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## **Influence of Universal Health Systems on Organizational Performance in Devolved Health Care Functions: A Case of Kirinyaga**

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### **Abstract**

The decentralization of the health care is often done with a view of improving the organizational performance of the health care system in terms of improvement in population health outcomes. This study specifically looked into the influence of strategic resources management, strategic human resource management, infrastructure, and training on organizational performance of devolved health care functions in Kirinyaga County. The target population of this study was three major hospitals in Kirinyaga County that is Kimbimbi, Kianyaga and Sagana sub county hospitals. The target population consisted of 102 respondents. A census approach was used which meant that all 102 respondents participated in the study. A structured questionnaire was used as the data collection instrument. The pilot study of this research was undertaken in Kirinyaga County with 10% of the sample size, that is, 10 respondents, who were eliminated from the final study. Validity of the instrument was checked using the opinions of five experts in strategic leadership and devolved health care functions of county governments, as well as the research supervisor. Internal consistency of the research instrument was measured using Cronbach's alpha coefficient with a reliability value of 0.7 and above making the research instrument reliable. Data was entered and analyzed using SPSS. Descriptive and inferential statistics were then generated. The descriptive statistics included means, standard deviations and frequency distributions. The inferential statistics was examined using multiple linear regressions. The results were put in tables and their interpretations provided. The association between the independent variables as well as direction of association was determined using the correlation coefficient denoted as R. The value of R for

this study was 0.566. The R-Square value in this case was 0.321 implying that 32.1% variability in the organizational performance of devolved health care functions in Kirinyaga County (dependent variable) is explained by the strategic resources management, service delivery, infrastructure, and training (independent variables). Thus the independent variables have minimal control over the dependent variable. The beta regression coefficients achieved included coefficient of 0.127 for strategic resources management, 0.426 for service delivery, 0.490 for infrastructure, and -0.126 for training.

**Keywords:** *Strategic Resources Management, Service Delivery, Infrastructure & Training*

## 1.1 Introduction

Organizations are constituted to fulfill given organizational objectives and mission. In this context, organizational performance is of critical importance to the delivery of the set objectives, missions and vision. According to Gitagia (2015) in a study on the Influence of Strategic Planning on Organizational Performance of Kenyatta National Hospital, organizational performance refers to ability of the firm to achieve its stated objectives. On the other hand, Kamau (2013) in a study on the Buyer-Supplier Relationships and Organizational Performance Among Large Manufacturing Firms in Nairobi notes that organizational performance can be comparative in nature. In this context, the study notes that the organizational performance can be examined as the productivity level of the organization relative to its peers in the same industry. Finally, Gupta (2011) in a study on Workforce Diversity and Organizational Performance notes that organizational performance refers to the ability of an organization to fulfill its mission through sound management, strong governance and a persistent rededication to achieving results.

The organizational performance of the health care functions is important in the country. Amongst the three major challenges that the independent Kenyan government identified as key pillars of the economic prosperity and development in the country was quality health care. In this context, the mission of the Ministry of Health of the Government of Kenya is having a healthy, productive and globally competitive nation (Ministry of Health., 2017). On the other vision of the Ministry of Health is to build a progressive, responsive and sustainable health care system for accelerated attainment of the highest standard of health to all Kenyans (Ministry of Health., 2017). The achievement of the Ministry of Health vision and mission is one critical organizational performance metric in the health care sector.

Other organizational performance metrics in the health care sector include health care access and health care quality. According to Muchiri, Okello, & Wagoki (2016) health care access refers to the timely use of personal health services to achieve the best health care outcomes. On the other hand, Muchiri *et al.*, (2016) notes that health care quality refers to the access to suitable qualified medical personnel, affordability, promptness of attention, provision of adequate information, drugs availability, and availability of all the necessary logistics.

The World Health Organization (WHO) has five metrics that it utilizes for the purposes of measuring the organizational performance of a health care (World Health Organizations., 2017). These metrics are health inequalities (or disparities) within the population; overall level of population health; overall level of health system responsiveness (a combination of patient satisfaction and how well the system acts); distribution of responsiveness within the population (how well people of varying economic status find that they are served by the health system); and

the distribution of the health system's financial burden within the population (who pays the costs)(World Health Organizations., 2017).

The Government of Kenya (GoK) instituted the devolved government through the 2010 Kenya constitution. Devolution is conceptualized as the transfer of rights and assets from the center to local governments or communities within the context of national laws that set the limits within which any decentralized management occurs (Nyangau, 2013). Devolution in Kenya is based on article 6 (2) of the constitution which designates the government of Kenya into two levels that is central and county governments. The health sector was amongst the functions that were devolved through the fourth schedule of the constitution including articles 185 (2), 186 (1), and 187 (2) which distributes the health functions within the national and county government (Ratanya, 2010).

The devolved health functions have continued to face diverse challenges across the world in relations to their organizational performance. Ali & Kumar (2015) in a study on the Decentralized Health Planning; Lessons from Kerala State in India notes various challenges that devolved health functions face. The challenges that the devolved health care in Kerala state in India faced include poor human resources management functions, challenges in finances arrangement, ineffective accountability mechanisms, and poor information access to the local population. In Pakistan, the health care performance in the decentralized health system faces challenges in the synergistic relationships between the policy decision making and the implementation aspects, as well as capacity of the human resource management functions of the health care function (Bossert, Mitchell & Janjua, 2015).

Boex, Fuller and Malik (2015) in their studies on the Decentralized Local Health Services in Tanzania noted that the decentralized health care faced diverse challenges. The study noted that there were challenges with the funds that were given to the decentralized health system. The other challenges include the horizontal distribution of local health resources amongst the devolved units with some getting more than their fair share of resources. The equitability of the resources distribution hence was noted as a challenge in Tanzania. In Kenya, Onyango (2016) in a study on the Response Strategies Adopted by The Ministry of Health to Challenges of Devolved Healthcare Services in Kenya noted diverse challenges of devolved health. These challenges included lack of the requisite skills and competence to prudently manage the human resource function leading to challenges in human resource management.

Leadership is key in organizational performance of a given institution. According to Serfontein (2010), strategic leadership is the ability to manage the organisation's operations effectively and sustain high performance over time. On the other hand, Nyamao, Ogechi, & Nyamao (2016) indicate that strategic leadership is the managerial capability of a firm expect, predict, keep flexibility, and endow others to generate strategic change and a feasible future of the firm. According to Singh and Panda (2015), strategic leaders possess six skills that include anticipating ability, challenging ability, interpreting ability, deciding ability, aligning ability, and learning ability. The strategic leadership is critical in the organizational performance of an organization through resources allocation, strategic planning of the organization, human resources management, and strategy execution functions of strategic leaders.

## **1.2 Statement of the Problem**

The decentralization of the health care is often done with a view of improving the organizational performance of the health care system in terms of improvement in population health outcomes. The rationale of the decentralization of the health care lies in the assumption that the local

communities have the capacity to make informed decisions in relations to their health care needs and priorities. The understanding is that with access to both resources and decision making capacity in relations to these resources, there would be better health care outcomes compared to a centralized health care system. The intended benefits of the decentralized health care therefore includes accountability in management of health care resources, improvement in responsiveness levels of health care systems, and improvement in the efficiency, equity, and quality of health service delivery and management.

In Kenya, Barker, Mulaki, Mwai and Dutta (2014) noted that Kenyans were optimistic of the benefits of the devolved health sector. Barker *et al.*, (2014) noted that devolved health system was to improve efficiency, stimulate innovation, improve access to and equity of services, and promote accountability and transparency in service delivery. However, despite the anticipated benefits of the devolved health care, there have been noted challenges in the sector. These challenges include the equitability of the health care finances, challenges in the management of the health care professionals, lack of sufficient medical infrastructure, poor health care quality and service disruptions. This study seeks to examine the influence of strategic leadership on organizational performance of devolved health care in Kirinyaga County.

