WEPEE373

A Systematic Literature Review of Costs and Cost-effectiveness Analyses of HIV Testing Services in Sub-Saharan Africa

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Objective: To review the costs and cost-effectiveness of HIV testing services (HTS) in sub-Saharan Africa.

Design: A systematic literature review of costing and cost-effectiveness studies reported since January 2006.

Methods: We searched ten electronic databases for studies that reported estimates for cost per person tested (US$pptested), cost per HIV-positive identified (US$ppositive), and cost-effectiveness (CE) analysis where health outcomes were quantified in quality-adjusted life years (QALYs) disability-adjusted life years (DALYs), HIV infections averted, or life-years gained. We explored variations in costs and CE estimates by different testing modalities and size of the HTS. All costs are presented in 2017 US$.

Results: Fifty-five studies were identified: cost studies (*n*=43), CE studies (*n*=15), both cost and CE studies (*n*=5), reporting estimates for six HIV testing modalities: health facility, home-based, mobile-service, self-testing, campaign-style and stand-alone. The mean US$pptested was lowest with self-testing services (US$12.39, range:US$8.15-US$16.42) and highest with campaign-style (US$53.48, range:US$14.25-US$89.66). The mean US$ppositive was lowest with self-testing services (US$76.06, range:US$31.94-US$110.05) and highest with campaign-style (US$852.21). The 15 CE studies reported 31 estimates. For facility-based testing, the cost per HIV infection averted ranged from US$122.76 to US$68,213.13. Additional, mobile-service compared to standard of care testing would cost US$2,936.80 per life-year saved. An additional provision of self-testing to the standard of care would result in ICER of US$286.59 and US$296.50 from a provider and societal perspectives, respectively. We observed economies of scale with lower US$pptested and US$ppositive at larger testing sites.

Conclusion: HIV testing and self-testing in the community and through existing health facilities were the least costly approaches. Providing a combination of these modalities is more likely to achieve universal awareness of HIV status, but will result in the loss of economies of scale achievable through larger single modality testing service.