

**ORGANIZATIONAL RESOURCES AND PERFORMANCE OF SUB-COUNTY  
HOSPITALS IN MAKUENI COUNTY, KENYA**

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## DECLARATION

This project is my original work and has not been presented for a degree in any other university.

.....

Signature

.....

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I confirm that the work in this project was done by the candidate under my supervision.

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## **DEDICATION**

I dedicate this project to my precious daughter Alya, my parents Charles and Jalpa, my sister Esther, my brothers John and Brandon, for your love and support, I am humbled. God bless you.

## **ACKNOWLEDGEMENT**

I thank the Almighty God for His blessings in my life and my studies. In His perfect will and timing, I began my studies one year later after enrollment. To Him is the glory forever. I acknowledge my supervisor Dr. Njeri Njuguna for walking with me through my project.

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## OPERATIONAL DEFINITION OF TERMS

- Financing of healthcare services:** This refers to means of payment for healthcare services received in the sub-county hospitals
- Healthcare workforce:** This refers to the staff working in the sub-county hospitals in Makueni County to provide services to patients.
- Medical supplies:** These refer to the items used in the sub-county hospitals to deliver health care services to the patients.
- Performance of public health facilities:** Refers to the end results of care or the effect of the process of care on the health and well-being of patients and populations at large.
- Organizational resources:** This refers to all assets available for use to the sub-county hospitals in Makueni for provision of services to the patients.
- Sub-county hospitals:** These are public healthcare facilities in the counties where basic healthcare needs are met. Previously referred to as Level-4 hospitals

## **ABBREVIATIONS AND ACRONYMS**

<b>AIDS</b>	Acquired Immune Deficiency Virus
<b>CIDP</b>	County Integrated Development Plan
<b>FBO</b>	Faith Based Organization
<b>HAI</b>	Health Associated Infection
<b>HCW</b>	Health Care Worker
<b>HIV</b>	Human Immunodeficiency Virus
<b>HPC</b>	Health Promotion Check
<b>ISO</b>	International Organization for Standardization
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>MDGS</b>	Millennium Development Goals
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NGO</b>	Non-Governmental Organization
<b>NHIF</b>	National Hospital Insurance Fund
<b>PPE</b>	Personal Protective Equipment
<b>SID</b>	Society for International Development
<b>SOPs</b>	Standard Operating Procedures
<b>SPSS</b>	Statistical Package for Social Sciences

**UHC** Universal Healthcare Coverage

**W.H.O** World Health Organization

## ABSTRACT

The public healthcare sector in Kenya faces challenges due to inadequate resources both human and financial. Inadequacies in supply of medical provisions, poor working conditions and poor salaries and allowances earned by healthcare workers have led to poor quality healthcare service provision thus affecting their performance as demonstrated from previous studies. The study focus was in investigating the effect that organizational resources have on performance of sub-county hospitals in Makueni County, Kenya. The specific variables examined included the effect of healthcare work force financing of healthcare services and medical supplies on performance of sub-county hospitals in Makueni County, Kenya. The resource-based view, balanced scorecard and new public management theories formed the theoretical literature for the study. Descriptive research design was adopted, and 535 healthcare staff were targeted with 228 respondents selected using simple random sampling technique to take part in the study. The questionnaire was the tool for collecting data from primary sources. It was pilot tested to ensure its validity using content and face validity tests and reliability was tested using internal consistency and the results checked with the Cronbach's Alpha coefficient with the results showing it is fit for use. The data collection was done with the help of five research assistants who were trained before commencing the exercise. The collected data was quantitative in nature and the researcher conducted descriptive, correlation and regression analysis. The findings showed that the  $r$  values ranged from 0.6 – 07 implying that organizational resources had great effect on the performance of the sub-county hospitals. Healthcare workforce had the greatest effect to performance of the hospitals since it was a service industry with overall mean score of 4.151 and  $\beta = .714$ . This was followed by medical supplies at mean of 3.569 and  $\beta = .690$  and lastly healthcare financing with means of 3.738 and  $\beta = .659$ . Further findings show that 62.4% of performance in the hospitals was due to organizational resources and its elements. The  $p$ -values were all less than 0.05 meaning that all aspects of organizational resources had significant effects to performance in the sub-county hospitals. Healthcare workforce involved the competencies, the numbers, trainings and knowledge of the staffs. It also includes measurement and rewarding good performance to improve commitment and morale for high outcomes. Medical supplies consider payment for supplies on time, proper allocation, storage and utilization to avoid wastage and also availing medical equipment that improved hospital performance. On financing it covers use of insurance like MakueniCare, NHIF and other medical insurance policies and cash payment to cater for health services. These elements led to improve performance outcomes in the hospitals. The study concludes that organizational resources and its aspects led to improved performance of the sub-county hospitals. The study thus recommends that health facilities and hospitals seeking to improve their performance should consider organizational resources and its elements. The health administrators, policy makers and health practitioners must seek ways of accessing organizational resources if they are to improve their performances.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the study

Health delivery system work with the sole aim of enabling that all citizens can receive health services wherever and whenever they are needed. The service delivered must also meet the standards set on quality of health services by internationally recognized bodies. According to the Ministry of Health Kenya, healthcare facilities are classified as; public which are operated by the national and county governments, and those run and managed by other bodies such as the Faith-based Organizations (FBOs), Non-Governmental Organizations (NGOs) and the private healthcare facilities which are profit making (Kimanzi, 2020). According to the World Health Organization (WHO) a well-performing healthcare system is such that it is responsive to the needs and expectations of the population.

Performance is measured by comparing the expected versus the actual outcomes. It can also be about the input consumed and the gained outputs within a specified time frame (Walter & Vincent, 2018). Organizational performance can also use metrics that are sector specific, such that for manufacturing and production industries the metrics cover aspects like the quality of products and volume produced; while service-based industries have elements like satisfaction rates and service quality. Benson and Egbewole (2018) shared that many organizations have a problem with performance outcome, and this accounts for collapse and closure of many enterprises and firms. In some instances, the resources and inputs are consumed with no tangible output or there are wastages, loss of resources and raw materials and underutilization of equipment and staffs. Performance dictates the survival and success rate of organizations and of key importance since it is associated with consumption of resources both human, financial, equipment and tools (Kimanzi, 2020).

The health sector, measures performance using elements such as improved outcomes, effectiveness and quality of services, easy access to facilities, systems and personnel, clinical quality and appropriateness of the care, responsiveness, equity and productivity

(Olusola, Onafeso, Ajiola & Adelabu, 2020). The achievement of high performance depends on core components in the health system that include organizational resources, health information systems, health workforce, accessing essential medicines, financing and leadership (Achoki, Hovels, Masiye, Lesego, Leufkens & Kinfu, 2017). It is also dependent on well-trained, skilled and knowledgeable health personnel, modern equipment and financing. The staffing numbers must be sufficient as mentioned by Cantor and Poh (2018) in the procurement process for delivery of quality medical supplies.

Globally, Etu, Aguwa, Monplaisir, Arslanturk and Miller (2020) in the USA, the hospitals have adopted a benchmarking approach and extensive staff training has led to quality care rendered to the patients. But as a developed nation the outlook and perspective of hospital sector is different to the Kenyan one, as a third-world country. Therefore, there is need to expand research and cover developing nations for generalization of findings to covering entire healthcare sector across regions and nations. In Malaysia, Hamzah and See (2019) noted that technical efficiency of the staff determined the performance of the pharmacy services. Location, age, size of facility and optimum levels of resources improved performance. The Kenyan healthcare staff have little to non-existence technical efficiency and hence the need to assess its impact on performance outcomes in the hospitals.

In Japan, Zhang, Tone and Lu (2018) shared that ownership structure, governance system and financial improvement in the medium-sized hospitals did not lead to enhanced efficiency in its service provision. According to Annear, Kwon, Lorenzoni, Duckett, Huntington, Langenbrunner and Xu (2018) the hospital costs were the key determinant in the achievement of universal health coverage, hence adoption of case-based payment system enables patients to pay medical costs based on the quality of services. The review shows that first-world nations have invested heavily in the healthcare sector with national and regional governments taking a front-row seat. In Kenya, the sector has been recently devolved but what role does the government and healthcare workers play in improving performance outcome.

Regionally, Benson and Egbewole (2018) shared that structure and mode of administration used in universities negatively impacted to healthcare services, but training and resources improved outcomes. In Ghana, Diop, Awoonor-Williams, Oforu and Williams (2019) linked quality of service delivered to the healthcare professionals and their distribution across the healthcare system. Dzangare, Mlilo and Chaziveni (2020) argue that low ratings for healthcare sector in Zimbabwe was due to high health costs, lacking modern equipment and limited human capital. In South Africa, Seymour, Mwalemba and Weimann (2019) revealed that poor health performance was due to inefficient processes, rising burden of disease treatment, not using digital systems and lacking sufficient resources. There was need for transforming the sector and adopting new initiatives (Radnor, Osborne, Kinder, & Mutton, 2014). The researchers revealed that healthcare costs, professionals and healthcare workers and resources affected healthcare performance outcome across the African states. It was therefore important to assess the Kenyan situation and expose the factors affecting healthcare outcomes.

In Kenya, Ayah, Ongore and Agwanda (2018) noted hospitals that followed standard operating policies and procedures and availability of skilled health workers had declined perinatal mortality rate. The focus was on mortality rates as only one element of performance and hence the need to include other performance metrics. Stephen and Bula (2017) mentioned that healthcare performances were strongly affected by human resource management practices that had aspects like training of workforce, the recruitment, compensation and performance management practices. Mwaniki (2017) noted performance of public hospitals is affected by availability of workers, funds, modern equipment and machines and the adopted managerial model. Kenya's public health is characterized by poor working environments, inadequate equipment, delaying of salary payments for the workforce and limited funds. The situation is not the same in privately run hospitals and those owned by NGOs and FBOs. Like other developing countries, Kenya has seen high premature deaths due to insufficiencies in the system (Mutindi, 2017).

The global pandemic has further stretched the resources in the healthcare sector and insufficiencies have led to unwarranted suffering and deaths. Salari, Di Giorgio, Ilinca and

Chuma (2019) talked of the challenges Kenyan's face in using out-of-pocket to take care of healthcare costs and the devastating impacts it has had on family and personal wealth. The Makueni County in Kenya offers a unique opportunity to study the influence of organizational resources on health performance. The Makueni County government has demonstrated strong commitment to the attainment of high performance in the health sector (Mutindi, 2017). Consequently, most of the public health facilities in Makueni County have embraced the automation of processes hence it will be easy to trace its health performance across all its units and departments. This study focused on Makueni County as one of the leading performers in healthcare to explore what it has done to attain the same and hence emulated by other counties and public health facilities.

### **1.1.1 Performance of Sub-County Hospitals**

Performance is defined as how well an organization does in achieving its goals within the stipulated timelines and using minimal resources (Cristian & Monica, 2017). Firm performance in general considers the success of the organization linked to attainment of set objectives. Walter and Vincent (2018) consider performance as attainment of set goals through an effective organizational structure, internal system, resources and materials. Lee (2019) defined performance using three aspects firm outcomes, value gained by the investors and shareholders and products made for different markets. It is simply a comparison of the actual versus the projected outcomes, measured after a specified duration of time. The performance tells how well or poorly an organization is doing in terms of covering its expenses, expansion its operations and improving its outcomes.