### 1.3 Objectives

The objective of the study is to examine the influence of strategic leadership on organizational performance in devolved health care functions in Kirinyaga County

- i) To examine the influence of strategic resources management on organizational performance of devolved health care functions in Kirinyaga County
- ii) To establish the influence of service delivery on organizational performance of devolved health care functions in Kirinyaga County
- iii) To examine the influence of infrastructure on organizational performance of devolved health care functions in Kirinyaga County
- iv) To examine the influence of training on organizational performance of devolved health care functions in Kirinyaga County

## 2.1 Literature Review

### 2.2 Theoretical Literature Review

#### 2.2.1 Upper Echelon Theory

This study is based on the upper echelon theory. This theory was developed by Hambrick and Mason in 1984 (Reuben, 2016). The study notes that the organizational performance is impacted by the strategic level through which the leaders within an organization operate from. On the other hand, Katua (2015) notes that the theory indicates that the leaders guide and perceive organizational factors within their own personalized views which are influenced by diverse aspects. These aspects include the leaders' know-how, experiences, values, personalities, exposure, morals and inclinations. This theory further states that that the top managers interpretation of the general, business and competitive environment impacts the strategic decisions which they come up with that finally influences the output of their organizations.

This theory is applicable to this study in the context that the strategic leaders have a great influence on the performance of the organization through their own traits. According to Nyamao, Ogechi, and Nyamao (2016) strategic leadership is the managerial capability of a firm expect, predict, keep flexibility, and endow others to generate strategic change and a feasible future of the firm. According to Singh and Panda (2015), strategic leaders possess seven skills that include

anticipating ability, challenging ability, interpreting ability, deciding ability, aligning ability, and learning ability. The strategic leadership is critical in the organizational performance of an organization through resources allocation, strategic planning of the organization, human resources management, and strategy execution functions of strategic leaders. In the context of this study, the strategic leadership was examined through strategic resources management, human resource management, infrastructure, and training aspects within the devolved health care services.

### **2.2.2 Human Capital Theory**

The Human Capital Theory (HCT) traces its origins from diverse studies in the United States of America (USA). These studies include works by scholars such as Becker (1964), Schultz (1961) and Mincer (1974). The Human Capital Theory indicates that education or training plays a critical role in endowing an individual with productivity-enhancing human capital that increases their productivity. According to Muraga (2015), the human capital refers to any stock of knowledge or characteristics that the worker possess that contributes to their productivity. The human capital has also been described as the set of characteristics or skills that increases a worker's productivity. One of the means of enhancing the human capital is the training component of the organization. Training involves the action of enabling the acquisition of the person a particular set of skill or behaviours that is beneficial to the way they work.

This theory is used in this study due to the various ways in which training enhances the organizational performance an institution. The ways includes enabling employees to think and act more effectively in their work deliverables. It also enables the employees to acquire knowledge, skills and abilities in relations to their work performance and as such ensure that the institution gets competitive advantage. The training aspects also enable the employees to acquire new knowledge and information which enhances their efficiency in their work performance.

### **2.2.3 Resource Based Theory**

The resource based theory that was formally formulated in 1984 by Wernerfelt is based on earlier works on diverse scholars such as Penrose. Pendrose had found that that there was a relationship between organizational resources, production capability and organizational performance. She had argued that prudent utilization of diverse resources at the organization's disposal was critical to its performance and give it a competitive edge over its peers (Kyalo, 2013). The Resource Based Theory indicates that superior organizational performance is linked to strategic resources mobilization and deployment. As a company's effectiveness and capabilities increase, the set of available resources tends to become larger.

The theory is applicable to this study due to the role of resources management. This is because the availability and usage of the financial resources are key in the organizational performance of the devolved health care functions. In this context, the ability to secure and manage limited financial resources is key to the improvement of service delivery and increased healthcare utilization on the ground. In a health care system, insufficient financial resources by the devolved government may inhabit the capacity to recruit specialist doctors and other medical officers due to compensation challenges.

## 2.3 Empirical Literature Review

The empirical literature review examines each of the specific research objectives in details.

### 2.3.1 Strategic Resources Management and Organizational Performance

The resources management are critical to an organizational performance. According to Muketi (2009), resources refers to the input that is utilized in the firm's production process and can be classified into physical, human and organizational resources. On the other hand, Mwasaru (2016) indicate that resources refer to the assets or inputs (tangible or intangible) that are acquired and controlled for use in the provision of services for the company. The availability and usage of the financial resources are key in the organizational performance of the devolved health care functions.

Shaikh *et al.*, (2012) in a study on the Experience of Devolution in District Health System of Pakistan noted the influence of financing on the performance of devolved healthcare. The study noted that in Pakistan, inadequate financing levels has led to challenges in infrastructure acquisition and deployment to the devolved health centers. According to Shaikh *et al.*, (2012), the ability to secure and manage limited financial resources is key to the improvement of service delivery and increased healthcare utilization on the ground. Other challenges that the study noted included the financial resources not being need based, late release of funds, underpaid healthcare workers and extra burden of non-development funds.

The devolved health care is affected by the disbursement of the funds by the central government as well as the financial management policies of the central government. Beauvais and Bowser (2000) in a study on Decentralized Health Systems noted that the central transfer of funds to the devolved healthcare systems impacted greatly on their performance. Citing the case of Philippines, the study noted that central transfers accounted for over 60% of the local government expenditures. The study further noted that the central funds transferred to the devolved units have some of the costs already earmarked hence giving little autonomy to the units on the expenditure autonomy. The study further noted that in Zambia and Ghana, the devolved health care functions are subjected to central budget allocations and approval process. This limits their financial independence.

The ability of the healthcare functions to generate their own finances is key in the financial sustainability of the health care systems. Lang'at and Mwanri (2015) noted that the fees generation mechanisms through use of user based access fees is of importance to the development of the financial independence of the healthcare systems. Tiongco-cruda (2007) in a study on the Decentralization of Healthcare in India noted that hospitals were forced to adopt the user based fees to adopt the costs associated with running the hospitals in the absence of timely release of funds from central government. The lack of sufficient financial resources by the devolved government inhibited their capacity to recruit specialist doctors and other medical officers due to compensation challenges.

Kolehmainen-Aitken (2001) in a study on the Myths and Realities About the Decentralization of Health Systems noted the role of equitable financing on the performance of devolved healthcare. The study citing the case of Philippines noted that the central government failed to make provisions for the distribution of health facilities and programs therefore creating finance gaps and inequitable financing across diverse health services providers.

The diverse ways in which the strategic leadership manages its employees is critical in influencing the productivity and morale levels of the employees. The productivity and morale levels of individual employees are critical in ensuring that the organization is able to achieve its

organizational mandates. This is due to the fact that organizations function to achieve its mandates through the working of individual department and employees. Strategic leaders therefore seek to improve the employees' morale and productivity levels through motivation and appealing to their interests.

Mitchell (2017) in a study on the Decentralization and Human Resources for Health noted the importance of strategic leadership on human resource management aspects of decentralized health care. The strategic leadership must ensure that appropriate incentives for staff retention, low absenteeism, high productivity and quality of care are maintained within the health care functions. The study further noted that decentralization improves the administrative efficiency in the hiring and deployment of medical staff such as doctors and nurses based on the local needs. However, Bankauskaite and Saltman (2007) noted that devolvement of the health sector has in some countries led to engagement of employees that are not qualified for the jobs they hold. This compromises the productivity levels and efficiency of such working staff.

The corruption and nepotism in human capital engagement is often perpetrated on the need to reward the communities in which the healthcare facilities are located. Khan, (2006) indicate that in devolution of health care is often faced with challenges involving new administrative responsibilities, skills requirement and resources requirements for the purposes of employee management aspects. The strategic leadership is therefore key in enabling the navigation of these potential limitations

Kolehmainen-Aitken (2001) in a study on the Myths and Realities About the Decentralization of Health Systems noted that strategic leadership plays a critical role in navigating challenges of devolutions. These challenges have a significant influence on the organizational performance of the devolved health care in diverse ways. Kolehmainen-Aitken (2001) noted that amongst the challenges faced by devolved health care include impacts of unions and professional bodies in the management of devolved health functions. Other challenges noted in the devolution of the health care include professional pride and mistrust where some of the skilled healthcare professionals may not wish to be managed by lowly skilled politically appointed administrative officials.

