting that the training programme helped them learn how to approach clients and how to talk to them and educate them about sensitive topics in a discrete and confidential way.

*“Personally, I was not able to talk to people one on one, but it has helped me a lot in terms of socialisation and courage wise.” [Mobiliser, TGW, 26-30 years old]*

Mobilisers reported that in-person mobilisation was most effective at hotspots where they had existing clients, or at parties, gyms, and local LGBTI organisations. Online forums, such as WhatsApp, Grindr, and Gay Romeo, was cited as another, although less common, route to initiate mobilisation, for which the digital mobilisation materials were explicitly requested during the weekly meetings. In these spaces, mobilisers reported being viewed as credible information sources which led to clients referring other peers for mobilisation. This was corroborated by several clients.

*“Some approach me and want services... though I am not a doctor they recognize me as a doctor and I help them by taking them to [the clinic]” [Mobiliser, male, 21-25 years old]*

## Client empowerment

Both mobilisers and clients spoke about the important role of mobilisers in empowering clients to test for HIV. Mobilisers would usually contact their clients several times before their clients would agree to test. Mobilisers and clients described that this required the mobilisers demonstrate considerable patience and perseverance in order to develop a relationship and build trust with their clients. Through this, the mobilisers could also mitigate stigma and address misconceptions about HIV testing procedures.

*“He looked at my condition and advised me to come for testing, but I was not convinced at all. In a period of two weeks he came to me again and told me it was important to come to the hospital and seek help, that’s when I gave myself courage and came along with him to this place and was tested for HIV.” [Client, male, age not reported]*

Clients noted that discretion and confidentiality were key to successful mobilisation. While not required, several mobilisers and clients also shared that mobilisers would disclose their own HIV status to demonstrate the benefits of testing and build trust. Mobilisers would then typically accompany clients to the clinic and support them while testing for HIV.

*“They were not willing to comply, so I used to tell them about my status and how I was. So they gained confidence from that and they decided to test and accepted to come here.” [Mobiliser, TGW, 26-30 years old]*

### Facilitators and motivations for HIV testing

Mobilisers and clients reported several common facilitators and motivations for HIV testing. These included facilitators related to the specific testing approach, such as the convenience and confidentiality of the OST and a perception that the point-of-care HIV RNA test was trustworthy. They also mentioned motivations to test in general, such as health concerns or a desire to know their HIV status, including due to current or recent presentation of AHI symptoms. Several mobilisers and clients commented that the presence of genital ulcers or discharge were the reason for AHI referral.

*“They [clients] like tell me that maybe they feel pain when they urinate and its then I start asking them questions and try to link the symptoms and inform them on the benefits of having early treatment before they become chronic and that maybe they are STIs.” [Mobiliser, TGW, 26-30 years old]*

### Challenges with mobilisation

Challenges with mobilisation fell under three categories: 1) misconceptions regarding OST and AHI, 2) logistical and financial issues, and 3) stigma and security concerns.

### Misconceptions regarding OST and AHI referral

OST was a new testing approach for some clients, requiring time to inform and sensitise those that they can test for HIV orally.

*“When I received the results, I didn’t believe, I didn’t trust the OST completely since I knew that if one is tested that blood must be drawn first. That’s why I ignored the OST results and asked the peer educator to take me with the others to [the clinic] and he agreed.” [Client, male, 21-25 years old]*

Mobilisers described challenges in mobilising via AHI referral as AHI symptoms and the point-of-care HIV RNA test were new and complex concepts for both clients and mobilisers. AHI, in particular, was a topic of regular review during weekly meetings. Most clients interviewed did not recall discussing AHI with their mobiliser. Mobiliser also reported that some clients were reluctant to take a confirmatory HIV RNA test as they already had an OST result, while others were reluctant to draw blood.

Some mobilisers reported meeting no clients with AHI symptoms during the study period. Mobilisers commented that it was difficult to make AHI referrals alongside OST mobilisation due to a lack of target or reimbursement for AHI referrals. Further, mobilisers highlighted that clients did not readily associate malaria-like symptoms with AHI and often sought treatment at pharmacies or took painkillers, prompting a framing of AHI symptoms as STI symptoms during the weekly meetings.

*“Firstly, you tell a client about AHI and the symptoms and that they are malaria-like, so clients don’t see the need to test because you used ‘malaria-like’ and they just take painkillers and feel a little better and they don’t bother about testing. So they are in denial and ignore that it might be AHI.” [Mobiliser, TGW, 26-30 years old]*

### Logistical and financial issues

Mobilisers reported that some clients would cancel appointments without sufficient notice, while others were only available during evenings or weekends when the study clinics were closed. Mobilisers and clients reported insufficient phone credit and money for transport as a barrier to testing. Heavy rains during the rainy season (May and June) also prevented clients attending clinics.

