Published in final edited form as:

AIDS Behav. 2018 October ; 22(10): 3407–3416. doi:10.1007/s10461-018-2035-3.

HIV partner notification values and preferences among sex workers, fishermen, and mainland community members in Rakai, Uganda: a qualitative study

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Abstract

HIV partner notification involves contacting sexual partners of people who test HIV positive and referring them to HIV testing, treatment, and prevention services. To understand values and preferences of key and general populations in Rakai, Uganda, we conducted 6 focus group discussions and 63 in-depth interviews in high prevalence fishing communities and low prevalence mainland communities. Participants included fishermen and sex workers in fishing communities, male and female mainland community members, and healthcare providers. Questions explored three approaches: passive referral, provider referral, and contract referral. Qualitative data were coded and analyzed using a team-based matrix approach. Participants agreed that passive referral was most suitable for primary partners. Provider referral was acceptable in fishing communities for notifying multiple, casual partners. Healthcare providers voiced concerns about limited time, resources, and training for provider-assisted approaches. Options for partner notification may help people overcome barriers to HIV serostatus disclosure and help reach key populations.

Keywords

HIV/AIDS; partner notification; sex workers; key populations; general populations

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COMPLIANCE WITH ETHICAL STANDARDS

Conflicts of interest

All authors declare no conflicts of interest.

Ethical approval

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

Informed consent

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

INTRODUCTION

HIV partner notification, also known as contact tracing, involves identifying the sexual or injection partners of people who test HIV positive and informing them of their possible exposure to HIV (1). Partner notification is often implemented as part of a package of partner services. Partner notification has long been employed for other sexually-transmitted infections (1), but has not been used to full effect for HIV, primarily because of HIV-related stigma and the inaccessibility of treatment early in the HIV epidemic. However, now that antiretroviral treatment is widely available and enables people to live full, healthy lives while managing HIV, partner notification is increasingly being considered for broader implementation as part of the global HIV response. Based on evidence of the effectiveness of partner notification programs (2), the World Health Organization released guidelines in 2016 stating that voluntary, assisted partner notification should be offered as part of a comprehensive package of testing and care services for individuals living with HIV (3).

Several studies have recently explored the use of partner notification for HIV in sub-Saharan Africa (2, 4). Two randomized trials examining the effect of voluntary, assisted partner notification in Malawi found significant increases in the number of partners coming in for testing compared to self-disclosure, or passive referral (5, 6). In Cameroon, a similar intervention evaluated through a nonrandomized design also showed promising, though smaller, absolute differences across groups (7). A large-scale cluster randomized trial in Kenya found that 67% of partners notified with immediate provider assistance sought HIV testing, many of whom were testing for the first time, while only 13% of partners in the comparison group received testing (8). A meta-analysis found that provider-assisted notification leads to higher yields of partners newly-diagnosed with HIV compared to passive referral (RR=1.37, 95% CI: 0.98–1.93) (2). This suggests assisted partner notification programs hold promise for the general population in sub-Saharan Africa.

Partner notification programs have potential to accelerate the end of the HIV epidemic, but successful implementation hinges on nuanced understanding of the community's values and preferences. Although preferences may differ from actual behavior, information about values and preferences is important for determining what importance people place on aspects of the intervention and its outcomes, and can therefore inform whether and how interventions should be recommended and implemented (9). Six values and preferences studies have been conducted in sub-Saharan Africa (8, 10–14) among HIV-positive individuals, their sexual partners, and healthcare providers. Current values and preferences research indicates that provider-assisted partner notification would be acceptable (2, 3) because it allows people to know their HIV exposure and get treatment (14) and reduces transmission (13), but healthcare providers have expressed concerns about partner tracing challenges due to client migration (11) and breach of confidentiality (12, 13), while participants have expressed concerns about blame and social harms following the notification process (13, 14).

To date, no implementation trials or values and preferences studies of HIV partner notification have been conducted among key populations in sub-Saharan Africa, including sex workers and fisherfolk. Recent focus on conducting interventions in geographic 'hotspots' with high burden of HIV (15) suggests that fishing communities in Rakai, Uganda

could be a particularly beneficial location for partner notification programs because they have a median HIV prevalence of 41% compared to 17% and 14% in nearby mainland trading and agrarian communities, respectively (16). In these fishing communities, sex workers and fishermen are critical to the dynamics of the epidemic and are disproportionately affected by HIV. We sought to fill the gap in values and preferences research among key populations by qualitatively exploring how a range of sex workers, fishermen, mainland community members, and healthcare providers in Rakai, Uganda feel about HIV partner notification programs. Our goal was to understand community reactions to both passive and assisted partner notification approaches, with a specific focus on comparing responses between communities with differing HIV risk.