### **2.3.2 Service Delivery And Organizational Performance**

Service delivery is a critical component of organizational performance in any given institution. Sagala (2013) in an examination on the Integrating Social Accountability in Healthcare Delivery noted that traditional approach to service delivery has been supply-side (provider) driven with little or no input from the demand-side (clients). This meant that the health services providers dictated that kind of services that they would offer to their clients. The devolution of the health care has enabled the demand side of the service delivery to be strengthened hence wholly impacting on organizational performance in health delivery. In this case, the devolution enables greater citizen participation in the services to be offered by the health care providers. This participation is in terms of planning for service delivery, implementation and review aspects.

Masanyiwa (2013) investigated Institutional Arrangements for Decentralized Water and Health Services Delivery in Rural Tanzania. The decentralization of service provision has enabled greater organizational performance in health care provision. This study noted that in Tanzania, noted that the decentralization of services provision led to the health care being more responsive to the needs and demands of service users. This was attributed to the ability of the service users to have a direct and indirect influence on decisions surrounding resources allocations and service delivery.



Despite the gains that are associated with decentralization, Kolehmainen-Aitken (2001) indicated that devolution had a negative effect on service delivery in health care in Philippines. The service delivery in the devolution set up was associated with poor morale amongst the workers and industrial strikes by the workers that caused challenges in health care organizational performance in the country.

Mwamuye and Nyamu (2014) in a study on the Devolution in Health Care in Mombasa linked poor service delivery to the challenges with the leadership. The study noted that in Mombasa staff morale affected service delivery. The poor service delivery was attributed to director of medical services in the county who failed to make key decisions touching on staff supervision. The director of medical services had not also properly sensitized the staff under the county government and national government in relations to the diverse changes that were taking place then.

The quality of the health care service delivery is a key component in organizational performance. In this context, Nshimirimana, Mwaura-Tenambergen, Kokonya and Adoyo, (2016) noted that lack of standardization of quality service provision across different hospitals resulted in migration of migration from low level hospitals to high level hospitals. This creates overcrowding and overwhelming of higher level facilities.

The service delivery within the context of hospitals is also related with the timeliness in accessing medical services as well as the qualifications of the service providers within the hospitals. The timeliness of service providers relates to the length of time a patient have to wait to access medical care once within the hospital vicinity. The number of the health care service providers is also key in service provision to ensure that there is adequate number of staff to cater for the patients.

### **2.3.3 Infrastructure and Organizational Performance**

The health services infrastructure is critical to the performance of the healthcare services across the world. Cushnie (2015) in a study on the Jamaica Health Finance and Performance of the General Health System noted that infrastructure is key to health services delivery. In this context, the study indicates that the resources that are utilized in the decentralized health care systems for the purposes of the infrastructure acquisition and development are key in organizational performance of the devolved health care.

Commenting on the importance of infrastructure in health care provision, Othim (2015) in a study on the Safe Motherhood Strategies in the Informal Settlement of Kibera, Nairobi City County noted that availability of equipment such as emergency ambulances is critical in service provision. The road infrastructure should also make easy for accessibility of the health facilities. The study further noted that the health facilities should have sufficient equipment to provide quality health care. Amongst the infrastructural aspects that improve the health care provision include lack of physical access to facilities, insufficient number of facilities, distance to health care facilities, and inadequate transportation infrastructure.

Onyango (2016) in a study on the Response Strategies Adopted by Ministry of Health to Devolved Health Care Services in Kenya noted the importance of equipment in healthcare provision. The study noted that the central government in a bid to equip the county governments in terms of infrastructure conceived the Managed Equipment Services (MES). MES was a partnership between the Ministry of Health, County Government, and private contractors to equip the hospitals with specialized medical equipment for at least two hospitals. The MOH mobilized the resources and procured the equipment while the county government created the necessary infrastructure for

the equipment utilization. The equipment in the scope of the activities included the theatre, sterilization, laboratory, dialysis (renal), intensive care unit (ICU) and radiology equipment.

Bankauskaite and Saltman (2007) in a study on the Central Issues in the Decentralization Debate noted that healthcare infrastructure play a critical role in healthcare provision. The study cited the case of bed capacity of the healthcare institutions. The bed capacity of the hospital is critical in determining the admission capacity of the healthcare institution. The admission capacity is useful for the healthcare that requires long term care and management aspects. On the other hand, Shaikh *et al.*, (2012) noted that decentralized healthcare in Pakistan is sometimes challenged in terms of infrastructure. The study noted that in Pakistan the decentralized health care systems were not prioritized in terms of health care infrastructure. In this context, the study noted that the local administrators were keener on financing local infrastructure compared to the local social sectors like health and education.

#### **2.3.4 Training and Organizational Performance**

Training is a critical component of organizational performance. A study by Kessie and Oforiwaa (2013) on the Role of Strategic Leadership on Organizational Performance illustrates the role of training on organizational performance. The study notes that training of employees enables them to think and act more effectively to achieve the best result possible for the company. The study noted that training enables the organization to ensure high levels of efficiency and reliability in service delivery hence resulting into higher organizational performance. The study further noted that strategic leaders are often growth oriented thus undertake the training of employees in order for the employees to achieve the best possible results in their work execution.

Kipruto and Letting (2017) examined the Factors Influencing Provision of Health Care in Devolved System of Government in Bungoma County, Kenya. The study noted that a majority of 63.9% of the respondents indicated they had challenges accessing training opportunities. These challenges impact on the organizational performance of devolved health care. Nshimirimana, Mwaura-Tenambergen, Kokonya and Adoyo (2016) undertook a study on the Effectiveness of the Devolved Primary Health Care Gatekeeper System in Machakos County, Kenya. The study noted that training has a great impact on the performance of devolved health care.

Similarly, Okech (2016) in a study on the Devolution in Health Care in Kenya notes that the number of health care with specialized training are critical for the health care system performance. In this context, the study noted that hospitals must have diverse number of specialists and health care professionals such as specialists (physicians) with over nine years, medical officers (general practitioners with six years of training), clinical officers (with 4 years of training), registered nurses and other occupations (with three years of training). This enables proper functioning of the health care system. The county government therefore needs to ensure that there is adequate budget to support the required number of professionals within the county level.

Katua (2015) examined the Influence of Training on Performance of Commercial Banks in Kenya. The study noted that strategic leaders must have a wide area of training in respect to management aspects, social skills in human resource management, and task performance. This enables the strategic leaders to guide their organizations to greater organizational performance aspects. On the other hand, Adongo (2013) indicate that training enhances the organizational performance through impacting on the employee performance. In this context, the study noted that training enables the organization to acquire competitive advantage hence impacting on organizational performance. This is because the training enables the employees to acquire knowledge, skills and abilities in

relations to their work performance and as such ensure that the institution gets competitive advantage. The training aspects also enable the employees to acquire new knowledge and information which enhances their efficiency in their work performance.

Gunu, Oni, Tsado and Ajayi (2013) in a study on the Influence of Training and Development on Organizational Performance in Commercial Banks in Nigeria notes the importance of training. The study noted that training increases the efficiency and effectiveness of the employees as well as the organization. Similarly, Gakuru (2006) notes that training impacts on organizational performance through an improvement on the employee productivity.

### 2.4 Conceptual Framework

The conceptual framework examined the relationship between the independent variables and the dependent variables. The independent variables that were evaluated in this study were strategic resources management, service delivery, infrastructure, and training. The dependent variable was organizational performance.