Performance can be measured using financial elements like profits, returns, sales volume, market share and shareholders' value and returns. It can also be measured using non-financial elements including customer and employee satisfaction, efficiency of the processes and operations, quality of products and services and loyalty of the customers leading to repeat business (Taouab & Issor, 2019). The performance measure is based on the industry and company products, such that when it comes to the health sector; performance is about delivery quality services to the patients. Ayah, Ongore and Agwanda (2018) consider that



performance in the health sector is about declining mortality rates, the average hospital stays and bed occupancy rates. Other elements include costs of treatment and drugs, patient room turnover rate and utilization of medical equipment. Arumona, Erin, Onmonya and Omotayo (2019) mentions that performance is about general health of the populations, quality of clinical care, appropriate, responsive, equity and productive care and health outcomes from treatment.

Moses, *et al.* (2021) revealed that some of the key performance indicators (KPIs) ideal for healthcare sectors are sales growth, cost per patient care, customer (patient) satisfaction, solution to present health problem and earnings and profits earned. Measuring of performance objectively helps in accountability processes as well as monitoring and evaluation of the progress and communicating the same to understand the extent to which the health system has met its objectives through the healthcare workers. Therefore, in this study, the performance of sub-county hospitals was a measure of the health outcomes, the timeliness of services as based on turnaround time between requested service and when it is delivered and it was also be based on patient-centered services, such that the hospitals go out of the way to serve its patients and try to meet their specific preferences in care giving.

### **1.1.2 Organizational Resources**

Resources are the assets that organization uses to implement its initiatives with the aim of improving its productivity and outcomes. The human capital is among the key resources that organization' uses to gain higher performance and competitiveness. Other resources, Mwai, Namada and Katuse (2018) noted include financials, equipment, raw materials and capital, but their value is only through manipulation and exploitation to get the expected results. In addition, Chaudhuri and Mandal (2020) noted that resources include all assets, the competencies, processes, information, capabilities and skills and knowledge that help in delivering the mandate of the organization. On the other hand, poor utilization of resource leads to wastage, high operational costs and losses.

Different sectors demand variety of resources for its production, Manogna (2020) noted that the agricultural sector needs seedlings, machinery and knowledgeable farmers, education needs trained teachers and school facilities but when considering the healthcare sector, then the resources would include healthcare workers, medical equipment, financing and facilities. Abate, Dereje, Hirvonen and Minten (2020) share that healthcare sector as a service industry, for quality delivery of services to the patients need well-trained and qualified personnel. The personnel are at the core of proper functioning of the health department and covers different cadres of workers including doctors and nurses, specialist and pharmacists, technicians and even homecare givers. The sector equally needs materials like drugs, equipment and supplies; well-equipped and maintained facilities, funds to run the operations of the sector. In this study, organizational resources of concern will include the healthcare workforce, financing and medical supplies.

The healthcare workforce includes all people that engage in actions with the sole intention of enhancing health, and also assist or deliver health services, operate and maintain the health facilities (Agarwal, Sripad, Johnson, Kirk, Bellows, Ana & Warren, 2019). There are two categories of the workforce; the first is the non-medical personnel such as cleaners, administrators, security, and information technology teams and the second group is the medical personnel that diagnose and treat the patients. The healthcare workers deliver quality healthcare if they have the right training and continue to receive medical education throughout their careers. Stephen and Bula (2017) noted that diseases keep evolving and new diseases and ailment are discovered all the time, therefore, the health workers must have information on managing the ailment, treatment procedures and handling the diseases. Effective service delivery is also linked to staffing levels and as shared by Miseda, Were, Murianki, Mutuku and Mutwiwa (2017) the volume of healthcare workers is essential based on health sector being a service industry. Without enough staff it is impossible to serve patients in a timely manner. The healthcare workforce must also be remunerated well according to their job group, effort and time used in service delivery.

Financing of healthcare services is a function of the health system and involves mobilization and allocation of money to all working areas under the health system. This is done to

provide health services to the people and communities. The financing ensures sufficiency of resources that will meet the health needs for entire population under a governing unit (Zhang, *et al.*, 2018). In developed nations, financing health sector is done by health insurance schemes provided by employers and unions, but in developing nations, the financing is done individually by patients in cash from out-of-their pockets or free service provision by governments – in government public health facilities. In some cases, individuals take up personal health insurance policies to cater for their health needs and some countries have a mandatory national health insurance (Oraro-Lawrence & Wyss, 2020). In Kenya, covering the costs of healthcare is mostly from out-of-pocket by individual patient; use of national health insurance fund (NHIF), employer-based insurance schemes and individuals taking health policies (Mwaniki, 2017). In Makueni, Kimanzi (2020) noted that the county established an insurance scheme (Makuenicare) for its residents and has been useful in catering for medical costs of the people who have registered.

Medical supplies involve the procurement and distribution of equipment, materials and goods that are needed by health systems for delivery of quality health services to the populations (Kanda & Iravo, 2015). The health system must investigate efficient means and sources of supply of medical goods like medicines, equipment, diagnostic kits, sanitary wear like gloves and protective gear and laboratory testing equipment. In recent times, areas that are affected by natural disasters or are remotely located use drones for delivery of drugs and lighter medical needs (Ackerman & Strickland, 2018). In some instances, some health systems have employed supply chain practices in delivery of medical supplies and equipment to health facilities. When planning for delivery of medical supplies, Alizadeh, Makui and Paydar (2020) argue for consideration of biological risks and hazardous wastes and the need for sterilization centers. The procurement department needs to find out about efficiency of the medical supply chain network, the access and availability of supply routes and quality of the supplied produces like the medicines, machine, equipment, tools and kits.

Healthcare systems are designed to aid in the optimal delivery of service to patients in a hospital. The outcome of healthcare provision is influenced by all the processes a patient undergoes right from accessing the health facility to the point of exit. Given the direct

relationship between service delivery and health performance, sufficient effort ought to be rendered to achieve high levels of delivery (Chaudhuri & Mandal, 2020). Improvements made on health input, service delivery, adoption of national policy is dependent on improvement of population health and sustenance of health systems. To attain optimal levels in service delivery to patients in public hospitals and other health facilities, Alatawi, Niessen and Khan (2020) shared that there is need to ensure efficiency in health resources. The resources are a key factor in high performing health system and the focus of the study is to link the resource – workforce, financing and supplies to performance.

### **1.1.3 Sub-County Hospitals in Makueni County**

Makueni County has a good number of public health facilities located at the various administrative units. The Makueni County Referral Hospital located at the county headquarters at Wote is the leading health service center. There are equally high-level public hospitals in each of the six sub-counties namely; Makueni, Kaiti, Kilome, Kibwezi East, Kibwezi West, and Mbooni. These public health facilities existed prior to the advent of the devolved system of government in Kenya, which created the counties as from the year 2010. However, upon the introduction of the new system of administration, Makueni County government moved in to increase investments in each of the public health facilities (Makueni CIDP-2018-2022). Given that healthcare is a devolved function in the country, Makueni County has managed to outdo most counties by improving the capitation for these hospitals.

According to the Makueni County Government (2018, April 4) website, these health facilities include Makueni County Referral Hospital, Kilungu Sub-County Hospital, Sultan Hamud Sub-County Hospital, Makindu Sub- County Hospital, Tawa Sub-County Hospital, Matiliku Sub-County Hospital, Mbooni Sub-County Hospital, Kibwezi Sub-County Hospital, Kiima-Kiu Sub-County Hospital, Kisau Sub-County Hospital and 46 health centers that offer primary care for the residents. The Makueni Mother and Child Hospital tops the list of the special care centers pioneered by the current county administration. The focus of this study was the nine (9) sub-county hospitals within Makueni County.

## **1.2 Statement of the Problem**

The Kenyan public healthcare sector suffers from inadequate resources, poor service delivery evidenced by long queues in facilities before accessing treatment and other services. Other issues include inadequate referral system, few qualified physicians, high healthcare costs and great distances to reach health facilities (Gitobu, Gichangi & Mwanda, 2018). There is lack of medical equipment, poor staffing numbers, unreliable medical supplies and delays in salary pay for workers. Kimathi (2017) shared that the Kenyan healthcare suffers from inadequacies in medical supply, poor working conditions, delay and poor salaries for staffs and lack of modern equipment that negatively affect performance. Makueni County is among the counties with its own medical cover - Makuenicare that covers up to 93% of the residents. Although, there are still some populations left out of the cover and face challenges in financing health care costs. There is need to investigate more on performance as based on organizational resources.

Studies have been done on organizational resources and performance such as Walter and Vincent (2018) on organizational resources and performance, where results showed statistically significant relations in the variables. The study created contextual gaps by covering the Kenyan state corporation. Rwigy (2018) study covered participatory budgeting and its effect on the health services within Makueni County, sharing that the participatory framework through citizen involvement in budgeting influenced spending at the wards. The study created conceptual gaps since performance of the hospitals was not linked to budgeting. Elbanna and Abdel-Maksoud (2020) researched on organizational resources and performance and discovered financial and human resources improved performances in United Arab Emirates. The study was a case study of oil-rich country and thus created methodological gaps and contextual ones as it was done in United Arab Emirates.

Kasanga, Muthoni and Oluoch (2019) study was on knowledge on maternal and neonatal health that the healthcare workers have and service delivery in Makueni County. Results indicated that healthcare workers had no knowledge on maternal and neonatal health aspects like pre-eclampsia, newborn care and neonatal infections leading to poor performance. The

study creates knowledge gaps by not considering resources and performance. The challenges of performance in healthcare sector and the identified gaps in knowledge, concept, methodological and context need to be filled. Thus, the current study investigated on organizational resources and performance of sub-county hospitals in Makueni.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

The general objective of the study was to investigate the effect of organizational resources on performance of sub-county hospitals in Makueni County, Kenya.

#### **1.3.2 Specific Objectives**

- i. To examine the effect of healthcare work force on performance of sub-county hospitals in Makueni County, Kenya.
- ii. To assess the effect of financing of healthcare services on performance of sub-county hospitals in Makueni County, Kenya
- iii. To evaluate the effect of medical supplies on performance of sub-county hospitals in Makueni County, Kenya

### **1.4 Research Questions**

The research sought to answer the following questions:

- i. What effect does healthcare workforce have on performance of sub-county hospitals in Makueni County, Kenya?
- ii. What is the effect of financing of healthcare services on performance of sub-county hospitals in Makueni County, Kenya?
- iii. What effect do medical supplies have on performance of sub-county hospitals in Makueni County, Kenya?

### **1.5 Significance of the Study**

The study finding will be beneficial to the sub-county hospitals' administration in monitoring the utilization of their resources towards healthcare delivery, identifying the challenges and loopholes, and putting measures to mitigate them. The study will benefit the Government of Kenya in providing guidelines on the correct strategy to maximize utilization of available resources for seamless service delivery in public health facilities. Other counties stand to benefit from the outcome of this study, since they will learn strategies of how to exploit organizational resources for improved performance.

