African Animal Breeding and Genetics (Agri/Animal Science)

Bayesian Hierarchical Model for Assessing Adoption Rates in Ghanaian District Hospitals Systems

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Abstract

The evaluation of healthcare systems in Ghanaian district hospitals is crucial for improving service delivery and patient outcomes. A Bayesian hierarchical model was employed to analyse data from multiple districts, accounting for variation across different healthcare settings. The median adoption rate across all districts was found to be 45%, with significant variability observed between hospitals in terms of technology uptake. This study highlights the need for targeted interventions to enhance adoption rates and improve service quality in Ghanaian district hospitals. District health authorities should prioritise training programmes and financial incentives to encourage healthcare providers to adopt new medical technologies. Treatment effect was estimated with $text{ logit } (pi) = beta 0 + vec{beta} p X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Sub-Saharan, Bayesian, Hierarchical, Model, Adoption, Evaluation, Ghana*

ABSTRACT-ONLY PUBLICATION

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