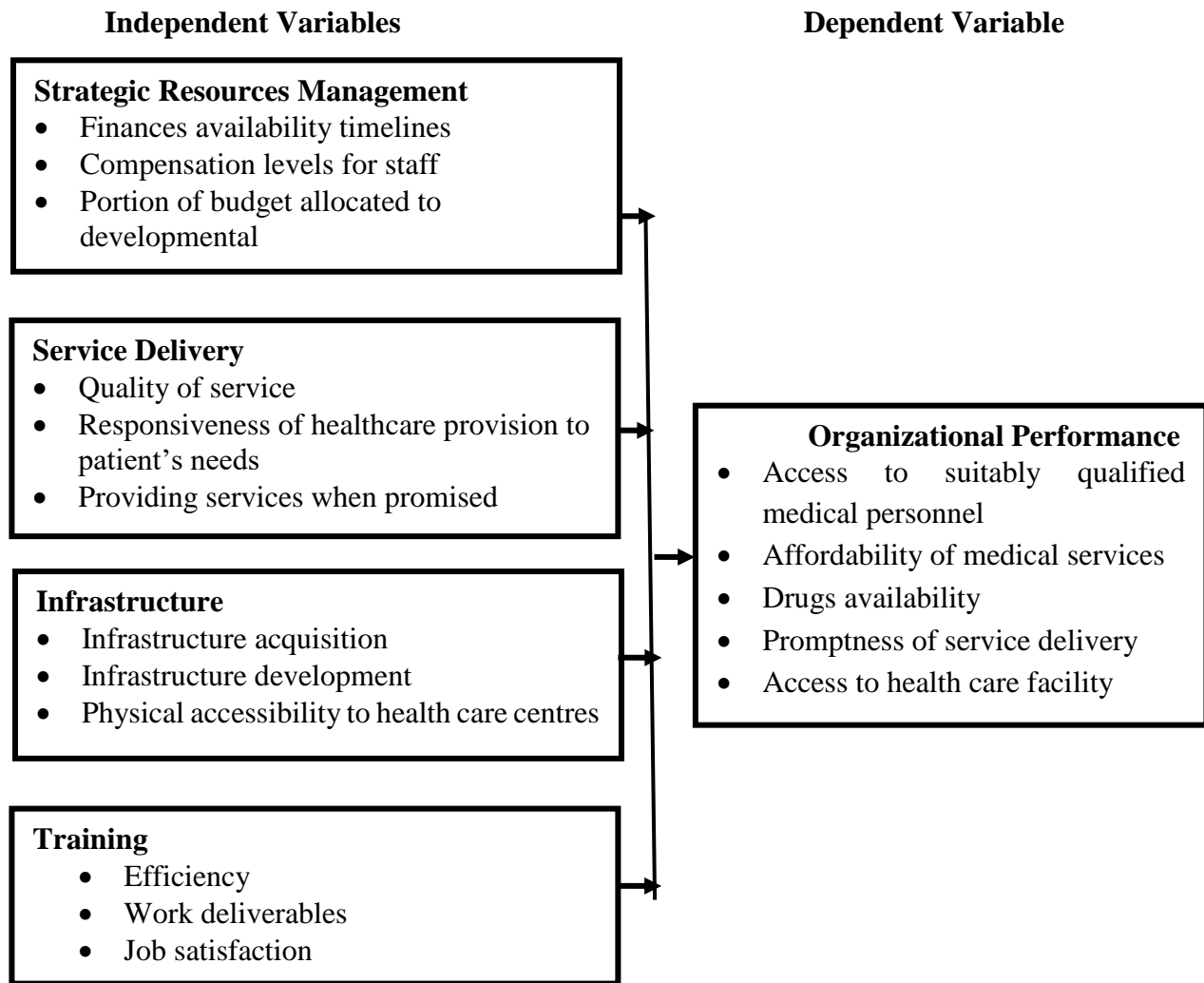


Figure 1: Conceptual Framework

### 3.1 Research design

A research design refers to the structure that was used for the study that incorporates all elements of the study ensuring that the research problem is addressed effectively (Kombo & Tromp, 2009). This study adopts a case technique. A case is an in-depth study on a given phenomenon focusing on a particular case that analyses fewer events or conditions, and the interventions (Sekaran & Bougie, 2011). The target population of this study is three major hospitals in Kirinyaga County that is Kimbimbi sub county hospital, Kianyaga sub county hospital and Sagana Sub County hospitals. There are a total of 102 health service providers in the three major hospitals in Kirinyaga County, that is, 17 doctors, 56 nurses, and 29 clinical officers as shown in Table 1 below;

**Table 1: Table Showing the Research Target Population**

	Number of Employees	Percentage
Doctors	17	16.7%
Nurses	56	54.9%
Clinical Officers	29	28.4%
<b>Total</b>	<b>102</b>	<b>100.0%</b>

Source: Ministry of Health (2015)

The study used a census approach therefore data was collected from all members of the target population. This study utilized a questionnaire as the research instrument. A questionnaire is defined as a set of pre written questions on the research phenomenon which is used to get answers from the respondents. The answers are then then analysed to get information. Data Collection Procedure. The descriptive statistics which was used to analyze the data included means, frequency distributions, standard deviations and percentages was used.

The means ( $\mu$ ) in the study were grouped into five intervals, that is, ( $4.5 < \mu \leq 5$ ) indicating tendency to strongly agree, ( $3.5 < \mu < 4.5$ ) indicating tendency to agree, ( $2.5 < \mu < 3.5$ ) indicating tendency to be uncertain, ( $1.5 < \mu < 2.5$ ) indicating tendency to disagree, and ( $1 \leq \mu < 1.5$ ) indicating tendency to strongly disagree. The standard deviations were grouped into three intervals ( $\sigma_x \leq 0.5$ ) indicating responses clustered around the mean implying high consensus, indicating responses moderately distributed around the mean implying moderate consensus ( $0.5 < \sigma_x < 1$ ), and  $\sigma_x \geq 1$  indicating resp

Inferential statistics also be undertaken to analyze the data. These were examined using correlations and multiple linear regressions. The multiple linear regression model which was used is;

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where; Y= Devolved Health Care Functions

$\beta_0$  =constant

$\beta_1, \dots, \beta_4$  = Coefficients of estimates

$X_1$  = strategic resources management

$X_2$  = strategic human resource management

$X_3$  = infrastructure

$X_4$  = training

And  $\varepsilon$  is the error term

#### 4.1 Results and Findings

##### 4.2 Questionnaire Return Rate

A total of 102 questionnaires were issued to potential respondents who were comprised of nurses, clinical officers and doctors employed in Kirinyaga County. Out of the questionnaires issued, there were 92 questionnaires returned, with the 6 questionnaires that were not returned having not been filled as shown in Table 2. This was despite the researcher having left the questionnaires with the respondents to give them ample time to fill them in.

**Table 2: Questionnaire Return Rate**

Sample Size	Returned Questionnaires	Analyzed Questionnaires	Response Rate
102	92	83	81.3%

The 92 questionnaires were taken through the process of data cleaning and editing and a further 9 questionnaires were eliminated as they were incomplete. This brought the number of completely filled questionnaire to 83. These questionnaires were the ones whose data was used for analysis and on whose results the findings on this study are based on. Therefore, the response rate was 81.3% which according to Mugenda, (2003) is sufficient for data analysis purposes.

##### 4.3 Strategic Resources Management

The study sought to examine the influence of strategic resources management on organizational performance of devolved health care functions in Kirinyaga County. This was done by measuring various metrics using perceptions of respondents on the influence of these metrics on performance of devolved health care functions in Kirinyaga County. These metrics include finances availability timelines to the devolved units, compensation levels of devolved health staff, portion of budget allocated to developmental aspects, ability of health units to generate own resources, and equity and fairness in distribution of resources amongst health care units. The results of this examination are shown in Table 3.

**Table 3: Descriptive Statistics for Strategic Resources Management**

Statements	SA Freq. (%)	A Freq. (%)	U Freq. (%)	D Freq. (%)	SD Freq. (%)	Mean	Std. Dev.
Finances availability timelines to the devolved units	48 (58.5%)	28 (34.1%)	6 (7.3%)	0 (0.0%)	0 (0.0%)	4.51	0.63
Compensation levels of devolved health staff	37 (45.1%)	24 (29.3%)	14 (17.1%)	7 (8.5%)	0 (0.0%)	4.11	0.98
Portion of budget allocated to developmental aspects	48 (58.5%)	25 (30.5%)	5 (6.1%)	4 (4.9%)	0 (0.0%)	4.43	0.82
Ability of health units to generate own resources	42 (51.2%)	22 (26.8%)	14 (17.1%)	4 (4.9%)	0 (0.0%)	4.24	0.91
Equity and fairness in distribution of resources amongst health care units	25 (30.5%)	35 (42.7%)	22 (26.8%)	0 (0.0%)	0 (0.0%)	4.04	0.76

Above half of the respondents (58.5%) were inclined to strongly agree that finances availability timelines to the devolved units had an influence on performance of devolved health care functions in Kirinyaga County. Further, 34.1% of the respondents were inclined to agree on the same. However, none of the respondents (0.0%) disagreed or strongly disagreed that finances availability timelines to the devolved units had an influence on performance of devolved health care functions in Kirinyaga County.

Compensation levels of devolved health staff have an influence on performance of devolved health care functions in Kirinyaga County as perceived by almost half of the respondents (45.1%) who chose “Strongly Agree” and 29.3% of respondents who chose “Agree” prompts. The portion of budget allocated to developmental aspects was also perceived to have an influence on the performance of devolved health care functions in Kirinyaga County by above half of the respondents who chose “Strongly Agree” and 30.5% who chose “Agree” prompts.

The performance of devolved health care functions in Kirinyaga County was influenced by the ability of health units to generate own resources. This was evidenced by 51.2% of the respondents who tended to strongly agree with this and 26.8% of the respondents who tended to agree on the same. Additionally, only a negligible 4.9% of respondents perceived that the ability of health units to generate own resources did not influence the performance of devolved health care functions in Kirinyaga County.

A cumulative majority of respondents (73.2%) were of the opinion that equity and fairness in distribution of resources amongst health care units influenced the performance of devolved health care functions in Kirinyaga County (30.5%=Strongly Agree; 42.7%=Agree). However, there were respondents who were not sure (26.8%) whether equity and fairness in distribution of resources amongst health care units had an influence on the performance of devolved health care functions in Kirinyaga County. All metrics of the strategic resources management matrix did not have any respondents choose “Strongly Disagree” (0.0%) therefore, the respondents were not inclined to be

in strong disagreement that strategic resources management had an influence on the performance of devolved health care functions in Kirinyaga County.

The mean scores for each metric used to measure the influence of strategic resources management on the performance of devolved health care functions in Kirinyaga County were in the interval  $3.5 < \mu < 4.5$ . This indicated that on average respondents tended to agree that each of these metrics influenced the performance of devolved health care functions in Kirinyaga County. The individual mean scores for the metrics were 4.51 for finances availability timelines to the devolved units, 4.11 for compensation levels of devolved health staff, 4.43 for portion of budget allocated to developmental aspects, 4.24 for ability of health units to generate own resources, and 4.04 for equity and fairness in distribution of resources amongst health care units.

The metric with greater influence on performance of devolved health care functions in Kirinyaga County among the strategic resources management metrics was finances availability timelines to the devolved units since it had the highest mean score. It was followed by portion of budget allocated to developmental aspects, ability of health units to generate own resources, compensation levels of devolved health staff, equity and fairness in distribution of resources amongst health care unit.

In respect to the standard deviations, all the metrics of the strategic resources management matrix had standard deviations in the interval  $0.5 < \sigma_x < 1$ . This meant that responses for each of the metrics were moderately distributed around the mean which implied that there was moderate consensus amongst respondents on the influence of each of the metrics on performance of devolved health care functions in Kirinyaga County. The standard deviations were 0.63 for finances availability timelines to the devolved units, 0.98 for compensation levels of devolved health staff, 0.82 for portion of budget allocated to developmental aspects, 0.91 for ability of health units to generate own resources, and 0.76 for equity and fairness in distribution of resources amongst health care units.

There was therefore moderate consensus among respondents and on average respondents tended to agree that finances availability timelines to the devolved units ( $\mu = 4.51$ ;  $\sigma_x = 0.63$ ) had an influence on performance of devolved health care functions in Kirinyaga County. This collaborated findings of a study by Shaikh *et al.*, (2012) in Pakistan that found inadequate financing levels had led to challenges in infrastructure acquisition and deployment to the devolved health centers. The study noted that the ability to secure and manage limited financial resources is key to the improvement of service delivery and increased healthcare utilization on the ground.

Similarly, there was moderate consensus among respondents and on average respondents tended to agree that compensation levels of devolved health staff ( $\mu = 4.11$ ;  $\sigma_x = 0.98$ ) had an influence on performance of devolved health care functions in Kirinyaga County. On average, respondents tended to agree and had moderate consensus that the portion of budget allocated to developmental aspects ( $\mu = 4.43$ ;  $\sigma_x = 0.82$ ) had an influence on performance of devolved health care functions in Kirinyaga County. These findings were similar to those of Beauvais & Bowser (2000) in a study on decentralized health systems that noted that the central transfer of funds to the devolved healthcare systems impacted greatly on their performance. Citing the case of Philippines, the study noted that central transfers accounted for over 60% of the local government expenditures. The study further noted that the central funds transferred to the devolved units have some of the costs already earmarked hence giving little autonomy to the units on the expenditure autonomy. The

study further noted that in Zambia and Ghana, the devolved health care functions are subjected to central budget allocations and approval process which limits their financial independence.

Ability of health units to generate own resources was perceived to have an influence on performance of devolved health care functions in Kirinyaga County as the respondents on average were inclined to agree and had moderate consensus on the metric ( $\mu= 4.24$ ;  $\sigma_x=0.91$ ). Similar findings were made by Lang'at & Mwanri (2015) who noted that the fees generation mechanisms through use of user based access fees is of importance to the development of the financial independence of the healthcare systems. Additionally, Tiongco-cruda (2007) in a study on the Decentralization of Healthcare in India noted that hospitals were forced to adopt the user based fees to adopt the costs associated with running the hospitals in the absence of timely release of funds from central government. Health units should therefore generate own resources so that capacity to recruit specialist doctors and other medical officers due to compensation challenges cannot be inhibited when the financial resources by the devolved government are insufficient.

Finally, there was moderate consensus among respondents and on average respondents tended to agree that equity and fairness in distribution of resources amongst health care units ( $\mu= 4.04$ ;  $\sigma_x=0.76$ ) have an influence on performance of devolved health care functions in Kirinyaga County. Kolehmainen-Aitken (2001) in a study on the Myths and Realities about the Decentralization of Health Systems noted the role of equitable financing on the performance of devolved healthcare. The study citing the case of Philippines noted that the central government failed to make provisions for the distribution of health facilities and programs therefore creating finance gaps and inequitable financing across diverse health services providers. The equitability of the resources distribution was also noted as a challenge in Tanzania by Boex, Fuller, & Malik (2015) in their studies on the Decentralized Local Health Services in Tanzania. The study noted that the decentralized health care faced diverse challenges with the funds that were given to the decentralized health system as well as horizontal distribution of local health resources amongst the devolved units with some getting more than their fair share of resources.

#### **4.4 Service Delivery**

The influence of service delivery on the performance of devolved health care functions in Kirinyaga County was examined using five metrics. These metrics included quality of service provided, responsiveness of healthcare provision to patient's needs, providing services when promised, performing services right the first time, and providing services as promised. The results are presented in Table 4.



