

## COST-EFFECTIVENESS OF DIFFERENT DELIVERY APPROACHES FOR HIV SELF-TESTING

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### Abstract

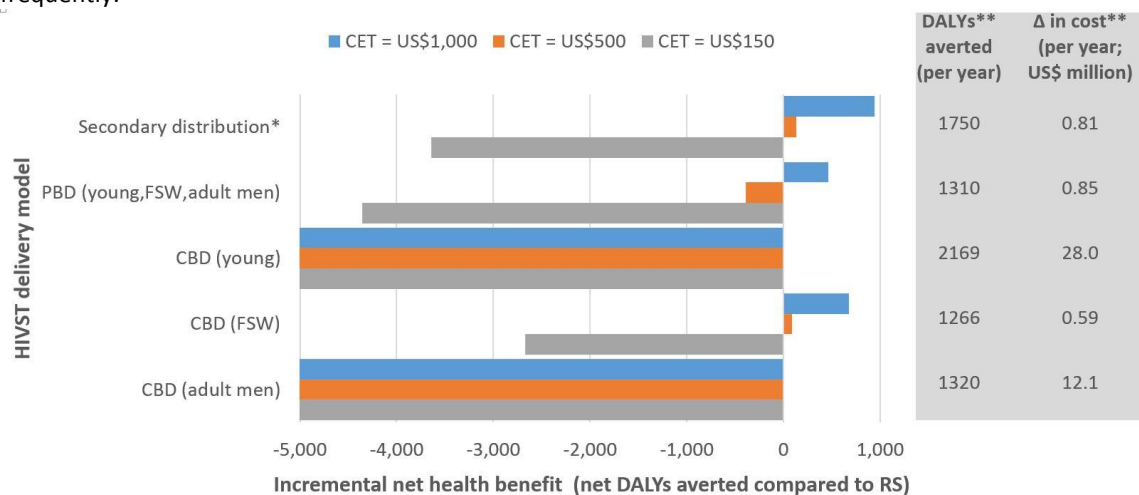
**Background:** HIV self-testing (HIVST) has been shown to be highly acceptable and able to reach people at high risk who might not otherwise test. This study assesses the cost-effectiveness of introducing HIVST in Zimbabwe for specific populations, considering different delivery models.

**Methods:** A dynamic model (HIV Synthesis) is used. The base case cost per HIVST kit is \$4.8. Alternative strategies are compared to a reference scenario (RS) of no HIVST: a) secondary distribution of HIVST to partners of pregnant women (uptake in the population eligible in each year 40%; fully loaded cost/test \$5.0); b) pharmacy-based distribution (PBD) of HIVST to young people (15-24), female sex workers (FSW) and adult men (25-49) (5%; \$6.0); c) community-based distribution (CBD) to young people (65%; \$7.2 for all CBD, as it is based on data including supervision), d) FSW (42%), e) adult men (55%).

The incremental net health benefit (difference between health gains and health opportunity costs, calculated as costs divided by the cost-effectiveness threshold [CET]) of each strategy is compared to the RS. Alternative CETs are used: \$1,000, \$500, \$150. A health care payer perspective is taken using 20 year time horizon.

**Results:** In the context of Zimbabwe, where we projected 85% of people with HIV know their status in 2016, the introduction of HIVST is likely to be cost-effective (CET of \$500-1,000) when considering secondary distribution, PBD and CBD for FSW. Reductions in the cost of HIVST kit, which are believed to be possible, improve the cost-effectiveness of HIVST. However, higher cost of HIVST and lower linkage to care for people whose diagnosis is a consequence of a reactive HIVST result could lead to situations in which HIVST is not cost-effective.

**Conclusions:** In settings with high levels of HIV status awareness, interventions involving additional HIV tests (at the current costs) are unlikely to be cost-effective; our analysis suggests that HIVST strategies most likely to be cost-effective are secondary distribution, PBD and CBD for FSW. The most cost effective strategy is likely to involve a combination of distribution approaches and this will be evaluated as we move forward. In settings with lower testing coverage or if individuals found to be HIV-negative through HIVST were to link to HIV prevention (e.g. pre-exposure prophylaxis and voluntary medical male circumcision), it is likely that even other forms of HIVST distribution could become cost-effective, similarly if the CBD had to be performed less frequently.



CBD: community-based distribution; CET: cost-effectiveness threshold; DALYs: disability-adjusted life-years; FSW: female sex workers; PBD: pharmacy-based distribution; RS: reference scenario; \*(to partners of pregnant women);\*\*discounted at 3.5%/year;