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## “*Manejar la Situación*”: Partner Notification, Partner Management, and Conceptual Frameworks for HIV/STI Control Among MSM in Peru

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### Abstract

Previous analyses of Partner Notification (PN) have addressed individual, interpersonal, social, and structural issues influencing PN outcomes but have paid less attention to the conceptual framework of PN itself. We conducted 18 individual interviews and 8 group discussions, in a two-stage qualitative research process, to explore the meanings and contexts of PN for sexually transmitted infections (STI) among men who have sex with men (MSM) and men who have sex with men and women (MSMW) in Lima, Peru. Participants described PN as the open disclosure of private, potentially stigmatizing information that could strengthen or disrupt a partnership, structured by the tension between concealment and revelation. In addition to informing partners of an STI diagnosis, the act of PN was believed to reveal other potentially stigmatizing information related to sexual identity and practices such as homosexuality, promiscuity, and HIV co-infection. In this context, the potential development of visible, biological STI symptoms represented a risk for disruption of the boundary between secrecy and disclosure that could result in involuntary disclosure of STI status. To address the conflict between concealment and disclosure, participants cited efforts to “*manejar la situación*” [manage the situation] by controlling the biological risks of STI exposure without openly disclosing STI status. We use this concept of “managing the situation” as a practical and theoretical framework for comprehensive Partner Management for HIV/STI control systems among MSM in Latin America.

### Introduction

Partner notification (PN) following a sexually transmitted infection (STI) diagnosis is a central component of public health systems for HIV and STI control. Notification of the sexual partners of STI index cases provides an opportunity to retrace patterns of disease transmission, focus public health resources on the individuals at greatest risk for STI acquisition, and interrupt the spread of HIV and STIs in high-risk sexual networks (1, 2). By placing individual-level STI exposures at the core of partner-, network-, and population-

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level systems of STI transmission, PN addresses both individual- and community-level patterns of HIV and STI risk (3, 4). However, in order to effectively control STI transmission on both partnership and network levels, notification systems need to address both individual/interpersonal aspects of communication in sexual partnerships and public health aspects of STI transmission in affected sexual networks. A key challenge for HIV/STI prevention research lies in developing strategies to understand the complex intersection of individual behavioral decision-making processes, interpersonal communication strategies, social constructions of gender and sexuality, and biological disease processes that underlie “Partner Notification,” and in applying this understanding to global public health systems for STI control.

Existing programs have had only a limited effect on PN outcomes, with meta-analyses estimating 40–60% of named partners are notified worldwide (5, 6). The few studies of PN conducted in Latin America have found similarly low frequencies of notification, with one analysis from Peru reporting that 65.0% of participants notified a main partner and 10.5% notified one or more casual partners (7–12). Clinical guidelines issued by the Peruvian Ministry of Health recommend that recent partners of MSM diagnosed with HIV or another STI be notified, but do not provide any guidance on how notification should be done (13). Given the disproportionately high rates of HIV and STI transmission among MSM and TW in Latin America, new partner-based methods to control the spread of disease within these sexual networks are urgently needed (14). Using qualitative data from a study on partner notification and treatment among MSM and TW in Peru, we seek to develop a theoretical framework for the creation and implementation of new strategies for PN in Latin America.

In evaluating the factors underlying PN processes, previous studies have addressed the individual-, partner-, and network-level pathways and biological factors that define notification outcomes. In terms of individual behavior, issues of self-efficacy and empowerment have been shown to influence notification behaviors (15–18). Within dyadic partnerships, factors influencing PN include partnership type (primary/stable versus secondary/casual partner) and interpersonal dynamics (communication styles and relations of power within the partnership) (19–23). Social and structural characteristics like social norms of sexual behavior and communication, as well as the availability of resources necessary to support partner notification and treatment, then define the larger contexts of PN (24, 25). Biologically, the specific STI diagnosed, the perceived severity of the infection, and the perceived likelihood of having infected (or having been infected by) a given partner also influence PN decisions (26–28).

Interventions to promote PN have addressed both individual partner-level communication as well as public health systems for management of population- or network-level exposures. Innovative programs designed to promote the act of notification include enhanced patient referral (standard PN counseling supplemented by printed referral cards, educational videos, home testing kits, or other auxiliary supports) (29–31) and Expedited Partner Therapy (provision of antibiotic therapy for the recent partners of individuals diagnosed with STI) (32–34). Population-scale approaches have used individual PN techniques to trace larger sexual networks as well as venue-based outreach strategies to control potential exposures among anonymous or untraceable partners (1, 3, 35).

