



Methodological Evaluation of Off-Grid Communities Systems in Senegal: A Randomized Field Trial for Clinical Outcomes Assessment

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Abstract

Off-grid communities in Senegal face unique challenges in accessing reliable healthcare services, necessitating innovative solutions that can be effectively evaluated. A systematic literature review was conducted to assess existing methods and identify gaps in evaluating healthcare systems within these communities. The review included papers published between and that focused on clinical outcomes in off-grid settings. The analysis revealed a significant proportion (78%) of the reviewed studies used regression models to predict clinical outcomes, with a median confidence interval indicating moderate precision of these predictions. While existing methods are widely employed, there is room for improvement in methodological rigor and consistency across different settings. Future research should prioritise standardization of methodologies and the inclusion of more diverse data sources to enhance the reliability of clinical outcomes assessments in off-grid communities. Off-Grid Communities, Senegal, Clinical Outcomes Assessment, Methodology Evaluation, Randomized Field Trials The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, randomized control, community-based, intervention efficacy, health system resilience, data collection methodologies, outcome assessment frameworks*

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