Impact Evaluation of Telehealth Services on Remote Villagers' Healthcare Access and Utilization in Northern Nigeria: Adoption Rate and Quality Improvement Outcomes

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Abstract

Telehealth services have shown promise in improving healthcare access for remote populations, particularly in resource-limited settings like northern Nigeria. A mixed-methods approach was employed, including a pre-post survey design for quantitative data collection and qualitative interviews to gather deeper insights into service quality and user experiences. User adoption of telehealth services increased by 40% after the intervention, with significant improvements noted in service quality as assessed through an ordinal scale ranging from 'very poor' to 'excellent'. The study concludes that telehealth services can effectively enhance healthcare access and utilization among remote villagers in northern Nigeria. Healthcare policymakers should prioritise the expansion of telehealth infrastructure, while also ensuring ongoing quality monitoring and user support. Telehealth, Remote Villagers, Healthcare Access, Utilization Rates, Quality Improvement Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

Keywords: *Telehealth, Sub-Saharan Africa, Geographic Information Systems (GIS), Quantitative Research, Qualitative Analysis, Data Mining, Community Health Services*

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