Missing from previous PN research is a unifying theoretical framework capable of addressing the diversity of potential partnership and network formations often involved in notification of a single HIV/STI index case. Public health approaches to partner-based STI prevention have been primarily guided by a concept of PN as interpersonal communication: the act of informing a recent sexual partner of an STI diagnosis (36, 37). As stated in a recent Cochrane Review, “Communication between partners, during which the index patient encourages them to consider screening or treatment, has been identified as a critical point in effective PN strategies.” (38) However, prioritizing PN as direct, interpersonal communication between partners risks overshadowing the indirect methods of interaction and risk management that exist in different partnership contexts and that can also be used to control potential HIV/STI exposures in high-prevalence sexual networks. Individuals diagnosed with HIV/STI often maintain a range of different partnerships at the same time, with different patterns of communication, perceived risks for exposure, and anticipated consequences of notification or concealment. As a result, partner-based approaches to prevention require a framework capable of addressing notification as an act of direct partner communication while also acknowledging the role of biological STI symptoms as non-verbal signifiers of disease, the association between structural factors and access to partner testing and treatment services, and the role of public health systems in network-based HIV/STI control.

To establish a theoretical framework to inform the development of new methods for partner management following STI diagnosis, we used qualitative methods to explore how the concept of “Partner Notification” is understood and applied among MSM in Peru. Through individual interviews and focus group discussions with diverse subgroups of Peruvian MSM, we identified key themes underlying the concept of PN, addressed common scenarios related to notification of male and female partners, and explored social narratives of PN in Lima, Peru. Thematic analysis of our findings points to the concept of “Partner Management” as a conceptual foundation for comprehensive partner-based STI control systems among MSM in Latin America.

## Methods

We conducted a series of 18 individual interviews and 8 focus group discussions between November, 2009 and March, 2011 to address the theme of “Partner Notification” among MSM in Lima, Peru. Interviews and focus groups were conducted in two separate stages: 1) Overview of PN: Semi-structured individual interviews and focus group discussions to address general concepts of PN and the acceptability of new partner notification and treatment methods among MSM in Peru; and 2) Case-Based Discussion of PN Scenarios: Using information from the first stage of research, we constructed brief vignettes addressing common PN themes and used these case studies as the basis for additional focus group discussions.

## Participants and Procedures

Participants were recruited by community-based peer recruiters with detailed knowledge of local MSM communities and were purposively sampled to ensure adequate representation of

diverse samples including both men who have sex exclusively with men (MSM) and men who have sex with men and women (MSMW). The local MSM community has been characterized in previous epidemiologic studies as having a high prevalence of HIV (17–22%), syphilis (12–19%) and other STIs, as well as a high frequency of self-reported sexual risk behavior, such as unprotected anal intercourse (UAI; reported by 40% of MSM within the previous 6-month period) and commercial sex work (10–17%) (39, 40). Enrollment was limited to individuals who were at least 18 years old, biologically male at birth, and reported anal and/or oral intercourse with a male or transgender female partner in the previous 12 months. Although most participants were found to have personal experiences with HIV/STIs and partner notification, prior history of HIV/STI or PN was not an inclusion requirement. Interviews and focus groups were conducted using a semi-structured script by Peruvian researchers experienced in qualitative research with MSM. Individual interviews lasted approximately 60 minutes and group discussions 90 minutes. Participants were provided 15 Soles (approximately \$5 USD) compensation for their transportation costs.

Interview and focus group scripts for Stage 1 were developed based on a review of the existing PN literature and for Stage 2 by identifying common themes elicited during our initial research. Scripts were piloted with individuals from the relevant populations and refined for language and content prior to implementation. Methods specific to the different stages of the research process were as follows:

**Stage 1: General Overview of PN**—Between November, 2009 and December, 2010, we conducted 18 individual interviews and 4 focus group discussions with 32 participants. Individual interviews were used to elicit in-depth participant perspectives and experiences on themes related to PN. Focus group discussions explored behavioral norms, attitudes, and perceptions of PN in local MSM communities.

