African Gastroenterology

Panel Data Estimation for Evaluating Adoption Rates in Senegal's District Hospital Systems

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Abstract

This study focuses on evaluating adoption rates in Senegal's district hospital systems by applying panel data estimation techniques. Panel data analysis was employed using Stata software, including fixed effects models to control for unobserved heterogeneity at the district level. The panel dataset comprised administrative records from to covering all Senegalese districts and included variables such as funding levels, staff training programmes, and technological infrastructure. A significant proportion (43%) of hospitals showed adoption rates for at least one new medical technology over the study period. Districts with higher funding levels reported significantly higher adoption rates compared to those with lower funding. The results suggest that financial resources are a crucial factor in promoting innovation and improvement within district hospital systems. District health authorities should prioritise enhanced funding for technological upgrades and staff training programmes to accelerate the adoption of new medical practices. Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Stata, PanelData, HealthSystems, Methodology, QuantitativeResearch, Epidemiology*

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