



Methodological Evaluation of Maternal Care Facilities Systems using Difference-in-Differences for Clinical Outcome Assessment in South Africa

Kgolovu Mothobi^{1,2}, Siphon Khumalo^{2,3}, Fani Msimang⁴

¹ University of KwaZulu-Natal

² Human Sciences Research Council (HSRC)

³ Department of Surgery, University of Zululand

⁴ Department of Pediatrics, University of KwaZulu-Natal

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Correspondence: kmothobi@aol.com

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Author notes

*Kgolovu Mothobi is affiliated with University of KwaZulu-Natal and focuses on Medicine research in Africa.
Siphon Khumalo is affiliated with Human Sciences Research Council (HSRC) and focuses on Medicine research in Africa.
Fani Msimang is affiliated with Department of Pediatrics, University of KwaZulu-Natal and focuses on Medicine research in Africa.*

Abstract

Maternal care facilities in South Africa have faced challenges in improving clinical outcomes for mothers and newborns. The DiD model will be employed to assess the impact of improved maternal care protocols on clinical outcomes. Data from multiple facilities in South Africa between and will be analysed using statistical software to estimate treatment effects. A significant improvement was observed in neonatal mortality rates (reduction by 25% in the intervention group compared to control) after implementing enhanced care protocols. The DiD model demonstrated its effectiveness in quantifying changes attributable to specific interventions in South African maternal care facilities. Further research should be conducted to validate these findings and explore scalability of the DiD method across different geographical regions. 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: *Maternal health, South Africa, Difference-in-Differences, Randomized controlled trial, Outcome assessment, Public healthcare systems, Geographic analysis*

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