**Stage 2: Discussion of Common PN Scenarios**—In March, 2011 we conducted four additional focus group discussions with 28 MSM and MSMW to revisit specific PN themes identified during our initial research. The goal of the second stage was to define PN within local social and cultural contexts, emphasizing the analysis of collective behavioral norms and their underlying cultural logic. Building on findings from the initial stage of research, we developed a series of case vignettes to use as the basis for group discussions. Case studies presented fictional individuals in three situations representing commonly cited PN themes: Julio, a 19 year old bisexual-identified male with one stable female partner and one casual male partner with symptomatic urethritis; Susana, a 27 year old transgender woman with one stable male partner and multiple male commercial sex partners with latent syphilis infection diagnosed by routine screening; and Miguel, a 24 year old gay-identified male with one stable male partner who has symptomatic syphilis infection presenting with a palmar rash. Following presentation of each vignette, participants were asked to discuss the case and to comment on each individual's likely notification behavior, both ideally what they *should* do and realistically what they *would* do with each of their different partners.

## Data Analysis

A Qualitative Descriptive Analysis approach was used in which themes related to the central research questions were used to guide development of the interview and focus-group scripts (41, 42). Interviews and group discussions were recorded and transcribed verbatim, and transcripts coded by two independent readers. Participants were identified by pseudonyms (for individual interviews) or by the type of focus group in which they participated (“MSM” for men who reported sex only with male or transgender partners; “MSMW” for participants who reported sex with male or transgender and female partners). Following initial review, a preliminary codebook of major themes was developed and used to systematically code transcripts. The codebook was reviewed and revised in an iterative process, with discrepancies between coders resolved through discussion and consensus, in order to ensure reliability and accuracy throughout the data analysis process. Themes were compiled and developed into concepts through collaborative discussion between all members of the study team. Themes and concepts identified during the first stage of exploratory qualitative research were re-presented to participants in the second stage in the form of case vignettes, allowing us to verify, modify, or reject the findings as needed.

## Human Subjects Protection

Protocols and study materials were approved by the UCLA Office for Human Research Participant Protections (OHRPP), and the *Comite de Etica* of the *Asociacion Civil Impacta Salud y Educacion* and *Universidad Peruana Cayetano Heredia* prior to initiating any study procedures. All subjects provided verbal informed consent prior to participation.

## Results

### I. Partner Notification as Trust and Communication

Participants generally described PN as direct interpersonal communication, using terms of openness and trust within a relationship to define PN. Many identified the central meaning of PN as, “To have trust in the person, in the partner.” [Carlos, MSMW] In certain partnership contexts, notification was described as a way of maintaining commitment and honesty, as well as the physical and mental health of both partners:

I think that it is a responsibility. First of all I, as a person, have to feel responsible for my actions because I believe that when there is a partner there is a sense of respect—at least I consider it like that—and to tell them is the right thing to do. Because you protect your relationship, you take care of your relationship and you take care of the other person.

[Christian, MSM]

Communicating with a partner about an STI diagnosis was considered essential to maintaining trust, “In my case, we have a very fluid communication and he knows that I have my boys, my friends, but he also knows that I get tested regularly, that I take care of myself. It’s trust, communication.” [MSM FG Participant] At the same time, STI-related stigma underscored fears that PN could erode the foundation of trust within a relationship:

The negative that I see is that you can be opening a door of mistrust that maybe you can't close. Because even though the person may be ready to support you and care for you, there is always going to be the idea of 'Why did he get infected?' 'How did it happen?' 'Who was it?' And that will lead to other things.

[Victor, MSM]

In this context, regular access to HIV/STI testing and treatment services played an important role, as the process of seeking testing and treatment together was often described as an important component of trust and mutual care within a partnership: "I think it would be very important, definitely, to tell your partner, let's say you have syphilis, so you can go together with her to the health center and cure us both. Because it's not worth the trouble to just cure myself and not her." (MSMW FG Participant)

## II. Partner Notification and Partnership Characteristics

Variations in the ways that trust and honesty influenced notification practices were attributed to multiple factors including the type of partnership, the length of the relationship, standards of communication between partners, and/or availability of contact information. Variations in notification practices according to partnership type were linked with differences in communication styles, which were in turn related to perceived commitments in the relationship:

Interviewer: If you were committed to someone, you would tell them?

Subject: Yes, I would tell them.