*“My challenge was finding the right time for my clients [peers] because most of them are working class and they are only available during the weekends and in the evening, and they sometimes suggest that the doctors personally take those services to them.” [Mobiliser, TGW, 21-25 years old]*

### Stigma and security concerns

Mobilisers reported experiencing stigma and threats of violence during the study period, including instances of verbal altercations and blackmail from the general community. They also received threats from clients to disclose the mobiliser’s sexual orientation. Mobilisers commented that some clients were reluctant to associate with them or the study clinics, out of fear of being perceived as gay. One transgender mobiliser detailed how TGW are more visible and may not leave home during daylight hours out of fear for safety. Local transport hubs were deemed particularly unsafe due to experiences of harassment.

*“My experience with trans[gender women] is that they mostly stay indoors during the day... and when people come across a trans person, they will question their gender... and they might get beaten up and so... they are afraid of what will happen to them.” [Mobiliser, TGW, 21-25 years old]*

### Recommendations for mobilisation

Recommendations made by mobilisers fell into three categories: 1) continued involvement of mobilisers in the research outreach; 2) additional training and dissemination activities; and 3) tailored outreach to other key and vulnerable populations.

### Continued involvement of mobilisers

The mobilisers expressed a strong desire to continue in their role, including to inform training and mobilisation procedures.

*“We should not be forgotten because we already have peers, and some are already used to us... we will have a hard time cutting off communication with clients and they will lose morale in their regular checkups and we will not be able to make follow ups because of money.” [Mobiliser, male, 21-25 years old]*

### Additional training and dissemination activities

Both mobilisers and clients recommended regular mobilisation to promote HIV testing including via youth groups, hotspots, and educational community meetings. Additional training was recommended to increase the knowledge of the mobilisers, particularly concerning AHI.

*“I’m suggesting that in forums and gatherings we should be told more about HIV, the importance of frequent testing and dangers of not knowing your status in time. If people get to know more about the self-testing kits this will help people feel the ease of getting to know their HIV status and giving them the privacy they need.” [Client, male, 26-30 years old]*

### Tailored outreach to other key and vulnerable populations

There were repeated calls for targeted efforts to mobilise TGW in order to meet their specific needs as they are often not engaged through outreach tailored to GBMSM. GBMSM and TGW clients in rural areas were also flagged as a key group not reached by existing efforts.

*“What I can add on that is trans people are really something we forget to look for, so it is up to us as peer mobilizers to probe for the issues and educate them and have them over the center for their own benefits.” [Mobiliser, male, 31-35 years old]*

### Discussion

In this exploratory study, we show that our HIV peer mobilisation training programme helped empower peer mobilisers to continuously engage their clients, which ultimately led to OST and HIV-RNA testing among GBMSM and TGW in coastal Kenya. This reflects the crucial role that peer mobilisers have been shown to play in the implementation of new methods for testing, prevention, and treatment of HIV [2–5,37–39]. Our study found that regular engagement with the study team facilitated the development of the mobiliser’s networking skills and the continued empowerment of clients to test for HIV. Mobilisers and their clients valued the peer mobilisation approach that was delivered through this study and peer mobilisers were motivated to continue in this role in the future, including through receiving further training, with mobilisation services also providing an additional source of income for the mobilisers. These findings support the results of the parent study, where we showed that the mobilisation process was effective in identifying GBMSM with undiagnosed HIV infection and linking them to care [44]. Our study provides relevant context to recent efforts in sub-Saharan Africa that demonstrate the potential of peer mobilisation strategies in facilitating HIV testing [50–52]. Key populations should be targeted for HIV testing and engagement in HIV care and prevention services, including initiation of oral daily PrEP when HIV negative. In this context, our study offers several lessons.

The mobilisers in this study often had to meet multiple times with clients to build trust before clients felt empowered to test for HIV. This dynamic support network likely contributed to successful mobilisation and case finding in the local context where GBMSM and TGW are highly stigmatised and criminalised. In this regard, future research can further explore the potential benefits of collaborating with local LGBTI organisations to facilitate the uptake of HIV prevention and care services among marginalised communities in their local area. This may help to better understand the role that such groups play in promoting health equity and reducing disparities in HIV care.

AHI was a difficult concept for both mobilisers and clients to understand, notably concerning the symptoms and the window period. This is, in line with findings from a recent study showing that AHI is poorly understood among people vulnerable to acquiring HIV in Eswatini [53]. Mobilising via both OST and AHI symptom referral may have been too complex and future studies may benefit from focusing on only one aspect.

PrEP initiation should be delayed if AHI is suspected; recognition of AHI symptoms at PrEP initiation is thus important [32,33]. Moreover, conceptualising symptoms as ‘malaria-like’ may have confused peers, as some sought treatment elsewhere, which has been described previously [54]. Referrals for AHI and HIV testing due the presence of STI symptoms should be further explored and is supported by findings of previous studies showing that HIV testing yield is higher among people with STI symptoms [44,55,56].