The study will be of value to the policy makers in laying down strategies for the successful monitoring of use of organizational resources to improve performance in healthcare facilities. It will also be of significant use to other researchers in future in literature review for research or for identifying gaps. Finally, the research will help hospital administrators in defining the best strategies to ensure a successful delivery of services to the patients and general population seeking healthcare services.

### **1.6 Limitations of the study**

This study is likely to face challenges relating to the time for data collection. Given the scale of the study, where the entire county is covered, there was a challenge in distributing and later collecting the filled questionnaires. However, efforts were made to follow-up through phone calls to the respondents. Secondly, the healthcare workers were likely to feel intimidated disclosing information about their workplaces. The researcher assured the workers of their confidentiality in addressing this challenge such as by avoiding the need to append names on the questionnaires. Lastly, the fact that restrictions have been put in place on keeping one meter apart, this would likely be a challenge in delivering and filing of the questionnaires by the respondents. The researcher conformed to covid-19 health protocols and in some cases online surveys and telephone calls were made to the respondents to improve response rates for the study. The researcher also did masking up to ensure the respondents are not put at risk of contamination and contracting the disease.

## **1.7 Scope of the Study**

This study concentrated on Makueni County. The county is in the southern part of the former Eastern province and borders four counties with Kitui to the east, Kajiado to the west, Taita Taveta to the south and Machakos to the north. Nine sub-county hospitals will be studied which include Mbooni, Kilungu, Tawa, Kisau, Matiliku, Kiima-Kiu, Makindu, Kibwezi and Sultan-Hamud sub-county hospitals. The study investigated their performance for the last one year (January to December 2020).

This study focused on the organizational resources and how they contributed to health outcomes to the population. The researcher focused on the health workforce, medical supplies to the hospitals and financing of the healthcare as organizational resources and their effect on performance of the nine (9) sub-county hospitals. The design of the questionnaires was done to encompass the staff in these hospitals and carry questions specific to the organization resources.

The outcome of the study can be extrapolated for interpretation across other counties and regions with similar study parameters. The other county leadership can improve healthcare performance in their specific domain by picking the findings, drawn conclusions and recommendations made in the present study. The research tools to be used were quantitative in nature since the research objective requires answers through empirical assessments that involved numerical measurement on Likert scale and analysis.

## **1.8 Organization of the Study**

The study is organized into five broad sections. Chapter one covered the background of the research, statement of the problem to be addresses, research objectives, significance of the study and its scope, the limitations and organization of the study. The second part under Chapter Two focuses on the literature reviewed. This section acknowledges earlier efforts by other researchers to address the subject under study and points to the gaps left hence the need for this study. It also provides theoretical review and conceptual framework of the study. Finally, the third section under Chapter Three outlines the methods to be used,



research design, target population, sample size, sampling technique, data collection, analysis, and presentation procedures. Finally, ethical considerations will be addressed.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The purpose of this literature review aims to provide the general overview of organizational resources in the health sector. In this regard, theoretical literature is used alongside the empirical to give a background description of how the three variables affect healthcare facilities' performance. Finally, this chapter gives the conceptual framework aimed at drawing the relationship between the variables.

#### **2.2 Theoretical Literature Review**

The segment gives a detailed description of the theories that will anchor this study and its variables. The study was grounded on resource-based view theory that gave a broad view on organizational resources that are utilized in the healthcare sector and hospitals to deliver quality services and improved performances. The resource-based view theory considered how workforce, finance and medical supplies as resources can be manipulated and exploited to improve performance. The other supporting theories included new public management theory that explained health outcomes as dictated by the management styles and structures and the balanced scorecard model that expressed performance metrics adopted in the healthcare sector and hospital facilities. The discussions on these theories are given in the next section.

##### **2.2.1 Resource- Based View Theory**

The theory is associated with the literary works of Penrose (1959) as the proponent of the theory, and which was further expanded and popularized by Wernerfert (1984) and Barney in 2001. The theory proposes ways in which resources can be exploited and manipulated in a manner as to make gains that yield firm competitive advantages. The exploitation of the firm resources creates value for the firm, and it is a means of gaining competitive advantage.

Barney (2001) revealed that not all resources are equal in importance, and they do not have the same potential to become sources of sustainable competitive advantage. The resources that gain competitive edge for the firms must be those that cannot be imitated and that can be identified by the efforts of the managerial team in an organization.

The deployment of a set of valuable resources both the tangible and intangible ones that are at the disposal of a firm is the cornerstone of the resource-based view which is regarded as an instrument of competitive advantage. Resource based view theorists believe that resources are critical to superior performance of a firm and that organizations should look within the company for competitive advantage instead of looking for it in the competitive environment. According to Hitt, Carnes and Xu (2016) in the theory, the firm resource, capacity and capability are the keys aspects leading to gaining of competitive edge. The theory also helps in creating a clear understanding regarding the approaches of strategic management. Organizations that are seeking to gain competitive advantages through improved performance must then invest in their inputs. In the study scenario, the sub-county hospitals as a means of improving their performance must seek resources such as healthcare workers, finances and medical supplies. In line with this theory, the exploitation and manipulation of these inputs – healthcare workers, financing and medical supplies, will lead to improved performance and gaining competitiveness.

Resource based view proponents like Campbell and Park (2017) suggest that utilizing current business resources to exploit external opportunities in innovative ways is far more realistic than gaining new capabilities for each new opportunity. The importance of resources in affecting the performance of an organization is the foundation of the RBV framework. The theory divides the resources into the tangible ones that include physical assets. Physical resources are considered disadvantageous due to their easy accessibility in a prolonged period and identical assets can be purchased by rivals hence they may not help a firm gain competitively for an extended period. Intangible assets lack physical presence and the proponents of the theory argue that these intangible resources can be a main source of firm's long-term competitive advantage (Bacq & Eddleston, 2018). The tangible assets can be assumed to include the financial resources and healthcare workers and some medical

supplies like drugs and equipment and the intangible can include software programs and intellectual capacity used in running the hospitals. The use of the resources and its exploitation can improve the performances in the hospitals.

The theory assumes that resources are heterogeneous and immobile such that there are differences from one organization to another. But all organizations in a single sector are homogenous and pick resources from the same pool having skills and capabilities that might be in-differentiable (Hitt, *et al.*, 2016). The theory has also been criticized for not having any impact on managerial perspective in organizations and implying that the resources are infinite. The use of RBV is also limited in its applicability and it is not the only source of attainment of sustainable competitive advantage in organizations. The review and assessment of the theory is limiting and may not be easily applicable in different type of organizations. But still, the theory expands the viewpoints and perspectives on how organizations can use, exploit and manipulate resources to improve performance outcomes.

Resource based view theory is crucial as it delivers customer satisfaction, quality products and efficiency in the firm processes. The RBV theory uses available resources to develop strategies that improve outcomes and gain competitive advantage. The identification and exploitation of the resources can give an organization an upper hand over other players in the sector. The theory was applied to support the independent variable on service organizational resources, specifically the healthcare workers, the financial resources and medical supplies and through its usage improve performance of the sub-county hospitals. These inputs once incorporated in the strategic plan of the hospitals to improve the performance outcomes in the hospitals.

### **2.2.2 Balanced Scorecard Model**

It was established by research that was led by Kaplan and Norton (1992) in the Harvard review paper they wrote on performance measurement and the published article had details on the balanced scorecard design. The paper was successful and followed another one in 1993 that expanded on the details of performance measurement. In 1996 the two authors

published a book on ‘The Balanced Scorecard’ which shared the characteristics of the model that had a mixture of financial and non-financial measures. The model suggests a comprehensive report and a summary that captures information on the organizational strategy. The balanced scorecard model offers a good platform to executives in a company to assess performance in a more effective and efficient way. More importantly, this model supposes that measure of performance covers a continuum of variables, which vary from financial to non-financial measures.

The balanced scorecard model has been criticized by the researchers Banabakova and Georgiev (2018) who noted that the model was not ideal for business planning since it is just gives a list of metrics but fails to offer a unified perspective or recommendation. The four metrics given are left to individual interpretation by different managers but there is no distinct pathway to follow for improving performance outcomes. Baporikar (2016) also shared that balance scorecard was weak since it can be overwhelming especially for small-sized enterprises. The model is also complex and it cannot be easily copied and implemented, since it needs strong leadership support and immense resource outlay. The model metrics are also rigid and tries to keep all workers on the same page which in theory looks good but very difficult in the practical sense.

The model is based on these four standpoints and viewpoints namely; financials, customers, internal business method and learning and growth (Nørreklit, Kure & Trenca, 2018). The financial viewpoint covers the returns that a firm gain from the investment made into an idea or concept. In the past organization performance was mostly measured in terms of financial elements like revenues, earnings, sales, profit margins and growth of customer numbers (Hakkak & Ghodsi, 2015). This viewpoint aligns to healthcare financing and output in terms of patient-centered services. On the second viewpoint of client/customer perspective, is about clients rating the services that they receive, and values gained. Customer perspective is based on developing strategies within the firm to draw specific target groups and meet their needs. The strategies are formed as per the tastes and preferences of the customers. This viewpoint aligns to provision of patient-centered services as a measure of performance.

The third viewpoint is on internal business processes that cover the actions and activities that organizations use to become successful. The internal processes look at accessing raw materials, manufacturing processes and delivering products –goods and services to meet market needs (Banabakova & Georgiev, 2018). The internal processes in the sub-county hospitals should work in a way to offer efficient and effective services to the patients visiting the facility. Efficiency and effectiveness are also about timely healthcare services to the patients to relieve their pain. The internal processes hence must work to deliver medical equipment, drugs and tools to be used by the healthcare workers and resulting in better outcomes.

Learning and growth viewpoint considers a system for improvement of employee skills, knowledge and experiences. Organizations must have a system to equip its staff with current knowledge on the markets, the distribution lines and changing consumer needs and preferences (Perramon, Rocafort, Bagur-Femenias & Llach, 2016). In the study the learning and growth aspect is about healthcare workers receiving continuous medical trainings to enable them deliver high quality, efficient and effective services to the patients. The healthcare workers learn on modern tools, equipment and systems to use to deliver high quality medical care to the patients. The model is relevant in explaining on the dependent variable on how the viewpoints align to organizational resources and its utilization leading to improved performance in the sub-county hospitals in Makueni, County.

### **2.2.3 New Public Management Theory**

This is a public sector management theory proposed by Osborne and Gaebler in 1992. The theory's main concern is making governments more efficient and responding to modern techniques that are commonly used by the private sector. The public management includes processes that can either be formal or informal that guide human interactions in the quest of achieving firm objectives. The aims in public entities include creation of market conditions and delivering public services. The founders of the theory suggest against hierarchical nature of most government bureaucracies is discouraged as it is costly, leading to organizations that are driven by rules rather than results and where creativity and decision making are

discouraged. In most cases, the government organizations are committed to managing people working in the system rather than achieving the policy goals which affect their performance. In the book by Radnor, Osborne and Glennon (2016), the authors developed ten principles namely; financial control, conducting audits, customer orientation, responsiveness, de-regulation of labor markets, command and control mode of functioning, transparency and accountability, monitoring and evaluation, encouraging entrepreneurial management and using new forms of corporate governance. These principles assume that however much indispensable the government is, it does not have to automatically act like one.