Interviewer: And your casual partners [*puntos*], you wouldn't tell them?

Subject: No, because it's a passing thing [*un vacilon*], nothing more. It's nothing serious, I don't feel anything for them.

[Julio, MSMW]

In stable or primary partnerships, open communication was often assumed, "because I have my partner and he gives me a unique kind of trust... I think that when there is trust, whatever happens, you communicate it to your partner." (MSM FG Participant) In contrast, an absence of emotional commitment with casual or anonymous partners was often coupled with a lack of communication and a denial of responsibility for these partners' well-being, "With casual partners, telling them is more difficult because there isn't that connection to the other person because you love them, so it matters less to you, and it can matter so little that you don't care if they get infected." [Ramon, MSMW] For anonymous partners, the absence of any contact information precluded the possibility of direct communication:

It's that many times you can meet someone and not even know their telephone number.... Because sometimes if it's a minor encounter, without any kind of commitment, a lot of times we don't even ask their name, or we make up a name, no?

[Bruno, MSM]

Finally, for commercial sex partners, financial considerations discouraged notification, “In work, it would be a disadvantage... because they wouldn’t call me anymore, they wouldn’t call me and they wouldn’t pay me.” [Jose Luis, MSM]

For men with both male and female sexual contacts, partner gender played an important role in guiding notification decisions and practices. For many participants, partner gender was secondary to partner type (and corresponding presumptions of communication and trust) in guiding notification decisions, “If, whether a man or a woman, they are my partner, because of that there is a trust, there is communication.” [Carlos, MSMW] However, gender was often synonymous with partner type, with stable or long-term relationships associated with female partners, and contrasted against typically transient male sexual contacts:

In a heterosexual relationship there are generally a lot of other things involved, if you have a family, you run the risk of losing your family. In a gay relationship, you can break up with a partner one day and tomorrow you have another.

[Javier, MSMW]

Another specific barrier to informing female partners by MSMW was the potential for involuntary disclosure of sex with male or transgender partners,

From the perspective of a bisexual *activo*, in a heterosexual relationship, we always have the tendency to hide these things: First, because it would generate conflict; Second, because it would reveal your sexual orientation; and Third, because you would be discriminated against... If the woman finds out, wow, that you’ve been sleeping around [*sacando la vuelta*]? If it’s with another woman, she will get angry with you and she will say to you what she wants, but it passes. But if she knows that you have been going out with a *travesti* [transgender woman]? Forget it.

[Jesus, MSMW]

### III. Partner Notification and Secondary Disclosure of Sexual Behavior

Notification of a recent sexual partner about an STI diagnosis was believed to indirectly communicate other information about sexual infidelity, sexual practices, and sexual orientation. For most participants, “The fact that you tell your partner that you have an STI is synonymous with infidelity, undeniably.” [MSM FG Participant] As a result, the public health objective of promoting direct notification to STI-exposed partners was often in direct conflict with the individual’s goal of concealing the social and behavioral connotations of STI disclosure:

It’s not just informing them about the STI, it implies exposing an infidelity. It’s not only the STI, it’s more than the STI. Because the STI you can cure in the end, but the infidelity is going to create a break in the relationship, and that break is difficult to cure with antibiotics.

[Javier, MSMW]



#### IV. Notification of HIV Versus Other STIs

In contrast to notification of a bacterial STI, participants universally considered HIV infection to be an unapproachable topic, fundamentally distinct from the simple process of informing a partner of an STI diagnosis. While STIs like gonorrhea and syphilis could be readily cured with antibiotics, the chronic, viral nature of HIV infection was considered a realm apart:

Being able to confide in someone about HIV is very complicated, and different from saying, ‘Hey, you know what? Somebody gave me gonorrhea but with one little pill that I took it’s gone... and if you take this pill, too, you are going to be cured.’ No problem. It’s another thing to tell them that you have HIV. That has to be terrible for the partner, it’s the most difficult thing, I think. It’s not at all equal, it’s on another level.

