

UNITAID-PSI
HIV SELF-TESTING AFRICA

HIV testing services (HTS) costs in public sector settings in Southern Africa: evidence from Malawi, Zambia and Zimbabwe

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BACKGROUND

- Zambia, Malawi and Zimbabwe are among the sub-Saharan countries with substantial progress towards reaching the first 90 of the 90-90-90 target.
- Though substantial progress has been made to achieve the UN 90-90-90 targets, 27%-34% of people living with HIV (PLHIV) in the three countries, are unaware of their status.
- HIV prevalence among adult individuals in Zambia, Malawi and Zimbabwe stands at, 12.3%, 8.7% and 14.6% respectively.
- Provision of health provider facility-based HTS has been key in achieving this progress, and remains the most common HTS strategy in most the three countries.
- Meeting the 90-90-90 target requires further scale-up with better investment strategies.
- Understanding the costs of delivering HTS is critical to ensure efficient use of resources and improve planning and budgeting in HTS delivery.
- We present the cost of at 54 facilities across the 3 countries, and investigate key potential causes of costs variations across facilities.

METHODS

Setting

- The study was part of UNITAID-PSI HIV-Self Testing Africa (STAR) project.
- 54 health facilities serving the STAR study populations in Malawi (15), Zambia (10) and Zimbabwe (29) were assessed.
- There was a variation in health facility characteristics among facilities within and across the 3 countries.



- Facilities were both rural and per-urban, clinics and hospitals.
- HIV testing is performed using finger-prick rapid diagnostic test (RDT) kits and follows standard serial testing algorithms.

Costing

- Standardised costing methods were collaboratively developed to ensure consistency across countries.
- Top-down and ingredient-based costing methods were applied from the provider's perspective.
- We calculated full annual financial and economic costs in 2016 US\$; per facility, test and HIV-positive individual identified.
- Resource Quantities and costs were collected through interviews, expenditure and outcome review.



Outcome data

- We also collected data on the: catchment population, number of outpatient department (OPD) visits, number of staff, number of HTS visits and number of HIV-positive results.
- Data sources were facility registers and health information aggregation forms.

- Annual resource use data were sequentially and retrospectively collected with end dates rolling between June 2016 and April 2017.
 - Capital costs were annualised and discounted at a 3% rate.
- Overhead costs were considered at two levels; health facility overheads and HTS centre-specific overheads.

Data analysis

- Total annual costs of running HTS and average cost per test and per HIV+ identified were calculated.
- Drivers of costs were, descriptively, explored.

Ethics

- Ethical approvals for the project were secured from the appropriate research review boards.

RESULTS

HTS annual Throughput

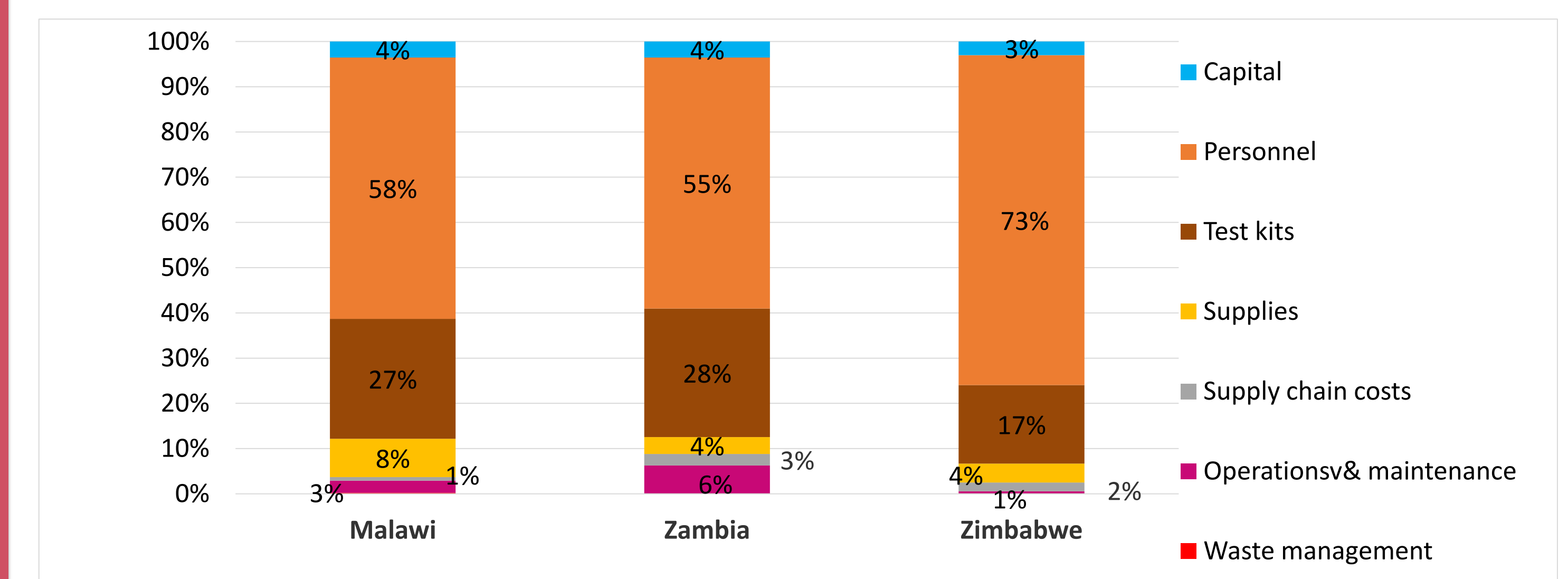
- The mean annual number of HIV testing episodes per HTS staff FTE was 1132 (519-2075), 597 (238-1257) and 895 (237-2285) in Malawi, Zambia and Zimbabwe respectively.

