

BMJ Open Factors influencing community demand for assisted partner services for HIV in western Kenya: a multilevel qualitative analysis

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ABSTRACT

Objectives This study explores factors affecting community-level demand for assisted partner services (APS) and HIV testing services (HTS) in western Kenya.

Design This is a multilevel qualitative analysis conducted as part of the APS Scale-up Study, a hybrid type 2 implementation-effectiveness study of APS integrated within routine HTS. For this analysis, in-depth phone interviews assessed demand for APS and factors influencing decisions to participate in APS.

Setting Participants were recruited from eight healthcare facilities and (for APS stakeholders) from affiliated healthcare institutions in western Kenya (Kisumu and Homabay). Interviews were conducted by phone in 2019 and 2020.

Participants 67 participants were interviewed: 14 APS providers, 16 female index clients, 17 male sexual partners and 20 community members. Participants were recruited using criteria-based purposive sampling to represent different types of facilities and to include indexes who named different numbers of partners and stakeholders representing all Kenyan healthcare system levels.

Results Collectively, participants perceived that demand and uptake of APS could be impacted by multiple stigmas related to HIV, sexual behaviours and identities; long clinical wait times; certain gender norms and expectations; and fear of relationship dissolution, loss of financial support and intimate partner violence. However, different stakeholder groups generally focused on different factors; women focused more on gender dynamics and family roles; male sexual partners on stigma and structural barriers; HTS providers focused on HIV testing accessibility; and community-level stakeholders focused on low community awareness of APS.

Conclusions Stigma reduction, awareness about APS, creation of male entry points at the facility level and provision of social support mechanisms have the potential to increase demand for APS.

INTRODUCTION

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that one in five of the 37.6 million people living with HIV globally are unaware of their HIV status,

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This qualitative study involved semi-structured interviews with multiple stakeholder groups from a Kenyan healthcare system routinely delivering assisted partner services (APS) and drew from facilities with varying client volumes and APS performance, providing a diverse and multilevel perspective on demand for APS in a real-world setting.
- ⇒ This large data set of interviews (N=67) with index clients and their sexual partners, HIV testing services and APS providers and key health system and community stakeholders allowed a comparison of perspectives and experiences with APS across groups.
- ⇒ This study did not include individuals who refused APS, people from key populations and the general community not engaged in APS or HIV testing services.
- ⇒ The study was conducted in western Kenya, and not all findings will be generalisable to different regions.

resulting in missed opportunities to prevent morbidity, mortality and ongoing transmission¹ and has set goals of 95% of people living with HIV knowing their HIV status, 95% of people who know their HIV status being on treatment and 95% of people on treatment having a suppressed viral load. Kenya is estimated to have reached the 95-95-95 targets among the general population,² but with an HIV prevalence greater than 15% in many Western counties,³ timely access to HIV diagnoses and treatment remains a critical concern. To reach the ‘first 95’, many countries have turned to assisted partner services (APS), in which a healthcare provider contacts and tests sexual and drug-injecting partners of people diagnosed with HIV, as an important addition to standard facility-based HIV testing. APS is an efficient, effective strategy for diagnosing people with HIV and



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linking them to care and for identifying those in need of prevention services.^{4–9} Its success at scale and real-world impact depend on participant and community-level demand for both APS and HIV testing services (HTS).

Demand for a service is defined as the degree to which that service is needed, the level of community interest and the likelihood that it will be used by the target population.¹⁰ Previous studies of APS have explored closely-related implementation outcomes^{10–11} including acceptability, preferences for and uptake by age and gender and found it is a safe and effective way to reach the partners of both men and women newly diagnosed with HIV.^{4–5–8–12} For example, our prior research found high uptake of provider assistance notifying partners (ie, APS) among adolescent girls and women newly diagnosed with HIV (93%), with highest uptake among married clients with lower levels of education^{5–9} and high acceptability for both female index clients (ie, people diagnosed with HIV who are offered assistance notifying their partners) and their male sexual partners, with trust in providers as a critical component of acceptability.^{13–14} Despite this, other research in East Africa found that most index clients prefer partner referral—notifying sexual partners themselves using information provided by a healthcare worker.¹⁵ Examining demand for APS has the potential to complement this research by understanding how APS is perceived and may be used by the broader community and priority populations (eg, key populations, men and young people, who tend to have lower uptake of HTS¹⁶) and identify opportunities for improving APS performance through structural or community interventions and sensitisation.

