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Methodological Evaluation of District Hospitals Systems in Ethiopia Using Difference-in-Differences Model

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Abstract

District hospitals in Ethiopia play a crucial role in healthcare delivery, serving as primary care points for underserved populations. However, their reliability and efficiency are subject to scrutiny. A cross-sectional study design was employed with data collected from a sample of districts using standardised surveys. The DiD method was used to estimate treatment effects over time, controlling for potential confounders. The analysis revealed a statistically significant improvement in patient flow metrics post-intervention ($p < 0.05$), indicating enhanced system reliability and efficiency among the sampled districts. This study provides empirical evidence supporting the efficacy of DiD methodology in assessing district hospital systems' reliability, offering insights for policy-makers aiming to improve healthcare access and quality. Future research should explore longitudinal data to enhance understanding of long-term system impacts and implement targeted interventions where needed. District Hospitals, Difference-in-Differences (DiD), Healthcare Reliability, Ethiopia Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Ethiopia, District Hospitals, Healthcare Delivery, Methodological Evaluation, Difference-in-Differences, Quantitative Methods, Public Health Systems*

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