

Exploring the drivers of User Costs as a barrier to accessing HIV Testing from Rural Malawi

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Background

HIV testing is free in Malawi. However, HIV testers incur high direct non-medical and indirect costs likely to deter or delay access to testing. We examined drivers of user costs and explored potential solutions to increase testing uptake in rural Malawi.

Method

We estimated a multivariable fixed effect Tobit regression model with a log-transformed dependent variable on baseline household survey data (n=749) collected in 2016. The data were for a cluster randomised controlled trial investigating the impact of HIV self-testing in four high HIV prevalence districts.

Results

On average, the mean cost was US\$2.45 (95%CI US\$2.11-US\$2.70). Both supply-side (test location and efficiency of testing delivery) and individual-level (gender, age, wealth and education) factors affected user costs incurred for HIV testing (Table 1).

Older adults, men, and those with higher levels of education incurred significantly higher costs than youth, women, and less educated participants. Wealth quintile, however, had no consistent trend on expenditure. Participants who used community-based testing incurred 34% lower costs than those who used facility-based testing, especially when the visit was specifically for the purpose of HIV testing. For each additional hour spent travelling or waiting to be tested, participants' average costs increased by 4%.

Conclusions

This study identified a number of modifiable supply side factors: notably, long travel and waiting times contribute to high opportunity costs. Further decentralisation of the primary care network, providing testing within communities, and increasing patient throughput at HIV testing facilities by increasing investment in rooms and staff each have potential to increase uptake of testing services,. More flexible testing options, such as HIV self-testing, may further reduce the opportunity cost of seeking testing and has potential for expanding testing access, especially for men.

Table 1: Tobit Regression: Dependent variable: *ln*(user costs) in 2016 US dollars

Determinants		Coefficient	95% CI
District	Machinga	0.05	(-0.08 to 0.18)
	Mwanza	0.31**	(0.13 to 0.49)
	Neno	-0.01	(-0.14 to 0.12)
Gender	Female	-0.31***	(-0.43 to -0.20)
Wealth	2 nd lowest	-0.02	(-0.18 to 0.13)
	Middle	0.17**	(0.01 to 0.33)
	2 nd Highest	0.02	(-0.13 to 0.17)
	Highest	0.15*	(0.01 to 0.29)
Age (Years)	25-39	0.30***	(0.17 to 0.43)
	40-64	0.34***	(0.15 to 0.53)
	65+	0.00	(-0.26 to 0.26)
Education	Primary	-0.00	(-0.14 to 0.14)
	Incomplete Secondary	0.27**	(0.07 to 0.46)
	Complete Secondary	0.62***	(0.32 to 0.92)
	College/Higher	0.18	(0.39 to 0.75)
Children	Number of Children	0.03	(0.01 to 0.06)
Testing Location	Community	-0.34***	(-0.48 to -0.20)
	Other	-0.14	(-0.68 to 0.41)
Time Taken	Hours	0.04**	(0.01 to 0.06)
Reason for visiting testing centre	HIV Test	0.08	(-0.03 to 0.18)
	Constant	0.74***	(0.47 to 1.01)
Observations		746	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$