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# What works to increase HIV testing for female sex workers in Kenya, Uganda and Zambia

HIV self-testing is an innovative and relatively new technology that can help increase testing rates by lowering access barriers, including time, inconvenience, stigma and transportation costs. In 2016, based on evidence that it is effective, safe and acceptable, the World Health Organization (WHO) formally recommended that HIV self-testing be offered as an additional approach to HIV testing services. Increasing HIV testing is part of an ambitious global target that aims for 90 percent of all people living with HIV to know their status by 2020.

Sex workers are at higher risk of acquiring HIV, even in places where HIV prevalence among the general population is high. According to the WHO, sex workers are 13.5 percent more likely to be living with HIV than any other women of reproductive age. Despite their higher risk, female sex workers have lower testing rates than the general population. Untreated HIV can lead to greater transmission. Testing is the entry point for HIV treatment.

Many barriers contribute to limiting access to and low uptake of HIV testing services for female sex workers. Concerns about privacy and stigma, irregular work hours, and frequent travel, especially for mobile populations, can prevent access to healthcare services. Fear of knowing one's HIV status can also be a strong deterrent to testing.

## Highlights

- All three studies found that the provision of oral HIV self-tests increased testing among female sex workers, compared to standard testing services, although in one case the difference was not significant.
- All interventions distributed at least some oral HIV self-tests through clinics, and the findings suggest that this distribution strategy might not reach those who are unable to go to clinics or who are uncomfortable going.
- HIV self-testing appeared safe and acceptable for female sex workers in all three studies.
- Secondary distribution methods, such as peer-to-peer distribution, may reach more female sex workers than distribution through clinics and pharmacies.
- Peers can be powerful influencers who can help increase self-testing and facility-based testing.
- Strategies to promote linkage to care should accompany programs to roll out HIV self-testing.

## Interventions to address barriers to HIV testing

Few studies examine the role of HIV self-testing among female sex workers and the best ways to distribute the self-tests to this key population. From 2015 to 2017, the International Initiative for Impact Evaluation (3ie) funded three pilot interventions and their impact evaluations on the use of oral HIV self-tests to increase testing rates for female sex workers in Kenya, Uganda and Zambia. The results from two of the studies in Kenya are cited in the WHO HIV self-testing guidelines. This brief provides key lessons and implications for policy and future research.

In Kenya, the pilot was implemented in eight North Star Alliance clinics, a network of clinics throughout Sub-Saharan Africa. Female sex workers who were registered in these clinics' electronic health record systems and who were irregular HIV testers were randomized to one of three study arms:

- Standard of care, in which the client received a text message about accessing HIV testing at North Star Alliance clinics and was offered the standard provider-administered HIV test when in any one of them;

- Enhanced standard of care, in which the client received three text messages, sent a week apart, about accessing HIV testing at North Star Alliance clinics and was offered the standard provider-administered HIV test when in any one of them; or
- Intervention, in which the client received three text messages, sent a week apart, communicating the availability of oral HIV self-test kits at North Star Alliance clinics in Kenya and offering three HIV testing choices at the clinic: (a) the standard HIV test; (b) an oral HIV self-test for use in the clinic, with a provider available for guidance; or (c) the oral HIV self-test to take for home use, with phone-based post-test counseling.

In Zambia and Uganda, the interventions used a three-arm cluster randomized design to explore how different HIV self-testing delivery models affect HIV testing and linkage to care outcomes. The clusters were created by recruiting a peer educator, who recruited a group of six to eight female sex workers. The study had three arms:

- Direct provision of an oral HIV self-test by the peer educator to the female sex worker;
- Provision of a coupon by the peer educator to the female sex worker for collection of an oral HIV self-test at a health facility (clinic or pharmacy); and
- Peer educator referral of the female sex worker to a facility for HIV testing and counseling.

Participants in all study arms received four peer educator visits, including condom distribution and referral to free HIV testing services. In the HIV self-testing intervention arm, peer educators distributed an oral HIV self-test or coupon at the first and third peer educator visits (three months apart).

Both studies implemented similar interventions, although the geographic context was different. The Zambian intervention focused on female sex workers based in transit border towns, whereas the Uganda study's intervention was in urban Kampala.





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## Main findings

In Zambia, all study participants showed an overwhelming interest in getting tested; close to 90 percent tested within one month in all study arms. Participants in the direct delivery arm tested for HIV more often than women in the facility collection arm, suggesting there were fewer barriers to HIV self-test use when the test kit was directly given to the participant than when she was required to visit a facility to collect the kit. However, there were no differences in HIV testing among any of the study arms at the four-month visit, indicating that any initial delays

in access to the oral HIV self-test were gone by that time.

