

## **Provider-Initiated HIV Testing and Counselling: as cost-efficient as voluntary counselling and testing in Lusaka, Zambia.**

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**Background:** Provider-initiated-testing-and-counselling (PITC) is recommended to improve HIV case-finding in settings with generalised epidemics. In Zambia, routine PITC was recently introduced to 7 urban clinics, but cost-efficiency of PITC compared to standard voluntary counselling and testing (VCT) remains unknown.

**Methods:** Numbers counselled, acceptance or refusal-to-test, and numbers HIV+ve were collated from clinic registers. Patient IDs for HIV+ve clients were cross-referenced with an electronic medical record database to calculate enrolment rates. PITC counselling was conducted by trained lay counsellors on annually renewable contracts who were paid ~US\$120/20 work-days. Counsellors averaged 7.5 clients/day, generating a counselling cost of US\$0.80/PITC-client. VCT counselling, conducted by nurses or lay counsellors on payroll at ~USD\$570/20 days, averaged 7.5 clients/day, costing US\$1.90/VCT-client counselled (not accounting for opportunity-costs of lost clinical duties). First-line HIV tests (Determine HIV-1/2™) cost US\$0.72/unit and confirmatory tests (Unigold HIV™) US\$1.60/unit. Cost efficiency ratio (CER) was calculated by dividing cost/PITC-client enrolled by cost/VCT-client enrolled, with CER <1 defined as 'cost efficient'.

**Results:** Over 24 months, 28,500 clients were counselled in PITC; 70% (n=19,966) accepted testing, 20% (n=3953) were HIV+ve, and 46% (n=1812) enrolled in care. Accounting for all patients (including counselling cost for those who refused testing, HIV-ve and HIV+ve clients) PITC cost \$2.31/tested client; \$11.67/HIV+ve client; and \$25.48/enrolled client. In the same clinics 10,954 clients sought VCT, 94% (n=10,289) tested and 27% (n=2757) were HIV+ve. VCT cost \$3.37/tested client or \$12.57/HIV+ve client. Using the PITC enrolment-rate of 46% and three estimates for VCT enrolment-rate (46%, 50%, 60%), CER was 0.92, 1.01 and 1.21, respectively.

**Conclusions:** PITC is highly accessed in Lusaka outpatient departments. Combined with the use of supervised lay staff, these scale-effects make PITC equally or slightly more cost-efficient compared to VCT, despite lower rates of case-finding. Consideration should be given to further scale-up of PITC in high-prevalence settings where use of lay staff is acceptable.