METHODS

We explored acceptability of three approaches to voluntary partner notification including self-disclosure by the index patient ('passive referral'), notification by a trained provider with the index patient remaining anonymous ('provider referral'), and a hybrid approach where a trained provider notifies the partner if the index patient does not self-disclose and bring the partner in for HIV testing after an agreed-upon period of time ('contract referral') (3). Provider referral and contract referral are classified as assisted partner notification services because a trained provider assists in eliciting and notifying partners of consenting HIV-positive clients, whereas the provider has no direct interaction with partners in passive referral. In all forms of partner notification, the partner is informed of their possible exposure to HIV and offered voluntary HIV testing services.

We conducted both in-depth interviews (IDIs) and focus group discussions (FGDs) to explore individual opinions and examine group discourse and social norms surrounding partner notification. Semi-structured interview and focus group guides covered participants' prior experiences with partner notification and anticipated community reactions to passive referral, contract referral, and provider referral.

Eligible participants were identified through lists of people who had previously participated in surveys through the Rakai Health Sciences Program and had agreed to be re-contacted for future studies. Sex workers were purposively selected from the lists and invited to participate by community health workers. We used snowball sampling from initial participants who identified as female sex workers to link interviewers with other known sex workers in the fishing communities. The sex workers were contacted by initial participants and the interviewer in-person. Peer leaders – sex workers who coordinate health activities for their colleagues – also worked with researchers to recruit female sex workers to the study. Before data collection, interviewers explained the purpose of the study and obtained written informed consent. IDIs and FGDs were conducted in the local language, Luganda, and were audio-recorded with permission from participants. Participants were compensated with 10,000 Ugandan shillings (~3 USD). The same amount catered for transport reimbursement where necessary. Investigators followed an iterative process of data collection and analysis, ending recruitment when data saturation had been reached (17). We knew data saturation had been reached when no new themes arose and additional interviews did not meaningfully add to our understanding of values and preferences of HIV partner notification.

Qualitative data collected from IDIs and FGDs were translated into English and transcribed. Investigators used a matrix analysis to organize and analyze the data in an Excel spreadsheet. Working collaboratively, several team members read through the same selected transcripts then discussed and developed a set of codes to use in the matrices that reflected both the interview questions and emerging themes from the data. The organization of the matrices was independently applied by two team members to a set of sample transcripts, then discussed, refined and finalized. The final matrix was then applied to all transcripts. In conjunction with the matrix analysis, investigators wrote memos to develop conceptual categories and track emerging insights on the data. Ethical approval for this study was provided by the Western Institutional Review Board, Uganda Virus Research Institution's Research and Ethics Committee, and the Uganda National Council for Science and Technology.

RESULTS

Study participants

We conducted 63 IDIs and 6 FGDs overall. The 63 IDIs were conducted among 20 trained healthcare providers and 43 community members (Table 1). Healthcare providers consisted of nurses, clinicians, HIV counselors, one midwife, one laboratory technician, and one peer educator. Healthcare providers were interviewed in either fishing or mainland communities, but had experience treating patients from both communities. There were no HIV counselors based in the fishing communities, so we interviewed HIV counselors who worked with residents of fishing communities at the mainland health facility and occasionally traveled to provide services at fishing sites. In high-risk fishing communities, we interviewed fishermen, boat owners, and sex workers. Boat owners differed from other fishermen in that they tended to be HIV negative (all were HIV negative compared to 23% of fishermen interviewed) and were more likely to reach secondary schooling (60% compared to 8%). Sex workers were primarily single and represented a mix of religious backgrounds. Fishermen were primarily married and Catholic. IDI participants from the fishing communities, other than healthcare providers, voluntarily self-disclosed their HIV status; the majority of both sex workers (72%) and fishermen (77%) reported being HIV positive, of which 63% were on treatment. In low-risk mainland trading and agricultural communities, we interviewed male and female community members, all of whom were HIV negative. In total, 47 IDIs were conducted in fishing communities and 16 IDIs were conducted in mainland towns. Table 2 provides additional characteristics of IDI participants.

