



# Methodological Evaluation of Maternal Care Facilities in Rwanda Using Difference-in-Differences to Measure Clinical Outcomes

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## Abstract

Maternal care facilities in Rwanda have been established to improve maternal health outcomes. However, there is a need for methodological evaluation of these services to ensure their effectiveness and identify areas for improvement. A difference-in-differences approach was employed to assess changes in clinical outcomes before and after the introduction of new maternal care facilities. This method compares treated units (newly established facilities) against control units (existing facilities) within the same geographic area over time, controlling for any pre-existing trends. The analysis revealed a significant improvement in emergency obstetric care utilization among women who had access to newly established maternal care facilities compared to those with existing facilities. This difference was statistically robust and not likely due to random variation. The DiD model provided a clear and credible framework for evaluating the impact of new maternal care facilities on clinical outcomes in Rwanda. Based on these findings, policymakers should prioritise the expansion and support of newly established maternal care facilities to further improve maternal health outcomes. 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:** Rwanda, Maternal Health, Methodology, Difference-in-Differences, Evaluation, Africa, Public Health

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