African Thoracic Surgery

# Methodological Evaluation of District Hospitals Systems in Ethiopia Using Quasi-Experimental Design for Risk Reduction Assessment

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## Abstract

District hospitals in Ethiopia face challenges in managing patient referrals from primary care settings due to inadequate systems. A mixed-methods approach combining quantitative data analysis and qualitative interviews was employed. The study utilised Cox proportional hazards models for risk assessment and robust standard errors to account for potential confounders. Referral delays were significantly reduced by 30% in the intervention group compared to controls, with a hazard ratio of 0.7 (95% CI: 0.6-0.8). The quasi-experimental design demonstrated effectiveness in assessing and improving district hospital systems. Continued monitoring and periodic system reviews are recommended for sustainability. Ethiopia, District Hospitals, Quasi-Experimental Design, Risk Reduction, Cox Proportional Hazards Model Treatment effect was estimated with $text{logit}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

**Keywords:** *Ethiopia, Geographic Medicine, Quasi-Experimental Design, Risk Assessment, Health Systems Reform, Quantitative Methods, Qualitative Research*

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