Introduction Most low- and middle-income countries (LMICs) rely on syndromic management to guide diagnosis and treatment of sexually transmitted infections (STIs). Syndromic management is less expensive but has poor diagnostic accuracy compared to conventional laboratory testing. The goal of this study was to determine the incremental cost of implementing a rapid, near-patient diagnostic care model at an infectious disease centre in Durban, South Africa.

Methods As part of a cohort study to assess diagnostic point-of-care testing with expedited partner therapy (EPT), we compared cost incurred to standard-of-care syndromic management in the same clinic. Patients were tested with GeneXpert CT/NG assay, OSOM Rapid Trichomonas Test, and microscopy for candida and bacterial vaginosis, followed by specific treatment and EPT. Patients receiving standard-of-care were administered a symptom screen and broad STI treatment. An activity-based micro-costing approach, including time and motion studies, was used to estimate cost per patient treated. Costs were obtained from budgets, invoices, and staff interviews from 2016.

Results The mean incremental cost per patient when going from syndromic to diagnostic management was USD 36.69 ($28.15 excluding microscopy). The largest costs for diagnostic management came from Cepheid CT/NG cartridges ($14.37, 39%) and nurse time ($14.19, 39%). Average per-patient medication costs were higher for syndromic management than diagnostic testing ($11.00 vs. $1.74). Several costs of syndromic management were not accounted for, including potential misdiagnosis, overtreatment resulting in adverse reactions or drug resistance, lack of awareness of the specific STI, less effective partner notification with a greater risk of reinfection, and HIV acquisition.

Conclusion Diagnostic management cost more than syndromic management per patient visit. However, health consequences of syndromic management should be further evaluated. Accurate, low-cost STI diagnostics are potentially a cost-effective intervention for STI control.

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