As part of a larger study investigating the effectiveness and implementation of APS integrated into routine HTS in western Kenya, we explored factors affecting community-level demand for APS using a multilevel qualitative analysis that integrates the perspectives and needs of female index clients, male sexual partners (MSPs), HTS providers and key health system and community stakeholders. Understanding community-level demand for APS can inform community sensitisation efforts and APS delivery at scale.

METHODS

Study overview

This analysis was conducted as part of the APS Scale-up Study, a hybrid type 2 implementation-effectiveness study evaluating APS integrated within routine HTS in western Kenya from 2018 to 2021, described in detail elsewhere.^{9–17} Briefly, it was a collaborative study between the Ministry of Health (MOH), National AIDS and STI Control Programme (NASCOP), PATH-Kenya and University of Washington, conducted in 31 health facilities in Kisumu and Homa Bay counties. Kisumu and Homa Bay have populations of around 1.2 million and are the counties with the two highest estimated HIV prevalences in Kenya.³ In the study, HTS providers (staff trained and certified by

NASCOP to deliver HTS per national guidelines) were responsible for routinely offering and providing APS to people diagnosed with HIV at participating health facilities. HTS providers discussed notification options, elicited information regarding sexual partners from the past 3 years, and—when provider assistance was accepted—notified named partners of their potential exposure and offered HIV testing and linkage to care as needed. The overall goal was to implement and evaluate the effectiveness of APS when integrated within routine HTS⁹ and assess implementation outcomes, including acceptability,^{5–12–13} demand, integration,¹⁸ implementation fidelity¹⁹ and costs.²⁰

Study sites

8 of 31 study health facilities were purposively selected for female index clients, MSP and HTS provider participant recruitment to maximise variation in APS performance (defined as the number of MSPs enrolled per female index client) and client volume (mean number of women receiving HTS per month). Selected facilities were categorised into four groups: high-performing with high patient volume, high-performing with low patient volume, low-performing with low patient volume and low-performing with high patient volume. They included: Kabondo Sub-County Hospital, Kauma Health Centre, Nyalgosi Dispensary and Rachuonyo County Hospital in Homa Bay County and Airport Health Centre, Disciples of Mercy Hospital, Simba Opepo Dispensary and St. Elizabeth Chiga Hospital in Kisumu County. Six are public facilities and two mission; five are in rural areas and three in urban.

Participant selection and recruitment

Four groups—female index clients, MSPs, HTS providers and health system and community stakeholders—were recruited to participate in semi-structured in-depth interviews to assess individual, community and healthcare system perspectives on community demand for APS. Criteria-based purposive sampling was used to recruit: two female index clients (one who elicited >2 male partners and one who elicited ≤2 male partners) and two MSPs from each facility¹³; two to four HTS providers from each high-volume facility; and one to two HTS providers from each low-volume facility.¹⁴ Key health system and community stakeholders were also selected using purposive stratified sampling to achieve representation of all Kenyan healthcare system levels and provide a holistic perspective of demand for APS. Health system stakeholders included Kenya MOH policymakers, HIV implementing partner organisation representatives, county/subcounty AIDS coordinators and facility-in-charges. Community stakeholders included community health workers, peer educators and community health extension workers (MOH public health staff). Community health workers and peer educators' only involvement in APS was providing community navigation when partners were traced in the community. They are supervised by community health

extension workers. These three groups are not certified by NASCOP to deliver HTS.

