

two general paediatric wards and two general medical wards of an academic hospital was conducted using a 30-item practice indicator checklist, based on standards set by regulatory bodies (Phase 1). The checklist contained six focus areas, namely physical storage conditions, inventory management, medicines security, quality management, temperature monitoring and control, and record keeping. Shortcomings in medicines management practices were identified, a quality improvement plan (QIP) was developed and implemented as interventions in one paediatric and one general ward (experimental group) (Phase 2). A post-intervention assessment was conducted in Phase 3. Pre- and post-intervention scores for observed practice indicators were converted to percentage and compared for the experimental and control wards (Fisher's Exact test). Ethical clearance for the study was obtained from the University of Limpopo, Medunsa Campus Research and Ethics Committee and permission granted by hospital management prior to commencement.

Findings: Positive indicator scores at baseline (pre-intervention) ranged from 20% (6; n=30) to 40.0% (12; n=30) amongst the four wards. Phase 2 interventions included ward visits, introduction of ward-specific standard operating procedures, cycle counts and targeted formal and informal training for ward staff. Post-intervention scores amongst the four wards ranged from 20% (6; n=30) to 76.7% (23; n=30). Indicator scores for the two experimental wards improved from 36.7% and 26.7% at baseline, to 76.7% and 73.3% respectively in Phase 3. The change observed in the experimental wards (43.3%) and in the control wards (6.7%) post-intervention, was statistically significant ($p < 0.001$; Fisher's Exact test).

Interpretation: Shortcomings in the management of medicines at ward level were identified and addressed with subsequent improvement in medicines' management practices. Future, continuous involvement of a pharmacist in ward medicines management practices will be required to sustain the impact of the intervention and will benefit quality assurance in public sector hospitals.

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Cost effectiveness analysis of couples voluntary counseling and testing (CVCT), long acting reversible contraceptives (LARC) and couples family planning and counseling (CFPC) programs in Zambia

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Program/Project Purpose: Zambia Emory HIV Research Program (ZEHRP) has spent the last 20 years in Zambia building CVCT

capacity by offering these services and conducting trainings for counselors. To address Zambia's high total fertility rate and high HIV infection rate, ZEHRP has integrated CVCT with LARC provision and CFPC. The aim of this analysis was to show net cost savings of the integrated programs in Zambia and to ultimately encourage government to create policies that would fund CVCT and LARC in Zambia universally. The project was conducted over ten weeks between May 2014 and July 2014 and data analysis completed in Atlanta, Georgia at the parent site Rwanda Zambia HIV Research Group (RZHRG).

Structure/Method/Design: Costs were determined using a mixed methods approach. Interviews were conducted with 25 program and administrative staff to understand procurement of resources and staff perceptions of value for money. Historical cost data from ACCPAC was assigned to different aspects of the program using a micro-costing approach. Data was analyzed using a sensitivity analysis in excel to understand where there was greatest uncertainty. Cost data was then compared to staff interviews to determine recommendations for the organization. Recommendations specified reducing cost through behavior change within the organization and strategic planning of trainings to maintain sustainability.

Outcomes & Evaluation: A major cost driver was months with rural LARC trainings overlapping with CVCT trainings straining the organization's resources. It was recommended that procurement of ficers at each site take active part in early training planning to ensure best procurement practices (competitive bidding, accurate budgeting etc.) and to focus on building demand for LARC and CVCT services to reduce fuel and transport costs during trainings. We developed 8 value for money indicators to track program outcomes and costs.

Going Forward: Historical cost data is currently being analyzed using TreeAge software to determine the Incremental Cost Effectiveness Ratio by building a decision tree model. Currently, developing a decision tree model where two outcomes (HIV infections averted, unwanted pregnancies averted) are assessed using a single program is a challenge. Year three budgets will be based on this modeling and reported to the grantee. This program will be used as a model for other combined CVCT, LARC and CFPC programs in Sub-Saharan Africa.

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