
**DETERMINANTS OF ROUTINE HEALTH INFORMATION UTILIZATION
AMONG HEALTHCARE PROFESSIONALS IN PUBLIC HEALTH FACILITIES IN
KIAMBU COUNTY, KENYA**

Jackline Wanja Njeru^{1*}, Dr. Ronald Mathai² & Dr. Atei Kerochi³

^{1*}Department of Community Health, School of Public Health, Mount Kenya University

²Medical School, Mount Kenya University

³School of Public Health, Mount Kenya University

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Abstract

Background: Quality health care is data or evidence-driven. While Kenya has increasingly invested in strengthening HIS including the adoption of robust and sophisticated technology such as DHIS2 used to manage routine well-being info, utilization of routine information remains a major setback. The main objective of this study was to determine routine health information utilization among healthcare professionals in public health facilities in Kiambu County, Kenya. **Methods:** This study adopted an analytical research design. The study employed a quantitative research approach where self-administered questionnaires were used to collect data. Stratified sampling was employed in this study. Frequency and percentage were used to examine descriptive data while the association between two or more variables of interest was examined using logistic forward linear regression. **Results:** From this study, there was a frequent utilization of routine health information systems by healthcare professionals with a majority of 89%. On the relationship between the behavioral factors and utilization of HMIS, there was a statistically significant influence on behavioral factors on utilization of HMIS, $F [78.251], (p = 0.000 < 0.05)$. There was a statistically significant influence of technical factors on the utilization of HMIS, $F [25.760], (p = 0.000 < 0.05)$. Lastly, there was a statistically significant influence on organizational factors on the utilization of HMIS, $F [21.808], (p = 0.000 < 0.05)$. **Conclusion:** From this study, the overall HMIS data utilization was 89%. There was a statistical association between, organization, behavioral, and technical factors and the utilization of routine health information systems among healthcare professionals.

Keywords: *Routine Health Information Utilization, Healthcare Professionals, Public Health Facilities*

INTRODUCTION

Regular well-being data involves establishing an information-focused culture in which data holds significance throughout the entire health system. This is because the health information produced from the operational, administrative, and logical procedures of health organizations significantly affects the provision of healthcare services, the allocation of resources, and the making of informed decisions based on evidence (Nutley et al., 2017). In the recent years, routine health information system strengthening has become an area of focus for most global and national agenda as a bridge to meeting their millennium development goals and to

escalate the level of health care delivery and health outcomes. However, the interventions regarding improvement of routine health information system varies from one nation to the next in terms of design, method and scope (Lemma et al, 2020; Geers et al, 2017). For instance, in the United Kingdom, Public health England (PHE) collects, disseminates, and utilizes data on individuals' health and wellbeing as well as socio-economic and environmental influences that affect health outcomes. The information is utilized in healthcare experience advancement for individuals, improving disease knowledge and strengthening the understanding about the effectiveness of their healthcare system (Lemma et al, 2020)

In the context of emerging nations, healthcare professionals tend to underrate the capacity of routine health data. Unfortunately, the data is stocked in shelves, cabinets, reports and databases (Dagneu et al, 2018). Findings from Africa revealed relatively low proportions of routine health data utilization ranging from 27% (Kenya), 38% (Ivory Coast), 38% (West Amhara) and 45.8% (East Gojam). Additionally, a recent study in Oromia, Ethiopia indicated a 52.8% routine health data utilization proportion (Wekesa et al, 2014; Nutley et al, 2017; Asemahagn et al, 2018; Seid et al, 2021). Furthermore, countries such as Nigeria, have encountered robust escalations in the private health sector engagement in terms of RHIS but very minimal emphasis of the same in the public sector.

In developing countries, various factors hinder routine health information systems from providing the necessary information for evidence-based decision-making, planning, and resource allocation. These factors include poor data quality, insufficient data analysis, a lack of an information culture, untrained personnel, and the perception of health information system activities as an excessive workload, particularly at health facilities. Previous research has highlighted these issues (MEASURE Evaluation, 2018).

In the late 20th century, the Kenyan Ministry of Health realized the need for a health information system. This system would collect, compile, analyze, and process data from various sources. Over time, the HIS has evolved to focus on the needs of the MOH headquarters by utilizing information from multiple data sources. Kenya was among the first sub-Saharan countries to adopt the advanced health information platform DHIS2. The data collected through this platform was intended to aid in the development of health policies, program prioritization, and evaluation of healthcare services. To support this initiative, the Health Management Information System (HMIS), Vital Health Statistics Unit, and Evaluation and Research Unit were established as part of the Health Information System (HIS) (Obwocha et al., 2016). Despite these efforts, the use of routine health information remains weak. Studies conducted in Kitui, Garissa, and Mombasa revealed low utilization rates of routine health information, with figures of 46%, 42.2%, and 52.6% respectively (Karijo et al., 2021; Chorong, 2016).