Study procedures

Eligible persons were invited to participate in semi-structured in-depth interviews via phone call lasting 30–60 min. All participants provided informed consent and were not compensated for participation. No eligible persons refused participation. An experienced, masters-level female qualitative researcher (MO) with prior involvement in community programmes and sexual and reproductive health in the study region conducted the interviews by phone in Kiswahili, Luo or English, based on participant preference. Interviews were audio-recorded and field notes documented during and after the interview. The interviewer had previously worked with some, but not all, community stakeholder and provider participants, but had no prior relationship with female index clients or MSPs; most participants therefore did not know the interviewer outside her role as researcher. Prior to beginning the interview, participants were asked to confirm that they were alone and in a quiet place. Recorded interviews were transcribed verbatim and translated into English for analysis when necessary. To assess APS demand, the guiding interview questions included: To what extent do you think APS is likely to be used or wanted in the community? To what degree do you think APS is desired by groups differing in age, gender and key populations such as commercial sex workers and men who have sex with men? Would you be willing to champion or advocate for APS? Follow-up interviews were conducted if necessary for clarifications. Interview guides were pilot tested with five participants and are available as online supplemental material.

Theoretical framework

We employed Anderson and Newman's theoretical framework of demand and utilisation of health services,^{21 22} which groups determinants of demand and utilisation of health services into predisposing, enabling and illness-level factors. We used this model to assess how individual characteristics, attitudes, perceptions and social situations may impact individuals' health-seeking behaviours and, consequently, future demand for APS. We also investigated the extent and impacts of gender-based and stakeholder-based variation in these factors.

Predisposing factors impact the propensity to use health services. They include individual characteristics that influence the likelihood an individual will need health services; social structures that influence how an individual can cope with health problems; and health beliefs that influence an individual's perception of their need for a health service. Enabling factors are an individual's means to demand or use health services, in this case APS. They include individual-level or family-level factors, such as income and social support, and community-level factors, such as awareness and facility location. Illness factors influence the individual's perspective on the probability

of disease occurrence and perception of disease severity, and as a result, their demand and utilisation of health services.

Data management and analysis

Each recorded interview and corresponding transcript were assigned an ID number with identifying information removed prior to analysis. Data were analysed thematically using inductive coding. After reading transcripts, one researcher (MO) developed the codebook and another researcher (BN) revised it. After the codebook was tested and finalised, the two researchers coded all transcripts independently, identified themes and subthemes and reached consensus through discussion. After coding all transcripts, we compared the proportion of participants in each stakeholder group who reported each theme. We conducted analyses using ATLAS.ti V.8.4.4 and Microsoft Excel.

Patient and public involvement

Patients and the public were not involved in the design or implementation of this analysis. The study team for the parent study has held local and national dissemination events for health system stakeholders, providers and community members.

RESULTS

Participant characteristics

From January 2019 to July 2020, we interviewed 67 participants: 16 female index clients, 17 MSPs, 14 HTS providers and 20 health system/community stakeholders (table 1). Of note, all HTS providers and most (90%) stakeholders had completed post-secondary education, while less than half of female index clients and MSPs had completed secondary education.

Overall themes

Using the Anderson and Newman model of health services utilisation, we organised interconnected factors into predisposing, enabling and illness-level factors that influence demand for APS (figure 1). In general, women focused more on gender dynamics and family roles; MSPs focused on stigma and structural barriers; HTS providers focused on HIV testing accessibility; and key APS stakeholders, especially at the community-level, focused on low community awareness of APS.

Predisposing factors

Demographics

Clients' age and gender were reported as important, intersecting determinants of APS demand. The majority of interviewees referenced gender roles and societal norms as barriers for married women to participate in APS. For example, they might fear intimate partner violence or a broken marriage.

Even if a man will disclose and then tell the wife, the only thing that a wife would do maybe to move away

Table 1 Participant characteristics (n=67)

Variables	Female index clients (n=16)	Male sexual partners (n=17)	HTS providers (n=14)	Stakeholders (n=20)
Age range (years)	15–36	23–52	25–52	35–52
Gender				
Male	0 (0%)	17 (100%)	4 (29%)	8 (45%)
Female	16 (100%)	0 (0%)	10 (71%)	12 (55%)
Study site				
Kisumu	8 (50%)	9 (53%)	7 (50%)	8 (40%)
Homabay	8 (50%)	8 (47%)	7 (50%)	12 (60%)
Level of education				
Some primary school	4 (25%)	1 (6%)	0 (0%)	1 (5%)
Completed primary school	6 (37%)	5 (29%)	0 (0%)	0 (0%)
Some secondary education	2 (13%)	3 (18%)	0 (0%)	0 (0%)
Completed secondary education	3 (19%)	7 (41%)	0 (0%)	1 (5%)
Post-secondary education	1 (6%)	1 (6%)	14 (100%)	18 (90%)

HTS, HIV testing services.

