Heterogeneity in Preferences for HIV Self-Testing Among Ugandan Men

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Background

- Men in Uganda have suboptimal HIV testing rates, which leads to delays in HIV diagnoses and treatment initiations, increasing morbidity and mortality.
- Clinic-based HIV testing is the standard of care in Uganda, but men report barriers to clinic testing including long travel distance, limited hours of operation and stigma.
- HIV Self-Testing (HIVST) is a novel alternative that preserves privacy and offers an opportunity to expand testing among adult men.
- Distribution of HIVST kits through pregnant female partners attending antenatal care clinics has been widely and successfully adopted by the Ministry of Health.
- However, preferences regarding HIVST distribution among Ugandan men are not well understood. Understanding these preferences is imperative in improving delivery and adoption of HIVST among this population.

Objective

To understand the overall preferences for HIVST among Ugandan men and heterogeneity among these preferences.

Methods

- We conducted a Discrete Choice Experiment (DCE) among men residing in Kampala and Wakiso districts.
- The DCE comprised 8 choice tasks, each with two unlabeled alternatives and an opt-out option in a dual-response format.
- We included 5 attributes, each with 2-5 levels
- A conditional logistic regression model was employed, where the outcome was an indicator for alternative selection, conditioned on each respondent.
- Preference heterogeneity was assessed using latent class analysis (LCA), and we found that three classes provided the best fit for the data as well as the most meaningful partition of the sample. Participant characteristics were descriptively compared between the classes.