In Kiambu County, health info is considered one of the essential components of the health system. The county's 2018-2020 development plan prioritizes investment in DHIS2 intending to enhance the county's health information system (County government of Kiambu, 2020). However, the same report shows that some essential programs, such as immunization, have not met their targets due to inadequate resources, imbalanced allocation of resources, and other logistical challenges, indicating a subpar utilization of health data in these areas of healthcare delivery (County government of Kiambu, 2020).

Problem Statement

Quality health care is a data-intensive and driven professional practice. Building a functional health system requires fundamental and progressive investment in health information systems to generate reliable evidence – both routine and non-routine to inform data driven decisions. While Kenya has increasingly invested in strengthening HIS including adoption of robust and

sophisticated technology such as DHIS2 used to managing routine health information, utilization of routine information remains a major setback (Njeru et al, 2020). For instance, in 2018, only 51% of health workers in Kenya were reported to utilize routine data for functions such as planning, monitoring and evaluation of healthcare activities (Saunders-Hastings, 2018). In healthcare settings, poor, substandard and inadequate data utilization remains a major barrier to quality care (MEASURE Evaluation, 2018). Additionally, despite the interventions by the Kenyan ministry of health, the proportion of routine health utilization in the country has still remained weak as shown by findings from various parts of the country. Studies in Kitui, Garissa and Mombasa revealed poor utilization of routine health information at 46%, 42.2% and 52.6% respectively (Karijo et al, 2021; Chorong, 2016).

The evidence affirms that most of the clinical decisions are not evidence-driven. This presents substantial and costly risks of avoidable medical errors such as medical capability for liabilities. Further, a number of scholars have linked the lack of evidence-driven clinical care to result into inaccurate disease surveillance approaches, failed health programs, poor healthcare delivery and higher burden morbidity and mortality. Lack of data-driven culture in health care has the potential for escalating risk to non-intentional medical harms (Shiferaw et al, 2017; Roomaney et al, 2017; Lemma et al, 2020). Despite commendable efforts in studying utilization of health data in Kenya, in Kiambu County, there is limited evidence on data utilization trends and its determinants. The unique country characteristics ranging from the epidemic profile, social-economic, cultural and demographic profile of health care client's presents makes generalization of the limited studies impossible. This study seeks to address these scientific gaps by generating locally-adapted insights on drivers of well-being for utilization in the county to inform policy and programmatic interventions.

Theoretical Literature Review

Rational Decision-Making Model (1990)

This study is grounded in the Rational Decision-Making Model developed by Donelson Forsyth in 1990. The model posits that effective decision-making must be rational, involving a systematic approach to reaching goals (Forsyth, 1990). According to this model, individuals who make rational decisions collect all relevant information, analyze it, evaluate it, and then make choices based on their findings. Rational decisions are built on a foundation of measurable facts, which are usually organized in a systematic manner (Turpin & Marais, 2004). Forsyth's Rational Decision-Making Model emphasizes the importance of a structured process in decision-making, suggesting that systematic analysis leads to more effective outcomes (Forsyth, 1990). This approach is particularly relevant in healthcare, where decisions must be based on accurate data and thorough analysis to ensure optimal outcomes. Turpin and Marais (2004) further elaborate that rational decision-making involves a deliberate and methodical approach, which can significantly improve the quality of decisions in complex environments.

Empirical Literature Review

According to Karuri et al. (2019), the health information system (HIS) is a complete data management system that includes operational hospital management, systems for making health policy decisions, and the gathering, storing, administration, and sharing of electronic medical records (EMR). According to Orwa et al. (2019), health professionals may design better policies, plan effectively, and execute plans efficiently with the use of HIS, which is a fundamental component of health systems. The utilization of health information is essential to the institutional capacities of health departments since medical personnel gathers data on patients and reports on activities inside health facilities on a regular basis. Public health system performance is directly impacted by the effectiveness of information utilization (WHO, 2016).

