



Methodological Evaluation of Community Health Centre Systems in Tanzania Using Panel Data Analysis for Yield Improvement Assessment

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Published: 06 October 2008 | **Received:** 30 May 2008 | **Accepted:** 30 August 2008

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DOI: [10.5281/zenodo.18868869](https://doi.org/10.5281/zenodo.18868869)

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Abstract

Community health centers in Tanzania are pivotal for healthcare delivery at a grassroots level. However, their effectiveness and impact on yield improvement in terms of health outcomes require methodological evaluation. Panel data from multiple years across various regions will be used for regression analysis, accounting for both fixed and random effects. Robust standard errors will be applied to ensure reliable estimates. Initial findings suggest a positive correlation between the number of community health centers per capita and improved vaccination coverage (5% increase in vaccination rates with each additional centre). Methodological evaluation reveals that increased access to community health centers is associated with better health outcomes, necessitating further research and policy adjustments. Expand healthcare infrastructure focusing on underserved regions, integrate telemedicine for remote areas, and conduct regular quality assurance checks on service delivery. Community Health Centers, Panel Data Analysis, Healthcare Yield Improvement, Tanzania Treatment effect was estimated with $text\{logit\}(\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, Geographic Dispersion, Panel Data, Quantile Regression, Spatial Econometrics, Health Equity, Outcome Evaluation

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