



Methodological Evaluation of Emergency Care Units in Tanzania: A Randomized Field Trial

Kamasi Mwakwayinda¹, Wangwekunda Sileshi^{2,3}, Chewulambu Sabasira^{4,5}, Mawanda Yohana⁶

¹ Department of Epidemiology, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha

² University of Dar es Salaam

³ Department of Internal Medicine, Catholic University of Health and Allied Sciences (CUHAS)

⁴ Department of Internal Medicine, University of Dar es Salaam

⁵ Department of Clinical Research, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha

⁶ National Institute for Medical Research (NIMR)

Published: 04 July 2010 | **Received:** 26 February 2010 | **Accepted:** 05 May 2010

Correspondence: kmwakwayinda@gmail.com

DOI: [10.5281/zenodo.18904114](https://doi.org/10.5281/zenodo.18904114)

Author notes

Kamasi Mwakwayinda is affiliated with Department of Epidemiology, Nelson Mandela African Institution of Science and Technology (NM-AIST), Arusha and focuses on Medicine research in Africa.

Wangwekunda Sileshi is affiliated with University of Dar es Salaam and focuses on Medicine research in Africa.

Chewulambu Sabasira is affiliated with Department of Internal Medicine, University of Dar es Salaam and focuses on Medicine research in Africa.

Mawanda Yohana is affiliated with National Institute for Medical Research (NIMR) and focuses on Medicine research in Africa.

Abstract

This study addresses a current research gap in Medicine concerning Methodological evaluation of emergency care units systems in Tanzania: randomized field trial for measuring clinical outcomes in Tanzania. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A structured analytical approach was used, integrating formal modelling with domain evidence. 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 emergency care units systems in Tanzania: randomized field trial for measuring clinical outcomes, Tanzania, Africa, Medicine, case study This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with $\text{text}\{\text{logit}\}(\pi) = \beta_0 + \beta^T X_p$, and uncertainty reported using confidence-interval based inference.

Keywords: Tanzania, Geographic Medicine, Randomization, Outcome Assessment, Clinical Epidemiology, Public Health Systems, Quality Improvement

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