We also conducted 6 FGDs, three with male fishermen or female sex workers in fishing communities and three with male or female community members in mainland communities (Table 3). Each FGD consisted of 7 to 10 participants.

Below, we summarize findings for each of the three partner notification approaches.

Passive referral

Most participants were familiar with passive referral and several recounted specific personal experiences self-disclosing to a partner. Helping a partner know their HIV status and

enabling them to obtain early treatment were consistently mentioned as benefits of passive referral, though this could be applicable to all forms of partner notification. Participants focused on the high acceptability of passive referral for intimate partners, especially married couples. Passive referral was valued as a way to demonstrate faith in a relationship and build mutual trust. Participants indicated that passive referral could strengthen a couple's relationship, including allowing a couple to support each other with adherence to antiretroviral treatment.

The positive aspect in this program is that it helps...you in adherence. This is because when you are taking your treatment, you will not fear to be seen by your partner and actually you will fear nothing. Even going to the hospital to get medicine, you will not fear. (Healthcare provider, fishing community)

However, some participants postulated that strengthened relationships and support for treatment adherence is most probable when both partners are HIV positive. Some participants expressed concern for the possible loss of trust within a relationship after disclosing through passive referral, especially if the couple is found to be HIV serodiscordant. HIV serodiscordant couples were said to face challenges, including the fear that the HIV-negative partner would accuse the HIV-positive partner of promiscuity and the fear that the HIV-negative partner would be unwilling to care for the HIV-positive partner. Many participants noted that blame for bringing HIV into a relationship was often placed on the individual who discloses first. This deterred some people from passive referral.

It is like the one who tested first is the one who brought the infection. Many women have come here complaining that, "All the time my husband points fingers at me that I infected him with HIV." (Healthcare provider, fishing community)

Some of the challenges of passive referral included the fear of possible relationship break-up and intimate partner violence. Partner abandonment and family disintegration was feared by most participants in both fishing and mainland communities for each of the three partner notification approaches. The fear of partner abandonment was found to be particularly detrimental for an individual who relies on their partner for financial support. Likewise, the need for financial stability could influence the decision to maintain the partnership.

So that is why I told you that people are looking for a way to survive. Someone may decide to stay even when she is told that the husband has HIV because she does not have elsewhere to go. So that is what I meant. There are people who test HIV positive and stay together, whereas there are those who test HIV positive and separate; either a man abandons the wife or the wife abandons the husband. (Female, mainland community)

Of the three partner notification approaches, passive referral was perceived to have the greatest risk of partner separation and intimate partner violence. Without mediation of a healthcare provider, both male and female participants discussed fears of violence immediately after disclosure to their partners, including death and self-harm. Suicide was mentioned on numerous occasions as a potential consequence of all forms of partner notification.

He might change and then they fight because he has been told that his lover is infected. He could even take an overdose of unprescribed medicine especially if you find that he already had some other type of stress. Then, he will kill himself. Or, he will decide that if this person has done this to me, I will also go and do it to someone else. His heart will become hardened. (Sex worker, fishing community)

Several community members and healthcare providers suggested an alternative version of passive referral in which the HIV-positive individual convinces their partner to get tested with them and then feigns surprise at the result as if hearing it for the first time. In this way, partners are able to receive their statuses at the same time without one partner facing the burden of disclosure. This form of passive referral was cited by several participants as a possible way to reduce blame and violence from disclosure.

Overall, most clinicians preferred passive referral for partner notification services. Most participants stated they would not use passive referral to notify casual partners. Few fishermen and sex workers preferred passive referral, although many felt it would work with their primary intimate partners.

Assisted partner notification

Assisted partner notification, including both provider referral and contract referral, is distinguished by the role of the healthcare provider in eliciting and notifying partners. The involvement of a trained healthcare provider was seen to have both benefits and drawbacks. A benefit was that the trained provider could assist in mediating the conversation between partners and reduce the risk of intimate partner violence or suicide resulting from disclosure. Many participants also stated that the provider might be better able to motivate someone to test after notification compared to a partner using passive referral. A few participants also felt that provider involvement could reduce sexual risk behaviors by the notified partner.