**Table 4: Descriptive Statistics for Service Delivery**

Statements	SA Freq. (%)	A Freq. (%)	U Freq. (%)	D Freq. (%)	SD Freq. (%)	Mean	Std. Dev.
Quality of Service Provided	15 (18.3%)	29 (35.4%)	31 (37.8%)	7 (8.5%)	0 (0.0%)	3.63	0.88
Responsiveness of healthcare provision to patient's needs	25 (30.5%)	43 (52.4%)	14 (17.1%)	0 (0.0%)	0 (0.0%)	4.13	0.68
Providing services when promised	22 (26.8%)	36 (43.9%)	24 (29.3%)	0 (0.0%)	0 (0.0%)	3.98	0.75
Performing services right the first time	32 (39.0%)	32 (39.0%)	14 (17.1%)	4 (4.9%)	0 (0.0%)	4.12	0.87
Providing services as promised	17 (20.7%)	29 (35.4%)	22 (26.8%)	14 (17.1%)	0 (0.0%)	3.40	1.00

Most of the respondents (37.8%) were uncertain whether quality of service provided had an influence on the performance of devolved health care functions in Kirinyaga County. However, almost an equal number of respondents (35.4%) perceived the quality of service provided had an influence on the performance of devolved health care functions in Kirinyaga County as they chose “Agree”. Additionally, 18.3% of the respondents chose the “Strongly Agree” prompt.

On the other hand, 8.5% of the respondents felt that the quality of service provided did not have an influence on performance of devolved health care functions in Kirinyaga County. Slightly above half of the respondents (52.4%) were of the opinion that responsiveness of healthcare provision to patient’s needs had an influence on the performance of devolved health care functions in Kirinyaga County. Further, 30.5% of the respondents strongly agreed that responsiveness of healthcare provision to patient’s needs had an influence on the performance of devolved health care functions in Kirinyaga County. None of the respondents was opposed to this statement though there were 17.1% who were uncertain on the influence of responsiveness of healthcare provision to patient’s needs on performance of devolved health care functions in Kirinyaga County.

Similarly, none of the respondents felt that providing services when promised did not have an influence on performance of devolved health care functions in Kirinyaga County. There were 29.3% who were uncertain on the influence of services being provided when promised on performance of devolved health care functions in Kirinyaga County. However, most of the respondents felt that providing services when promised (43.9%) had an influence on performance of devolved health care functions in Kirinyaga County.

A cumulative majority of respondents felt that performing services right the first time (78.0%), and providing services as promised (56.1%) had an influence on performance of devolved health care functions in Kirinyaga County. No respondents chose the “Strongly Disagree” prompt which meant no respondent has a strong perception to contradict this statement. However, 4.9% and 17.1% of the respondents felt that performing services right the first time and providing services as promised did not have an influence on performance of devolved health care functions in Kirinyaga County respectively.

The mean scores for quality of service provided (3.63), responsiveness of healthcare provision to patient's needs (4.13), providing services when promised (3.98), and performing services right the first time (4.12) were in the interval  $3.5 < \mu < 4.5$ . This indicated the respondents had a tendency to agree that these metrics had an influence on the performance of devolved health care functions in Kirinyaga County. On the other hand, the mean score for providing services as promised (3.40) indicated that respondents tended to be uncertain ( $2.5 < \mu < 3.5$ ) in respect to this metric's influence on performance of devolved health care functions in Kirinyaga County.

The standard deviations for quality of service provided (0.88), responsiveness of healthcare provision to patient's needs (0.68), providing services when promised (0.75), and performing services right the first time (0.87) were in the interval  $0.5 < \sigma_x < 1$ . This indicated that responses were moderately distributed around the means for the respective metrics which implied that there was moderate consensus amongst respondents that the metrics had an influence on the performance of devolved health care functions in Kirinyaga County. On the other hand, the standard deviation for providing services as promised (1.00) indicated that responses for this metric were widely distributed around its mean. This implied that there was no consensus ( $\sigma_x \geq 1$ ) amongst respondents on the influence of providing services as promised on performance of devolved health care functions in Kirinyaga County.

There was moderate consensus and respondents on average tended to agree that quality of service provided had an influence on performance of devolved health care functions in Kirinyaga County ( $\mu = 3.63$ ;  $\sigma_x = 0.88$ ). Nshimirimana, Mwaura-Tenambergen, Kokonya, & Adoyo, (2016) also noted that lack of standardization of quality service provision across different hospitals resulted in migration of migration from low level hospitals to high level hospitals. This creates overcrowding and overwhelming of higher level facilities.

Through an analysis of the mean scores and standard deviations, responsiveness of healthcare provision to patient's needs was perceived to have greater influence on performance of devolved health care functions in Kirinyaga County than the other metrics on service delivery. This is due to its high mean and low standard deviation ( $\mu = 4.13$ ;  $\sigma_x = 0.68$ ). Providing services as promised was perceived to have the least influence on performance of devolved health care functions in Kirinyaga County among the service delivery metrics as it had the least mean and high standard deviation ( $\mu = 3.40$ ;  $\sigma_x = 1.00$ ).

#### 4.5 Infrastructure

An examination of the influence of infrastructure on performance of devolved health care functions in Kirinyaga County was carried out using five metrics. These metrics were infrastructure acquisition, infrastructure development, physical accessibility to the health care centres, bed capacity in health care systems, and number of health care services centers. An analysis of respondents' perception on the influence of these metrics on performance of devolved health care functions in Kirinyaga County gave results shown in Table 5

Above half of the respondents (54.9%) perceived the physical accessibility to the health care centres to have an influence on performance of devolved health care functions in Kirinyaga County by choosing "Agree" prompt. Similarly, almost half of the respondents felt that infrastructure acquisition (46.3%) and infrastructure development (37.8%) have an influence on performance of devolved health care functions in Kirinyaga County. Further, this was supported by 23.2% and 34.1% of the respondents who strongly felt that infrastructure acquisition and infrastructure

development have an influence on performance of devolved health care functions in Kirinyaga County respectively.

**Table 5: Descriptive Statistics for Infrastructure**

Statements	SA Freq. (%)	A Freq. (%)	U Freq. (%)	D Freq. (%)	SD Freq. (%)	Mean	Std. Dev.
Infrastructure acquisition	19 (23.2%)	38 (46.3%)	18 (22.0%)	7 (8.5%)	0 (0.0%)	3.84	0.88
Infrastructure development	28 (34.1%)	31 (37.8%)	23 (28.0%)	0 (0.0%)	0 (0.0%)	4.06	0.79
Physical accessibility to the health care centres	18 (22.0%)	45 (54.9%)	15 (18.3%)	4 (4.9%)	0 (0.0%)	3.94	0.76
Bed capacity in health care systems	33 (40.2%)	34 (41.5%)	12 (14.6%)	3 (3.7%)	0 (0.0%)	4.18	0.82
Number of health care services centers	31 (37.8%)	25 (30.5%)	19 (23.2%)	7 (8.5%)	0 (0.0%)	3.98	0.98

The bed capacity in health care systems was strongly perceived to have an influence on performance of devolved health care functions in Kirinyaga County by 40.2% of the respondents who chose “Strongly Agree”. Additionally, 41.5% of the respondents chose “Agree” which meant majority of respondents (81.7%) felt that bed capacity in health care systems had an influence on performance of devolved health care functions in Kirinyaga County.

A cumulative majority of respondents (68.3%) on a minimum agreed that the number of health care services centers had an influence on performance of devolved health care functions in Kirinyaga County. However, there were 8.5% of respondents who disagreed with this perception. Other respondents (23.2%) were uncertain about the influence of the number of health care services centers on performance of devolved health care functions in Kirinyaga County. None of the respondents strongly felt that the metrics used to measure the influence of infrastructure did not have an influence on performance of devolved health care functions in Kirinyaga County.

The mean scores for infrastructure acquisition (3.84), infrastructure development (4.06), physical accessibility to the health care centres (3.94), bed capacity in health care systems (4.18), and number of health care services centers (3.98) were in the interval  $3.5 < \mu < 4.5$ . This meant that on average, the respondents tended to agree that each of the metrics had an influence on performance of devolved health care functions in Kirinyaga County.

The standard deviations for infrastructure acquisition (0.88), infrastructure development (0.79), physical accessibility to the health care centres (0.76), bed capacity in health care systems (0.82), and number of health care services centers (0.98) were in the interval  $0.5 < \sigma_x < 1$ . This meant that responses for these metrics were moderately distributed around the mean which implied that respondents had moderate consensus on the perceived influence of the metrics on performance of devolved health care functions in Kirinyaga County.

