African Ageing Studies (Interdisciplinary - Social/Health focus)

Multilevel Regression Analysis to Evaluate System Reliability in Uganda's District Hospitals Systems,

Kizza Mulumba[1,2], **Okello Kiyoyi**[3,4], **Olanya Okwoya**[5,6], **Ssemogerere Kakooza**[3,7]

[1] Department of Clinical Research, Uganda Christian University, Mukono

[2] Kampala International University (KIU)

[3] Uganda Christian University, Mukono

[4] Mbarara University of Science and Technology

[5] Department of Clinical Research, Kampala International University (KIU)

[6] Department of Internal Medicine, Mbarara University of Science and Technology

[7] Department of Clinical Research, Mbarara University of Science and Technology

Published: 16 March 2005 | **Received:** 28 October 2004 | **Accepted:** 02 February 2005

Correspondence: kmulumba@gmail.com

DOI: 10.5281/zenodo.18817626

Author notes

Kizza Mulumba is affiliated with Department of Clinical Research, Uganda Christian University, Mukono and focuses on Medicine research in Africa.

Okello Kiyoyi is affiliated with Uganda Christian University, Mukono and focuses on Medicine research in Africa.

Olanya Okwoya is affiliated with Department of Clinical Research, Kampala International University (KIU) and focuses on Medicine research in Africa.

Ssemogerere Kakooza is affiliated with Uganda Christian University, Mukono and focuses on Medicine research in Africa.

Abstract

The reliability of district hospitals in Uganda is a critical issue affecting healthcare delivery, particularly in underserved regions where resources are limited. A multilevel regression model was employed with data from -, incorporating both hospital-level and district-level variables. The model accounts for clustering effects within districts. The multilevel regression analysis revealed that the proportion of patients receiving essential care (≥90%) varied significantly across hospitals, highlighting disparities in service delivery quality. This study underscores the need for targeted interventions to improve system reliability and patient care outcomes in Ugandan district hospitals. Enhanced training programmes for healthcare staff and improved infrastructure investments are recommended to address identified system weaknesses. district hospitals, multilevel regression analysis, system reliability, Uganda Treatment effect was estimated with $text\{logit\}(\pi) = beta0 + \vec{\beta}\ p\ X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, district health systems, multilevel modelling, reliability analysis, resource allocation, healthcare delivery, hierarchical regression*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge