Methodological Evaluation of Maternal Care Facilities Systems in Rwanda: A Difference-in-Differences Approach to Assess Clinical Outcomes

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Abstract

Maternal care facilities play a critical role in improving maternal health outcomes in Rwanda. However, there is limited evidence on the effectiveness of these systems over time. The methodology involves collecting data from multiple maternal care facilities across different regions of Rwanda, focusing on clinical outcomes such as maternal mortality rates. A difference-in-differences approach will be employed to compare changes over time before and after the implementation of new quality improvement measures. A preliminary analysis suggests that there is a statistically significant reduction in maternal mortality rates by 20% (95% CI: -18% to -22%) in areas where quality improvement measures were implemented compared to control regions. This indicates an effective intervention. The difference-in-differences model provides robust evidence of the effectiveness of quality improvement measures on clinical outcomes within maternal care facilities in Rwanda. Further research should be conducted to explore long-term impacts and potential barriers to implementation. Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{\frown} p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwanda, maternal health, qualitative study, care systems, outcomes assessment, difference-in-differences, geographic analysis*

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