The bed capacity in health care systems was perceived to have greater influence than the others in the infrastructure matrix, as it had a higher mean and a low standard deviation than the other metrics. Bankauskaite & Saltman (2007) in a study on the central issues in the decentralization

debate also noted that the bed capacity of the hospital is critical in determining the admission capacity of the healthcare institution. The admission capacity is useful for the healthcare that requires long term care and management aspects.

The respondents on average tended to agree and have moderate consensus that physical accessibility to the health care centres had an influence on performance of devolved health care functions in Kirinyaga County ( $\mu=3.84$ ;  $\sigma_x=0.76$ ). These findings collaborated those of Othim (2015) in a study on the Safe Motherhood Strategies in the Informal Settlement of Kibera, Nairobi City County who noted that the road infrastructure should make easy for accessibility of the health facilities. Amongst the infrastructural aspects that improve the health care provision include lack of physical access to facilities, insufficient number of facilities, distance to health care facilities, and inadequate transportation infrastructure.

#### 4.6 Training

The study sought to examine the influence of training on performance of devolved health care functions in Kirinyaga County. This was done by getting the perceptions of respondents on whether training offered has improved their efficiency in work execution, improved their skills of their work deliverables, improved their job satisfaction, improved their service delivery reliability, and whether it has been relevant to their work. Table 6 shows results of this examination.

When asked whether training offered has improved their efficiency in work execution, 34.1% of respondents strongly affirmed (Strongly Agreed) that it had, supported by 34.1% of respondents who chose “Agree”. However, 26.8% of the respondents were not sure whether training offered has improved their efficiency in work execution, and 4.9% felt that it had not.

**Table 6: Descriptive Statistics for Training**

	SA Freq. (%)	A Freq. (%)	U Freq. (%)	D Freq. (%)	SD Freq. (%)	Mean	Std. Dev.
Training offered has improved my efficiency in work execution	28 (34.1%)	28 (34.1%)	22 (26.8%)	4 (4.9%)	0 (0.0%)	3.98	0.90
Training offered has improved my skills of my work deliverables	14 (17.1%)	29 (35.4%)	30 (36.6%)	9 (11.0%)	0 (0.0%)	3.59	0.90
Training offered has improved my job satisfaction	22 (26.8%)	45 (54.9%)	15 (18.3%)	0 (0.0%)	0 (0.0%)	4.09	0.67
Training has improved my service delivery reliability	24 (29.3%)	37 (45.1%)	21 (25.6%)	0 (0.0%)	0 (0.0%)	4.04	0.74
Training offered at county has been relevant to my work	30 (36.6%)	30 (36.6%)	15 (18.3%)	7 (8.5%)	0 (0.0%)	4.01	0.95

Most of the respondents (36.6%) tended to be uncertain when asked whether training offered has improved their skills of their work deliverables. An almost equal number of respondents (35.4%)

affirmed that training offered has improved their skills of their work deliverables as well as 17.1% of the respondents who strongly affirmed the same. Slightly above half of the respondents (54.9%) perceived training offered to have improved their job satisfaction. Additionally, 26.8% of the respondents strongly affirmed that training offered has improved their job satisfaction. This was further supported by there being no responses on the contrary (0.0%=Strongly Disagreed; 0.0%=Disagreed), though there were 18.3% of respondents who were uncertain on whether training offered has improved their job satisfaction.

Most of the respondents affirmed that training has improved their service delivery reliability (cumulative 74.4%). Respondents also affirmed (36.6%) and strongly affirmed (36.6%) that training offered at county has been relevant to their work. There was no respondent (0.0%) who strongly opposed this perception though 8.5% disagreed with it.

The mean scores for all metrics of the training matrix were in the interval  $3.5 < \mu < 4.5$  indicating on average respondents' tended to agree that training has influenced the performance of devolved health care functions in Kirinyaga County. Therefore, respondents tended to agree that training has improved their efficiency in work execution (3.98), improved their skills of their work deliverables (3.59), improved their job satisfaction (4.09), improved their service delivery reliability (4.04), and has been relevance to their work (4.01).

The standard deviations for all metrics of the training matrix were in the interval  $0.5 < \sigma_x < 1$  indicating responses were moderately distributed around the means of the metrics. This implied that there was moderate consensus amongst respondents on the influence of training on performance of devolved health care functions in Kirinyaga County through each metric. Therefore, there was moderate consensus amongst respondents that training has improved their efficiency in work execution (0.90), improved their skills of their work deliverables (0.90), improved their job satisfaction (0.67), improved their service delivery reliability (0.74), and has been relevance to their work (0.95).

The respondents on average tended to agree and had moderate consensus that training has improved their efficiency in work execution ( $\mu = 3.98$ ;  $\sigma_x = 0.90$ ), and improved their skills of their work deliverables ( $\mu = 3.59$ ;  $\sigma_x = 0.90$ ). Kessie & Oforiwaa (2013) also notes that training of employees enables them to think and act more effectively to achieve the best result possible for the company. The study noted that training enables the organization to ensure high levels of efficiency and reliability in service delivery hence resulting into higher organizational performance. On the other hand, Adongo (2013) indicate that training enables the organization to acquire competitive advantage by enabling the employees to acquire knowledge, skills and abilities in relations to their work performance and as such ensure that the institution gets competitive advantage. The training aspects also enable the employees to acquire new knowledge and information which enhances their efficiency in their work performance.

Similarly, respondents on average tended to agree and had moderate consensus that training has improved their job satisfaction ( $\mu = 4.09$ ;  $\sigma_x = 0.67$ ) and improved their service delivery reliability ( $\mu = 4.04$ ;  $\sigma_x = 0.74$ ), and has been relevant to their work ( $\mu = 4.01$ ;  $\sigma_x = 0.95$ ). Similarly, Okech (2016) in a study on the devolution in health care in Kenya notes that the number of health care with specialized training are critical for the health care system performance. In this context, the study noted that hospitals must have diverse number of specialists and health care professionals to enable proper functioning of the health care system. The study sought to determine which metric was most influenced by training which was done by getting the metrics with the highest mean and

low standard deviation. In this context, training was perceived to have had greater impact in improving the job satisfaction of respondents in Kirinyaga County ( $\mu= 4.09$ ;  $\sigma_x=0.67$ ).

#### 4.7 Organizational Performance

The study was interested in examining which performance metrics had been impacted on by strategic resources management, human resources management, infrastructure, and training in the context of devolved health care functions in Kirinyaga County. The metrics included access to suitably qualified medical personnel, affordability of medical services, drugs availability, promptness of service delivery, and access to health care facility. Results of this examination are as shown in Table 7.

**Table 7: Descriptive Statistics for Organizational Performance**

Statements	SA Freq. (%)	A Freq. (%)	U Freq. (%)	D Freq. (%)	SD Freq. (%)	Mean	Std. Dev.
Access to suitably qualified medical personnel	15 (18.3%)	30 (36.6%)	22 (26.8%)	15 (18.3%)	0 (0.0%)	3.55	1.00
Affordability of medical services	16 (19.5%)	38 (46.3%)	10 (12.2%)	18 (22.0%)	0 (0.0%)	3.63	1.03
Drugs availability	25 (30.5%)	23 (28.0%)	27 (35.9%)	7 (8.5%)	0 (0.0%)	3.80	0.97
Promptness of service delivery	21 (25.6%)	35 (42.7%)	14 (17.1%)	12 (14.6%)	0 (0.0%)	3.79	0.99
Access to health care facility	14 (17.1%)	28 (34.1%)	26 (31.7%)	14 (17.1%)	0 (0.0%)	3.51	0.97

Nearly half of the respondents (46.3%) agreed that affordability of medical services in Kirinyaga County had been influenced by strategic resources management, human resources management, infrastructure, and training. Additionally, 19.5% of the respondents tended to strongly agree that strategic resources management, human resources management, infrastructure, and training had impacted the affordability of medical services in Kirinyaga County. On the other hand, 22.0% of the respondents disagreed and felt that strategic resources management, human resources management, infrastructure, and training did not have an impact on the affordability of medical services in Kirinyaga County.

