



A Replication Study: Assessing Operational Efficiency Gains from a Voice-Recognition Dictation System in Radiology Reporting at a Kenyan Tertiary Hospital

Kamau Ochieng¹, Wanjiku Mwangi², Amina Hassan³, Fatuma Abubakar^{1,4}

¹ Strathmore University

² Kenya Agricultural and Livestock Research Organization (KALRO)

³ Department of Surgery, University of Nairobi

⁴ Jomo Kenyatta University of Agriculture and Technology (JKUAT)

Published: 14 January 2016 | **Received:** 31 October 2015 | **Accepted:** 30 December 2015

Correspondence: kochieng@hotmail.com

DOI: [10.5281/zenodo.18543537](https://doi.org/10.5281/zenodo.18543537)

Author notes

Kamau Ochieng is affiliated with Strathmore University and focuses on Medicine research in Africa.

Wanjiku Mwangi is affiliated with Kenya Agricultural and Livestock Research Organization (KALRO) and focuses on Medicine research in Africa.

Amina Hassan is affiliated with Department of Surgery, University of Nairobi and focuses on Medicine research in Africa.

Fatuma Abubakar is affiliated with Strathmore University and focuses on Medicine research in Africa.

Abstract

The adoption of voice-recognition dictation (VRD) systems in radiology reporting is often linked to improved operational efficiency. Existing evidence, however, comes largely from high-income settings. This study replicates such research within a Kenyan tertiary hospital to assess outcomes in a context with distinct resource and workflow considerations. This replication study aimed to evaluate operational efficiency gains from implementing a VRD system for radiology reporting at a tertiary hospital in Kenya. Its primary objective was to measure the change in report turnaround time following the system's introduction. A retrospective, comparative analysis was performed. The median report turnaround time for a representative sample of computed tomography reports generated using the VRD system was calculated. This was compared against the median turnaround time for a similar sample produced via the previous transcriptionist-mediated method. Data on subsequent report amendments were also collected. The implementation of the VRD system was associated with a reduction in median report turnaround time. The median time decreased from approximately 72 hours under the prior system to under 24 hours post-implementation. A small proportion of dictated reports required later amendments for corrections. This replication confirms that a VRD system can significantly improve report turnaround times in a Kenyan tertiary hospital setting, aligning with findings from other contexts. The technology represents a viable tool for enhancing radiology service responsiveness. Hospitals in comparable settings should consider VRD systems to streamline reporting workflows. Investment should be accompanied by targeted radiologist training to minimise post-dictation corrections and ensure the technology's effective integration into local practice. Voice recognition, dictation, radiology reporting, turnaround time, operational efficiency, Kenya, replication study This

study provides empirical evidence from a sub-Saharan African context on the impact of VRD technology on radiology reporting efficiency, addressing a gap in the literature.

Keywords: *Radiology reporting, Voice-recognition dictation, Operational efficiency, Replication study, Sub-Saharan Africa, Health information technology, Workflow 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