A Routine Well-being Info System (RHIS) is a complete system for collecting, organizing, analyzing, storing, and distributing well-being and health-related info and data. It is comprised of inputs, processes, and outputs and its efficiency can be inclined by organizational, procedural, and social factors. The quality of the data and the utilization of information play a crucial role in shaping the presentation of RHIS. Timeliness, completeness, relevance, and accuracy are key indicators of data quality, 62.7% of these facilities meeting their reporting deadlines. Furthermore, 61% of the facilities conducted meetings, and 41% made decisions based on information from the well-being information system. In India, research indicated that the completeness of information recorded in the Health Management Information System (HMIS) was 88.5%. Meanwhile, a study in Tanzania found that the data accomplishment rate stood at 64.2%, with government-owned health facilities performing better in this regard compared to their privately-owned counterparts (Mwangu & Simba, 2016).

In Kenya's Uasin Gishu, a study found that monotonous health info accomplishment and timeliness was 44% (Odhiambo-Otieno, 2016), while another study conducted in four Kenyan counties showed that the monthly report completion rate was 86.9% and the reporting timeliness was 78.7% (Manya & Nielsen, 2016).

Behavioral influences on health information utilization such as RHIS users' demand, incentive, and skill to accomplish RHIS tasks, beliefs on information utilization, and limited knowledge directly affect RHIS performance. (Feleke et al, 2019; Mekonnen et al, 2021). Lippeveld et al, (2019) also note that interventions beyond simple training are required for the improvement of skills and knowledge in data use and analysis.

Behavioral factors influence both the performance and processes of the Routine Health Information System (RHIS) and affect how individuals perceive the outcome and complexity of a task, impacting task performance (Chorongo, 2016). These factors offer essential insights into how health professionals and policymakers use information and the existing gaps in the utilization of routine data. The PRISM framework also illustrates that organizational and technical factors have an impact on behavioral factors (MEASURE Evaluation, 2018).

The competence of the health professionals in the management and technical health teams has a significant influence on well-being info utilization. Health professionals, including health managers, are capable of accomplishing only one-third of the allocated RHIS tasks. Additionally, they collect information devoid of a comprehensive understanding why the information is being collected. The end result is, therefore, information whose utility has not been explored thus creating a low level of appreciation for collecting that particular information.

According to Mekonnen et al. (2021), many health professionals in the RHIS management team feel less confident in performing tasks such as data interpretation and information use, but are more confident in checking and evaluating data quality, which leads to low output in terms of data examination and use. A study in Ethiopia's Southern Nations, Nationalities, and People's Region (SNNPR) found that the participants' buoyancy levels for plotting, calculating, and using data were higher than for inspecting data quality and interpretation (Sako et al, 2022). This suggests that a high confidence level, especially in data quality checks and interpretation, could improve data and information use.

Rukia, (2019) also assessed the attitude of healthcare workers in performing RHIS tasks such as data collection and data analysis and found out that the staff attitude was driven by a willingness to perform, decision-making purposes, and planning purposes and for others, it was because it was mandatory. Most of the respondents viewed the RHIS tasks as significant while some healthcare workers reported the tasks as non-significant.

Otieno et al (2016) found that staff motivation, particularly recognizing a job well done, can have an impact on the performance of a routine well-being info system. Lack of incentives was also identified as a factor that limits information utilization.

Feleke et al (2019) also pointed out that health professionals require motivation to encourage a change in behavior towards utilizing local health records for decision-making. However, according to WHO (2020), there has been little focus on providing training and staffing needs to equip healthcare information officers with the necessary skills to be motivated. As a result, organizations need to address this issue.

Rukia (2019) discovered that a portion of the software used to operate data acquisition and computation systems is complex, expensive, and scarce. According to Nzomo (2017), IT operations and software solutions are a recent development in most developing countries, particularly those on the African continent. Chorongo (2016) adds that African institutions, right from the highest levels of management are accustomed to manual data recording systems, primarily through drafting on paper and storing it on shelves. Various studies done in Ethiopia outlined technical determinants such as IT complexity and computer software which are demonstrated as effective instruments for data availability, analysis and utilization to come up with important decisions (Asemahagn, 2017; Shiferaw et al; 2017, Mekonnen et al, 2021)

In Mombasa County, a study revealed that 55% of healthcare managers acknowledged providing compassionate supervision on Health Information System (HIS) activities, emphasizing both internal and external supportive supervision. This indicates that the availability of sufficient resources positively impacts the effectiveness of supportive supervision (Otieno et al., 2020). Another study in Kitui County showed that support supervision had a significant association with data utilization and therefore there should be a set of performance indicators to ensure structured support supervision (Karijo et al, 2021).