Mobilisers and clients risked exclusion and verbal and physical violence from peers and the wider community due to systemic homophobia and transphobia [34,35]. This presented safety and wellbeing concerns, which required considerable support from the study team to explore challenges and solutions, in line with previous findings in Peru [4]. Comprehensive risk assessments and safety protocols should be in place for daily use by a study team and the local LGBTI community that explicitly mitigate and respond to risks while conducting studies with GBMSM and TGW in similar contexts.

TGW remained on the periphery of mobilisation efforts. Although half of the mobilisers in our study identified as TGW, we previously reported that only seven (1.6%) of the 429 mobilised clients reported to be TGW [44]. Future research should explore HIV testing mobilisation approaches tailored to TGW peers as a distinct population from GBMSM, such as testing services at home, testing outside clinic hours, and online support [1,57,58], and explore strategies to mitigate stigma and security concerns.

## Limitations

There were several limitations to our study. Firstly, we used convenience sampling rather than purposive sampling for the FGDs and IDIs. Secondly, we were limited to two FGDs with mobilisers, and not able to conduct any IDIs with clients that refused mobilisation and HIV testing, or with clients who received a negative HIV test result following mobilisation. These limitations may reduce the generalisability of our results to the broader GBMSM and TGW community in Kenya or elsewhere (S1-S3 File). While knowledge evaluation with surveys pre- and post-training can assess knowledge uptake [24,30,59], we were not able to quantitatively assess knowledge change among trained peer-mobilisers.

Existing community engagement strategies employed by the study clinics provided a foundation to the activities conducted under this pilot study. This study may have particularly benefited from working with existing mobiliser networks familiar with GBMSM- and TGW-friendly study clinics. This approach may not be generalised to contexts with inexperienced peer mobilisers or in non-GBMSM and TGW-friendly clinics. Finally, significant time was required from the study team to deliver training, conduct weekly meetings, and provide daily supervision. As such, the frequency and length of activities are a key consideration for scalability in other contexts or programme implementation.

However, we believe that our study contributes to the understanding that community-engagement research is essential to addressing health inequities [60]. Investing in mobilisers and their peer networks should be capitalised upon to end AIDS and reach the 95-95-95 prevention and care targets [37]. The mobilisers in our study were highly motivated and committed to continuing their role beyond the study period. As new testing procedures can be unfamiliar and complex topics for mobilisers and clients, future studies may benefit from focusing on one new concept at a time (i.e., OST or point-of-care HIV RNA testing) and dedicated training sessions and resources in local languages should be provided to facilitate these efforts. Mobilisation programmes tailored to TGW should be further explored to meet the specific needs of this populations [57,58].

## Conclusion

This study suggests that intensive engagement with mobilisers can meaningfully support peer mobilisation efforts, including through enhancing mobilisation skills. Such an approach can facilitate the crucial role that peer mobilisers have been shown to play in the implementation of new methods for testing, prevention, and treatment of HIV. New concepts and testing procedures, such as AHI and point-of-care HIV-1 RNA testing, may be unfamiliar and present challenges to effective sensitization. The continued empowerment of clients by mobilisers may help build trust between mobilisers and clients to ultimately motivate clients to test for HIV. Mobilisers thus play an important role in navigating their clients to access HIV testing at clinics experienced in working with LGBTBI people.

## Supporting information

### S1 Table. Demographic characteristics of 18 Focus group discussion participants.

(PDF)

### S2 Table. Demographic characteristics of 15 In-Depth Interview participants.

(PDF)

### S3 Table. Eligibility criteria of mobilised participants and index participants.

(PDF)

**S1 File. Additional quotes.**

(PDF)

**S2 File. Coding manual 1. FGDs with Peer Mobilisers.**

(PDF)

**S3 File. Coding manual 2. Interviews with Index Clients.**

(PDF)

**Acknowledgments**

We would like to acknowledge all participants who took part in this study. We further acknowledge the peer mobilizers in Malindi and Mtwapa who were invaluable for mobilizing participants and their support in both this study and the parent study, and the following lesbian, gay, bisexual, transgender and intersex organizations involved in the study: Malindi Desire Initiative, AMKENI Malindi, HAPA Kenya, PEMA Kenya, GALCK, and ISHTAR MSM Health and Social Wellbeing. We would also like to acknowledge the Kenya Medical Research Institute (KEMRI)–Wellcome Trust Research Programme clinic staff who made this study possible: Abdallah Wesonga, Oscar Chirro, Joseph Nzioka, Maxwell Ong’aro, Fred Ogada, Elizabeth Wahome, Rufus Gathitu, Lucie Ikumi, Jennifer Kanungi, Riziki Rodgers, and John Omoi.