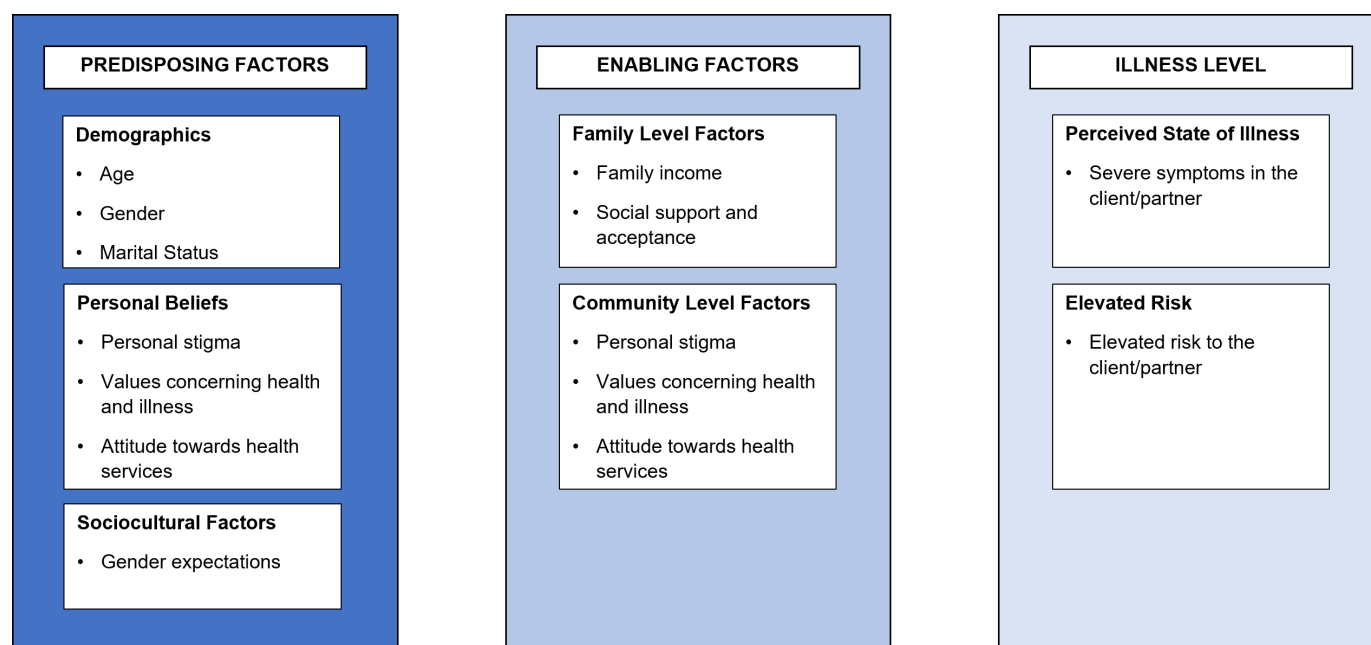
and leave this man. But now if it is [a] woman reporting that I am positive and would want this and this, the issue of gender violence will come up. You might be beaten; you might be thrown out with your kids or lose financial support. Unlike a man who will be left in the house even if the wife decides to leave. (KII 009 - Implementing partner)

While multiple HTS providers and female clients mentioned fear of intimate partner violence (IPV) as a potential barrier to APS, one female client noted that the

assistance of the HTS provider through APS might make it easier to notify a partner.

Providers noted that younger people were less interested in APS due to lack of trust in HTS providers and fear that their families would learn about their relationships.

Actually, the young ones are quite tricky because some are still living with their parents, so you will find sometimes, he will tell you “What will my father say or what will my mum say” or that “I don’t want my mum to know”. (KII 024 - HTS provider)

**Figure 1** Themes on demand for assisted partner services based on the Anderson and Newman model of healthcare utilisation.

Stigma

There were different forms of stigma associated with demand for APS. Participants noted men might fear being seen at the health facility or being seen with a known HTS provider.

P: You see when you want to get a lot of information, you look for the information. Once the information comes to you, more information might not come. And even doing elicitation, when someone is in the facility they will start saying, "Please finish up with me quickly someone will find me here. I will come during the weekend when there are no people". Are you getting that? (KII 022 - HTS provider)

While men may fear being exposed or perceived to have HIV, women could hesitate to participate in APS because of stigma related to sexual behaviours. Whereas polygamy or having multiple partners was allowed and viewed as a potential source of pride for men, women did not want to name multiple sexual partners, which is seen as taboo and highly stigmatised.

You know women—for a woman to tell you that she has more than one partner, they think that you are going to judge her. But for men they see it as something that is normal, they don't feel it is something strange, but women want to protect their names so that they are not seen as people who are promiscuous. When a man tells you that he has more than one then he feels that there is something that he has achieved to have many partners but for a woman they feel it is shameful to have many sexual partners. (KII 030 - HTS provider)

In addition, HTS providers and health system stakeholders noted that substantial stigma related to same-sex behaviour and sex work, particularly in rural western Kenya, negatively impacted demand for APS among key populations. Providers noted that participants felt sharing sexual partner contact information with healthcare providers would be seen as 'giving them away' to someone outside the circle.

I: So, for key populations, their preference is dual and contract referral and not so much of provider referral? P: not much of provider. I: And what... P: [interjects] You know they operate in some kind of a cocoon and don't interact much with the outside population. They are so closed and so penetrating with an outsider is not as easy as within themselves and again because it affects their business, those who are selling sex. That they are afraid this information came too fast and if my client knew I had HIV it would be a problem. Stuff like that. (KII 10 -Subcounty AIDS Coordinator) [Note: in dual referral, the index client and APS provider notify a partner together; in contract referral, clients enter into an agreement with APS provider to notify a partner within a certain timeframe, after which the provider will notify

the partner if the partner has not access HTS or contacted the provider; in provider referral, the provider immediately attempts to notify partners.]

Gender norms and expectations

In addition to gender-specific stigmas, many noted that traditional gender norms and the unequal power structure within society could be barriers to accepting care. For example, it could be harder for men, particularly older men and those in rural communities, to seek APS and to discuss their sexual partnerships, especially with female HTS providers. There were perceptions that many older men would not be open to having female providers telling them what to do.

Men are primarily the decision makers. So, when you start telling him, "I need you to give me (information about) your sex partner", for one, culturally, having many partners for a man is something to be proud of. But how you present it is now the problem. So, I think it is an ego kind of thing and wanting to control things and matters.... But I think men generally don't want to be told what to do especially the ones in the rural areas. Look at it this way, maybe the counsellor is a young girl, the man will say, "What have you come here to tell me?" (KII 033 - Policymaker)

Enabling factors

Family-level

Factors such as family support and availability of income or health insurance influence the demand and uptake for APS. Female index clients were most likely to mention family support and acceptance as enabling APS. The majority of female index clients and APS stakeholders stressed the value of having a partner who knew their HIV status and supported them in their treatment. Therefore, APS can and should also help enable disclosure to a partner and support partners in acting as 'treatment buddies' to supporting antiretroviral therapy (ART) adherence, for example, reminding them when to take their medication and collecting medications on their behalf when they cannot go to the healthcare facility.

I: Ok. And what are some of the reasons that people will want to get APS services if they test positive? P: For social support. Because when this person is down or when he is infected, you are also affected as a family. So, the genesis of this journey together to support adherence, to ensure that the person got good nutrition, and other social and spiritual support, linkage. So, you also need to accept this person. Acceptance is very key and then this will end up reducing self-stigma to the infected and the family in totality and the community. So, [the] APS factor is promoting this so that you know people are not pointing fingers to the infected person, but he is accepted. (KII 014 - Community representative)

Both female index clients and HTS providers predicted that the benefit to their families would be particularly strong motivators for women to seek HTS and participate in APS.

I: which people easily agree [to APS] and which ones do you think would find it difficult to agree? P: The women find it easy. I: Why do women find it easy? P: Because women can go and discuss this issue with their husbands and they will see if they can save their household's lives. (Female client)

I: Okay. So why do you think it is easier for ladies and not for men? P: Ladies, they always think of children once they are taken in. In the process of counselling they understand that, 'If I don't take care I might die and once I die my children will be there, who will take care of them?' They look at the father they are like, 'Will really take care of my children? So I'd rather take medication if it will take me longer so that I take good care of my children'. (HTS provider)

APS were perceived to benefit women by helping them keep their family safe and healthy.

Community-level (including health systems)

The level of community awareness about APS could also affect demand and utilisation. Most female index clients, MSPs and community representatives noted community members were not aware of APS. While detailed information was provided to those offered APS at facilities, those who only heard about APS in passing were suspicious of it because they had limited information. Because individual contact data is sensitive information, community awareness campaigns on APS may reduce suspicion and misconceptions when receiving partner notification calls, eventually increasing demand and uptake of APS.

Some clients—maybe calling, some will ask you “Where did you get my number?” And they will insist and become very rude. Some throw nasty words at you, or they will insult you. “You are a con woman. You want to con me!” and things like that. (KII 027 - HTS provider)

Men faced several additional structural barriers to finding or using APS services. Most interviewees reported that men did not frequently go to the hospital because they were busy. Health facilities had long queues, were not ‘male friendly’, and were difficult to access (as opposed to easy access to antenatal clinics for women). Many of the male clients and stakeholders felt that flexible, male patient-centred health facilities would work better for men and potentially increase demand for APS and other health services.

Women are service oriented. And you see the antenatal clinic is for the woman and not for the man. The child wellness clinic is for the woman and not for the man. So probably that is why there are fewer men accessing services than women: Men are not

visiting the facility. In fact, more women are visiting the facility than men even when they (men) are sick. Men will tend to hide or sometimes go and pay in the private clinics where they don't spend a lot of time waiting for services. (KII 043 - Male client)

Many of the men reported that public rural healthcare facilities were not accessible to them as they were only open from 08:00 to 17:00 from Monday to Friday, overlapping with their working hours. Facilities that opened over the weekends were typically more urban county or subcounty hospitals, frequently resulting in high costs related to travel and clinical care.

There are people especially the men who are very scared of going to the hospital. Most of us fear going to the hospital, and it is not a lie. They would rather buy medicine from the pharmacy when they are feeling sick rather than go to the hospital. There are people we work with in the Indian factories, and you find that they are committed from Monday to Saturday and will only get time off on Sunday. And on Sunday you will not find any government hospital that is opened and is closer. (KII 055 - Male client)

On the other hand, female index clients and MSPs also mentioned that, with the availability of universal health coverage (UHC) in Kisumu county, they did not see any reason why some would refuse APS, since free healthcare was available. Many participants felt that the guarantee of UHC would influence many to elicit their sexual partners so they could also benefit from free care for HIV and other conditions.

You know you can only refuse when the hospital is far away because right now, we have UHC which guarantees us free medical care. Maybe if you don't have UHC then it can be an issue and when you go to the private hospital and have to pay for services because even when you don't have UHC and go to a public hospital you will be treated for free. (KII 035 - Male client)

Illness-level factors

Perceived state of illness and evaluated risk

Many of the participants said that the decision to participate in APS was based on how unwell they felt and their perceived risks of HIV and its potential effects on them and their sexual partner(s). Therefore, a person newly diagnosed with HIV would seek APS for their sexual partner to promote early testing, linkage to care and initiation of ART based on the perceived risks and benefits of APS.

What I know is that many people will accept (APS) because it is the person who has been bitten by a snake that will know the pain of a snake bite. But someone who has not been bitten by snake is the one who will complain. The person who has been tested will know that he/she should save his life and that of

the partner and so they will spare their time to go and give their partners contact details. (KII 049 - Male client)

DISCUSSION

In this study, we evaluated demand for APS through a multilevel analysis across different groups, including female index clients, MSPs, HTS providers and key health system stakeholders in western Kenya. APS is a valuable tool to increase HTS uptake.⁴ The parent study, from which clients and partners in this study were recruited, showed that APS is acceptable and effective when offered by an HTS provider, with 90% uptake among female index clients and 86% uptake among their male partners living with HIV.^{9 12–14} Translating these benefits at larger scale, however, necessitates understanding community demand for APS and addressing barriers. To respond to this need, this analysis identified interconnected factors at individual-levels, family-levels, community-levels, societal-levels and health system-levels that influence demand for APS. Addressing these factors could enhance the positive potential of APS for different groups.

While this is not the first study to identify sex differences in APS acceptability,^{6 13} it is notable that all four participant groups in this analysis identified gender and social norms as important determinants of both APS accessibility and uptake. These findings emphasise the importance of understanding the local context when conducting APS and the value of providing services tailored to different populations. However, there were also important differences between participant groups in the determinants they identified for demand and uptake of APS. For example, women mentioned more about gender dynamics and family-level factors, men were more likely to mention stigma and health system barriers (eg, long queues in health facilities), HTS providers focused more on accessibility of HTS, whereas key stakeholders focused more on community-level awareness. As a result, it will be important for policymakers to consider population group characteristics, such as age, gender and urbanicity, when developing policies for APS scale-up to ensure ease and comfort among clients.

Participants suggested that younger people are less likely to use HIV testing or name sexual partners for notification and other sexual and reproductive health services for fear of judgement associated with pre-marital sex. Systematic reviews have similarly shown that uptake of HTS²³ and youth-friendly sexual and reproductive health services²⁴ in sub-Saharan Africa is inhibited by harmful gender norms; stigma around adolescent and youth sexuality; and discrimination and judgement by communities, families, partners and providers. However, results from the parent study to this analysis showed APS uptake did not differ by age among girls and women.^{9 12}

Though there was a consensus that women have a higher propensity to demand and use health services because

they are targeted by more population-based health interventions, participants also suggested that women are fearful of stigma from having multiple sexual partners and, therefore, may be less likely to name partners. However, the parent study did not indicate this to be the case, finding high rates of partner elicitation (average: 3.0 per female index client) and slightly higher APS uptake among female index clients (90%) compared with newly diagnosed MSPs (86%).⁹ There was also a perception by policymakers that older men may be less likely to disclose sexual partner(s) to female HTS providers due to societal norms about discussing intimacy. Collectively, comparing community APS perception to APS performance in this population suggests that, despite community perceptions about stigma, APS offered by HTS providers in western Kenya was highly and similarly acceptable to younger people and to both male and female clients.

While gender norms and gender roles were perceived to contribute to fear of HIV-related stigma among men, women and adolescents were perceived to benefit from familial and societal social support structures following diagnosis. Social support and peer influence could significantly impact HIV testing behaviours by influencing how people interpret the risk and value of HIV services. This is similar to studies from Uganda and Tanzania^{25 26} where social networks were seen as a critical source of psychological support during HIV care and treatment for both young people and adults.

Social support can also come from a partner. Couples HIV testing and counselling (CHTC) refers to various approaches for involving partners in each other's HIV testing, counselling and/or care. In sub-Saharan Africa, individuals who discussed HIV with their partners were more likely to participate in counselling and/or testing,²⁷ and CHTC in several African countries has been associated with reduced sexual risk behaviours (like inconsistent condom use and outside partners) and reported improvements in couple communication and decision-making. CHTC was rarely linked to adverse outcomes (with no evidence of increased IPV)²⁸; however, there are limited data on CHTC for non-married and non-heterosexual couples, and CHTC should be just one of several HIV testing options made available.²⁹ Partner support may be especially important for women, as they can be less likely to have the financial resources or decision-making autonomy to choose testing if their male partner objects.²³

