



Evaluating Community Health Centre Systems in Ghana Using Panel Data for Risk Reduction Measurement

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Abstract

Community health centers (CHCs) play a crucial role in healthcare delivery in Ghana, particularly in underserved areas. A mixed-method approach was employed, including both quantitative (panel-data estimation) and qualitative assessments. Panel data analysis was conducted to measure the effectiveness of CHCs in reducing health risks among populations served. The findings indicate that there is a significant positive correlation between the number of CHCs per capita and the reduction rate in preventable diseases, with an estimated coefficient of $\alpha = 0.85$ (95% CI: [0.72, 0.98]). The study concludes that enhanced CHC systems are pivotal for reducing health risks, particularly in underserved regions. Based on the findings, recommendations include increasing funding and training for CHCs to improve service delivery and expand coverage.

Keywords: *Sub-Saharan, African, Networks, Social, Determinants, Stochastic, Impact, Modelling*

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