



# Investigating the feasibility of HIV self-testing in Zambia

HIV self-testing is still a relatively new method of providing HIV testing services, and some research suggests it could be used to reach populations who are not using HIV testing services already available in a country. Zambia, despite increases in knowledge of HIV status among its population, is still well behind the 90-90-90 targets set by UNAIDS.

In an effort to provide the government of Zambia with evidence to inform its incorporation of HIV self-testing into its national HIV and AIDS program, the International Initiative for Impact Evaluation (3ie) commissioned a formative study and two impact evaluations in Zambia under its HIV Self-Testing Thematic Window. This brief synthesizes the evidence generated by those projects, as well as the policy and research implications arising from them.

## Highlights

- HIV self-testing uptake was high in all three studies, including among key populations such as female sex workers.
- HIV self-testing was more effective at increasing the knowledge of HIV status of men, particularly through secondary distribution.
- Adequate pre- and post-test counseling was a major concern for participants across all three studies.
- The use of peer and lay counselors seemed to be an effective strategy for giving instructions to participants.
- Effects on linkage to care were mixed, and more research is required to evaluate the long-term effects of HIV self-testing on linkage to care.



## Summary of studies

The Centre for Infectious Disease Research in Zambia conducted a formative study to inform the pilot programs and their impact evaluations. The study explored five main areas: acceptability, appropriate distribution, efficacy of instructions, linkage to care, and the potential for and mitigation of social harms. One of the pilot studies, evaluated by the Harvard T.H. Chan School of Public Health and implemented by John Snow Inc., examined the effectiveness of two delivery approaches, using peer educators, for HIV self-testing for female sex workers. The pilot program was implemented in three transit towns in which health services that are friendly to female sex workers are limited.

In the first approach, peer educators delivered a self-test kit to their female sex worker peers; in the second, they provided a coupon for collecting a self-test kit at an existing health facility (clinic or pharmacy). In the control group, peer educators referred female sex workers to existing HIV testing services and encouraged testing.

The second study, implemented by Zambart, aimed to test whether community-based distribution of HIV self-testing kits increased knowledge of HIV status over three months. The trial was nested within a larger study (HPTN 071/PopART) that used community-based door-to-door testing. In intervention areas, individuals were offered the choice of a routine finger-prick test or an HIV self-test kit that could be used in the presence or absence of the community health worker. This study also looked at secondary distribution of kits by allowing adult household members to collect one for their partners who were absent at the time of the visit.

## Main findings

Across all three studies, potential and actual HIV self-testing uptake was high. In the formative study, 96 per cent of participants stated they would not feel uncomfortable (indicating that they were neutral, somewhat comfortable or comfortable) using a HIV self-testing kit. In the female sex worker population, HIV testing at one month was very high in treatment and control groups (84–95%). Although the difference between the HIV self-testing and standard-of-care groups was not significant, direct delivery of kits showed significantly more testing than in the coupon delivery arm, which suggests that direct delivery reduced barriers to testing. However, there were no differences at the four-month mark, which could suggest that retrieving a kit takes more time, but does not deter testing.

With the community-based study, researchers found that although knowledge of HIV status increased in intervention zones, HIV self-testing was more effective in increasing the knowledge of HIV status in men, particularly through secondary

distribution. Zambart also found that certain community characteristics were associated with increased uptake of self-testing. This included higher proportions of middle-class households, more restricted mobility, being located farther from a town center and having a strong commitment to community action.

A common theme expressed among participants in all three studies was the need for adequate pre- and post-test counseling, particularly for those who might find themselves to be HIV positive. The studies found counseling was important not only for information on risk reduction or linkage to care, but also for providing instructions to use the self-test kits. Participants in the formative study were given written instructions, with or without a complementary video. Those exposed to the video, despite being more confident in their ability to perform the test, performed worse in a short quiz than those who had only written instructions. Based on results from the two evaluations, the use of peer and lay counselors seemed to

be an effective strategy for imparting instructions to participants.

In terms of linkage to care, some mixed results were observed. In the formative study, 85 percent of participants stated they would go to a clinic and link to care within the first week of testing HIV positive. Participants generally preferred to have follow-ups by phone call or with an in-person visit. The impact evaluation results showed it was slightly more difficult to get self-testers to link to care. Female sex workers who tested positive using self-testing reported lower rates of linkage to care and HIV treatment initiation. However, these differences were not statistically significant. This was similar for absent partners who received HIV self-test kits through secondary distribution in the community-based study.

Finally, very few instances of social harms were reported, but were more common in homes with a history of alcoholism and intimate partner violence within the 12 months prior to the study.



## Policy and programming implications

Study populations considered HIV self-testing acceptable and self-testing should be considered for inclusion in Zambia's national HIV testing policy guidelines. The potential of HIV self-testing to serve harder-to-reach populations such as men and female sex workers, or those with mobile livelihoods is particularly important. Policymakers should consider HIV self-testing programs that specifically target these populations.

Distribution of HIV self-testing kits can be successful, using both primary and secondary methods. Especially with secondary methods, policymakers should also consider a corresponding strategy to promote linkage to care. They should also consider

public and private sector distribution points (clinics and pharmacies) and community distribution. Keeping the distribution points free of stigma will be important, as a common theme expressed in all studies was the stigma associated with existing HIV-specific facilities. It will also be important to develop an appropriate strategy to ensure that those offering kits are trained to provide instruction and counseling for HIV self-testing.

A strategy to ensure access to guidance and counseling should accompany the plan for incorporation of HIV self-testing in the national HIV testing strategy. Lay counselors and peers could be helpful in promoting linkage to care.

## Research implications

More research is required to evaluate the long-term effects of HIV self-testing on linkage to care. These studies suggest that linkage to care is lower in HIV self-testing groups, although their results are not statistically significant. However, follow-up was only three months; other research suggests that linkage to care may take longer.

Stigma is still a major concern. Finding ways to use HIV self-testing to target stigma reduction rather than just stigma avoidance remains necessary.



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## About this brief

This brief is based on a formative study and two impact evaluations:

- *Investigating the feasibility of HIV self-testing in Zambia, 3ie formative study final report*, by Arianna Zanolini, Jenala Chipungu, Stephanie Topp, Charles Holmes, Mazuba Mafwenko and Harsha Thirumurthy (2017).
- *Increasing female sex worker HIV testing: effects of peer educators and HIV self-tests in Zambia*, 3ie Impact Evaluation Report 83, by Michael M. Chanda, Katrina F. Ortblad, Magdalene Mwale, Steven Chongo, Catherine Kanchele, Nyambe Kamungoma, Andrew Fullum, Till Bärnighausen and Catherine E. Oldenburg (2018).
- *Community-based distribution of oral HIV self-testing kits: a pilot intervention and rapid impact evaluation*, 3ie Impact Evaluation Report (forthcoming), by Bernadette Hensen, Helen Ayles, Chama Mulubwa, Sian Floyd, Ab Schaap, Bwalya Chiti, Mwelwa Phiri, Lawrence Mwenge, Kwame Shanaube, Musonda Simwinga, Sarah Fidler, Richard Hayes, Virginia Bond and Alwyn Mwinga.



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The photos in this brief are for illustrative purposes only, and the persons shown in the photos are stock photography models and not actual female sex workers.