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HIV Partner Notification: Possible and Essential

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Partner notification has been a long-standing well-accepted public health strategy for the control of sexually transmitted diseases. However, despite also being a sexually transmitted disease, HIV has been treated as an exception and partner notification strategies have lagged behind. In resource-limited settings, where HIV has its highest prevalence and the greatest impact on a population, few countries have adopted any partner notification strategies despite evidence that it is acceptable¹ and cost-effective² in some settings. In this issue, Henley and colleagues³ report the findings from the first large-scale implementation of partner notification services in a developing country.

Like with other STD control programs, 3 strategies for partner notification were offered to HIV infected individuals: patient referral (patient contacts partner by themselves), provider notification (partner notified by the health care worker), and contract notification (patient agrees to inform partner, but if not done within a particular time frame, the provider will notify the partner). Overwhelmingly, the provider notification strategy was chosen by participants (59.5%), followed by smaller proportions for patient referral (19.7%) and contract partner notification (14.2%). This suggests that patients wanted clinic-level support with partner notification.

Partner notification strategies can play an important role in “test and treat.”⁴ The test-and-treat paradigm postulates that HIV epidemics would be curbed if all HIV-infected persons were tested routinely, identified early, and immediately placed on lifelong antiretroviral therapy (ART).⁴ Because the landmark HPTN 052 study demonstrated the effectiveness of early initiation of ART as a prevention strategy,⁵ test-and-treat approaches have increasingly been proposed. However, skeptics argue that test-and-treat is impossible in real-world settings because it hinges on a cascade of care seeking: uptake of counseling and testing, linkage to pre-ART care, linkage to ART, and retention in care.⁶

Partner notification strategies have the potential to improve care seeking along several early steps of the cascade. Although in the article of Henley et al.,³ the authors do not state how many persons needed to be approached to get one index to participate, we do know that once an index participated in the program, the yield was high. This article showed that it only

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took 1.6 index persons to have 1 person tested, 3.2 index persons to identify 1 new person as HIV positive, and 3.8 index persons to have 1 HIV-positive person linked to care. In the current non-test-and-treat environment, these partner notification strategies increase uptake along the early steps of the cascade and increase the likelihood of earlier treatment uptake. In a test-and-treat environment, these strategies would help many of these persons immediately initiate ART with likely prevention of onward transmission to non-index partners. In theory, partner notification strategies could also be applied to later steps of the cascade—asking an index to find partners who already know their HIV status and linking them to care.

Partner notification is important not only for identifying HIV-infected persons and linking them to care but also for identifying HIV-uninfected persons engaged in HIV-discordant partnerships with the goal of HIV prevention within the couple. Persons aware that they are in HIV-discordant relationships display very high consistent condom use. In addition, both ART for prevention⁵ and ART preexposure prophylaxis (PrEP)⁷ have been shown to be effective for additional HIV prevention benefit in HIV-discordant couples. It is yet to be determined whether mutual awareness of HIV discordance also increases adherence to ART, but in HPTN 052 and the Partners PrEP study, where all partners were mutually aware, adherence was quite high.^{5,7} Test-and-treat implementation will require high levels of ART adherence for success; this is possible if adherence rates mimic those seen in clinical trials^{5,7} or challenging if adherence varies according to CD4 status.⁸ Such adherence may be enhanced by partner notification.

Although other strategies such as home-based HIV counseling and testing (HCT) have also resulted in high uptake of HIV counseling and testing, partner strategies offer a more efficient, targeted approach. Partner notification may reach fewer total people than home-based HCT campaigns, but all those it reaches have HIV-related needs. With partner notification, all couples are either HIV concordant positive with treatment needs or HIV discordant with HIV prevention needs. In home-based HCT campaigns, most participants are HIV uninfected, and most couples are HIV concordant negative, especially in subsequent campaign rounds.⁹ In addition, partner notification strategies may incorporate components of community based testing and facility based HCT, but the primary emphasis includes referral to facilities for clinical care. This approach essentially addresses 2 steps of the cascade (testing and linkage to care) at once.

In 2012, the World Health Organization issued guidance encouraging couple-based counseling and testing approaches to address a range of HIV-related needs in the context of test-and-treat.^{4,6} The guidance also described 2 broad areas for research. The first area is to assess strategies for recruiting couples. The second area for research is to understand the impact of couple-based strategies within test-and-treat programs.

This work presented by Henley et al. addresses an important aspect of the first research area—assessing strategies for recruiting couples. However, it also raises important operational questions. The study was conducted in antenatal clinics, voluntary counseling, and testing centers and inpatient facilities. Understanding whether persons in different settings preferred different options is an important question. Similarly, it is important to understand whether

different settings had different diagnostic yields. Although the authors did not highlight whether the service outcomes differed according to initial HIV testing location, they do report that women were more likely to bring partners for testing, suggesting that such an approach may be highly successful in antenatal setting where women predominate. Strategies targeting this location may not only engage men in care but also potentially improve the effectiveness of Prevention of Mother to Child Transmission, maternal ART adherence, and other family benefits. Replication of this approach is warranted in other settings to determine whether similar strategies are feasible and acceptable and have similar yields.

The second research area still needs to be addressed— understanding the impact of this partner-based program on test-and-treat. We speculate that earlier linkage to care will also result in earlier linkage to treatment for those who are HIV infected, but whether this is true is not known without further follow-up. In addition, we expect that in mutually aware HIV-discordant couples, seroconversion is less likely to occur because the HIV-infected partner does not need to hide pill taking and may receive social support. However, well-designed longitudinal research is needed to understand long-term impact.

There has been considerable hesitation about partner-based strategies: that they are expensive and unsustainable and may result in social harms. Such criticisms have been leveraged against many new HIV-related services in sub-Saharan Africa—the introduction of HIV counseling and testing and the use of ART. However, each of these concerns has been addressed by resource commitments and careful implementation approaches resulting in significant gains in improving HIV-related health outcomes.

What is clear is that partner notification is a strategy that can identify HIV-infected individuals in an efficient manner. However, much remains unanswered regarding how partner notification can be optimized to ensure engagement in care and improve overall health outcomes, particularly within a test-and-treat setting. Successful partner notification programs may be an essential step in realizing the full potential of the test-and-treat paradigm.

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