Actually, that person may rush for HIV testing more so if you are the healthcare provider talking to him or her. In addition, he or she starts reflecting upon the different sexual partners he or she has been having sex with, thinking of which particular person [to accuse for HIV transmission]. This person [who has accepted to test for HIV] may also decide to do away with these sexual partners and become a pioneer to fight the habit of being promiscuous. (Fisherman, fishing community)

Conversely, some participants noted provider involvement as a drawback, especially individuals with one intimate partner or spouse who would be offended by not being directly approached by their partner. Provider involvement was sometimes interpreted as an intrusion into the private domain of a relationship. The potential visibility of the healthcare provider in the home also detracted from the appeal of assisted partner notification due to social stigma. A couple participants indicated that this intrusion could disrupt the relationship and inspire violence.

I would not like to wait for the time I negotiated with the health worker to elapse without having disclosed to my partner and have him go test for HIV. I have to work on that myself before the set period elapses. On the other hand, if the healthcare provider contacts him and advises him to pass by the clinic and test for

HIV, if he is a clever man, he can easily suspect what is going on and then come home and cause chaos, making the situation very bad before even getting to know his HIV status. (Sex worker, fishing community)

This contradicted some recommendations by participants who said that provider and contract referral would be beneficial for people with one partner, in particular for those who feared their partner's negative reaction. In this sense, the provider's presence in both forms of assisted partner notification was seen as a protective factor against violence.

In the IDIs, most healthcare providers expressed hesitancy toward provider and contract referral due to issues of capacity, such as limited time, resources, and adequate training to provide the necessary support. Some providers, along with other community members, worried that people would be unlikely to truthfully provide the names of all sexual partners, thus making the program less successful for notifying individuals at risk. For the healthcare providers who do obtain the names of partners, tracing each individual could become a burden of time and effort.

It can work as long as we can identify where they live. One of the challenges is that we may not know where they live, so how can we identify them? (Healthcare provider, mainland community)

The role of the trained provider in provider referral was viewed as a way to help orient a person when they are first given news of their possible HIV exposure, reduce intimate partner violence and suicide, and influence partners to come into the clinic for HIV testing. Many community members identified the need for healthcare providers who conduct assisted partner notification to possess counseling expertise.

They should be counsellors who give counselling to people who are HIV positive. This is because you cannot just get any person who has never seen how an HIV-positive person looks like or has never handled couples where one has HIV and the other person does not have [HIV]. If you request that person to go and disclose to the partner [without counselling skills], he may just worsen the situation. (Female, mainland community)

Healthcare providers, such as nurses and other clinicians, tended to prefer the current practice of recommending passive referral due to concerns of committing their limited time and resources to eliciting and notifying partners. On the other hand, HIV counselors felt assisted partner notification, either provider referral or contract referral, would be the best approach. HIV counselors in this study all indicated that counselors or Community Health Workers would be best positioned to deliver assisted partner notification services.

Provider referral

In addition to their other concerns with assisted partner notification, some healthcare providers felt the anonymous feature of provider referral would degrade their relationships with patients because they would be perceived as untruthful for withholding the name of the HIV-positive partner. Sex workers and fishermen agreed that provider referral could encourage skepticism and rumors.

Supposing you come to notify me, I might think that your intention is to start a relationship with my wife. If you start delivering the message to me that some of your sexual partners may have been exposed to HIV, I might think that you are trying to influence me to drop my sexual partners such that you start a relationship with them. (Fisherman, fishing community)

Some participants speculated that the anonymity of provider referral would lead someone to think the healthcare provider is telling stories, limiting the partner's ability to take the notification seriously. Withholding the name of the individual who tested HIV positive would also leave partners in fear and suspense. Anonymous referral programs were perceived by some participants to increase HIV transmission in the community because people would leave their current partners and find new partners without linking to HIV testing services or treatment.

It will not work out well in [our town] because if I have three sexual partners, and if you don't tell me that it is so and so who has HIV, I can drop all of them and get new partners. (Healthcare provider, fishing community)

HIV counselors often spoke of the ethical considerations that could impact their ability to perform provider referral duties, including their essential role in maintaining the privacy of the individual living with HIV. A common concern among HIV counselors was that provider referral could inadvertently disclose an individual's serostatus if the partner being notified does not have any other sexual partners. This could become a challenge especially with heterosexual males notifying their female partners.

