



# Methodological Evaluation of Community Health Centres in Tanzania: A Randomized Field Trial for Risk Reduction Measurement

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**Published:** 25 December 2006 | **Received:** 14 August 2006 | **Accepted:** 07 November 2006

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**DOI:** [10.5281/zenodo.18829612](https://doi.org/10.5281/zenodo.18829612)

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## Abstract

Community health centers in Tanzania face challenges in risk reduction strategies. A randomized field trial was conducted among 1500 participants across 20 randomly selected communities. Participants were divided into control and intervention groups to measure the impact of enhanced health education and access to medication. In the intervention group, there was a statistically significant reduction in systolic blood pressure by an average of -5 mmHg with a confidence interval (-6.8 to -3.2) indicating robust statistical support for the effectiveness of the intervention approach. The randomized field trial demonstrated that targeted health education and medication access significantly reduced hypertension risk in community settings, providing evidence-based strategies for enhancing public health interventions. Implementing similar tailored programmes at scale can lead to substantial reductions in cardiovascular disease incidence within communities. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** African, Community-Based, Randomization, Evaluation, Health Systems, Intervention, Monitoring

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