

**Supplementary material – “Preferences for linkage to HIV care services following a reactive self-test: discrete choice experiments in Malawi and Zambia.”**

*Design of the discrete choice experiment*

To develop the DCE design, we used qualitative research to (i) identify key design attributes and levels that were most salient in driving decision-making on linkage to care (1, 2); (ii) assess user comprehension of the DCE scenario exercises, including accompanying illustrations (3).

We first reviewed the existing literature to develop a preliminary set of attributes and attribute levels that influenced the decisions of newly diagnosed people living with HIV to link to care. A limited number of studies have investigated strategies on how to improve linkage into care after self-testing. In Malawi, the offer of ART initiation at home following a reactive self-test and confirmative HIV testing resulted in a three-fold increase in ART initiation compared with referral to facility-based treatment (4). A qualitative study in Malawi found that financial incentives and phone call reminders could help male partners of antenatal care clients access HIV treatment or male circumcision after self-testing in comparison to standard testing, phone call reminders or lottery incentives (1). Other promising linkage to care interventions include integrated delivery with other health services, streamlined operations at health facilities, provision of comprehensive patient-centred services and financial and non-financial incentives for attendance (5, 6).

Semi-structured interviews (n=33) were then conducted with clients attending HTS at primary health centres in rural and urban Blantyre. We developed illustrations to depict each of the levels and tested comprehension of the DCE scenario exercises during these interviews. We opted for an unlabelled DCE design, presenting more neutral scenarios, preferable for a cross-country analysis (7). The STAR programme implementers, Population Services International in Malawi, and Society for Family Health in Zambia, were also consulted to ensure that the DCE design considered key implementation priorities, such as the provision of a telephone support hotline. This design was then vetted for local applicability in Zambia through interviews in peri-urban Lusaka with community

members (n=10), leading to the same blueprint in both countries. The final attributes and attribute levels relating to linkage to confirmatory testing and HIV care following HIVST were:

1. Method of support to access services: instruction leaflet provided with the self-testing kit, short messaging services (SMS), phone call, and in person.
2. Location of services: health facility, mobile clinic, at home, and at the home of the HTS counsellor.
3. User fee for HTS services: none, and either Malawian Kwacha (MK) 100 (US\$ 0.14) or Zambian Kwacha (ZMW) 10 (US\$ 1.04)
4. HIV testing services (at a health facility and mobile clinic): inclusive or separate from other health care services.
5. Waiting time for HTS services: 30 minutes, one hour and 30 minutes, and three hours.

To create the experimental design, we used priors estimated from the pilot studies and developed a final D-efficient design, which ascertains the minimum number of choice sets needed for parameter estimation (3, 8). A random sub-sample of participants aged 16 years or older was selected for an extended questionnaire which included the DCEs. The proportions of participants completing the DCEs were set to ensure that the minimum sample sizes were met, estimated at a minimum of 170 in both Malawi and Zambia using the rule of thumb by Johnson and Orme (28).

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