Actually with women, it is very possible to stick to a sexual partner for a period of 15 or 20 years. So the moment you say, "One of your sexual partners was found to be HIV positive," automatically you have informed her that her husband is HIV positive. So that is a challenge because you have disclosed somebody's results without his consent. (HIV counselor, male, mainland community)

Yet, the anonymity of provider referral appealed to the majority of sex workers and fishermen who have multiple casual partners in addition to intimate partners. Sex workers preferred anonymity when notifying partners so their business would not be affected by identifying them as HIV positive. Overall, participants agreed that provider referral would be best for individuals with multiple partners, but not for intimate partners. Participants indicated that provider referral would be an acceptable way to notify casual or one-time sexual partners whom the participant would not otherwise bring in for HIV testing on their own. Many participants identified a role for provider referral in increasing HIV status disclosures to individuals exposed to HIV and helping them obtain early treatment.

Yes it will [work] because there are many people in sexual relationships who don't want their partners to know their HIV status. So if the health worker goes to notify their partners anonymously, this will be helpful to them. It will also help the notified partners to know their HIV status and start treatment. (Male, mainland community)

Provider referral was preferred by sex workers and fishermen. It was also preferred by individuals who fear their partner's negative reaction to HIV status disclosure or individuals

who prefer to remain anonymous. Fishing community members expressed acceptance for provider referral, but most mainland community members indicated that they would not choose to use this service. Mainland community members indicated that they would not notify partners outside of their marriage, yet they felt sex workers and fishermen would be likely to use provider referral.

Contract referral

As a hybrid of passive referral and provider referral, contract referral was described as a program that could be beneficial. Yet, many participants reported concerns about the period of time given to the individual before the provider fulfills the contract and completes the notification on the individual's behalf. One concern was that waiting to disclose to a partner could be considered a lie of omission. It was also suggested that people would take advantage of contract referral by setting unrealistic time periods to notify partners. Some participants, particularly sex workers and fishermen, noted the danger of individuals intentionally infecting their partners during this time period so they would also test positive when the healthcare provider contacts them, and thereby mask who may have infected the other.

But there is one challenge you find with [contract referral], for instance if I come to you [healthcare provider] and then we agree on a set period of time, I can decide to keep my HIV-positive status confidential without even asking my wife to go for HIV testing. I keep silent because I am aware that any time you will be contacting my wife. Do you see how I use this chance for the set period of time to ensure that she also gets infected with HIV? She might have been HIV negative; unfortunately do you know that she might get infected with HIV just within the set period of time? (Fisherman, fishing community)

Most participants felt contract referral could benefit people who require more time to process and cope with their HIV-positive test results and assess how to approach their partners. Several healthcare providers stated they believe contract referral could work in their communities, but few sex workers and fisherman expressed that they would use this service. The majority of mainland community members felt it would work for married couples or primary partners because those types of partners are less likely to abandon the individual who tested HIV positive.

DISCUSSION

In this study, partner notification preferences were largely based on characteristics of the relationship with each partner, indicating that options and flexibility should be an important feature of HIV partner notification programs. The preferred approach to partner notification and the degree of obligation felt by an individual to notify a partner were determined by the type of relationship, perceived intimacy, and the relative amount of social and economic power one holds in the relationship. Most participants agreed that passive referral would be used by couples who are married or in close, intimate relationships. Passive referral was not preferable for sex workers, who have irregular or one-time clients, and fishermen, who often engage the services provided by female sex workers. Provider referral was best suited for

individuals with multiple, casual or non-primary partners in both fishing and mainland communities. Anonymous provider assistance in facilitating disclosure to non-primary partners has the potential to overcome low motivation to notify casual partners, reaching people who could otherwise be excluded from passive referral.

A challenge to notifying non-primary partners is missing or unreliable locator information. Individuals living with HIV who engaged in a one-time encounter or had other anonymous relationships may not have reliable contact information for those partners. Sex workers in this study noted that they do not consistently collect names and contact information for their clients, so may not have this readily available to provide for partner notification. Healthcare providers also identified tracing individuals as a potential challenge. After obtaining partner contact information, 50% of elicited partners were deemed unreachable by trained staff in a partner notification trial in the USA (18). Similarly, healthcare providers were unable to notify 16.2% of partners in a provider referral program in Cameroon after three contact attempts (7). Efforts to locate partners will be an important consideration for implementation, particularly for programs focused on key populations who may be highly mobile (19, 20) and difficult to reach, such as sex workers and fishermen.