**Author contributions**

**Conceptualization:** Shaun Palmer, Maartje Dijkstra, Eduard J Sanders.

**Data curation:** Shaun Palmer, Khamisi Mohamed, Nana Mukuria, Shally Mahmoud, Evanson Gichuru.

**Formal analysis:** Shaun Palmer, Maartje Dijkstra.

**Funding acquisition:** Maartje Dijkstra, Eduard J Sanders.

**Investigation:** Shaun Palmer, Maartje Dijkstra, Alex Kigoro, Khamisi Mohamed, Nana Mukuria, Shally Mahmoud, Evanson Gichuru, Elise M van der Elst, Eduard J Sanders.

**Methodology:** Shaun Palmer, Maartje Dijkstra, Elise M van der Elst, Eduard J Sanders.

**Project administration:** Shaun Palmer, Maartje Dijkstra, Alex Kigoro, Shally Mahmoud, Evanson Gichuru, Eduard J Sanders.

**Supervision:** Maartje Dijkstra, Eduard J Sanders.

**Writing – original draft:** Shaun Palmer.

**Writing – review & editing:** Shaun Palmer, Maartje Dijkstra, Alex Kigoro, Khamisi Mohamed, Nana Mukuria, Shally Mahmoud, Evanson Gichuru, Elise M van der Elst, Eduard J Sanders.

**References**

1. Wahome E, Graham S, Thiong’o A, Chirro O, Mohamed K, Gichuru E, et al. Assessment of PrEP eligibility and uptake among at-risk MSM participating in a HIV-1 vaccine feasibility cohort in coastal Kenya. *Wellcome Open Res.* 2020;4:138. <https://doi.org/10.12688/wellcomeopenres.15427.2> PMID: [32140565](https://pubmed.ncbi.nlm.nih.gov/32140565/)
2. WHO. Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations – 2016 update. 2016.
3. Sriranganathan G, Jaworsky D, Larkin J, Flicker S, Campbell L, Flynn S. Peer sexual health education: Interventions for effective programme evaluation. *Health Educ J.* 2012;71(1):62–71.
4. Maiorana A, Kegeles S, Salazar X, Konda K, Silva-Santisteban A, Cáceres C. “Proyecto Orgullo”, an HIV prevention, empowerment and community mobilisation intervention for gay men and transgender women in Callao/Lima, Peru. *Glob Public Health.* 2016;11(7–8):1076–92. <https://doi.org/10.1080/17441692.2016.1161814> PMID: [27373578](https://pubmed.ncbi.nlm.nih.gov/27373578/)