The principles thought that most entrepreneurial governments should encourage competition amongst service providers, push for control measures done by the citizen and developing strong communities. Additionally, performance should be a measure of the outcomes as dictated by the mission and goal and not by the set rules. There is an expectation of redefining the clients and giving them all available options (Simonet, 2015). There is need to foresee the problem beforehand and provide solutions and afterward by being proactive. They ought to prevent problems before they emerge, rather than simply offering solutions afterward by being proactive. The government organizations should put more efforts in money-making schemes rather than spending it. There is also need for spread out the author and encourage management that is participatory. The preference should be on bureaucratic market mechanism that concentrates on provision of public services and solving other problems in the community (Merkus & Veenswijk, 2017).

Applicability of this theory in the present study is to assess how the financial inputs, medical supplies and human capital interact to deliver quality services and positively influence the performance. The focus is conversion of patients as clients and making them aware of their rights and quality of care they should receive. It is covering the contribution of healthcare workers towards performance in the sub-county hospitals and the effect of presence of financial inputs linked to the different financing options resources and medical supplies. The theory combines the use of the three inputs (finances, workforce and medical supplies) to ensure quality delivery of health services in public health facilities.

## **2.3 Empirical Review**

Empirical review as stated by Godwin (2005) is a way of gaining knowledge by analyzing quantitatively and qualitatively previously conducted research. Several studies have been done related to resources in public hospitals and the effect to performance. Below are some of the studies that have been done on the subject.

### **2.3.1 Healthcare Workforce and Performance**

Wamalwa (2017) study was on healthcare workers job satisfaction as influenced by health approaches. It was a case study of tier three public hospitals in Busia, County, Kenya. The human resources remain a valuable resource and the key driver of pillar to enable them the delivery of the overall health goals. The study concentrated on establishing whether advancing careers, autonomy in health financing, employee motivation and working environment and conditions affected job satisfaction among the health workers in the county referral hospital and 6 sub-county hospitals in Busia County. The respondents were healthcare workers in the hospitals and after analysis the findings showed that the healthcare workers used their abilities well and they had opportunities for career advancement. Majority of the healthcare workers did not have financial autonomy and did not receive recognition for exemplary performance and there was no link between performance and pay package received. Further study results show that promotion boosted staff morale and work environment led to job satisfaction. The study noted the need for training and reward for employee's performance, completing of the initiated building projects and ensure supply of all resources. The study created conceptual gaps by linking health approaches to healthcare workers job satisfaction and thus performance was not considered and its context was in Busia County and the sub-county hospitals.

Kitur (2019) conducted a study on healthcare human resource capacity building initiatives and effect on sustaining HIV/AIDS services in the Siaya County Hospital. The Siaya County has a highest HIV prevalence record and hence the need for improvement in HIV care to reach the unmet target groups in terms of identification, linkage and viral suppression. The



successful management of HIV is based on healthcare workers that are competent but the county faces acute shortage of staffs. There is also uneven distribution for these few competent staff across the health facilities in the nation. The focus of the study was on human resource capacity building initiatives with elements like knowledge, skills, competencies and numbers, and their influence in contract for engagement, remuneration packages, the adopted performance appraisals working conditions and turnover rates. Findings showed that the staff numbers were low in any specialized skill set and competencies. The use of formal training was the most common in trying to fill the capacity gaps of the staff. Results also indicated that contracts, payment, appraisals and work environment determined the staff retention rates. The study created gaps in context as it focuses was HIV programs without looking at ailments in general and the Siaya County Hospital hence the need to look at organizational resources and specifically human resources in other regions; like the case of Makueni Sub-County Hospitals.

Kenya (2016) studied the management style, use of IT services, training of staff and frequency of drug supplies and their influence on delivery of services with Nairobi's public hospitals. The researcher collected data from staff working in four public hospitals within Nairobi City County. The findings showed that training levels of healthcare workers had the biggest impact to service delivery at 97% of the respondents agreeing to it. Use of information systems, delegation of assignments and management of the hospitals led to improved service delivery. The researcher found out that there were gaps in the hospital management and the healthcare workers' needs were not taken into consideration which led to strikes. There was no full implementation of information technology in all departments and staff had not been trained to adapt to changes in technology and diagnostic methods. Unavailability of drugs in the healthcare facilities meant that the patients visiting the public health facilities were required to purchase drugs from the outside the facility. All these factors led to poor service delivery and decreased the effectiveness of the treatment received and recovery of the patients. The study covered variables on management, information technology, drug supply and service delivery and need to directly associate workforce to service delivery, thus, conceptual gaps were created. The study covered only hospitals

located in Nairobi such that there are gaps in context and this study will expand literature by looking at sub-county hospitals in Makueni.

Oluoch-Aridi, Smith-Oka, Milan and Dowd (2018) study was on mistreatment of women during childbirth in peri-urban settings through the perception and experience of both the mother and the healthcare provider. The maternal deaths occurring within the health system during the delivery and labor time and women have reported poor experiences and abuse by the healthcare workers. The researcher interviewed women and healthcare workers and results showed that the female patients faced mistreatment as evidenced by being verbally abused, being neglected, discriminated and abandoned and facing physical abuse. The health staff revealed that the health system was weak and fragmented and the policy supporting free maternity services was poorly crafted leading to mistreatment of women. The study recommends for county governments to allocate sufficient resources that will improve the healthcare staffing levels, improve maternal health services and ensure women-centered services. The study created methodological gaps by not specifying respondent numbers and clusters and contextual gaps was based on the focusing only on maternal services.

Chesoli, Schuster, Okelo and Omotayo (2018) conducted a study on how to strengthen care delivery in the primary healthcare facilities. The study was based on the perspectives of facility managers during immunization programs in Kenya, who manage the facility and offer frontline clinical activities. The aim of the study was on adoption and leverage of human resource factors for improving immunization programs and strengthening the primary healthcare delivery in Western Kenya region. Some of the human resource factors under consideration were motivation, workload, workload effects to immunization and how to address workload. The study results showed that high workload led to reduced vaccination of children and the workload was due to low clinical staff levels. There was poor client counseling occasioned by the low staffing levels and hiring of more staff was noted as a remedy to high workload, motivation and immunization coverage. Frequent visits by the supervisors and acting on the feedback are important for improving program effectiveness. The study concluded by stating that there was a need to increase the staff numbers, introduce financial incentives and create strategies for supervisory visits and

acting on the feedback. Contextual gaps are created since the study was done in Western Kenya and focus was on immunization programs.

### **2.3.2 Healthcare Financing and Performance**

Ifeagwu, Yang, Parkes-Ratanshi and Brayne (2021) study was a review of healthcare financing for the aim of attaining universal health coverage (UHC) within the Sub-Saharan African region. UHC is part of the sustainable-development-goals (SDGs) where all individuals can access health service that is of sufficient quality and with no financial strain. Strategies for financing healthcare is critical for attaining this goal and the Sub-Saharan African region and its people still face a huge challenge in this. The focus of the study was on health financing mechanisms in Sub-Saharan African. The researchers reviewed 39 papers and two-thirds of them noted the value of having a national health insurance scheme. The study findings showed that healthcare revenues came from out-of-pocket payments from the patients and the other financing mechanism was donor funding. The study concluded that attainment of UHC cannot be realized with these health financing strategies as they are unsustainable. There is a need to finding innovative health financing strategies for attainment of UHC in the Sub-Saharan African region. The study creates gaps in context as it covered the Sub-Saharan African and conceptual gaps as health financing strategies was linked to attainment of UHC without mention of performance.

Oraro-Lawrence and Wyss (2020) study was an analysis that was qualitative in nature on financing of the Kenyan healthcare and setting its agenda. It was also based on prioritizing policy and other settings for gaining UHC. The health system has competing priorities for its limited resources and its management must make hard choices and decisions on health actions and investments of the funds. The focus of the present study was to get the perspective of stakeholders' who take part in decisions on policy and implementation of health financing framework. The health financing framework is to be adopted for attainment of UHC. The researchers collected data from interviewers on challenges that hinder attainment of UHC through improved health service coverage, increasing beneficiaries of healthcare services and minimizing out-of-pocket costs and payments for those seeking

healthcare services. The study found out that there was no strategic leadership hence no agreement on what UHC means to stakeholders. The policy network on healthcare coverage, provision of services and cost-sharing were different for the UHC and hence call on equity-based approach to access health financing and protection against financial risks. The study creates conceptual gaps by linking healthcare financing to UHC without mentioning performances and the number and description of the respondents was not given, hence methodological gaps.

Okungu, Chuma and McIntyre (2017) in the study on the cost of free healthcare and assessing contributory and non-contributory financing mechanisms and its sustainability in Kenya. The provision of quality and equitable health services is linked to health care costs, and it impacts on health policy agenda. In Kenya, the government has prioritized social health insurance – (contributory strategy for financing as ideal) and there is the general tax funding approach as a non-contributory approach. The study assessed the elements of financing under contributory and financing under non-contributory under universal-health-coverage. The data sources were from financial resource estimates is based on inflations, the macro – economy, available health insurance, demography and unit cost of health services for a 17yr period 2013-30. The findings are such that projected expenditures do not outstrip revenues, it matched for the first 5years, but it is not sustainable in the long term. The non-contributory approach was more sustainable during short-time periods and even long-term. The other results are such that both contributory and non-contributory approaches need government subsidies due to the large informal sector, limited financial capacity of the people to do out-of-pocket payments and tax-funded system. There is need for more innovative financing for healthcare needs. The study focuses on financial projections as affected by economic conditions, created conceptual gaps since financing mechanisms were not linked to performance.

Phiri and Chitangala (2021) conducted a study on direct healthcare financing and its effects on strategic health indicators. The study was done in Zambia and the healthcare facilities within the Chikankata District. The health facilities do not routinely receive monthly grants and stipends from the government which negatively affects health interventions. Financing

health is utilization of funds, inputs and affects strategic health indicators and access to quality healthcare in rural Zambia. The research got information health management information system of 15 health facilities for a five-year period -2014-18. The attention was on comparison of antenatal care, immunization and institutional deliveries for facilities receiving regular grants and those that do not. The results are such that grant receipt led to better performance on maternal and child health indicators. Receiving grants was associated with high performance indicators in the facilities shown through improvement in maternal and child health indicators. The study concluded that effective healthcare financing mechanisms leads to improved performance of health facilities. The study recommends the use of performance-based financing and direct financing mechanisms to improve primary healthcare. The study creates gap in context as it was done in rural Zambia, which has a different background setting to the Kenyan one. In addition, the current study associated healthcare financing to performance of health facilities in Makueni County, Kenya.

Siddharth Charterjee (2017) study was on how to achieve Universal Health Coverage (UHC) in Kenya by using innovative financing and noted that every year 1Million Kenyans are driven to poverty due expenses incurred in seeking healthcare. To ensure Universal Health Coverage (UHC), the researcher stated that it is essential to strengthen the health system, quality of services and transform the structure for development of the sector in all countries. Making the universal health coverage goal a reality is a challenge in all settings and for middle-income countries like Kenya, the constraint to decide between expanding the range of services which people have access to and ensuring investment in healthcare interventions that are cost-effective and contribute towards growth of health equity are observed. This gap was filled by the research by addressing the impact of Makueni Care as an intervention by the County government of Makueni in efforts to improve access to affordable healthcare. The use of National Hospital Insurance Fund (NHIF) as part of outpatient cover was also studied to determine if it can enhance access to health facilities and reduce the numbers of cash-paying patients attending the public health facilities.

