African Animal Breeding and Genetics (Agri/Animal Science)

Bayesian Hierarchical Model for Evaluating Cost-Effectiveness of Community Health Centers in Tanzania

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Abstract

The evaluation of community health centers in Tanzania has been a focus for improving healthcare access and cost-effectiveness. A Bayesian hierarchical model was employed to assess the cost-effectiveness of community health centers, considering multiple studies conducted between and . The analysis revealed that there was a significant reduction ($p < 0.05$) in healthcare costs per patient visit when using community health centers compared to private clinics. This study provides strong evidence supporting the cost-effectiveness of community health centers, contributing to improved healthcare delivery and resource allocation. The findings suggest that policy makers should prioritise investment in expanding the network of community health centers to enhance access and reduce costs. Bayesian hierarchical model, Community health centers, Cost-effectiveness, Healthcare cost reduction, Tanzania Treatment effect was estimated with $text\{logit\}(\pi) = beta 0 + \beta^{\rightarrow} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *African geography, Bayesian hierarchical models, cost-effectiveness analysis, meta-analysis, randomized controlled trials, sampling theory, statistical methods*

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