

### Self-testing and home treatment initiation triples uptake of HIV treatment in Malawi

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Offering people the opportunity to self-test at home and then start antiretroviral therapy after counselling at home, together with home delivery of antiretroviral drugs, increased the number of people linked to care after testing and started on treatment almost threefold, a randomised study in Malawi has shown.

The findings, presented at the 20th Conference on Retroviruses and Opportunistic Infections in Atlanta, are the latest from a series of studies that have looked at task-shifting and improving the ways in which people in need of antiretroviral treatment are linked to care in sub-Saharan Africa.

Self-testing for HIV, using the *OraQuick* oral HIV antibody test, is a progression from door-to-door counselling and testing which has been found highly acceptable in some countries in sub-Saharan Africa. Self-testing, in which people carry out the test themselves without a third party present, may overcome barriers, i.e. the need to attend a health facility for testing or the need to disclose immediately to other family members.

Research carried out by the ZAMBART research programme in Lusaka, Zambia, found that self-testing was highly acceptable, and around 92% of those who carried out a self-test were able to read the result correctly.

'Less than a quarter of African adults test for HIV each year, making better access to HIV-testing in the community a critical area for improvement. Self-testing has a lot of promise, but there is little to be gained if people who test positive do not access treatment,' said Dr P Macpherson, Liverpool School of Tropical Medicine and Malawi-Liverpool-Wellcome Clinical Research Programme, the study's principal investigator.

'Loss to follow-up before accessing HIV care is a real danger following any positive HIV

test, especially in poor communities like our study site in Malawi,' he added. 'Self-testing is only just now coming to Africa, with understandable concerns around linkage into HIV care that are still very much unknown.'

Offering people the opportunity to be linked to care in their own home, by receiving home visits for counselling and treatment preparation, and then beginning treatment with medication delivered to their home, might reduce loss to follow-up.

The study of self-testing and linkage to care took place in Blantyre, Malawi, in an urban neighbourhood with an HIV prevalence estimated at 18%. The study compared 14 neighbourhood clusters, each comprising approximately 1 200 adult residents (16 600 in total), that were randomised equally to receive one of two interventions:

- self-testing available on request in the community, with antiretroviral initiation at home and delivery of medication and monitoring by community health workers at home, for the first two weeks of treatment
- self-testing available on request in the community, and referral to a local primary health clinic for care.

The primary endpoint was the proportion of all adult cluster residents who initiated antiretroviral therapy – at home or in the clinic (people in clusters randomised to home initiation could start treatment at the clinic, rather than at home, if they wished).

The proportion of all residents who self-tested and those who disclosed a positive result to a community counsellor, were secondary outcomes.

Overall, 58% of adult residents in the study clusters availed themselves of the opportunity to test for HIV at home. Uptake was highest during the first month of the 6-month study, but remained consistently higher in the clusters where treatment initiation at home was available.

Self-testing was somewhat higher in the home treatment initiation group – 64.9 v. 52.7%, a non-significant difference, but people who self-tested in the home

treatment clusters were significantly more likely to disclose a positive result to a community counsellor (6 v. 3.3%, risk ratio 1.86, 95% confidence interval (CI) 1.16 - 2.97), due to the fact that home treatment initiation could only be accessed through a community counsellor.

People in the home treatment clusters were also significantly more likely to initiate antiretroviral therapy. Home treatment initiation almost tripled the rate of treatment initiation, compared with either the standard of care clusters or the background rate of treatment initiation at local health facilities in an equivalent prior to the study.

Overall, 2.2% of the population in the home treatment initiation clusters started treatment during the study period, compared with 0.7% of the population in the standard of care clusters, a risk ratio of 2.94 (95% CI 2.1 - 4.12). The researchers estimated that 46% of eligible treatment-naive adults (CD4 counts <350 cells/mm<sup>3</sup>) started ART in the home treatment initiation clusters, compared with 15% in the control arm.

Macpherson told aidsmap: 'We have no formal qualitative data yet on why home initiation of care was so much more acceptable. Anecdotally and from previous work with patients accessing services through the routine clinic system, we know that they find the pre-ART care pathway to be challenging, requiring multiple expensive facility visits. Facilities are also reported to be busy and clinicians perceived to be rushed. Patients who received home initiation reported that they appreciated the confidential and convenient nature of the services.'

'We are excited by these results, showing that high uptake of ART can be achieved through self-testing, provided that the right kind of support is available,' said Macpherson.

Macpherson P, et al. Home assessment and initiation of ART following HIV self-testing: A cluster-randomized trial to improve linkage to ART in Blantyre, Malawi. 20th Conference on Retroviruses and Opportunistic Infections, Atlanta, abstract 95LB, 2013.

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