In Kenya, female sex workers who received text messages about the availability of oral HIV self-test kits were more likely to test than those who were simply reminded to get an HIV test. In a cost-effectiveness analysis, the intervention proved to be more expensive than the standard-of-care programs, primarily due to the high cost of the oral HIV self-test kit. However, because of the increased testing rate, the cost per person tested was lower.

HIV self-testing also increased rates of overall and repeat HIV testing for female sex workers in Uganda, compared to standard HIV testing and counseling services. As in Zambia, the study found that the HIV self-testing delivery model mattered. Overall and repeat HIV testing was lower in the facility collection arm than the direct peer provision arm. Linkage to care among women who reported testing HIV-positive was lower in the facility collection arm than the standard-of-care arm.

## Implications for HIV self-testing programs and policies

- HIV self-testing is an effective way to reach female sex workers, and peer educators can be effective purveyors.
- HIV self-testing is acceptable and feasible as a method to reach female sex workers, as reflected in the WHO HIV self-testing guidelines to national governments, which recommend including HIV self-testing as an option in their national strategies.
- Strategies to promote linkage to care need to be incorporated carefully into HIV self-testing policies and programs, since these three studies show this is an area where challenges remain.
- Direct distribution methods are likely to be more effective than relying on female sex workers to go to a facility.
- HIV self-testing does not appear to increase rates of intimate partner violence beyond background rates, suggesting it is a safe intervention for this population.
- HIV self-testing can be particularly successful when implemented as part of comprehensive HIV prevention programming for female sex workers, which includes provision of condoms and interventions such as pre-exposure prophylaxis. Support related to intimate partner violence should be a part of all HIV testing programs.

## Implications for research

- There is insufficient evidence on what works to link HIV self-test users to care. The results of the Zambia study indicate engagement in HIV-related care could be delayed by HIV self-testing, compared to standard testing. More research is needed on how to increase that link.
- Different models for using HIV self-tests to promote HIV testing need to be considered, including direct delivery of the first kit followed by facility pickup for future kits. There is insufficient evidence about how greater awareness of and use of self-testing kits will affect demand for testing and repeat testing.



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## 3ie's HIV self-testing evidence program

As part of this 3ie program on HIV self-testing, 3ie funded the implementation and evaluation of pilot interventions in Kenya, Uganda, and Zambia to increase the evidence base on whether oral self-test kits can increase HIV testing rates. The studies were awarded in two phases. The first phase included formative research in Kenya and Zambia to answer questions related to the feasibility of implementing HIV self-testing interventions. The second phase included the funding of interventions and impact evaluations informed by the findings of the first phase. Although the studies in this brief are about interventions targeting female sex workers, other studies focused on increasing HIV testing rates for pregnant women and their male partners; for truck drivers; and through community-based, door-to-door distribution of HIV self-testing kits.

### About this brief

This brief is based on the following impact evaluations:

- *Direct provision versus facility collection of HIV tests: impacts of self-testing among female sex workers in Uganda*, 3ie Impact Evaluation Report 84, by Katrina Ortblad, Daniel Kibuuka Musoke, Thomson Ngabirano, Catherine Oldenburg and Till Bärnighausen;
- *Increasing female sex worker HIV testing: effects of peer educators and HIV self-tests in Zambia*, 3ie Impact Evaluation 83, by Michael M. Chanda, Katrina Ortblad, Magdalene Mwale, Steven Chongo, Catherine Kanchele, Nyambe Kamungoma, Andrew Fullem, Till Bärnighausen and Catherine Oldenburg; and
- *A randomised controlled trial to increase HIV testing demand among truck drivers and sex workers through offering self-administered oral HIV testing at North Star Alliance Clinics in Kenya*, 3ie Impact Evaluation Report (forthcoming), by Elizabeth Kelvin, Gavin George, Samuel Kinyanjui, Silas Inoti, Taruna Chetty, Michael Strauss, Matthew L. Romo, Faith Oruko, Jacob O Odhiambo, Eston Nyaga and Joanne E Mantell.



The International Initiative for Impact Evaluation (3ie) is an international grant-making NGO promoting evidence-informed development policies and programs. We are the global leader in funding, producing and synthesizing high-quality evidence of what works, for whom, how, why and at what cost. We believe that using better and policy-relevant evidence helps make development more effective and improve people's lives.

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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.