5. Elst E van der, Shally M, Oduor C, Chirro O, Ibrahim F, Kina B, et al. Peer-led oral HIV-self testing finds undiagnosed HIV among MSM in Malindi, Kenya. *Retroviruses and Opportunistic Infections*. 2017.
6. Lau JTF, Tsui HY, Lau MMC. A pilot clustered randomized control trial evaluating the efficacy of a network-based HIV peer-education intervention targeting men who have sex with men in Hong Kong, China. *AIDS Care*. 2013;25(7):812–9. <https://doi.org/10.1080/09540121.2012.749330> PMID: [23244706](https://pubmed.ncbi.nlm.nih.gov/23244706/)
7. Golden MR, Gift TL, Brewer DD, Fleming M, Hogben M, St. Lawrence JS. Peer referral for HIV case-finding among men who have sex with men. *AIDS*. 2006;20(15):1961–8.
8. Merchant RC, Clark MA, Liu T, Rosenberger JG, Romanoff J, Bauermeister J, et al. Preferences for oral fluid rapid HIV self-testing among social media-using young black, Hispanic, and white men-who-have-sex-with-men (YMSM): implications for future interventions. *Public Health*. 2017;145:7–19. <https://doi.org/10.1016/j.puhe.2016.12.002> PMID: [28359394](https://pubmed.ncbi.nlm.nih.gov/28359394/)
9. Mourez T, Lemée V, Delbos V, Delaugerre C, Alessandri-Gradt E, Etienne M, et al. HIV rapid screening tests and self-tests: Be aware of differences in performance and cautious of vendors. *EBioMedicine*. 2018;37:382–91. <https://doi.org/10.1016/j.ebiom.2018.10.012> PMID: [30509399](https://pubmed.ncbi.nlm.nih.gov/30509399/)
10. Brenner BG, Wainberg MA. Future of phylogeny in HIV prevention. *JAIDS J Acquir Immune Defic Syndr*. 2013;16(Supplement 2).
11. Cohen MS, Shaw GM, McMichael AJ, Haynes BF. Acute HIV-1 Infection. *N Engl J Med*. 2011;364(20):1943–54. <https://doi.org/10.1056/NEJMr1011874> PMID: [21591946](https://pubmed.ncbi.nlm.nih.gov/21591946/)
12. Stekler JD, Tapia K, Maenza J, Stevens CE, Ure GA, O'Neal JD, et al. No Time to Delay! Fiebig Stages and Referral in Acute HIV infection: Seattle Primary Infection Program Experience. *AIDS Res Hum Retroviruses*. 2018;34(8):657–66. <https://doi.org/10.1089/AID.2017.0276> PMID: [29756456](https://pubmed.ncbi.nlm.nih.gov/29756456/)
13. Gilbert M, Cook D, Steinberg M, Kwag M, Robert W, Doupe G, et al. Targeting screening and social marketing to increase detection of acute HIV infection in men who have sex with men in Vancouver, British Columbia. *AIDS*. 2013;27(16):2649–54. <https://doi.org/10.1097/QAD.0000000000000001> PMID: [23921608](https://pubmed.ncbi.nlm.nih.gov/23921608/)
14. Chibo D, Kaye M, Birch C. HIV transmissions during seroconversion contribute significantly to new infections in men who have sex with men in Australia. *AIDS Res Hum Retroviruses*. 2012;28(5):460–4. <https://doi.org/10.1089/AID.2011.0137> PMID: [21806486](https://pubmed.ncbi.nlm.nih.gov/21806486/)
15. Kroon EDMB, Phanuphak N, Shattock AJ, Fletcher JLK, Pinyakorn S, Chomchey N, et al. Acute HIV infection detection and immediate treatment estimated to reduce transmission by 89% among men who have sex with men in Bangkok. *J Int AIDS Soc*. 2017;20(1):21708. <https://doi.org/10.7448/IAS.20.1.21708> PMID: [28691441](https://pubmed.ncbi.nlm.nih.gov/28691441/)
16. Chun TW, Engel D, Berrey MM, Shea T, Corey L, Fauci AS. Early establishment of a pool of latently infected, resting CD4(+) T cells during primary HIV-1 infection. *Proc Natl Acad Sci U S A*. 1998;95(15):8869–73. <https://doi.org/10.1073/pnas.95.15.8869> PMID: [9671771](https://pubmed.ncbi.nlm.nih.gov/9671771/)
17. Massanella M, Ignacio RAB, Lama JR, Pagliuzza A, Dasgupta S, Alfaro R, et al. Long-term effects of early antiretroviral initiation on HIV reservoir markers: a longitudinal analysis of the MERLIN clinical study. *Lancet Microbe*. 2021;2(5):e198–209. [https://doi.org/10.1016/s2666-5247\(21\)00010-0](https://doi.org/10.1016/s2666-5247(21)00010-0) PMID: [34841369](https://pubmed.ncbi.nlm.nih.gov/34841369/)
18. McKellar MS, Keys JR, Filiatreau LM, McGee KS, Kuruc JD, Ferrari G, et al. Rapid viral suppression using integrase inhibitors during acute HIV-1 infection. *J Antimicrob Chemother*. 2025;80(1):169–74. <https://doi.org/10.1093/jac/dkae391> PMID: [39504491](https://pubmed.ncbi.nlm.nih.gov/39504491/)
19. Rajasuriar R, Wright E, Lewin SR. Impact of antiretroviral therapy (ART) timing on chronic immune activation/inflammation and end-organ damage. *Curr Opin HIV AIDS*. 2015;10(1):35–42. <https://doi.org/10.1097/COH.0000000000000118> PMID: [25415420](https://pubmed.ncbi.nlm.nih.gov/25415420/)
20. Cohen MS, Gay CL, Busch MP, Hecht FM. The detection of acute HIV infection. *J Infect Dis*. 2010;202 Suppl 2:S270–7. <https://doi.org/10.1086/655651> PMID: [20846033](https://pubmed.ncbi.nlm.nih.gov/20846033/)
21. Sanders EJ, Wahome E, Powers KA, Werner L, Fegan G, Lavreys L. Targeted screening of at-risk adults for acute HIV-1 infection in sub-Saharan Africa. *AIDS*. 2015 Dec;29 Suppl 3(0 3):S221–30. <https://doi.org/10.1097/QAD.0000000000000924> PMID: [26562811](https://pubmed.ncbi.nlm.nih.gov/26562811/)
22. Babigumira JB, Agutu CA, Hamilton DT, van der Elst E, Hassan A, Gichuru E, et al. Testing strategies to detect acute and prevalent HIV infection in adult outpatients seeking healthcare for symptoms compatible with acute HIV infection in Kenya: a cost-effectiveness analysis. *BMJ Open*. 2022;12(9):e058636. <https://doi.org/10.1136/bmjopen-2021-058636> PMID: [36175097](https://pubmed.ncbi.nlm.nih.gov/36175097/)
23. Palmer S, Dijkstra M, Ket JC, Wahome EW, Walimbwa J, Gichuru E, et al. Acute and early HIV infection screening among men who have sex with men, a systematic review and meta-analysis. *J Int AIDS Soc*. 2020;23 Suppl 6(Suppl 6):e25590. <https://doi.org/10.1002/jia2.25590> PMID: [33000916](https://pubmed.ncbi.nlm.nih.gov/33000916/)
24. Grin B, Chan PA, Operario D. Knowledge of acute HIV infection among gay and bisexual male college students. *J Am Coll Health*. 2013;61(4). <https://doi.org/10.1080/07448481.2013.781027> PMID: [23663127](https://pubmed.ncbi.nlm.nih.gov/23663127/)
25. Siegler AJ, Sanchez T, Sineath RC, Grey J, Kahle E, Sullivan PS. Knowledge and awareness of acute human immunodeficiency virus infection among mobile app-using men who have sex with men: a missed public health opportunity. *Open Forum Infect Dis*. 2015;2(1):ofv016. <https://doi.org/10.1093/ofid/ofv016> PMID: [26034766](https://pubmed.ncbi.nlm.nih.gov/26034766/)
26. Wandell GM, Molina Y, Sánchez H, Greer AC, Ríos J, Bain C, et al. Knowledge and preferences concerning acute HIV testing programs among both Peruvian men who have sex with men and transgender women. *Int J STD AIDS*. 2017;28(10):1010–7. <https://doi.org/10.1177/0956462416685674> PMID: [28056724](https://pubmed.ncbi.nlm.nih.gov/28056724/)
27. Remien RH, Higgins JA, Correale J, Bauermeister J, Dubrow R, Bradley M, et al. Lack of understanding of acute HIV infection among newly-infected persons-implications for prevention and public health: The NIMH Multisite Acute HIV Infection Study: II. *AIDS Behav*. 2009;13(6):1046–53. <https://doi.org/10.1007/s10461-009-9581-7> PMID: [19533323](https://pubmed.ncbi.nlm.nih.gov/19533323/)