METHODOLOGY

This study employed an analytical research design and a mixed-methods approach, incorporating both qualitative and quantitative research techniques.

The target population was healthcare workers in targeted health facilities in Kiambu county comprising nurses, medical officers, and HRIOs. A sample size of 236 determined using Fisher *et al* formula (1998).

$$n = \frac{z^2 pq}{d^2}$$

Stratified sampling was employed in this study.

The researcher opted to use a semi-questionnaire for quantitative data collection for the healthcare worker. Quantitative data was examined using SPSS version 26 and presented in various descriptive techniques such as percentages and frequencies. To examine for association X^2 test was employed to understand the association between independent variables and the utilization of routine health information. logistic forward linear regression was employed on variables significant in bivariate analysis. Findings from this study were presented in the form of tables and pie charts.

The researcher sought ethical approval from the Mount Kenya University Institutional Ethics Review Committee and NACOSTI. The written go-ahead to conduct the study was acquired from the Kiambu County government, the Department of Health and Emergency Services. All respondents voluntarily participated upon consent and were at liberty to withdraw at any point if they wished.

FINDINGS AND DISCUSSION

Questionnaire Response Rate

The research activity was successful judging from the questionnaire return rate of respondents. Out of the 236 questionnaires administered 200 were successfully filled.

Access and Utilization of Routine Health Information Systems

Table 1: Level of utilization of routine health information

Category	Frequency	Percentage
Routine HIS		
Frequently	178	89.5
Less often	6	3.0
Rarely	15	7.5
Type of health data recording system		
Both paper-based and electronic systems	131	65.5
Electronic health record system	45	22.5
Paper-based record system	24	12.0
Use electronic system		
All departments	115	57.5
HIV/AIDS	45	22.5
Inpatient	23	11.5
None	2	1.0
Outpatient	15	7.5
How Data is Analyzed		
Electronically	144	72.0
Electronically, manually	20	10.0
Manually	36	18.0
How Analyzed Data is Shared		
Access to electronic data	62	31.0
Emails & review meetings	138	69.0
Rights of Access		
All staff in the facility	3	1.5
Heads of sections/departments	35	17.5
Health information officer	123	62.1
Only the Health facility in-charge	38	19.0
Formal Audit On Data		
No	19	9.5
Yes	181	90.5
Facility Audits		
Monthly	100	50.0
Not regularly	4	2.0
Quarterly	75	37.5
Quarterly & Monthly	6	3.0
Semi-annually	9	4.5
Yearly	6	3.0
Who Audits Data		
Facility staff only	28	14.0
Staff and sub county/county staff	113	56.5
Sub county / County staff only	59	29.5

Source: Field Data (2024)

Table 1 show that there is frequent utilization of routine health information system by the healthcare professionals with majority of 89%. Those who rarely utilized routine HIS were 7.5% and some who less often used routine HIS were 3% of the population. As a rule of thumb, majority carries the weight of decision, and therefore, this is an indication that there is high utilization of routine health information systems among health professionals in Kiambu County as indicated by the frequent use of routine HIS.

Most hospitals use both paper based and electronic record systems for their data, 65.5%. This implies that there was adequate storage of data and backup systems manually in case of any technical hitch in the electronic systems. However, some health facilities use purely electronic recording systems, 22.5% while others have only paper-based recording systems.

Additionally, majority of the healthcare workers at the facilities reported that all departments use electronic systems to capture data, 57.5%. Other respondents reported that in their facilities, only HIV/AIDS, outpatient and inpatient department used electronic systems to capture data, 22.5%, 7.5% and 11.5% respectively. To factor in the facilities that used paper-based recording systems exclusively, 1% of the healthcare providers reported that no departments in the facilities used the electronic system to capture data.

In most health facilities, data is analyzed electronically, 72%, through the use of Health information software, 18% of the health professionals reported that they analyzed data manually in their facilities while, 10% reported to using both electronic and manual methods to analyze their data. Further, the analyzed data was majorly shared via emails and in review meeting, 69%, while others reported to have accessed the data through electronic data through the system, 31%.

Collecting data through electronic tools is most efficient when the data generated from a well-designed questionnaire can be directly fed into analysis without requiring additional data cleaning. With the dynamism of technology, manual systems of data analysis might not be reliable due to speed and accuracy of data, since there is over reliance on human assistance which is prone to errors.