Ndemi (2018) study was on financial options and its performance. The context was the small and medium sized enterprises within Nanyuki Town, and the study noted that accessing

funds has been problematic and constrain to the operations of these enterprises. The study focus was on financial options and specifically considered formal, informal and personal financing and government financing and effect it has on financial performance. The study targeted 765 SMEs that run their operations in Nanyuki Town, and 88 respondents took part in the study by filling the research tool. Data was later analyzed descriptively, regression and correlation formats and realized the SMEs registered poor liquidity conditions as seen by the current and quick ratios and low profitability index based on return on assets. Findings also showed that financing options had significant effects to financial performances of the SMEs. The study concluded that financial performance was poor based on the values of profits and liquidity and was due to the financial options. Many of the SMEs relied on informal financing options as a source of finances for the SMEs and led to improved financial performance. The study context is the SMEs and hence need to consider health sector and the conceptualization of performance was in financial terms and hence the need to include other performance measurement indicators.

Doan (2020) study was on financial decisions and its effect on firm performances in emerging countries with evidence from Vietnam. The data was collected for a 10-year period from 102 non-financial firms that are listed at the Ho Chi Minh Stock Exchange (HOSE). The firm performance was measured using return on assets as its main indicator and the financial decisions were based on three elements, total debt, long-term debt and short-term debt linked individually to total assets. The control variables of the study were based on size of the firms, economic growth and inflation rate. The analyzed data revealed that financial decisions are directly and significantly correlated to firm performance. Increase in debt usage leads to decrease in firm performance and hence the firms are warned to use debt as a source of financing sparingly. There were positive effects of inflation rate to the financial development and improved earnings and performances of the firms. The study created contextual gaps as it was done in Vietnam and the elements of firm performance was based on financial metrics such that conceptual gaps were created and the other gaps was in research methodology since the study used secondary data.

### **2.3.3 Medical Supplies and Performance**

Chopra, Sudhanshu, Chen, Mangla, Dabadghao, Bhatia and Bhatia (2019) study was on impact of free medical supply and regular telephone contact have on children and adolescents having type-1 diabetes in India. The focus is on determining the impact of economic and educational interventions to under-privileged families that have children with type 1 diabetes. The study was done for a one-year period on 85 consecutive participants who received insulin and glucose strips and receive education on diabetes through telephone calls. Results showed that when there is free medical supply –free diabetes supply and knowledge and education is done, there is significant improvement in healthcare provision. The provision of free medical supplies for the type one diabetes patients and sharing of knowledge on the disease led to improve type one diabetes management. The study provides good knowledge to policy makers for diabetes management. The study creates gaps in context by focusing on type one-diabetes only and it was based in India, there is need to look at effect of medical supplies on healthcare performance for all ailments and in other areas. Service delivery in the healthcare sector should cover treatment and management of all ailments.

Betrán, Bergel, Griffin, Melo, Nguyen, Carbonell and Timbe (2018) did the study on provisions of medical supply kits and the effects on improvement of antenatal care quality in Mozambique. Records show high number of maternal and newborn mortality in low-income countries and interventions fail due to stock-outs of medical supplies. The stock-outs mean that implementation of services is stopped and there is no remedy for the high mortality rates. The study focus is on supply chain strategy and provision of kits and the improvement of quality of care. The study collected data from ten clinics in Mozambique that had antenatal care package with nursing staff and attended to at least 200 new expectant mothers and women were interviewed when they came for antenatal care visits. The findings showed that use of supply-chain mechanisms aimed at resolving stock-outs at the point of care led to improved quality care during visits as compared to the routine scheduled under the national process for procuring medical supplies. The study was done in Mozambique and hence

contextual gaps were created as there was need to assess medical supplies and its effect in performance of Kenyan healthcare sector.

Alizadeh, Makui and Paydar (2020) conducted a study on supply chain network designs of forward and reverse that considered biological risks during distribution of consumer medical supplies. The design of medical supply chain network and its planning is crucial for solving and alleviating the problems from medical wastes. Increase in medical wastes call for researching on the supply chain networks. The study focus is on handling of consumer medical products through adoption of the forward and reverse supply chain network design for maximization of profit by subtracting expenses from the earnings in the supply chain and gaining revenues from sell and distribution of hospital and medical supplies and disposing the wastes to recycling centers or sterilization for reduction of biological risks. The adoption of forward and reverse supply chain network design will reduce the distance and time taken to supply medical equipment and the disposable supplies. The study found out that use of the approach by hospitals in Tehran's fourth municipal district led to decrease of biological risks, increased profitability based on higher productivity at the medical waste recycling and sterilization centers. The gaps are in context as it was done in Tehran and focus was on approaches of disposable medical supplies and biological risks; hence a need to consider medical suppliers and performance of facilities in Kenya.

Subramanian (2020) did a study on the factors enabling the health supply chains for improved well-being. The supply-chains in the health sector are a necessity if effective health performance is to be achieved and give the appropriate health outputs. It must be able to deliver cost-effective outcomes along the socio-economic and cultural practices aspects of a county. Hence the need for a conducive work environment for consideration of health supply chains and deliver appropriate health outcomes. The study identified the main health supply chain enablers and their contribution to strengthening health coverage in the country and improving well-being of the people. The enablers include the people and processes; the systems and data; the investments made in health supply and policies to govern the sector. The study revealed that these four enablers have made the health supply chain network functional and play a key role in improving the overall well-being of the people. The study



was a case study in Kenya and hence limiting in the applicability of findings. It thus creating methodological gaps.

Kausar and Siddharth (2018) in the study on determining the rejection rate of supplies as a quality assurance indicator in materials management in public hospitals in India. The researchers found out that successful materials management reduced costs, improved inventory control thus increasing operational efficiency. There was also need for inspection of hospital supplies to done in a regular timeline, indication of quality, rejection rates and checking of supplies stores for tertiary care in public hospitals. Data was collected through observations for a one-year period and results showed that established inspection system and inspection committee helped in having quality supply chain management. Inspections will also reduce the poor-quality materials that lead to wastages, higher costs and lack of materials which challenges the seamless delivery of healthcare services. The research will seek to determine the actions taken by the facilities in cases of rejections and shortages. The study concluded that stringent and objective evaluations and inspections lead to achieve of quality assurance of drugs and consumables in hospitals. The study creates gaps in context as it was done in India, which has a different setting to the Kenyan one. The findings might not be replicated in different regions and hence the need to do more research for comparison of findings.

#### **2.3.4 Performance of Healthcare Facilities**

The 2016, World Health Organization (WHO) policy stated that healthcare standards have people at the core and create enabling systems to improve the provisions and experiences of patients in healthcare facilities. These standards form a critical part of strengthening health systems. In central Italy, Santarsiero, Di Sarno, Giovinazzi, Masi, Cosenza and Biondi (2019) study was on performance of healthcare facilities during the 2016-17 seismic earthquakes and based on capacity to respond to health matters. The researchers did a survey was on the medium and small-sized hospitals that had 3 to 5 buildings. The findings showed that most of surveyed hospitals had unstable and unusable buildings that limited their functionality in healthcare services. The outpatient treatments were moved which was

occasioned by damage to structural components. Performance of the hospitals was a measure of having strong stable facilities, delivery of healthcare services to the patients where and when they needed it and alleviation of patient suffering.

Ndunda (2017) studied on public health facilities within Makueni County as linked to TQM and its influence on operational performance and Total Quality Management implementation in healthcare sector aim at creation of quality systems for organizational performance. Quality system is about the processes, procedures, resources, responsibilities and structures for quality services that are a factor of the policies, human capital, quality of service and clientele. The study found out that use of Total Quality Management with aspects of leadership and management of people, customer centric elements, processes and planning led to high operational performance. Operational performance was an element of efficiency and effectiveness of services in the healthcare facility, customer/patient satisfaction, workload of care givers and waiting time before a patient was served. Onalenna, Robin, Philip and Barnet (2014) study on assessing the performance of Botswana's public hospitals systems. The government had invested in the construction of hospitals as way to improve access to services in the health facilities. The results reveal that limited services delivered to the general public was due to poor governing of the hospital system, insufficient resources, poor system analysis on functionality, performance and shortcomings. The hospital system must get support, make contribution to policy and inform decision making on strategies to improve outcomes.

Manyazewal (2017) study was on the health system building blocks through surveying the healthcare professionals in determining the performance of public healthcare facilities. The study used the standards set by the World Health Organization (WHO) that had six items namely, leadership and governance, healthcare financing, healthcare workers, medical products and technologies, information and research and service delivery. The use of these building blocks led to performance of the health facility that was done through access, coverage, quality and safety. Performance and outcome indicators included improved health and quality in terms of level and equity, responsiveness, improved efficiency of services and protection from financial risks. Performance of the sub-county hospitals will be measured in

terms of efficiency and effectiveness; timeliness of the services and patient-centered services.

## 2.4 Summary of Literature Review and Research Gaps

The review of the general overview of organizational resources in the health sector demonstrated the existence of different research gaps discovered in literature. The studies employed theoretical literature together with empirical evidence to describe the existing variables and how the impact the healthcare performance.

**Table 2. 1: Summary of Literature and Research Gaps**

<b>Author</b>	<b>The focus of the study</b>	<b>Findings</b>	<b>Research gaps</b>	<b>The focus of the current study</b>
Wamalwa (2017)	Healthcare workers job satisfaction as influenced by health approaches in tier 3 public hospitals in Busia, County, Kenya	There was no financial autonomy and recognition of health workers; promotions and work environment boosted staff morale	The gaps were contextual as it was done in hospitals in Busia County	The study linked healthcare workers to performance of sub-county hospitals in Makueni County
Kitur (2019)	The healthcare human resource capacity building initiatives and their influence on sustaining HIV/AIDS services at Siaya County referral hospital	HR (Human Resources) capacity gaps were on low staff numbers and those with special skills and competencies. Formal training was commonly used	The contextual gap was on focus on HIV programs and its setting was Siaya County hospital	Linking healthcare workers to performance of sub-county hospitals in Makueni County
Chesoli, <i>et al.</i> (2018)	How to strengthen care delivery in the primary healthcare facilities during	High workload led to reduced vaccination of children and the	Contextual gaps are created since the study was done in Western	The focus was on healthcare workers and