Costs

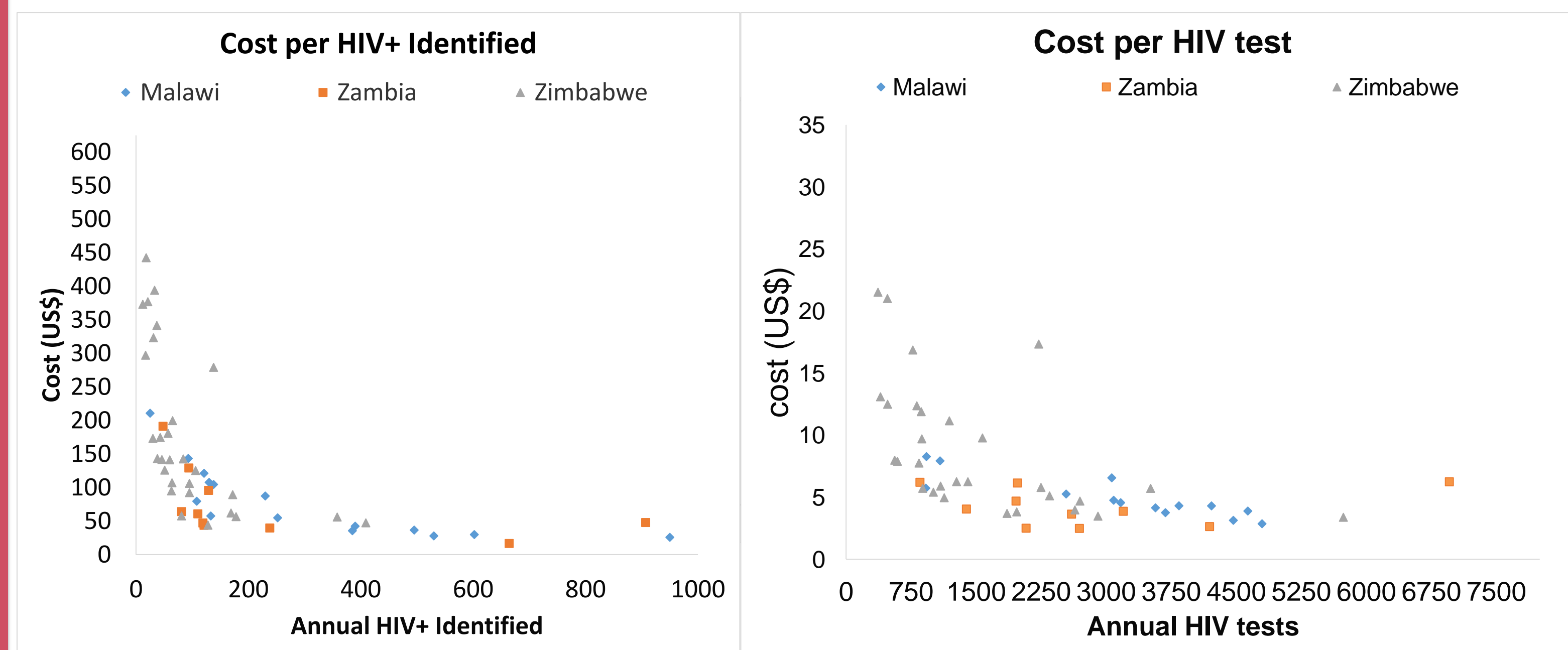
- The median total annual costs were US\$14,375 for Malawi, US\$8,797 for Zambia and US\$8,774 for Zimbabwe.

Cost type	Malawi (US\$)	Zambia (US\$)	Zimbabwe (US\$)
Total	14370 (5,258-24,094)	11652 (4,486-43,106)	10517 (4,476-38,514)
Cost per test	4.79 (2.82-8.21)	4.24 (2.49-6.24)	8.79 (3.38-21.51)
Cost per HIV positive	77.25 (25.36-210.33)	73.63 (16.62-191.35)	178.92 (43.81-442.43)

- The mean cost per individual tested was US\$4.79 in Malawi, US\$4.24 in Zambia and US\$8.79 in Zimbabwe.
- The mean cost per HIV-positive individual identified was US\$77.25, US\$73.63 and US\$178.92.
- The cost estimates were sensitive to scale of testing, facility staffing levels and the costs of HIV test kits.



- The cost per individual tested for HIV was lower at health facilities that were testing more individuals.
- Likewise, the cost per HIV-positive individual identified was lower at health facilities that were identifying more HIV-positive individuals.



CONCLUSION

Health facility based HIV testing remains an essential service to meet HIV universal access goal. The low costs and potential for economies of scale suggests an opportunity for further scale-up.

However low uptake in many settings suggest that demand creation or alternative testing models may be needed to achieve economies of scale and reach populations less willing to attend facility based services.

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