



# Methodological Evaluation of Maternal Care Facilities Systems in Senegal Using Difference-in-Differences Model for Clinical Outcome Measurement

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## Abstract

In Senegal, maternal care facilities play a crucial role in improving health outcomes for mothers and newborns. This review employs a difference-in-differences (DiD) model, which compares changes over time in treatment and control groups to assess the effectiveness of maternal care facilities. The DiD model demonstrated that improvements in maternal health indicators were significantly associated with enhanced quality of care provided in participating hospitals. The use of DiD effectively highlighted the positive impact of improved maternal care systems on clinical outcomes, providing robust evidence for policy recommendations. Policy-makers should prioritise investments in upgrading maternal care facilities to ensure equitable access and high-quality care across Senegalese healthcare settings. Treatment effect was estimated with  $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan Africa, maternal health, care systems, difference-in-differences, econometrics, randomized controlled trials, health inequalities*

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