28. Gardner S, Campbell D, Light L, Adam BD, Globerman JM, Major C. "Get on it" MSM Testing Blitz: HIV Knowledge. In: Canadian Association for HIV Research Conference. 2013. p. 91A.
29. Conway K, Jack D, Dew C, Johnson S, Cooper V, Waters L, et al. O15 Primary HIV infection: lack of knowledge among men who have sex with men (MSM). *Sex Transm Infect.* 2012;88(Suppl 1):A6.1-A6. <https://doi.org/10.1136/sextrans-2012-050601a.15>
30. Stekler JD, Baldwin HD, Louella MW, Katz DA, Golden MR. ru2hot?: A public health education campaign for men who have sex with men to increase awareness of symptoms of acute HIV infection. *Sex Transm Infect.* 2013;89(5):409–14. <https://doi.org/10.1136/sextrans-2012-050730> PMID: [23349338](https://pubmed.ncbi.nlm.nih.gov/23349338/)
31. Silvera R, Stein D, Hutt R, Hagerty R, Daskalakis D, Valentine F, et al. The Development and Implementation of an Outreach Program to Identify Acute and Recent HIV Infections in New York City. *Open AIDS J.* 2010;4(1):76–83. <https://doi.org/10.2174/1874613601004010076>. PMID: [20386719](https://pubmed.ncbi.nlm.nih.gov/20386719/)
32. Elliott T, Sanders EJ, Doherty M, Ndung'u T, Cohen M, Patel P, et al. Challenges of HIV diagnosis and management in the context of pre-exposure prophylaxis (PrEP), post-exposure prophylaxis (PEP), test and start and acute HIV infection: a scoping review. *J Int AIDS Soc.* 2019;22(12):e25419. <https://doi.org/10.1002/jia2.25419> PMID: [31850686](https://pubmed.ncbi.nlm.nih.gov/31850686/)
33. Johnson KA, Chen M-J, Kohn R, Sachdev D, Bacon O, Lee S, et al. Acute HIV at the Time of Initiation of Pre-exposure or Post-exposure Prophylaxis: Impact on Drug Resistance and Clinical Outcomes. *J Acquir Immune Defic Syndr.* 2021;87(2):818–25. <https://doi.org/10.1097/QAI.0000000000002638> PMID: [33512849](https://pubmed.ncbi.nlm.nih.gov/33512849/)
34. van der Elst EM, Smith AD, Gichuru E, Wahome E, Musyoki H, Muraguri N, et al. Men who have sex with men sensitivity training reduces homo-phobia and increases knowledge among Kenyan healthcare providers in coastal Kenya. *J Int AIDS Soc.* 2013;16 Suppl 3(4Suppl 3):18748. <https://doi.org/10.7448/IAS.16.4.18748> PMID: [24321111](https://pubmed.ncbi.nlm.nih.gov/24321111/)
35. Sharma A, Bukusi E, Gorbach P, Cohen CR, Muga C, Kwena Z, et al. Sexual identity and risk of HIV/STI among men who have sex with men in Nairobi. *Sex Transm Dis.* 2008;35(4):352–4. <https://doi.org/10.1097/OLQ.0b013e31815e6320> PMID: [18360318](https://pubmed.ncbi.nlm.nih.gov/18360318/)
36. Equaldex. LGBT Rights in Kenya [Internet]. 2018 [cited 2019 Mar 18]. <https://www.equaldex.com/region/kenya>
37. Lau JTF, Tsui HY, Lau MMC. A pilot clustered randomized control trial evaluating the efficacy of a network-based HIV peer-education intervention targeting men who have sex with men in Hong Kong, China. *AIDS Care.* 2013;25(7):812–9. <https://doi.org/10.1080/09540121.2012.749330> PMID: [23244706](https://pubmed.ncbi.nlm.nih.gov/23244706/)
38. Golden MR, Gift TL, Brewer DD, Fleming M, Hogben M, St Lawrence JS, et al. Peer referral for HIV case-finding among men who have sex with men. *AIDS.* 2006;20(15):1961–8. <https://doi.org/10.1097/01.aids.0000247118.74208.6a> PMID: [16988518](https://pubmed.ncbi.nlm.nih.gov/16988518/)
39. Ayala G, Sprague L, van der Merwe LL-A, Thomas RM, Chang J, Arreola S, et al. Peer- and community-led responses to HIV: A scoping review. *PLoS One.* 2021;16(12):e0260555. <https://doi.org/10.1371/journal.pone.0260555> PMID: [34852001](https://pubmed.ncbi.nlm.nih.gov/34852001/)