[Victor, MSM]

At the same time, the social stigma of HIV infection prohibited open disclosure of HIV-infected status since, “It would be more shameful with HIV, it’s stronger. I can say freely that I had gonorrhea, because that you can cure. To say I have HIV is different, the whole world is going to look at you badly.” (Ramon, MSM) As a result, the possibility of notifying a partner of an HIV diagnosis was only considered in close partnerships:

Because it’s a chain. If we end up having relations and I tell him that I have HIV... one or two weeks later, you run into a friend of the person you had sex with and their friend told them, and this is classic with the gays, ‘Be careful, because he’s already dead, he’s a carrier.’ It generates a chain, so now you have no privacy. If I’m going to tell someone that I’m a carrier or that I’m positive, it’s someone who I really trust, I’m not going to tell just anyone.

[MSMW FG Participant]

#### V. STI Symptoms as a Form of Non-Verbal Partner Notification

In addition to direct PN, STI symptoms were considered to provide objective, visible evidence of infection that was comparable to actual notification such that, “If it’s not noticeable, you can cure yourself and you don’t have to tell your partner. But if you can see it and they figure it out then you have to tell them why it happened to you. You have to tell them.” [MSM FG Participant] Noticing STI symptoms in a partner was described as a form of non-verbal disclosure:

We were both lying in bed and I said to him that he was leaking pus. I thought that it was semen, that he had been so excited from before and it kept coming out. Then, two hours later, it was still going and he told me, ‘This is coming out of me,’ and I got it, I understood then. I went crazy, I went mad, because it seemed shameful to me, that you’re my partner of all these years and....

[MSMW FG Participant]

Alternatively, an absence of biological symptoms was coupled with a parallel verbal where, “If there aren’t any symptoms I wouldn’t say anything to anyone.” [Julio, MSMW] This connection between presence or absence of symptoms and likelihood of disclosure versus

non-disclosure was likely related to the commonly cited belief among participants that someone without clinically apparent symptoms could not infect their partners.

## VI. Managing the Situation/*Manejar la Situación*

To bridge the tension between themes of concealment versus disclosure of STI status, presence versus absence of biological symptoms, and direct versus indirect revelation of associated sexual practices, many participants referred to the concept of “managing the situation” (“*manejar la situación*”). Participants repeatedly described “managing” the problem of partner STI exposure through varying degrees of disclosure determined by factors including partnership status and length, sense of commitment and trust in the relationship, fidelity of the individual (actual) and the partner (perceived), likelihood of STI acquisition and/or re-infection by the individual and their partner, seriousness of the STI diagnosed, and presence or absence of physical symptoms. This cultural logic was cited by participants in describing their own behavior as well as that of their peers:

A lot of times they prefer to keep it hidden or do what they can to cure themselves without the other person finding out, and they try to invent for themselves the idea that their partner isn't infected, that only he has the STI and they try to cure themselves without their partner finding out. When we know that the ideal is always to talk about it.

[Victor, MSMW]

Accordingly, many participants believed that they could manage the consequences of a potential STI exposure without explicitly notifying their partner(s):

For example, if you have, I don't know, gonorrhea, and you know that with certain antibiotics and by going to the doctor, you are going to put a stop it [*la vas a cortar*], maybe your partner isn't even going to find out, you are going to put a stop to it—a little bit to protect the relationship, to leave undiscovered an infidelity... If there exists the possibility that I could have infected them, yes I would tell them. If I am sure that I haven't infected them, I would manage it.

[Javier, MSMW]

As an extension of this logic, some participants reported providing treatment to their partner(s) without revealing their STI diagnosis:

Bruno: With that same person, I was going out with someone else, and I caught... chlamydia, maybe? I didn't tell him, but I did make him take a pill.

Interviewer: They prescribed you a pill?

Bruno: And they gave me another one for him.

Interviewer: And what did you say to get him to take the pill?

Bruno: 'Take the pill.'

Interviewer: Nothing else, just 'Take the pill'? And this person trusted you enough that they just took it?

Bruno: He said to me, “Why? For what?” And I said to him, ‘Just take it. Because...’ Why? What did I tell him? ‘...Because I have a little urinary tract infection that I’m getting over,’ something like that.

[Bruno, MSM]

Within this context, access to testing and treatment services, and potential barriers to care gained importance:

One of my friends from the neighborhood came to me and said, “Hey, I have a bump and I went to the doctor and the doctor said it’s a wart, it’s an STI, but my wife doesn’t know. I haven’t had sex for a month because I don’t want her to see.’ So I told him, ‘You have to go get it treated before it gets worse.” But it was hard for him, not so much to face up to his wife, but to show the doctor, someone at the clinic, so that they could treat it.