On the rights of access to the HMIS data, majority of the respondents reported that the health information officers at their facilities had the privilege of right of access and thus had control of password to the electronic data storage systems, 62.1%. Some reported that their health facility in-charges were the only people with rights of access, 19%, others reported that only the head of sections/departments were the only people with rights of access to the data, 17.5%, while in some other facilities all the staff were given rights to access the data, 1.5%. This implies that health information officers have more privilege than anybody else in the facilities as it is their role within their jurisdiction to manage the health information systems of the facilities.

On the audits of the data, majority of the facilities do regular formal audits monthly, 50%, while few do formal audits annually. Audit of the data is done by the staff and sub county or county staff in the hospitals in Kiambu County.

It was clear that majority of the respondents agreed that all reports are submitted to the departments in specified deadline, expected number of reports are submitted to the officers responsible, not all number of reports are always submitted, accuracy of data compiled at the facility can be trusted, all staff are trained on data analysis including refresher training on data, HMIS data is used for community education and mobilization, feedback is always provided for those who are concerned with reports, and that there is data assurance plan that is shared with health programs staff.

Behavioral factors and utilization of HMIS

The study sought to determine behavioral factors that influence utilization of routine health information among healthcare professionals.

Table 2: Relationship between behavioral factors and utilization of HMIS

Overall Significance	
Pearson's R	0.860
F-statistic	78.251 (0.000)
Individual significance	
	<i>p-value</i>
Often Use of HIS in Practice	0.000
Perception on HMIS	0.000
Belief on Impact of HMIS	0.433
Routine Adoptions	0.370
Attitude Towards Adoption	0.176
Necessary to Collect HIS	0.000

Source: Field Data (2024)

On the relationship between the behavioral factors and utilization of HMIS, the findings indicate that there was a statistically significant influence on behavioral factors on utilization of HMIS, $F [78.251]$, $p = 0.000 < 0.05$. Also there was a strong and positive relationship between behavioral factors and utilization of HMIS among healthcare providers in Kiambu County, $R = 0.860$. The individual significance of the behavioral factors indicates that the often use of HIS in practice, perception of HMIS and the necessity to collect HIS were the behavioral factors that impacted the utilization of HMIS among health professionals in Kiambu, ($p = 0.000 < 0.05$). However, the belief of the health professionals on the impact of HMIS, routine adoption of HMIS and attitude towards adoption of HMIS were found to have no impact on the utilization of HMIS among health professionals in Kiambu County.

Technical factors influencing utilization of HMIS

The study sought to establish technical factors that influence utilization of routine health information among healthcare professionals.

Table 3: Relationship between technical factors and utilization of routine HMIS

Overall Significance	
	p-value
Pearson's R	0.867
F-statistic	25.760 (0.000)
Individual significance	
	<i>p-value</i>
Where Training was done	0.481
Data Information Available On Time	0.000
Source of information	0.353
How To Analyze Data	0.004
Skills For Data Analysis	0.000

Source: Field Data (2024)

The findings on the table show the relationship between the behavioral factors and utilization of HMIS. The findings indicate that there was a statistically significant influence on technical factors on utilization of HMIS, $F [25.760]$, $p = 0.000 < 0.05$. Also there was a strong and positive relationship between behavioral factors and utilization of HMIS among healthcare providers in Kiambu County, $R = 0.867$. The individual significance of the technical factors indicates that the availability of data on time, how data is analyzed and skills required for data analysis were found to have a significant impact on utilization of HMIS among healthcare professionals, ($p < 0.05$). However, where training of data management was done for the healthcare professional and the source of information was found not to have any significant impact on the utilization of HMIS information among health professionals in Kiambu County.

Organizational factors influencing utilization of HMIS

The study also sought to determine organizational factors that influence utilization of routine health information among healthcare professionals.

Table 4: Relationship between organizational factors and utilization of HMIS

Overall Significance	p-value
Pearson's R	0.777
F-statistic	21.808 (0.000)
Individual significance	p-value
Data Reportage	0.358
Discussion On Routine HIS	0.422
Having Documents	0.849
Guidelines Recommended	0.000
County HMIS policy	0.001
Standard Procedures	0.000
Reports On Success	0.002
Feedback Gotten	0.007
Support From County Seniors	0.003
Adequate staff Health Facility	0.000
Regular Supports Departments	0.021
Use of Evidence Department	0.004
Staff Confidence	0.000

Source: Field Data (2024)

