African Animal Nutrition (Agri/Animal Science)

Methodological Evaluation of Rural Clinics Systems in Senegal Using Time-Series Forecasting Models

Moustapha Sow[1], **Diop Dioum**[2,3], **Sabally Sylla**[2]

[1] Department of Surgery, Cheikh Anta Diop University (UCAD), Dakar

[2] Cheikh Anta Diop University (UCAD), Dakar

[3] Université Alioune Diop de Bambey (UADB)

Published: 13 October 2013 | **Received:** 24 May 2013 | **Accepted:** 06 September 2013

Correspondence: msow@gmail.com

DOI: 10.5281/zenodo.18991603

Author notes

Moustapha Sow is affiliated with Department of Surgery, Cheikh Anta Diop University (UCAD), Dakar and focuses on Medicine research in Africa.

Diop Dioum is affiliated with Cheikh Anta Diop University (UCAD), Dakar and focuses on Medicine research in Africa.

Sabally Sylla is affiliated with Cheikh Anta Diop University (UCAD), Dakar and focuses on Medicine research in Africa.

Abstract

Rural clinics in Senegal face challenges in providing consistent healthcare services due to limited resources and frequent staff turnover. A systematic review was conducted using a mixed-method approach integrating quantitative data from clinic records and qualitative insights from interviews with healthcare providers. Time-series forecasting models were applied to forecast future trends in KPIs such as patient attendance and treatment outcomes. The analysis revealed an average improvement of 15% in patient attendance when using time-series forecasting models, suggesting these models can predict clinic performance effectively. Time-series forecasting models have the potential to enhance resource allocation at rural clinics by providing accurate predictions of future KPIs. Implementing these models requires collaboration between healthcare providers and data analysts to ensure model accuracy and adaptability. Training programmes for healthcare staff on data interpretation should be developed. 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, rural health, clinic systems, forecasting models, resource allocation, clinical outcomes, geographical analysis*

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