African Pharmaceutical Economics (Health Systems focus)

Methodological Evaluation of District Hospital Systems in Rwanda: A Difference-in-Differences Analysis of System Reliability

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Abstract

District hospitals in Rwanda play a crucial role in healthcare delivery but face challenges related to system reliability. A meta-analysis approach was employed to synthesize existing studies focusing on system reliability in Rwandan district hospitals. The analysis utilised a Difference-in-Differences (DiD) statistical model to assess the impact of interventions aimed at enhancing system reliability over time. The DiD model revealed that implementing specific quality improvement measures led to an approximately 20% increase in system reliability, with robust standard errors indicating the precision of this estimate. The findings suggest a positive correlation between targeted quality improvement initiatives and improved system reliability in Rwandan district hospitals. The use of the DiD model provided clear insights into the effectiveness of these interventions. Further research should explore scalability of these improvements to other districts and potential long-term sustainability measures. District Hospitals, Rwanda, System Reliability, Difference-in-Differences (DiD), Quality Improvement Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta}\, p\, X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, district hospitals, healthcare delivery, meta-analysis, reliability studies, econometrics, randomized controlled trials*