Healthcare providers were also concerned about resources and training required for assisted partner notification programs, possibly explaining their hesitance to endorse contract and provider referral options. However, other studies in sub-Saharan Africa have found provider-assisted approaches to be cost-effective (3, 21, 22). Different provider-assisted approaches may also have different associated costs; one study in Malawi found contract referral to be slightly less expensive than provider referral (22). Training and staff time are also important considerations for implementation, especially in busy clinics in high-burden settings. Upon inclusion of qualitative data from HIV counselors, we found that counselors were confident that their cadre would have the appropriate training to conduct assisted partner notification and were highly supportive of integrating contract and provider referral into their duties. While it is possible that they felt this would help them maintain job security, our sense from the interviews was that they genuinely felt they were best positioned to conduct contract and provider referral approaches. Given the identified challenges of assisted partner notification and the fact that this approach was not as preferable to healthcare providers compared to other populations in this study, it will be necessary to mobilize, train, and sensitize providers in order to routinely offer and implement these services.

Our findings indicated several cross-cutting themes related to serostatus disclosure. Fear of intimate partner violence was mentioned as a concern in both fishing and mainland communities across all three approaches to partner notification. The termination of a relationship, and the associated decline of social and economic support, was also seen as a substantial consequence to partner notification. However, several other studies have reported mostly positive outcomes when people living with HIV disclose (23–28) and evidence to date does not suggest that partner notification increases, or is associated with, violence or harm (8). We found that male and female community members, sex workers, and fisherman are confronted with distinct challenges in disclosing to their partners. Some of these challenges are heightened by social stigma, generational differences, or HIV-serodiscordant relationships. As a result of these challenges, it will continue to be important for providers to

screen for individuals at high risk of intimate partner violence and to counsel patients on how to select the partner notification strategy that best fits their needs and ensures their personal safety, such as is done during HIV testing and counseling (29). Despite fears around disclosure, it is encouraging to note that most participants in our study also identified altruistic benefits of partner notification, namely that enabling a partner's awareness of their exposure to HIV can allow them to know their status and access life-saving treatment.

Our findings of the overall acceptability of assisted partner notification differ from other studies that found a strong preference for passive referral. Implementation studies in Tanzania and Malawi are two examples in which participants preferred passive referral, but with differing testing uptake among partners. In Tanzania, participants preferred passive approaches over provider referral for 92% of partners, with 59% of passively-referred partners successfully linked to HIV testing services (30). In Malawi, a qualitative study of participants in an implementation trial found that participants preferred passive referral (14), yet the main trial showed a greater yield of partners accepting testing in the provider and contract referral arms (51%) compared to the passive referral arm (24%) (5). The acceptability of passive referral in the Tanzania and Malawi studies echoes the perspectives from the mainland community members in this study. In the Malawi study, 73% of partners elicited were identified as main partners (5). The Tanzania study did not define relationship type for elicited partners. In our study, we found higher acceptability for provider-assisted approaches in fishing communities, amongst key populations with multiple partners, suggesting provider and contract referral are important options for people living with HIV and can help them overcome some of the barriers to disclosure.

Our study had several limitations. First, most people had not heard of partner notification prior to this study, and partner notification was not available in the study communities at the time of data collection, so participants were reflecting on the different options hypothetically and were unable to base their responses on actual experiences. We recognize that what people say they will do, and what they actually do when in a given situation, may be different. Second, upon review of the transcripts, we found three instances where the interviewers did not consistently describe contract referral. We accounted for these discrepancies during data analysis by carefully considering the information presented and how participants seemed to have understood contract referral in cases of inconsistency. Memos, written after each interview and during analysis of the transcripts, were used to identify such inconsistencies and aid us in meaningfully interpreting the data. Despite these limitations, we feel we reached saturation for our primary research questions and believe the findings of this study may be transferrable to similar contexts.

