



Methodological Evaluation of District Hospitals Systems in Ethiopia: A Randomized Field Trial on System Reliability

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Abstract

District hospitals in Ethiopia play a crucial role in healthcare delivery, yet their reliability is often questioned due to varying operational standards and resource availability. A mixed-methods approach was employed, including quantitative data collection via standardised surveys and qualitative insights from in-depth interviews. A randomization process ensured fair comparison between participating hospitals. The analysis revealed that while there were significant improvements in patient flow management (85% reduction in wait times) and staff training effectiveness (92% participant satisfaction), diagnostic accuracy remained a challenging area with a moderate improvement (15% increase). While the randomized trial demonstrated promising improvements, further research is needed to address persistent issues such as diagnostic accuracy. Investment in diagnostic equipment and continuous professional development programmes for medical staff are recommended to enhance overall system reliability. district hospitals, reliability assessment, patient flow management, staff training, diagnostic accuracy

Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta_1 X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Ethiopia, District Hospitals, System Reliability, Quality Assurance, Randomized Control Trial, Medical Infrastructure, Health Systems Reform

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