The benefits of disclosure through APS must be weighed against female participants' concerns about IPV and relationship dissolution. Prior research in Kenya and other sub-Saharan African countries suggests that APS is safe for most individuals, including those with a non-recent history of IPV^{4 26 30–32}; however, fear of relationship dissolution or disclosure-related violence by a sexual partner may still be a barrier to APS for female index clients.^{24–26 33} While prior research in our study population did identify a higher risk of relationship dissolution and IPV for female (compared with male) participants,

overall rates of these outcomes were quite low,⁹ though those with pre-existing high risk of IPV at enrolment were excluded from APS. Fears about IPV (as reported in our study and others) support the importance of accurately screening for IPV risk prior to APS and continuing to exclude those at high risk. Discrepancies between these fears and observed rates of IPV may indicate that this community feedback is identifying trends that are not reported by people receiving APS services or, alternatively, the need for greater education about the safety of APS. In conclusion, efforts to promote uptake of APS will need to be context-specific, address stigma and promote social support to yield more results at scale.

Our results also corroborate prior studies showing that, even when acceptability is high, cost and accessibility can be barriers to APS and HTS. Similar to our findings, prior studies in sub-Saharan Africa show that time, distance to testing facilities and other associated costs decreased uptake of HTS, generally or following APS, particularly among partners who were asymptomatic,^{26 27 34} while the availability of health insurance, knowledge about HTS and higher levels of education increased HTS uptake.^{27 34} As Kenya adopts and scales up UHC, the demand for HTS and APS will likely increase and healthcare providers should anticipate more people being diagnosed with HIV and accepting APS. Service models that reduce indirect costs, by providing transportation to clinics and offering services outside work hours, or that increase education about UHC could greatly reduce the burden of HIV on individuals and communities.

APS is a cost-effective intervention³⁵ but can be time and resource intensive. For example, a client's trust in the APS provider (to keep their confidentiality and to help their partner access services) is often built over time.^{13 14} Greater community awareness about APS might reduce the burden on individual providers, as index clients would already be familiar with the goals and benefits of APS and partners would know about APS before being contacted about an exposure. Our interviews with community stakeholders, however, demonstrated that community awareness about APS remains low, highlighting the need for greater education.

In our study and previous studies in the region, APS was perceived to be less accessible to men. Systematic reviews of qualitative and quantitative studies in sub-Saharan Africa (SSA)^{23 36} show that inconvenient testing locations, lack of privacy and long queues and wait times limited men's demand for HTS. Offering male-friendly healthcare services, such as services available outside working hours, workplace testing, self-testing and male-focused community events or campaigns, therefore has potential to promote demand and uptake of APS and HTS.^{36 37}

Our study had several strengths. We evaluated demand for APS within a real-world setting, sampled multiple stakeholder groups (including people who had participated in APS as index clients or been identified as partners) and drew from facilities with varying client volumes and APS performance. Together, these provided a grounded and

comprehensive view of factors associated with potential demand for APS as it is implemented and sustained at scale. In addition, the qualitative interviewer and analysts were well versed with the language and local context. However, we note some limitations. Due to COVID-19 pandemic control policies, we conducted interviews by phone, which may have led to missing non-verbal cues and resulted in some connectivity challenges, especially with participants in rural areas. However, the interviewer conducted follow-up interviews and asked clarifying questions when needed. We also did not obtain perspectives from individuals who refused APS, people from key populations and the general community who were not engaged in APS or HTS, and our results may not generalise to these populations. Because APS participants in this study were all offered APS on HIV diagnosis, we did not have the perspective from people living with HIV who were not recently diagnosed and who might independently seek out APS. Finally, it was challenging in some cases to disentangle factors specifically associated with demand for APS, as compared with HTS more generally.

CONCLUSIONS

This study highlights the value of incorporating diverse community stakeholder perspectives to understand the demand for services, like APS, among different populations. Community-level demand for APS in western Kenya is influenced by individual characteristics; family-level factors like social support; community-level dynamics like awareness of APS; and social dynamics and stigmas that operate across multiple levels. Stigma reduction, education regarding APS, creation of male entry points to HIV services, provision of social support mechanisms and affordable and accessible HIV services, all have the potential to increase demand for APS.

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