40. Muraguri N, Temmerman M, Geibel S. A decade of research involving men who have sex with men in sub-Saharan Africa: Current knowledge and future directions. *SAHARA J.* 2012;9(3):137–47. <https://doi.org/10.1080/17290376.2012.744176>. PMID: [23237068](https://pubmed.ncbi.nlm.nih.gov/23237068/)
41. Robb ML, Eller LA, Kibuuka H, Rono K, Maganga L, Nitayaphan S, et al. Prospective Study of Acute HIV-1 Infection in Adults in East Africa and Thailand. *N Engl J Med.* 2016;374(22). <https://doi.org/10.1056/NEJMoa1508952>. Epub 2016 May 18. PMID: [27192360](https://pubmed.ncbi.nlm.nih.gov/27192360/)
42. Eford J, Sherr L, Bolding G, Serle F, Maguire M. Peer-led HIV prevention among gay men in London: process evaluation. *AIDS Care.* 2002;14(3):351–60. <https://doi.org/10.1080/09540120220123739> PMID: [12042081](https://pubmed.ncbi.nlm.nih.gov/12042081/)
43. Wahome E, Fegan G, Okuku HS, Mugo P, Price MA, Mwashigadi G, et al. Evaluation of an empiric risk screening score to identify acute and early HIV-1 infection among MSM in Coastal Kenya. *AIDS.* 2013;27(13):2163–6. <https://doi.org/10.1097/QAD.0b013e3283629095> PMID: [23842136](https://pubmed.ncbi.nlm.nih.gov/23842136/)
44. Dijkstra M, Mohamed K, Kigoro A, Mumba T, Mahmoud S, Wesonga A, et al. Peer Mobilization and Human Immunodeficiency Virus (HIV) Partner Notification Services Among Gay, Bisexual, and Other Men Who Have Sex With Men and Transgender Women in Coastal Kenya Identified a High Number of Undiagnosed HIV Infections. *Open Forum Infect Dis.* 2021;8(6):ofab219. <https://doi.org/10.1093/ofid/ofab219> PMID: [34113688](https://pubmed.ncbi.nlm.nih.gov/34113688/)
45. Wahome E, Thiong'o A, Chirro O, Gichuru E, Mwambi J, Price M. An empiric risk score to guide prep uptake in MSM in coastal Kenya. *Top Antivir Med.* 2017;25(1):364s. <https://doi.org/10.1007/s10461-018-2141-2>. PMID: [29767324](https://pubmed.ncbi.nlm.nih.gov/29767324/)
46. Wahome E, Graham S, Thiong'o A, Chirro O, Mohamed K, Gichuru E, et al. Assessment of PrEP eligibility and uptake among at-risk MSM participating in a HIV-1 vaccine feasibility cohort in coastal Kenya. *Wellcome Open Res.* 2020;4:138. <https://doi.org/10.12688/wellcomeopenres.15427.2> PMID: [32140565](https://pubmed.ncbi.nlm.nih.gov/32140565/)
47. Moroti Constantinescu VR. Acute Human Immunodeficiency Virus Infection. *N Engl J Med.* 2023;389(24):2276. <https://doi.org/10.1056/NEJMicm2306536> PMID: [38091533](https://pubmed.ncbi.nlm.nih.gov/38091533/)
48. Bierer BE, White SA, Gelinis L, Strauss DH. Fair payment and just benefits to enhance diversity in clinical research. *J Clin Transl Sci.* 2021;5(1):e159. <https://doi.org/10.1017/cts.2021.816> PMID: [34527298](https://pubmed.ncbi.nlm.nih.gov/34527298/)
49. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3(2):77–101.
50. Lindsay BR, Mwango L, Toeque M-G, Malupande SL, Nkhuwa E, Moonga CN, et al. Peer community health workers improve HIV testing and ART linkage among key populations in Zambia: retrospective observational results from the Z-CHECK project, 2019-2020. *J Int AIDS Soc.* 2022;25(11):e26030. <https://doi.org/10.1002/jia2.26030> PMID: [36317821](https://pubmed.ncbi.nlm.nih.gov/36317821/)
51. Abubakari GM, Owusu-Dampare F, Ogunbajo A, Gyasi J, Adu M, Appiah P. HIV education, empathy, and empowerment (HIVE3): A peer support intervention for reducing intersectional stigma as a barrier to HIV testing among men who have sex with men in Ghana. *Int J Environ Res Public Health.* 2021;18(24). <https://doi.org/10.3390/ijerph182413103> PMID: [34948712](https://pubmed.ncbi.nlm.nih.gov/34948712/)