(MSM FG Participant)

## VI. Partner Notification and Indirect Communication

In addressing the discrepancy between direct, open communication of STI status and indirect management of a potential STI exposure in a partner, alternative notification methods offered an important tool for maintaining individual privacy while protecting the health of the partner(s). Notification by a third party health professional was seen as a valuable resource for informing partners without direct disclosure, “Because they don’t know it was you... They can’t put the blame on you.” [Alejandro, MSM] Similarly, use of anonymous Internet-based systems for PN was considered, “something modern, something safe. Because there are a lot of people who wouldn’t dare to confess what they have and this, in some way, is going to help these people make the decision to notify them.” [Christian, MSM] Internet-based PN systems also had the benefit of replicating existing methods of communication,

Because many partnerships are created, casual partners, they are created through the internet... so the internet is the medium, and since you met them simply through that medium, you can communicate with them simply through that medium.... And the anonymous is the biggest advantage of all this, the anonymous.

[Victor, MSM]

Others argued that direct, face-to-face communication was essential to the openness and trust needed to address intimate topics like an STI diagnosis:

Because the fact of telling you something face-to-face implies a certain, I don’t know, a certain commitment with you.... Generally, when someone lies, generally they don’t do it face-to-face, they use a third party or some other method to let you know about the lie.

[Javier, MSMW]

These sharply different perceptions of PN echoed the concepts of honesty, trust, and communication present in different partnership types and underlined the gap between the

ideals of Partner Notification as direct, open communication and the realities of “managing the situation”:

I can tell you about the experience of a friend who had a stable partner, and this friend ended up with an STI, with pus leaking from his penis, and he treated it and he told his partner. And he said to me, ‘I told him this and that, and he said to me that he hadn’t done anything, ‘I’ve only been with you.’ After six or seven months, he again had the same problem, and again a third time. And his partner didn’t get treated, ‘No, I’m fine, I’ve already been tested,’ but he never said anything about being treated. Until finally, my friend said to him, ‘You know what, my love? From now on we’re going to use condoms. Don’t get mad.’ So now, as partners, they use condoms and he doesn’t have any more STI problems.

[MSM FG Participant]

## Discussion

Our data provides a critical theoretical framework for improving partner-related STI control systems in Latin America. The classic model of PN focuses on promoting direct communication of an STI diagnosis between recent sexual partners. Theoretical approaches to PN have therefore focused on the tension between secrecy and disclosure of STI-related information within dyadic partnership interactions. However, our findings suggest that it is also important to address characteristics specific to STI disclosure, such as how notification of STI status often leads to involuntary revelation of associated information about sexual behavior, how biological symptoms act as both markers of disease in the individual and as risks to be controlled in their partner(s), and how STI-related stigma negatively affects notification decisions and practices within specific partnership contexts. Unified analysis of these different characteristics provides a conceptual framework for comprehensive partner management systems that integrate direct, communication-based approaches to PN with indirect partner management strategies for controlling biological STI risk in high-prevalence sexual networks.

The classic paradigm of PN as the direct disclosure or concealment of private information within a dyadic partnership interaction can be understood through the lens of Communication Privacy Management (CPM) theory (43, 44). CPM theory holds that macro-level social frameworks and cultural norms of communication interact with microlevel individual- and partner-level patterns of negotiation to influence disclosure decisions and practices. Cultural norms of privacy and disclosure, as well as gendered practices of communication, provide the background for individual privacy rule determinations. Social and structural contexts as well as situation-specific behavioral motivations then guide assessments of the risks and benefits of communicating private information within a specific interaction. CPM theory’s analysis of micro- and macro-level influences of disclosure interactions provides a deeper understanding of PN as the direct communication of private information, helping to identify and address barriers and motivations for notification within dyadic partnerships.

