



# Evaluating a Task-Shifting Methodology for Cataract Surgery: A Two-Year Longitudinal Analysis of Backlog Reduction in Oromia, Ethiopia

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## Abstract

Cataract-induced blindness remains a significant public health burden in sub-Saharan Africa, exacerbated by a critical shortage of ophthalmologists. Task-shifting, the delegation of medical tasks to non-physician clinicians, is a proposed strategy to address this workforce gap, but robust longitudinal evaluations of its implementation are scarce. This methodology article details the design and implementation of a longitudinal study to evaluate a task-shifting programme for cataract surgery in the Oromia Region of Ethiopia. The primary objective was to assess the methodology's effectiveness in measuring the programme's impact on reducing the regional surgical backlog. A mixed-methods, longitudinal cohort design was employed. The quantitative component tracked surgical output and backlog metrics across multiple health facilities. The qualitative component utilised focus group discussions and semi-structured interviews with programme trainers, non-physician cataract surgeons, health managers, and patients to assess implementation fidelity, challenges, and perceived outcomes. Detailed protocols for data collection, training supervision, and ethical considerations are presented. The methodological approach proved feasible for longitudinal evaluation in a low-resource setting. Analysis indicated a substantial increase in annual surgical output, with a corresponding reduction in the regional backlog. A key theme from qualitative data was the importance of sustained mentorship for non-physician clinicians. The described methodology provides a viable framework for evaluating complex task-shifting interventions in public health. It captured longitudinal data on both quantitative outputs and qualitative implementation processes, offering a model for similar studies in resource-limited contexts. Future research employing this methodology should incorporate longer follow-up periods to assess sustainability of outcomes. The protocol should be adapted to include more granular cost-effectiveness analyses. Policymakers should consider such evaluation frameworks when scaling task-shifting programmes. Task-shifting, cataract surgery, non-physician clinicians, surgical backlog, health workforce, programme evaluation, mixed-methods, Ethiopia. This article provides a detailed methodological framework for

the longitudinal evaluation of a task-shifting intervention, contributing to the evidence base on operational research methods in African public health systems.

**Keywords:** *Task-shifting, Cataract surgery, Sub-Saharan Africa, Longitudinal study, Non-physician clinicians, Surgical backlog*

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