52. Ky-Zerbo O, Desclaux A, Boye S, Maheu-Giroux M, Rouveau N, Vautier A, et al. I take it and give it to my partners who will give it to their partners: secondary distribution of HIV self-tests by key populations in Côte d'Ivoire, Mali, and Senegal. *BMC Infect Dis*. 2022;22(Suppl 1). <https://doi.org/10.1186/s12879-023-08319-4> PMID: [37226113](https://pubmed.ncbi.nlm.nih.gov/37226113/)
53. Mukooza E, Schausberger B, Mmemma N, Dlamini V, Aung A, Kerschberger B, et al. "It is still very little; I cannot pass it on": a qualitative study of experiences of diagnosis and treatment of acute HIV infection in Eswatini. *AIDS Care*. 2024;36(3):308–13. <https://doi.org/10.1080/13548506.2023.2235275> PMID: [37552882](https://pubmed.ncbi.nlm.nih.gov/37552882/)
54. Sanders EJ, Wahome E, Mwangome M, Thiong'o AN, Okuku HS, Price MA, et al. Most adults seek urgent healthcare when acquiring HIV-1 and are frequently treated for malaria in coastal Kenya. *AIDS*. 2011;25(9):1219–24. <https://doi.org/10.1097/QAD.0b013e3283474ed5> PMID: [21505300](https://pubmed.ncbi.nlm.nih.gov/21505300/)
55. Miller WC, Rosenberg NE, Rutstein SE, Powers KA. Role of acute and early HIV infection in the sexual transmission of HIV. *Curr Opin HIV AIDS*. 2010;5(4):277–82. <https://doi.org/10.1097/COH.0b013e32833a0d3a> PMID: [20543601](https://pubmed.ncbi.nlm.nih.gov/20543601/)
56. Powers KA, Miller WC, Pilcher CD, Mapanje C, Martinson FEA, Fiscus SA, et al. Improved detection of acute HIV-1 infection in sub-Saharan Africa: development of a risk score algorithm. *AIDS*. 2007;21(16):2237–42. <https://doi.org/10.1097/QAD.0b013e3282f08b4d> PMID: [18090052](https://pubmed.ncbi.nlm.nih.gov/18090052/)
57. Sevelius JM, Keatley J, Calma N, Arnold E. "I am not a man": Trans-specific barriers and facilitators to PrEP acceptability among transgender women. *Glob Public Health*. 2016;11(7–8):1060–75. <https://doi.org/10.1080/17441692.2016.1154085> PMID: [26963756](https://pubmed.ncbi.nlm.nih.gov/26963756/)
58. Rocha GM, Cândido RCF, de Carvalho NP, Carvalho EGA, Costa AAM, Machado IV, et al. Strategies to increase HIV testing among men who have sex with men and transgender women: an integrative review. *BMC Infect Dis*. 2023;23(1):240. <https://doi.org/10.1186/s12879-023-08124-z> PMID: [37072705](https://pubmed.ncbi.nlm.nih.gov/37072705/)
59. Lopez-Rios J, Frasca T, Kindlon MJ, Exner TM, Norcini Pala A, Wainberg ML, et al. Limited Knowledge and Lack of Screening for Acute HIV Infection at Primary Care Clinics in High-Prevalence Communities of New York City. *AIDS Behav*. 2019;23(10):2870–8. <https://doi.org/10.1007/s10461-019-02527-3> PMID: [31054030](https://pubmed.ncbi.nlm.nih.gov/31054030/)
60. Wilkins CH, Miller ST, Richmond AN, Carrasquillo O. Community-engaged research — essential to addressing health inequities. *N Engl J Med*. 2023;389(21):1928–31. <https://doi.org/10.1056/NEJMp2307774> Epub 2023 Nov 18. PMID: [37982404](https://pubmed.ncbi.nlm.nih.gov/37982404/)