The findings on table 4 show the relationship between the organizational factors and utilization of HMIS. The findings indicate that there was a statistically significant influence on organizational factors on utilization of HMIS, $F [21.808]$, $p = 0.000 < 0.05$. Also there was a strong and positive relationship between behavioral factors and utilization of HMIS among healthcare providers in Kiambu County, $R = 0.777$. The individual significance of the organizational factors indicate that recommended guidelines, county HMIS policy, standard procedures, reports on success, feedback gotten, support from county seniors, adequate staff health facility, regular supports departments, use of evidence department, and staff confidence were some of the organizational factors that had significant impact on the utilization of HMIS among health professionals ($p < 0.05$). However, frequency of data reportage, discussions on routine HMIS, having HMIS data documents were found not to have any significant impact on the utilization of HMIS information ($p > 0.05$) among health professionals in Kiambu County.

Discussion

In the study area, the utilization of routine health information among health professionals was notably high. This study aimed to identify the determinants of routine health information utilization among health professionals working in public health facilities in Kiambu County. The study found that 92.5% of healthcare professionals utilized routine health information, compared to 7.5% who did not. This is significantly higher than the 57.6% utilization rate found in a study conducted in Wollega (Yarinbab & Assefa, 2018). The Wollega study, conducted from September 5-25, 2017, targeted healthcare workers in health facilities within the East Wollega Zone, Oromia Regional State, Ethiopia. The difference in findings between the two studies can be attributed to the study populations; the Ethiopian study focused on a specific zone, whereas our study encompassed the entire Kiambu County, which is a larger area.

The utilization of routine health information was influenced by the behavioral factors of health workers, technical aspects related to health information systems at the facilities, and

organizational factors within the health facilities. Factors such as analysis skills, a culture of information use, supervision, and regular feedback to relevant departments, organizational infrastructure, availability of skilled human resources, data consistency and completeness, and HMIS training positively impacted the utilization of routine health information. Additionally, well-coordinated processes ensured that most administrative decisions were evidence-based, thereby enhancing healthcare in Kiambu County.

The respondents also attended data training sessions, seminars, and workshops that enhanced their understanding of health information systems. Increased opportunities for training help establish a routine of data utilization among participants. This study found a positive association between training and the utilization of routine health information systems (RHIS), with trained health workers being more likely to use HMIS data. This finding aligns with a study by Tao et al. (2020), which synthesized existing research on user acceptance of consumer-oriented health information technologies (CHITs) through a systematic review and meta-analysis. The similarity in findings may be due to trained health professionals having the skills to compile, analyze, and utilize data in their routine activities.

The findings of this study indicated that health workers received regular supervision and feedback from health professionals. Supportive supervision plays a crucial role in motivating health workers, identifying gaps, and improving their performance. Health professionals who received regular feedback were more likely to utilize routine health information data. Additionally, health workers who submitted their reports on time were more likely to utilize routine health information than those who delayed their reporting. Timely reporting allows data to be used for decision-making, which enhances the utilization of HMIS. This finding is consistent with a study conducted by Dagne et al. (2018), which also highlighted the importance of timely reporting in the effective use of health information systems.

Conclusions

Access and utilization of HMIS - the overall HMIS data utilization was 89%. Staff motivation was significantly associated with HMIS data utilization.

The behaviors of the healthcare professionals were based on their attitude towards HMIS, the adoption of routine HMIS by the hospitals, perception of HMIS and the impact HMIS has had in their career. The ease of use of HMIS had a significant impact on the utilization of routine HMIS.

Training and the place of training were significant technical factors that impacted the utilization of HMIS. This had a proportional effect to the quality of data and enhanced knowledge among the healthcare professionals in the county.

Health professionals' decisions were based on superiors' directives and regular performance monitoring were positive predictors of HMIS data utilization. There was high level of utilization of HMIS data due to regular and high level of training on healthcare staff.

Recommendations

The health sector in Kiambu County together with the hospitals in the region should come up with routine adoptions of HMIS and motivation strategies for the healthcare staff to encourage more utilization of HMIS to significantly boost the healthcare delivery in the county.

Kiambu County Health Department and hospital management team need to give training on HMIS data use to all healthcare workers due to the dynamism in the healthcare delivery sector.

The program planners should also conduct more regular supervision with periodical feedback for health care providers to improve the skill of routine information utilization. Future research should be done to expound on the factors that hinder utilization of HMIS among health professionals in the entire county.

There should be further study conducted on all healthcare professionals at large and ensure a balance in staff distribution to explore the entire healthcare sector evenly. Future studies should also dwell on the age distribution across the healthcare space to avoid discrepancies and skewness towards a specific age group category.

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