Multilevel Regression Analysis of Adoption Rates in District Hospitals Systems in Rwanda: A Longitudinal Study

Geraldine Nyamwiza[1,2]**, Victoire Uwizeye**[2,3]**, Dorcas Bizimungu**[2]**, Kizito Mudavirwa**[4]

[1] Department of Pediatrics, University of Rwanda

[2] University of Rwanda

[3] Department of Epidemiology, African Leadership University (ALU), Kigali

[4] Department of Public Health, African Leadership University (ALU), Kigali

Author notes

Geraldine Nyamwiza is affiliated with Department of Pediatrics, University of Rwanda and focuses on Medicine research in Africa.

Victoire Uwizeye is affiliated with Department of Epidemiology, African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Dorcas Bizimungu is affiliated with University of Rwanda and focuses on Medicine research in Africa.

Kizito Mudavirwa is affiliated with Department of Public Health, African Leadership University (ALU), Kigali and focuses on Medicine research in Africa.

Abstract

Rwanda's district hospitals are pivotal in health care delivery but face challenges with adoption of evidence-based practices. A longitudinal study employing multilevel regression models to assess the stability and variability in practice adoption over time at both hospital (level-1) and district (level-2) levels, accounting for contextual factors. Findings indicate a significant increase in the adoption rate of antenatal care practices from baseline to follow-up, with a coefficient estimate of -0.56 (95% CI: -0.78 to -0.34). The multilevel regression analysis reveals that contextual factors significantly influence practice adoption rates. Facilitate continuous professional development and support for healthcare providers at district levels, incorporating robust monitoring systems. multilevel regression, longitudinal study, practice adoption, Rwanda, health care delivery Treatment effect was estimated with $text\{logit\}(\pi) = beta\,0 + \beta^{\rightarrow} p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Rwandan, District, Hospitals, Multilevel, Regression, Adoption, Analysis*

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