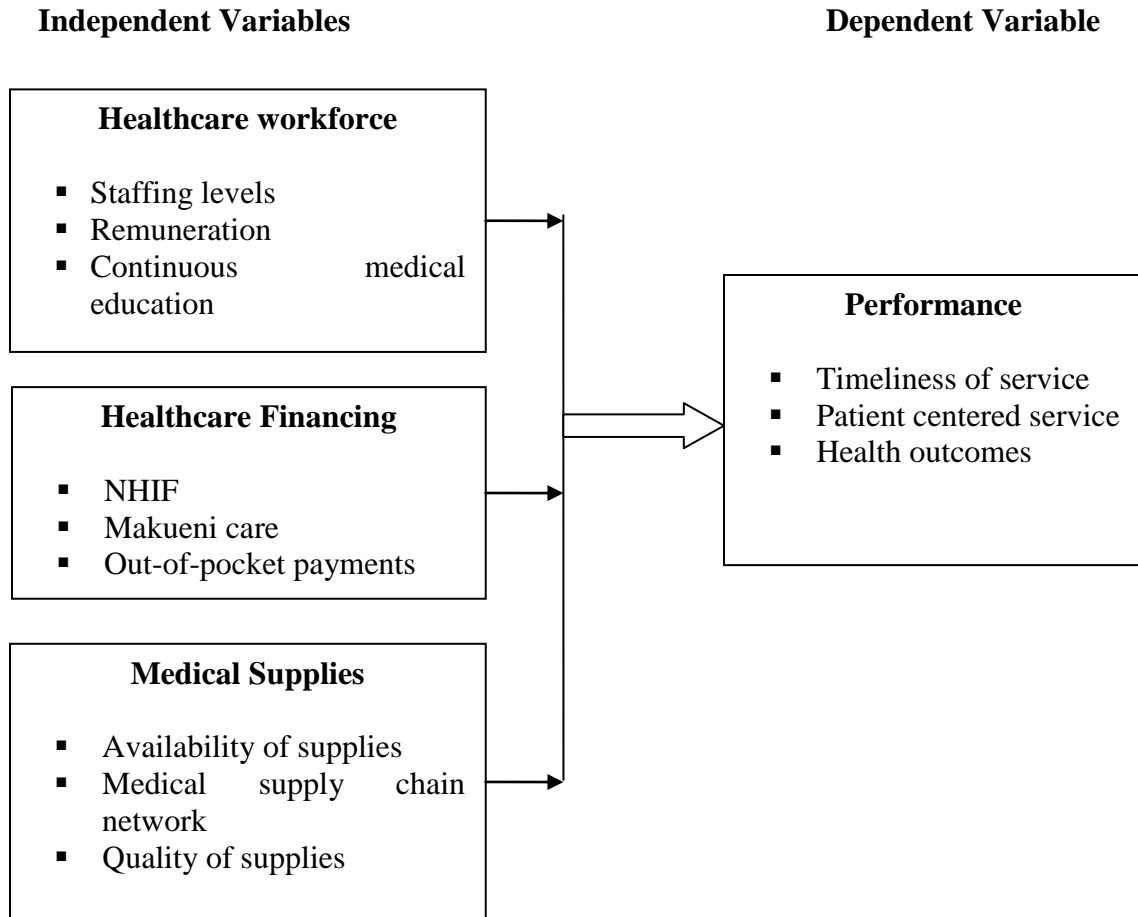
	immunization programs in Western Kenya	workload was due to low clinical staff levels	Kenya and focus was on immunization programs.	performance of sub-county hospitals in Makueni County
Ifeagwu, <i>et al.</i> (2021)	Review of the health financing for universal health coverage within the Sub-Saharan African region	Healthcare revenues came from out-of-pocket payments from the patients and the other financing mechanism was donor funding	Conceptual gap as health financing strategies was linked to attainment of UHC	The focus was linking health financing to performance
Okungu, <i>et al.</i> (2017)	The cost of free healthcare and assessing contributory and non-contributory financing mechanisms and its sustainability in Kenya	Results show that non-contributory approach was more sustainable in both short and long-term	Conceptualization of healthcare financing was based on projections that cannot account for all conditions	Linking health financing to performance of sub-county hospitals in Makueni County
Phiri and Chitangala (2021)	Direct healthcare financing and its effects on strategic health indicators in rural health facilities in Chikankata District of Zambia.	Grant receipt led to better performance on maternal and child health indicators	The study creates gap in context as it was done in rural Zambia	This study linked healthcare financing to performance of health facilities in Makueni County, Kenya.
Chopra, <i>et al.</i> (2019)	The impact that free medical supplies and contacts through telephone calls on children and adolescents having type-1 diabetes in India.	The provision of free medical supplies for the type one diabetes patients and sharing of knowledge led to improve type one diabetes management	The study creates gaps in context by focusing on type one diabetes only and it was based in India	The study focus was on medical supplies and performance of sub-county hospitals in Makueni County

Betrán, <i>et al.</i> (2018)	Provisions of medical supply kits and the effect on improvement of antenatal care quality in Mozambique	The supply chain strategy that resolves stock-outs at point of care resulted in a vast improvement in quality care during antenatal visits	The context was in Mozambique and antenatal care	Expansion of research to medical supplies in Kenya and performance of sub-county hospitals in Makueni, County
Subramanian (2020)	The factors enabling the health supply chains for improved well-being.	The health supply chain enablers including the people and processes; the systems and data; the investments made in health supply and policies led to overall well-being of the people	This was a case study and hence methodological gaps	Focus is on medical supplies and performance of sub-county hospitals in Makueni, County, Kenya

## 2.5 Conceptual framework

A conceptual framework, according to Odhiambo and Waiganjo, (2004) is a graphical presentation of the interrelationship of the variables under study. The variables provide for basis of testing hypotheses and generalizations of the study findings. The conceptual framework indicates the inter-linkages between the variables. The dependent variable is performance of healthcare facilities with its sub constructs namely; timeliness of service, patient-centered services and health outcomes. The independent variables include health workforce, financing and supplies as inputs of service delivery. The indicators of health workforce, (staffing levels, remuneration and continuous medical education), health

financing, (Makueni Care, NHIF and Out-of-pocket payments) and supplies (availability, supply chain network and quality).



**Figure 2.1: Conceptual framework**

Source: Researcher (2021)

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The research methods refer to the techniques that were used by the researcher to collect data in the field and the process of analyzing the collected data. It covers the design, populations the researcher targeted, the sample size and the procedures used in sampling. Additionally, the research instruments, procedures followed in collecting data and the techniques for analysis that were employed and the ethical considerations.

#### **3.2 Research Design**

This refers to the plan covering all the undertakings and actions that are necessary for successful accomplishing of the research exercise (Gaus, 2017). The study adopted descriptive study research design which described the phenomenon in the healthcare setting to correlate organizational resources and performance without manipulation of the variables under research and provide factual data. The descriptive survey casts the light on the current issues and enabled the research to describe the situation more effectively.

According to Atmowardoyo (2018) studies that use descriptive means focus on getting answers on ‘what, when, where and how’ about elements. Aggarwal and Ranganathan (2019) show the design will aide in asking questions in relation to perception and attitude of everyone. Thus, data on the happenings was gathered, categorized, tabulated, presented, and described. Since the aim of this research was to determine the effect organization resources have on performance of sub-county hospitals in Makueni County, descriptive research was the best design to use for the study. The design allowed the respondents to express themselves and describe how the resources affect performance output in their health facility.

### 3.3 Target Population

Population in research refers to the group of elements from information can be sourced from. According to Etikan and Bala (2017) population is the entire group of elements or people that is investigated and there is possibility for generalization of the results. Among the public health facilities in Makueni County the research was carried out at the sub-county hospitals. These include Mbooni, Tawa, Matiliku, Kilungu, Sultan Hamud, Makindu, Kibwezi, Kiima-Kiu and Kisau Sub-County Hospitals. The target population in these public health facilities included medical doctors, clinical officers, nurses, laboratory technologists, and pharmaceutical technologists. These respondents were targeted as they are likely to have information on resources and performance of the hospital and thus can respond to the research questions. The target population of the healthcare workers in all the sub-county hospitals is 535.

**Table 3.1: Target Population**

<b>Category</b>	<b>Target population</b>	<b>Percentage</b>
Doctors	61	11.4%
Nurses	186	34.7%
Laboratory technologists	95	17.8%
Pharmaceutical technologists	79	14.7%
Clinical officers	114	21.3%
<b>Total</b>	<b>535</b>	<b>99.9%</b>

**Source: HR Records from the Sub-County Hospitals (2021)**

### 3.4 Sample Size and Sampling Technique

A sample is a small portion of the entire population from which inferences about a subject can be drawn. The sample size should efficient and representative of the population. Sampling technique refers to the procedures of determining the number of respondents. According to Sharma (2017) sampling involves steps taken in obtaining a small portion of elements from the entire population size and this study used simple random sampling



technique. Bhardwaj (2019) noted that the technique allows each element an equal chance of being selected to participate in the study when the population is homogenous.

Etikan and Bala (2017) affirm this by stating that the objective of the simple random sampling is to ensure that the researcher gets the desired elements and from the different sub-groups within the population. The study grouped the population according to their medical professions as doctors, nurses, laboratory technologists, pharmaceutical technologists and clinical officers. This helped to increase the precision of any estimation methods used. Yamane (1967) formula was used in calculating the sample size assuming 95% confidence level and 5% precision. The researcher used the formula to determine sample size from a population of 535 healthcare workers and obtained 228 study respondents as shown below.

The Yamane formula at 95% confidence level and 5% precision

$$n = \frac{N}{1 + N(e)^2}$$

Where,

n = sample size,

N = population size,

e = level of precision.

$$n = \frac{535}{1 + 535(0.05)^2}$$

$$1 + 535(0.05)^2$$

n = 228 respondents

**Table 3.2: Sample Size**

<b>Category</b>	<b>Target Population</b>	<b>Sample Size</b>
Doctors	61	23
Nurses	186	67
Laboratory technologists	95	46
Pharmaceutical technologists	79	34
Clinical officers	114	58
<b>Total</b>	<b>535</b>	<b>228</b>

**Source: Researcher (2021).**

### **3.5 Pilot Study**

The pilot study was done to check the fitness of the instrument using a similar population group. The pilot study was carried out in Kitengela Sub- County Hospital in Machakos County. According to Mugenda and Mugenda (2003) the study population should consist of 1-10% of the sample size which was eleven (11) respondents. The eleven included doctors, nurses, clinical officers, laboratory technologies and pharmaceutical technologists and accounted for 5% of the study population. The aim of the pilot study was to identify any errors and correct them before the actual data collection.

#### **3.5.1 Validity of Research Instrument**

This refers to the accuracy of the instrument to ensure that it is measuring what it is supposed to measure. The usual procedure in assessing content validity according to Moon (2019) is through an expert in the particular field to help in addressing the question contents and corrections before the actual research in the field to improve the quality of the study. A more informal and subjective assessment known as face validity was used to check if the questionnaires have a good representation of all the research items in place. The researcher sought the supervisor's opinion to test for validity, which was structured before the actual study and tested during the pilot study.

### 3.5.2 Reliability of Research Instrument

This is the degree to which the measuring instrument produces equivalent results to every time it is subjected to a similar condition. It is the degree of consistency of the measuring instrument and shows its reproducibility. The researcher used the internal consistency method to test that the instrument is reliable, such that the research questions were compared with the contents the study. The test results were checked with the Cronbach's alpha coefficient and those above 0.7 were deemed adequate to confirm the instrument is reliable (Taber, 2018). Cronbach alpha of 0.6 and below is an indication that the instrument items are inappropriate, and they have to be changed before using it in the study. The researcher then identified inadequate items and removed ambiguous ones to get a reliable instrument.