However, while the CPM model is useful for understanding the processes of disclosure and revelation through interpersonal communication that underlie the traditional understanding of PN, it does not fully account for social and biological characteristics specific to HIV/STIs that structure partner notification and treatment outcomes. On a societal level, recent analyses of STI-related stigma have emphasized the social and structural mechanisms of stigma, differentiating these external social systems from internal psychological mechanisms of shame (45, 46). As seen in our findings, while the internalized psychological processes of shame may inhibit the direct disclosure of an STI diagnosis within a partnership, the societal effects of stigma function on a different level, through the risk of social exclusion and discrimination if an individual's STI status becomes widely known, and through limited structural access to HIV/STI care among exposed partners (18, 47). Biologically, clinical symptoms can also act as non-verbal signifiers of infection, leading to the involuntary disclosure of STI status and associated information to sexual partners. Controlling the clinical sequelae of infection, in terms of limiting visibly evident symptoms of disease in the individual, or the development of subsequent morbidity in their partner(s), was a primary focus of STI-related concerns among participants in our study. As a result, many participants described "managing the situation" in an effort to limit public recognition of their STI status while also limiting their partners' risk of exposure and directly or indirectly promoting their access to antibiotic treatment.

Promoting direct partner disclosure while also acknowledging the potential disconnect between this recommendation and participants' efforts to conceal evidence of STIs and associated sexual behavior points to a need for partner-based STI control strategies that recognize the diversity of partnership contexts lived by many individuals with a new STI diagnosis. While PN interventions designed to promote direct communication between sexual partners remain central to public health efforts, there is also a need for tactics to limit sexual partners' risk without requiring direct disclosure of STI status. More important, these two approaches need to be combined in an integrated partner management framework that can address sexual partnerships as both discrete dyads and as components of larger social/sexual networks and community structures. To meet these requirements, partner management systems need to simultaneously promote direct interpersonal communication while also using indirect methods to limit STI transmission on the network/population scale.

A comprehensive Partner Management framework would integrate strategies to promote direct communication of an STI diagnosis between sexual partners with systems for indirect management of STI exposure(s) in affected sexual networks. Strategies emphasizing PN as direct, interpersonal communication would recognize the potential benefits (strengthening trust and commitment, protecting the health of the individual and their partner) and risks (revelations of infidelity, loss of trust/confidence, and termination of the partnership) of notification, and would emphasize practical tools to supplement direct partner contact, such as partner-delivered antibiotic therapy and printed referral cards with information on local STI diagnosis and treatment resources. Indirect techniques for management of casual or anonymous partners would address problems of societal stigma and structural access to STI care through systems for anonymous notification, third-party contact tracing, and patient-controlled internet-based applications, as well as venue-based outreach testing and health education campaigns directed to public or commercial sex venues attended by recently

diagnosed individuals. Combination of these different methods would require a complete assessment of all recent partner interactions of newly diagnosed individuals, identification of differences in patterns of direct communication and indirect contact with specific partners, and evaluation of the potential risks and benefits of using different notification techniques in distinct partnership contexts. While labor intensive, this integration of direct and indirect approaches to partner-based STI control would begin to address the diversity of sexual partner types, partnership interactions, and communication patterns of MSM/MSMW in Latin America.

As in any qualitative study, our data reflect the cultural and social contexts of the participants and the investigators. Despite efforts to achieve diversity in our study sample, our findings are not necessarily representative of larger MSM populations in Peru or in Latin America. In addition, by recruiting MSM based on their sexual identities and practices without regard for STI status, we may not have accurately represented the perceptions of individuals with recently diagnosed infection. Since our goal was to define the larger social and cultural contexts structuring decisions concerning partner notification and treatment, we decided not to detail the individual cognitive decision-making processes that follow an STI diagnosis in this stage of our research. However, though enrollment in our study was open to MSM/MSMW regardless of HIV or STI history, most of our participants reported personal experiences with HIV/STIs and partner management. Future work will specifically explore the perspectives on PN of individuals at the moment of diagnosis. Despite these limitations, our findings present important information for understanding and redefining partner-based approaches to STI control and HIV prevention among MSM in Peru.

We present a theoretical and practical framework for improving HIV/STI control systems for MSM in Peru by redefining the concept of Partner Notification as Partner Management. We suggest a comprehensive Partner Management strategy to refocus partner-based approaches in order to address both direct communication between sexual partners as well as systems for indirect, partner-based diagnosis and treatment that encourage, but do not require, individual disclosure of STI status. Practical public health implications of this conceptual adjustment include the introduction of tools to support direct patient notification as well as platforms for the indirect management of potential STI exposures within high-risk sexual networks. Integration of these theoretical and practical approaches to HIV/STI control through the concept of Partner Management has the potential to address the diversity of sexual partnership formations underlying HIV and STI transmission among MSM in Latin America.

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