Figure 1. A hypothetical CHOICE task in the DCE

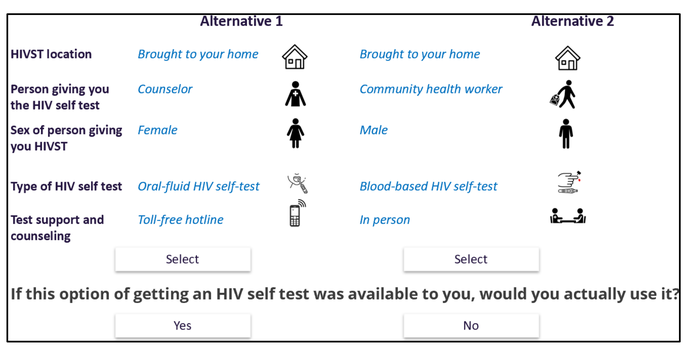

Figure 2. Preference Weights from Primary Analysis

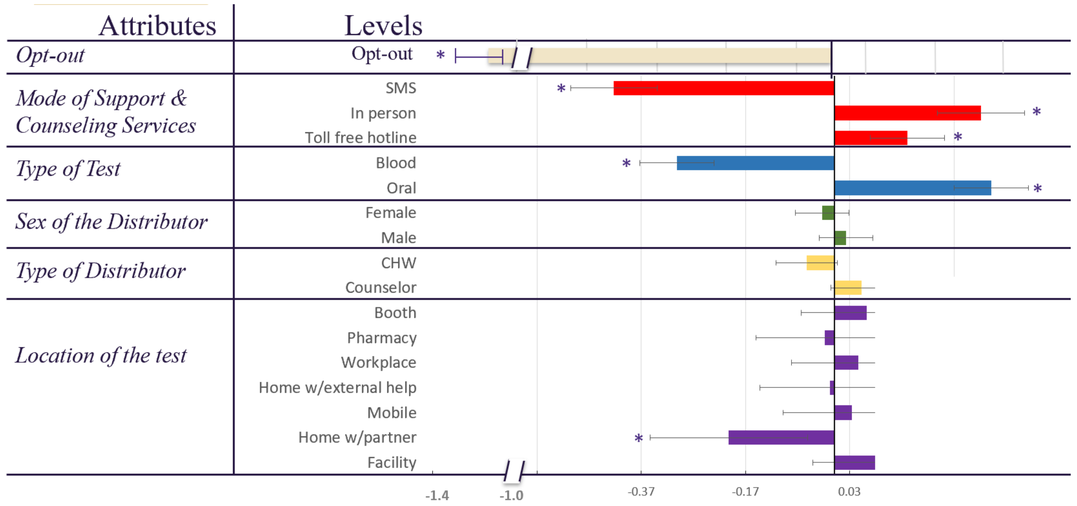

Figure 3. Preference Weights in Latent Classes

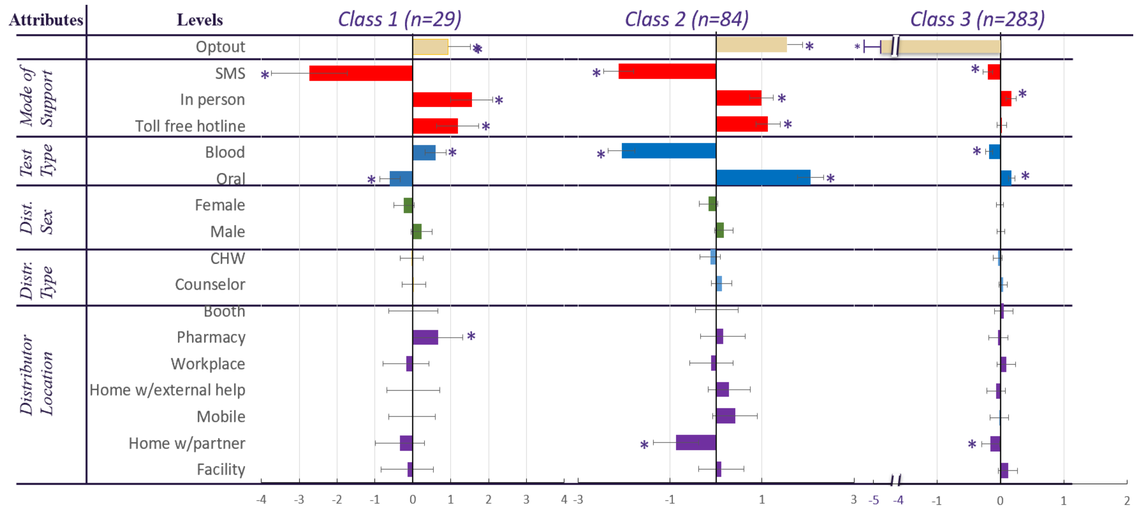

Table. Key Participant Characteristics by Latent Classes

Characteristics	Class 1 (n=29)	Class 2 (n=84)	Class 3 (n=283)
Has at least one child	48%	71%	73%
Does not have any children	52%	29%	27%
Income secure over past 3 months	86%	65%	75%
Income insecure over past 3 months	14%	33%	25%
Food secure over past 3 months	76%	46%	55%
Food security over past 3 months	24%	54%	45%
Formal Employment	55%	37%	30%
Informal Employment	34%	54%	59%
Other Employment	10%	10%	11%

Results

Primary Analysis (Figure 2)

- Overall participants preference for oral fluid-over blood-based HIVST,
- They preferred in-person and toll-free hotline support and counseling services over SMSM.
- Participants had a clear negative preference for receiving HIV self-testing (HIVST) kits at home from their partners, with no other preferences regarding location of test.
- We did not find any clear preference for *distributor sex* and *distributor type.*

Preference Heterogeneity (Figure 3)

- Latent class analysis identified three distinct preference classes. Participants across all three classes showed disinclination toward SMS-based support and preferred in-person support services.
- In contrast to Classes 1 and 2, Class 3 exhibited a large negative opt-out preference, indicating a strong willingness to adopt HIVST strategies
- Class 1 preferred blood-based over oral fluid-based tests and preferred receiving HIVST kits at pharmacies.
- Compared to Classes 2 and 3, Class 1 had a higher proportion of individuals who were child-free, had formal employment, and had income and food security in preceding three months (Table).

Limitations

- We did not collect details on sexual behavior, limiting our assessment of HIVST preferences by sexual behaviors.
- The number of respondents who had used HIVST previously was low in our sample, limiting any meaningful analysis by prior HIVST use.
- The conditional logistic regression model assumes independence of irrelevant alternatives, which may be violated in discrete choice experiments. In the LCA, this assumption is partially relaxed and does not hold across the classes.
- Selection of number of latent classes is not an entirely objective process, relying on subjective assessment of preference distribution within the classes.

Conclusions

- **Despite it being standard of care, urban-dwelling Ugandan men do not prefer receiving HIVST from their partners.**
- **Targeting specific population segments for HIVST uptake can help increase testing. A pharmacy-based test delivery may be desirable among younger, childfree men with formal employment and stable income.**
- **HIVST strategies that use oral fluid-based tests with in-person support services are most likely to increase uptake among Ugandan men.**

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