**Table 3. 3: Reliability Test Results**

<b>Variable</b>	<b>Number of Items</b>	<b>Cronbach Alpha</b>	<b>Comment</b>
Healthcare Workforce	13	.761	Reliable
Healthcare Financing	9	.744	Reliable
Medical Supplies	12	.811	Reliable
Performance of sub-county hospitals	10	.789	Reliable
<b>Overall Score</b>	<b>44</b>	<b>.776</b>	<b>Reliable</b>

**Source: Pilot Data Test (2022).**

The results from the pilot testing shows that all the obtained Cronbach Alpha are above 0.7 implying that the instrument is reliable and thus fit for use in the present study.

### 3.6 Data Collection Procedures

The researcher obtained the university introductory letter to authenticate the data collection procedure and got research permit from NACOSTI before commencing data collection. The administration at the sub-county hospitals were briefed on the purpose of the data and length in collection data and got their permission. The structured questionnaires were physically administered by the research assistants who were first trained. They gave the respondents the period within which they filled the questionnaires after which they collected them to assess the level of completion.

The primary data sources, which is data collected for the first time from its original sources obtained quantitative data. This research was done on the healthcare workers and the management as participants who signed the consent forms and then took part in the study. The survey questionnaires were administered to each respondent and requested to fill it at their own time. The five research assistants were given a timeframe after which they were to pick the questionnaires.

### **3.7 Data Analysis and Presentation**

It is the process of inspecting, refinement, transforming, and modeling data to discover useful information about the population under study to draw conclusions and support decision-making processes. According to Belotto (2018) data analysis involves systematic searching and arranging the responses from the questionnaires in a way to better present the data. The researcher began analyses once the questionnaires have been returned. The collected data was quantitative in nature and was entered into SPSS and Ms. Excel and analyzed descriptively so as to get means and standard deviations. Inferential statistics was also done to understand the relationship between the variables, and this will be done through correlation and regression analysis.

The multiple regression model used was:

$$P = \beta + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

P = Performance

$\beta$  = Constant value

$\beta_1$  to  $\beta_3$  = slope coefficients for various variables

$X_1$  = Healthcare workforce

$X_2$  = Healthcare Financing

$X_3 = \text{Medical Supplies}$

$\varepsilon = \text{Error term}$

Data presentation was done in pie charts, tables and figures for ease of understanding and interpretation of the results.

### **3.8 Ethical Considerations**

Research authorization permit was applied for from National Commission for Science, Technology and Innovation (NACOSTI). Bearing in mind the sensitivity of the study and confidentiality of data, measures were put in place to ensure ethical issues are addressed before the data collection begins. These ensured that there is no harm or adverse consequence to people from activities carried on during research. Education of the research assistants on the same was done to seek consent from potential respondents. The consent document was one that respondents can read, understand, and sign. Names of the respondents were not mentioned too. The researcher acknowledged all sources of information to avoid instances of plagiarism of other authors and researchers work.

## **CHAPTER FOUR**

### **FINDINGS AND DISCUSSIONS**

#### **4.1 Introduction**

The chapter presents findings after analysis of the data was conducted and followed by the discussions. The results are based on analysis made by MS. Excel and Statistical Package for Social Sciences (SPSS) on organizational resources and performance. Descriptive analysis was conducted where means, standard deviation and frequencies were obtained for each variable of the three organization resources covering healthcare workforce, healthcare financing and medical supplies). The regression analysis showed how each variable was linked to the dependent variable of organizational performance in the sub-county hospitals in Makueni County. Correlation analysis showed association between the specific variables and also on the dependent variable. These results are presented in tables, figures and prose form for the discussions.

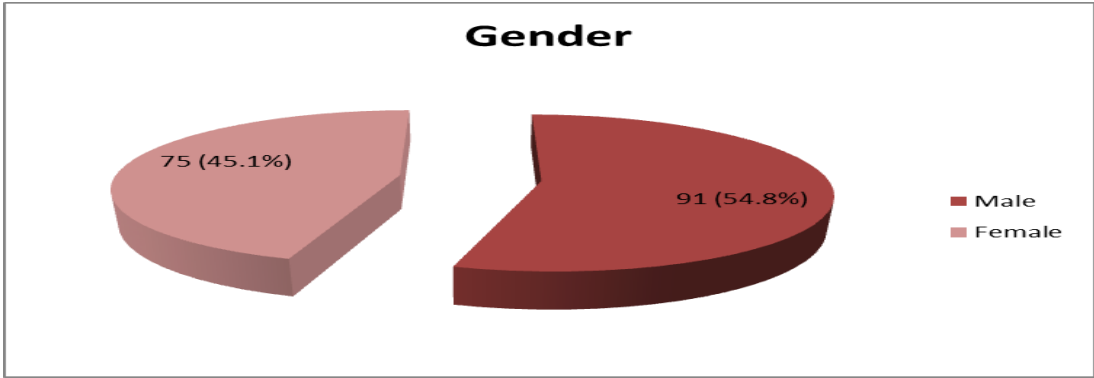
#### **4.2 Response Rate**

The researcher administered 228 questionnaires in the nine sub-county hospitals in Makueni County. 166 respondents filled the tool and returned them, making the response rate of 72.8% and as per the Mugenda and Mugenda (2003) stipulation a response rate of 70% and above is fit for use in research. Therefore, the obtained 72.8% response rate in this study is ideal and fit such that the findings can be generalized to cover the entire population.

#### **4.3 General Information**

##### **4.3.1 Gender**

The respondents were asked to indicate their gender and the results are as shown in figure 4.1



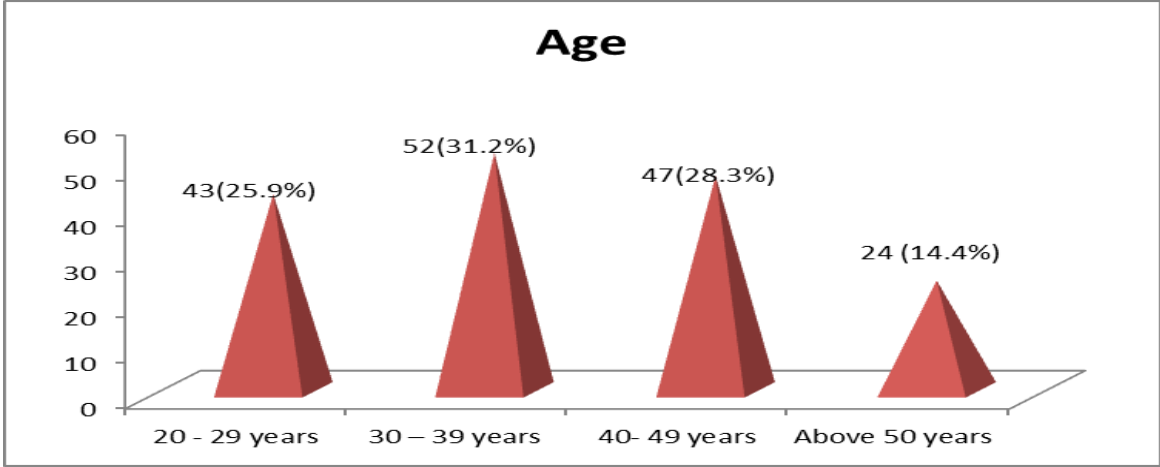
**Figure 4. 1: Gender**

**Source: Field Data (2022)**

From figure 4.1 indicates that the male respondents were 91 in number and female respondents were 75 in number. This is an indication that both genders were included in the study and there was no biasness on the basis of gender.

**4.3.2 Age of Respondents**

The respondents were asked to indicate the age group to which they belonged to, and the responses are as seen in Figure 4.2



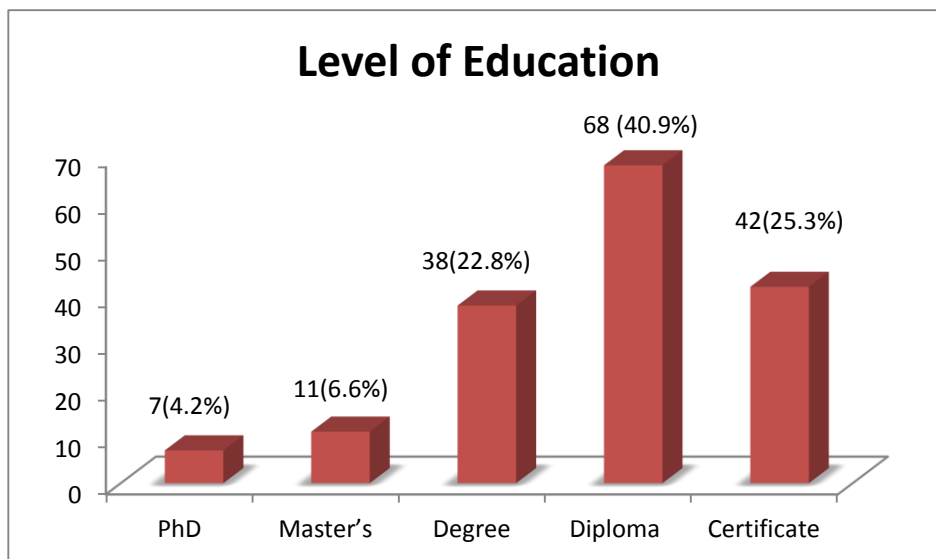
**Figure 4. 2: Age**

**Source: Field Data (2022)**

Figure 4.2 shows that most of the respondents were in the 30-39 age group with 52 participants ticking that group. 47 respondents stated that their age ranged from 40-49 years and another 43 respondents were in the 20-29 years age group. Only 24 respondents had stated that they were above age 50 years. These results indicate that all age groups were included in the study and hence information obtained will be varied and representative of all age groups.

### 4.3.3 Level of Education

On level of education, the findings are as shown on Figure 4.3 here



**Figure 4. 3: Level of education**

**Source: Field Data (2022)**

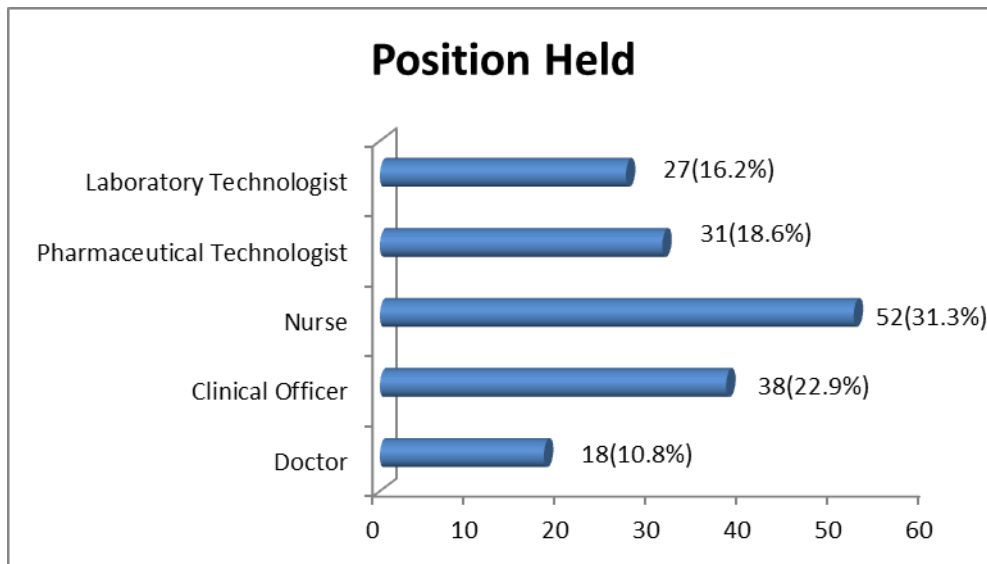
The figure 4.3 shows that the respondents holding diplomas were the majority with 48 respondents, followed by certificate holders with 42 people and 38 respondents were degree holders. There were few respondents stating that they had post-graduate education levels with only 11 holding Masters' degree and 7 being PhD level holders. These findings mean



that all the respondents were educated and had tertiary education thus they could read the questions, understand and respond to them.

