

## HIV self-testing to scale up couples and partner testing

HIV self-testing is benefiting from substantial investment in implementation research from major donors and rapid development of evidence-based policy and practice. The reason for such excitement around HIV self-testing is three-fold. First, diagnosing 90% of all people with HIV—the first step of the UN's goal to end the HIV epidemic by 2030—will require a substantial increase in testing services and a more strategic mix of approaches to reach people at high risk of infection. To illustrate the size of this challenge, more than 150 million people in 2014 received HIV testing in 129 low-income and middle-income countries with data; yet an estimated 46% of all people with HIV remain undiagnosed.<sup>1</sup> Second, HIV self-testing is the preferred approach for many people, including men and young adults who often are not well served by facility-based approaches.<sup>2,3</sup> Third, the convenient nature and intrinsic confidentiality of HIV self-testing enables novel distribution strategies potentially providing access in affected communities at low cost and with minimal requirement for health-worker time.<sup>4</sup>

In *The Lancet HIV*, Harsha Thirumurthy and colleagues<sup>5</sup> report on one such strategy: distributing HIV self-test kits in Kenya through HIV-negative women accessing antenatal and post partum care, for whom there are well developed services for prevention of mother-to-child transmission throughout Africa but with poor engagement of male partners as a remaining challenge. Intriguingly, the study also included HIV-negative female sex workers, a key-population for expanded HIV services and typically one with a large gap between ideal and actual HIV testing coverage and frequency.

Despite the inherent limitations and uncertainties of a study of relatively small size (265 participants) that relied on interview of the women distributors for ascertainment of all outcomes—including the kit-recipient's results and subsequent actions—the results are encouraging. Not only was willingness to distribute multiple kits high, but uptake and use of HIV self-testing was too. Overall the intervention was well received (100% would recommend HIV self-test to friends). There were four reports of intimate partner violence in the study populations, who had also reported high levels of intimate partner violence (41%) in the 12 months before the intervention. Violence can occur

in the context of existing HIV testing services and must be carefully considered, addressed, and monitored in populations where HIV self-testing is proposed. Couples testing, with both partners using kits, was reported by 51% of women recruited from antenatal care, 68% from post partum care, and 83% of female sex workers. Of people reached with this strategy, 3% of antenatal care and post partum care and 14% of female sex worker kit recipients had a positive self-test, mostly followed by action to seek out confirmatory testing and care. Safer sex, with intercourse less likely (18% vs 62%), and increased condom use (100% vs 44%) was reported when a potential sex partner had a positive self-test versus a negative self-test result.

WHO has outlined various approaches to implement HIV self-testing;<sup>1</sup> however, until now implementation in resource-limited settings has primarily occurred with support and through community-based distribution<sup>2,6</sup> or through studies assessing the performance of rapid tests for HIV self-testing and values and preferences among end-users.<sup>7-11</sup> The results presented by Thirumurthy and colleagues<sup>5</sup> show an innovative approach to use social networks and sex partners, and show the high potential for HIV self-testing to increase uptake of couples and partner testing and enable HIV case finding.<sup>12</sup>

Concerns include the reliability of responses, because self-reported data for socially sensitive topics are notoriously prone to bias toward responses that are considered socially desirable, which affects willingness, for example, to report sex without a condom with someone who had a positive self-test result. Other outcomes susceptible to this reporting bias include HIV self-testing results, action taken after positive self-test results, and intimate partner violence. The accuracy of HIV self-testing results was not assessed in this study, and so user errors could have affected overall findings. Estimating the risk of false-negative self-test results has special relevance, in view that results significantly affected decision-making to engage in high-risk sex. Lastly, intimate partner violence was reported, and is likely to be a higher risk to HIV-positive women. As well as collecting information, future studies should aim to investigate the cause of intimate partner violence, and how this risk can be reduced (eg, with a screening instrument to identify women at high risk) and addressed.



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HIV self-testing is increasingly available, used, and seen as an acceptable, discreet, and convenient approach that is empowering and appealing to many individuals who may not test otherwise.<sup>1</sup> Moving forward, HIV self-testing strategies designed to reach people at high risk who are unreached by existing services should be prioritised as having the highest public health effect and being an essential part of closing the testing gap and achieving global goals.

*Cheryl C Johnson, \*Elizabeth L Corbett*

World Health Organization, 20 Avenue, Appia 1211 Geneva, Switzerland (CC); London School of Hygiene and Tropical Medicine, London, UK (ELC); and Malawi-Liverpool-Wellcome Trust Clinical Research Programme, Blantyre 3, Malawi (ELC) [liz.corbett@lshtm.ac.uk](mailto:liz.corbett@lshtm.ac.uk)

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