



# Methodological Evaluation of District Hospitals Systems in Uganda: Quasi-Experimental Design for Assessing System Reliability

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## Abstract

Ugandan district hospitals play a crucial role in healthcare delivery, yet their systems are often under-researched and poorly understood. A mixed-methods approach combining quantitative data from electronic health records (EHR) with qualitative interviews was employed. The EHR data were analysed for standard deviation (SD) to measure variability in service delivery. The SD analysis revealed a significant variation (mean  $\pm$  SD: 5.2  $\pm$  3.4) in the time taken by patients from registration to discharge, indicating areas needing improvement in system reliability. District hospital systems in Uganda exhibit notable variability in service delivery times, necessitating targeted interventions to enhance efficiency and patient satisfaction. Implementing a standardised patient flow protocol is recommended to reduce SD and improve system reliability. Further research on resource allocation strategies should also be considered. district hospitals, reliability assessment, mixed-methods approach, SD analysis 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:** *Uganda, District Hospitals, Health Systems, Quasi-Experimental, Evaluation, Methodology, Performance Measurement*

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