



Risk Reduction in District Hospitals Systems: A Multilevel Regression Analysis of Rwanda's Health Care Governance

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Abstract

Rwanda's district hospitals play a crucial role in its health care system, yet their effectiveness varies significantly across different regions. A multilevel regression model was employed to analyse data from district hospitals in Rwanda, considering both hospital-level and regional factors influencing risk levels. The multilevel regression analysis revealed that implementing a standardised training programme at the district level significantly reduced surgical complications by approximately 20% (95% CI: -18.64 to -22.36). The study underscores the importance of tailored interventions in reducing risks associated with district hospital operations. District hospitals should prioritise training programmes and quality assurance measures to mitigate surgical complications effectively. Rwanda, District Hospitals, Health Governance, Multilevel Regression, Risk Reduction Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, African, Hospital, Systems, Analysis, Multilevel, Regression, Health, Governance*

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