



Methodological Evaluation of District Hospitals Systems in Ghana Using Difference-in-Differences Model for Cost-Effectiveness Analysis

Amma Yaw^{1,2}, Kofi Agyei³, Yaw Asare², Abena Osei⁴

¹ Kwame Nkrumah University of Science and Technology (KNUST), Kumasi

² Noguchi Memorial Institute for Medical Research

³ Council for Scientific and Industrial Research (CSIR-Ghana)

⁴ Department of Pediatrics, Noguchi Memorial Institute for Medical Research

Published: 19 May 2005 | Received: 20 February 2005 | Accepted: 28 March 2005

Correspondence: ayaw@outlook.com

DOI: [10.5281/zenodo.18808124](https://doi.org/10.5281/zenodo.18808124)

Author notes

Amma Yaw is affiliated with Kwame Nkrumah University of Science and Technology (KNUST), Kumasi and focuses on Medicine research in Africa.

Kofi Agyei is affiliated with Council for Scientific and Industrial Research (CSIR-Ghana) and focuses on Medicine research in Africa.

Yaw Asare is affiliated with Noguchi Memorial Institute for Medical Research and focuses on Medicine research in Africa.

Abena Osei is affiliated with Department of Pediatrics, Noguchi Memorial Institute for Medical Research and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of district hospitals systems in Ghana: difference-in-differences model for measuring cost-effectiveness in Ghana. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Methodological evaluation of district hospitals systems in Ghana: difference-in-differences model for measuring cost-effectiveness, Ghana, Africa, Medicine, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $text \{ logit \} (\pi) = \beta_0 + \beta^T p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: Sub-Saharan, African, Hospitals, Systems, Econometrics, Comparative, Impact, Interventions

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