Access to suitably qualified medical personnel in Kirinyaga County had been influenced by strategic resources management, human resources management, infrastructure, and training as perceived by a cumulative 54.9% of the respondents. Most of the respondents (35.9%) tended to be uncertain whether drugs availability in Kirinyaga County had been influenced by strategic resources management, human resources management, infrastructure, and training. However, 30.5% of the respondents strongly affirmed that strategic resources management, human resources management, infrastructure, and training had impacted on drugs availability.

Most of the respondents (42.7%) affirmed that promptness of service delivery in Kirinyaga County had been influenced by strategic resources management, human resources management, infrastructure, and training. While a cumulative majority of respondents (51.2%) affirmed that

access to health care facility in Kirinyaga County was influenced by strategic resources management, human resources management, infrastructure, and training, 31.7% of the respondents were not sure whether it was or not. Those who felt that access to health care facility in Kirinyaga County was not influenced by strategic resources management, human resources management, infrastructure, and training were 17.1% who chose “Disagree” prompt. There were no “Strongly Disagree” responses on any of the metrics of the organizational performance metrics.

On average, respondents tended to agree ( $3.5 < \mu < 4.5$ ) that access to suitably qualified medical personnel (3.55), affordability of medical services (3.63), drugs availability (3.80), promptness of service delivery (3.79), and access to health care facility (3.51) had been influenced by strategic resources management, human resources management, infrastructure, and training. Ranking the mean scores from the highest to the lowest the order was drugs availability, promptness of service delivery, affordability of medical services, access to suitably qualified medical personnel, and access to health care facility. This implied that strategic resources management, human resources management, infrastructure, and training had greater influence on drugs availability in Kirinyaga County than on the other metrics of the organizational performance matrix.

There was moderate consensus ( $0.5 < \sigma_x < 1$ ), amongst respondents that drugs availability ( $\sigma_x = 0.97$ ), promptness of service delivery ( $\sigma_x = 0.97$ ), and access to health care facility ( $\sigma_x = 0.99$ ) in Kirinyaga County had been influenced by strategic resources management, human resources management, infrastructure, and training. This is because responses were moderately distributed around the means of these metrics and the mean scores were in the interval  $0.5 < \sigma_x < 1$ .

Responses for access to suitably qualified medical personnel and affordability of medical services were widely distributed around the mean with standard deviations of 1.00 and 1.03 respectively. This implied that there was no consensus ( $\sigma_x \geq 1$ ) amongst respondents on the perceived influence of strategic resources management, human resources management, infrastructure, and training on access to suitably qualified medical personnel and affordability of medical services in Kirinyaga County.

#### 4.8 Multiple Linear Regression

The association between the independent variables as well as direction of association was determined using the correlation coefficient denoted as R. The independent variables for this study were strategic resources management, service delivery, infrastructure, and training while the dependent variable was organizational performance. The value of R for this study was 0.566 as shown in Table 8.

**Table 8; Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.566 <sup>a</sup>	.321	.278	.7667

a. Predictors: (Constant), Strategic Human Resources, Service Delivery, Infrastructure, Training

According to Bergh & Ketchen (2009), R-values between 0 and 0.4 imply weak association; above 0.4 to 0.7 imply a fair association, while values above 0.7 to 1 imply a strong association. A negative R-value implies a negative association while a positive correlation coefficient implies a positive association. The R-value of 0.566 therefore implies that there is a fair positive association between the strategic resources management, service delivery, infrastructure, and training.

The degree of variability in the dependent variable as explained by the variation in the independent variables was defined by the coefficient of determination (R square or R<sup>2</sup>). The R-Square value in this case was 0.321 implying that 32.1% variability in the organizational performance of devolved health care functions in Kirinyaga County (dependent variable) is explained by the strategic resources management, service delivery, infrastructure, and training (independent variables). Thus the independent variables have minimal control over the dependent variable.

The regression model was then tested using the ANOVA to determine whether it was a good fit for data as shown in Table 9 below.

**Table 9; ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.481	4	4.372	7.437	.000 <sup>b</sup>
	Residual	37.040	77	0.588		
	Total	54.529	81			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Strategic Human Resources, Service Delivery, Infrastructure, Training

The level of significance used to determine whether the model was a good fit was a 5% level of significance. Therefore, if the p-value from the ANOVA table was to be less than 0.05, the model was to be deemed a good fit for data. From the ANOVA table, the p-value of the model with strategic resources management, service delivery, infrastructure, and training as the independent variables and organizational performance as the dependent variable was 0.000. This value was less than the 0.05 which means it had met the accepted 5% level of significance thus was found to be a good fit for data hence the model was deemed reliable.

The independent variables were then tested for linear relationship with the dependent variable. The beta coefficients ( $\beta$ ) were used to determine whether there was a linear relationship between strategic resources management, service delivery, infrastructure, and training (independent variables) and organizational performance (dependent variable). The coefficients were 0.127 for strategic resources management, 0.426 for service delivery, 0.490 for infrastructure, and -0.126 for training as shown in Table 10.

**Table 10; Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	$\beta$	Std. Error	Beta		
(Constant)	0.082	.800		0.103	.198
1 Strategic Management	.127	.085	.158	1.494	.140
Service Delivery	.426	.093	.493	4.586	.000
Infrastructure	.490	.139	.409	3.586	.001
Training	-.126	.111	-.127	-1.129	.263

a. Dependent Variable: Organizational Performance



The multiple linear regression model was;

$$\text{Organizational Performance} = 0.082 + 0.127(\text{Strategic Resources Management}) + 0.426(\text{Service Delivery}) + 0.490(\text{Infrastructure}) - 0.126(\text{Training})$$

From the regression model above, a unit increase in strategic resources management with other factors kept constant will result in a 0.127 increase in performance of devolved health care functions in Kirinyaga County. Similarly, a unit increase in service delivery with other factors kept constant will result in a 0.426 increase in performance of devolved health care functions in Kirinyaga County. A unit increase in infrastructure with other factors kept constant will result in a 0.490 increase in performance of devolved health care functions in Kirinyaga County.

On the other hand, a unit increase in training with other factors kept constant will result in a 0.126 decrease in performance of devolved health care functions in Kirinyaga County. Therefore, strategic resources management, service delivery, and infrastructure have a positive linear relationship with organizational performance while training has a negative linear relationship with organizational performance.

## **5.1 Conclusions**

The study concluded that strategic resources management, service delivery, and infrastructure have a positive linear relationship with organizational performance while training has a negative linear relationship with organizational performance. Additionally, it was concluded that a unit increase in strategic resources management, service delivery, and infrastructure individually with other factors kept constant increases the organizational performance. However, a unit increase in training with other factors kept constant will result in a decrease in performance of devolved health care functions in Kirinyaga County.

## **6.1 Recommendations**

The study recommends that finances be made available to the devolved units within the set timelines to facilitate timely acquisition of infrastructure and ensure that the healthcare workers are paid on time. The national and county governments should put in place financial management policies to ensure that the approval system is efficient and that central transfer of funds to the devolved healthcare system is done on time.

The devolved units should come up with strategies that ensured that there is responsiveness of healthcare provision to patient's needs. These strategies include staff motivation and sensitization of the diverse changes taking place in the devolved units through effective communication from the management of the devolved units.

An emphasis on the responsiveness of healthcare provision to patient's needs ensured that there is timeliness of service provision and that the experience and expectations of the patients are met which will improve the performance of the devolved units. The devolved units should invest in a higher bed capacity as it will increase the admission capacity of the healthcare institution especially for patients requiring long term care and management.

In terms of training, the employees in the devolved health units should be trained to increase the efficiency and effectiveness of the employees which will lead to better productivity and job satisfaction. The overall performance of the institutions will also improve since the best possible results was achieved in the work execution by the healthcare professionals.

## 7.1 References

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