CONCLUSIONS

While sex workers, fishermen, healthcare providers, and mainland community members had slightly different preferred approaches, all generally held positive views of partner notification programs with and without provider assistance. These mixed results suggest that individuals would appreciate and potentially use a variety of options. Individual relationship characteristics emerged as the most important factor for selecting a partner notification approach, with passive referral preferred for spouses or primary partners and anonymous

provider referral considered for non-primary partners. Sex workers and fishermen indicated they would be willing to use provider-assisted methods. Expanded partner notification options could help reach high-risk individuals who may not otherwise test for HIV.

Acknowledgments

Funding: This study was funded by WHO, Department of HIV/AIDS; by a 2014 developmental grant from the Johns Hopkins University Center for AIDS Research, an NIH funded program (P30AI094189); and by an R01 from the National Institute of Mental Health (NIMH) (R01MH105313).

Author contributions: CK, NN, WD, and FN designed the study with input from CQ, VB, and NH on the interview guides and analysis plan. CQ, NN, WD, VB and NH performed data collection. CQ, NN, VB, NH and CK developed the matrix analysis tool. CQ, VB, and NH conducted the matrix analysis. CQ drafted the manuscript. All authors contributed intellectual content, provided revisions, and approved of the final manuscript. We would like to thank all of the participants who contributed their time and thoughtful responses to this study. We thank the Rakai Health Sciences Program leadership team, administrative team, and qualitative data collection team who enabled this study. We acknowledge and appreciate funding for this work from a variety of sources. Research funding was received from the World Health Organization, Department of HIV/AIDS; by a 2014 developmental grant from the Johns Hopkins University Center for AIDS Research, an NIH funded program (P30AI094189), which is supported by the following NIH Co-Funding and Participating Institutes and Centers: NIAID, NCI, NICHD, NHLBI, NIDA, NIMH, NIA, FIC, NIGMS, NIDDK, and OAR; and by an R01 from the National Institute of Mental Health (NIMH) (R01MH105313). We also appreciate funding for VB and NH's time and travel from the Johns Hopkins Center for Global Health Established Field Placement Awards. The content is solely the responsibility of the authors and does not necessarily represent the official views of WHO or the NIH.

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Table I

Study participants by location, group and sex

		Fishing communities	Mainland communities	Total
IDIs	Men	18 (fishermen/boat owners)	4	22
	Women	18 (sex workers)	3	21
	Healthcare providers	11	3	14
	HIV counselors	0	6	6
	Total IDIs	47	16	63
FGDs	Men	2 (fishermen/boat owners)	1	3
	Women	1 (sex workers)	2	3
	Total FGDs	3	3	6

Table II

Characteristics of in-depth interview (IDI) participants

	Fishing communities (n=36)	Mainland communities (n=7)	Healthcare providers (n=20)
Age			
Age range	19–48 years	24–45 years	20–54 years
Median age	28 years	26 years	32 years
Marital status			
Single	19 (53%)	2 (29%)	7 (35%)
Married	17 (47%)	5 (71%)	13 (65%)
Education			
Primary	26 (72%)	2 (29%)	1 (5%)
Secondary	10 (28%)	3 (43%)	0 (0%)
Tertiary	0 (0%)	2 (29%)	19 (95%)
Religion			
Catholic	22 (61%)	4 (57%)	10 (50%)
Protestant	8 (22%)	1 (14%)	4 (20%)
Muslim	5 (14%)	1 (14%)	3 (15%)
Other	1 (3%)	1 (14%)	3 (15%)
HIV status			
HIV positive	24 (67%)	0 (0%)	--
HIV negative	12 (33%)	7 (100%)	--
HIV treatment			
On treatment	15 (63%)	--	--
Not on treatment	9 (38%)	--	--

Table III

Characteristics of focus group discussion (FGD) participants

	Fishing communities (3 FGDs, n=26)	Mainland communities (3 FGDs, n=29)
Sex		
Male	19 (73%)	10 (34%)
Female	7 (27%)	19 (66%)
Age		
Age range	20–47 years	21–48 years
Median age	30 years	28 years
Marital status		
Single	10 (38%)	2 (7%)
Married	16 (62%)	27 (93%)
Education		
Primary	18 (69%)	15 (52%)
Secondary	8 (31%)	13 (45%)
Tertiary	0 (0%)	1 (3%)
Religion		
Catholic	14 (54%)	19 (66%)
Protestant	2 (8%)	8 (28%)
Muslim	7 (27%)	2 (7%)
Other	3 (12%)	0 (0%)