

INFORMATION AND COMMUNICATION TECHNOLOGY SYSTEMS AT MBAGATHI COUNTY REFERRAL HOSPITAL, KENYA: STAFF PERCEPTIONS OF OPERATIONAL SUPPORTChepkirui Cheruiyot Monica¹ and Dr. Daniel A. Otwor²¹ School of Management and Leadership, Management University of Africa, Nairobi, Kenya² Management University of Africa, Nairobi, Kenya | * Corresponding author: monica.chepkirui@yahoo.com

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ABSTRACT

Background: Digital systems can support patient registration, clinical documentation, communication and management decisions, but their practical value depends on reliability and use. Objective: To describe staff perceptions of information and communication technology (ICT) systems at Mbagathi County Referral Hospital, Kenya, using the second objective of a broader organizational-resources survey. Methods: The target population comprised 273 employees in management, clinical, administrative, procurement and finance roles. Of a planned stratified sample of 162, 120 returned questionnaires (74.1%). Five ICT statements were rated on a five-point agreement scale and summarized using means and standard deviations. Results: Patient registration enabling timely and accurate processing had the highest reported mean ($M = 4.234$, $SD = 0.825$). Interdepartmental communication ($M = 3.998$, $SD = 1.271$), electronic medical records supporting operational efficiency ($M = 3.951$, $SD = 1.051$), system reliability with minimal downtime ($M = 3.879$, $SD = 0.936$), and data management for decision-making ($M = 3.819$, $SD = 1.172$) received lower ratings. Conclusion: Respondents generally viewed the systems favorably, while data use, reliability and communication warrant attention. The supplied project reports no ICT-specific regression coefficient; the results do not establish a measured effect on operational performance.

Keywords: digital health; electronic medical records; hospital operations; ICT systems; Kenya; patient registration

1. INTRODUCTION

Hospital information systems link registration, clinical records, communication and administrative work. Their value depends on usable workflows, dependable access and information that reaches the people making decisions. A mixed-methods survey of Kenyan public hospitals documented expanding adoption of digital systems but also implementation challenges (Muinga et al., 2020). A later Kenyan tertiary-hospital study found that many end users perceived benefits from a comprehensive electronic health record, while its results remained specific to that institution (Shrestha et al., 2025).

The parent Mbagathi project examined organizational resources and operational performance. This paper addresses its second objective by presenting staff ratings of five ICT functions. It asks which functions respondents viewed as comparatively strong and which merit operational review. The survey provides a cross-sectional view of perceptions, not audit logs, observed processing times or a causal evaluation of digital systems.

2. LITERATURE REVIEW

Patient registration systems may reduce repeated entry and support retrieval of records. Electronic medical records can help coordinate documentation; departmental communication and reliable availability are needed for those records to support work. Data quality and the actual use of information for decisions are distinct from system installation. Evidence from Kenyan public hospitals has highlighted uneven functionality and practical implementation challenges (Muinga et al., 2020). End-user experience in a Kenyan tertiary hospital illustrates why local workflow and staff views matter when assessing uptake (Shrestha et al., 2025). The current facility-level data describe five related functions at Mbagathi.

3. METHODS

The study used a descriptive cross-sectional questionnaire survey at Mbagathi County Referral Hospital, Nairobi County. The target population of 273 comprised management, healthcare, administrative, procurement and finance staff. Stratified sampling yielded a planned sample of 162; 120 questionnaires were returned (74.1%). Five statements addressed electronic records, registration, communication, reliability and data management. Responses used a five-point agreement scale. Means and standard deviations were extracted from the project's ICT results table. Although its methods chapter proposes multivariable regression, the results chapter provides no ICT-specific coefficient, confidence interval or p-value. Ethical approval and institutional permission identifiers require confirmation from the original record.

4. RESULTS

All five ICT item means were above the scale midpoint of 3.0. Patient registration was rated highest. Data management for decisions and reliability were lowest relative to the other functions. The larger standard deviations for interdepartmental communication (1.271) and data management (1.172) suggest more variation in staff assessments across work settings. These ratings do not verify the frequency of downtime or the speed of patient processing.

Table 1. Staff perceptions of ICT systems (n = 120)

ICT statement	Mean	SD
Registration enables timely, accurate processing	4.234	0.825
Systems support interdepartmental communication	3.998	1.271
Electronic records improve operational efficiency	3.951	1.051
Hospital systems are reliable with minimal downtime	3.879	0.936
Systems support data management and decisions	3.819	1.172

Note. Means and standard deviations are from the parent project's ICT table. The source lists the registration mean with a comma decimal separator (4,234), rendered here as 4.234. Item-specific denominators are not reported.

5. DISCUSSION

The favorable registration rating suggests that respondents recognized a useful administrative function. The comparatively lower rating for decision-supporting data indicates a different challenge: recording information does not ensure that it is timely, accurate, accessible and used for decisions. Variation in communication ratings may reflect differences among departments. Management can investigate these possibilities through workflow mapping and review of help-desk reports, training needs and system performance. They should be treated as explanations to test, not conclusions established by the questionnaire.

The project's operational performance scale includes staff assessments of patient flow and delays, but the supplied results do not link individual ICT and performance scores. To estimate an association, the original respondent-level data would be needed for a prespecified model that reports an ICT coefficient, uncertainty interval, p-value and adjustment variables. Independently measured processing time, downtime and data quality would strengthen a future evaluation.

6. CONCLUSION AND RECOMMENDATIONS

Mbagathi respondents viewed patient registration most favorably among five ICT functions. Data use for decisions and system reliability received comparatively lower ratings. The hospital can audit downtime and registration turnaround, examine whether departments receive usable data, and support staff training around system workflows. A follow-up study should connect verified digital-system measures with operational outcomes before claiming an effect on performance.

STUDY LIMITATIONS

This is a single-facility, cross-sectional and self-reported analysis. The source does not present item-specific missingness, digital-system audit data or an ICT-specific regression result. Findings should not be generalized to other hospitals without further evidence.

DECLARATIONS

Funding, conflicts of interest, ethics approval identifiers and data-sharing arrangements should be confirmed by the authors before publication.

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