#### 4.3.4 Position Held

The respondents were asked to indicate the position that they held within the hospital, the responses are as shown in Figure 4.4



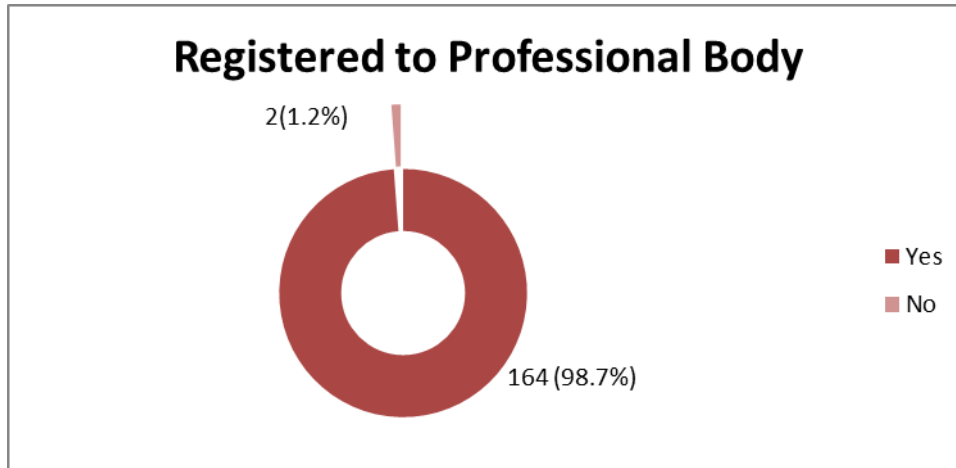
**Figure 4. 4: Position Held**

**Source: Field Data (2022)**

Figure 4.4 indicates the responses given when the participants were asked about the position that they held in the different hospitals. The responses were such that 18 respondents were doctors, 38 were clinical officers, there were 52 nurses, 31 were pharmaceutical technologists and laboratory technologies were 27. The findings show that the respondents held various positions and thus could furnish the study with information based on what they do.

#### 4.3.5 Registered in Professional Body

The respondents were asked if they were registered with professional bodies. The findings are as shown in Figure 4.5



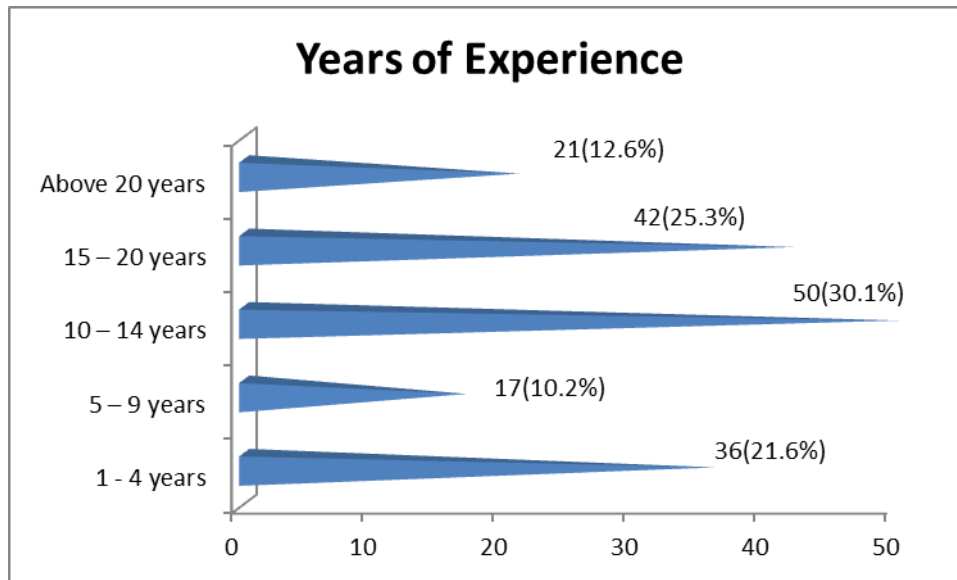
**Figure 4. 5: Registration in Professional Body**

**Source: Field Data (2022)**

Figure 4.5 confirms that 164 respondents had been registered with their respective professional bodies while only 2 of the participants revealed that they had not renewed their licenses with their professional body. The high number is based on the need that all healthcare workers need to be registered with their professional bodies before they can offer healthcare services in any facility.

#### 4.3.6 Years of Experience in the Profession

The respondents were asked to indicate the number of years of experience that they have had in their profession. The results of that question are as seen in Figure 4.6



**Figure 4. 6: Years of Experience**

**Source: Field Data (2022)**

Figure 4.6 shows that there were 36 respondents who had between 1 to 4 years of experience in their position. 17 respondents indicated having 5-9 years of experience, 50 had between 10 to 14 years of experience while 42 participants stated that they had work experience of 15 to 20 years and those with over 20 years of experience were 21 respondents. This implies that the respondents were well-versed with the functioning of the position and area of working and can respond to questions about their role, position, department and health facility.

#### **4.4 Descriptive Analysis**

The researcher conducted descriptive analysis as per the study variables and the results are as shown in the subsequent sections.

##### **4.4.1 Healthcare Workforce**

**Table 4. 1: Healthcare Workforce**

<b>Statement</b>	<b>Mean</b>	<b>Std. Dev.</b>
Staffing levels in my department are sufficient	3.699	1.125
Competent employees are hired	4.295	0.732
There is rotation of staff in the department	4.403	0.660
Service delivery points have been automated at department level	4.084	0.890
The time taken by patients in the department has reduced	3.897	1.012
The process of service delivery is well understood	4.295	0.707
All staff have knowledge on the use of PPEs	4.208	0.797
Number of trainings have increased compared to last year	4.186	0.710
Employees participate in continuous medical education	4.265	0.795
Employee performance is measured every quarter	4.163	0.841
Employees are rewarded for their performance	4.138	0.965
Employee's needs are well taken care of	4.192	0.808
Improving employee commitment, morale or both is part of the product development strategy adopted by the facility	4.144	0.948
<b>Overall Score</b>	<b>4.151</b>	

**Source: Field Data (2022)**

Table 4.1 shows that the overall score for the means is at 4.151 where the respondents agreed that healthcare workforce affected performance in the sub-county hospitals. Just as Wamalwa (2017) noted that human resources are a valuable resource and driver for delivery of healthcare. The human resources take a central role in delivery of services and hence greatly affect performance outcome in the healthcare sector. The highest mean score was on rotation of staff per department at 4.403 and standard deviation for the responses at 0.660. The respondents also agreed that competent employees had been hired with mean of 4.295 and SD of 0.732 which is similar to sentiments shared Wamalwa (2017) that healthcare performance dependent on workers using their abilities well. The service delivery process is well understood at mean of 4.295 and variation in responses at 0.707. This is also shared by Kitur (2019) who revealed that competent healthcare workers led to successful management of HIV patients.

On the statement that employees participated in continuous medical education, the mean is at 4.265 and deviation of the responses at 0795 and the staff had knowledge in PPE usage at means of 4.208 and SD of 0.797. This is similar to findings of Kitur (2019) revealing that low staff numbers and especially for those with specialized skill set and competencies could

be improved through the use of formal trainings to fill the capacity gaps. Furthermore, the respondents agreed at an average of 4.192 and responses were varied at 0.808 that employees' needs are well-taken care of and there was an increment in number of trainings at means of 4.186 and SD of 0.710. This is also shared by Kenya (2016) who noted that trainings done to different levels of healthcare workers had big impact on service delivery. There was also a need for full implementation of information technologies in all departments and that can only be done by training the staffs on technologies and diagnostic methods that will improve the performance of the staffs.

The respondents noted that their performance is measured every quarter with a mean score of 4.163 and standard deviation of 0.841. The respondents also agreed at mean of 4.144 and standard deviation of 0.948 that improving commitment and morale is part of product development strategy in the healthcare facility. Similarly, Wamalwa (2017) noted that promotions and other strategies boosted the morale of the staff leading to improving job satisfaction and high outcomes. In addition, the healthcare workers also had opportunities for career advancement. On the contrary, Oluoch-Aridi, *et al.* (2018) shared that low levels of healthcare staffing and the weak and fragmented free maternity services led to poor services delivery levels. The insufficient allocation of resources negatively affected the provision of women-centered health services.

The respondents shared that employee high performance is rewarded with means of 4.138 and standard deviation of 0.965, just as Wamalwa (2017) shared that high employee performances have an opportunity for career advancement. At a mean score of 3.897 and standard deviation of 1.012 the respondents agreed that there was a reduction in the time taken by patients and staffing levels were sufficient with means of 3.699 and standard deviation of 1.125. This sentiment is also shared by Chesoli, *et al.* (2018) human resource factors like motivation and workload affected the quality of services given to the patients and the time taken in the facility. The presence of financial incentives can help improve health program effectiveness.

#### 4.4.2 Healthcare Financing

**Table 4. 2: Healthcare Financing**

<b>Statement</b>	<b>Mean</b>	<b>Std. Dev.</b>
There is increased number of patients using MakueniCare	4.162	0.883
There is increased number of patients using NHIF	4.078	0.972
All patients receive equal service despite the mode of payment	3.843	1.122
There is decreased out-of-pocket payments by patients	3.915	0.999
The facility participates in free medical camps in the communities	3.964	0.900
All services are affordable	3.475	1.179
Other medical insurances are accepted in the facility	3.686	1.084
No patient is turned away for lack of funds	3.560	1.103
Patients over 65 years receive free medical treatment	2.963	1.190
<b>Overall Score</b>	<b>3.738</b>	

**Source: Field Data (2022)**

Table 4.2 is on healthcare financing that had an overall mean score of 3.738 showing it had average effect to performance of the sub-county hospitals. The healthcare sector should work to avail healthcare services that are of quality but offer no financial strain to patients, as noted by Ifeagwu, *et al.* (2021). The highest mean scores were for increased number of patients that use MakueniCare with means of 4.162 and SD of 0.883 and there was also an increment in patients who use NHIF at mean of 4.078 and standard deviation at 0.972. Siddharth Charterjee (2017) noted that the challenges in healthcare investment can be filled by looking at MakueniCare and NHIF to improve access to health care services and reduce dependence on cash payments for patients. Similarly, findings are also shared by Okungu, *et al.* (2017) whose focus was on non-contributory financing mechanisms with priority given to social health insurance like NHIF that can be used patients as they seek healthcare services.

The respondents agreed that the facility participated in free medical services, with averages of 3.964 and SD of 0.900 and there was a decrease in out-of-pocket payments made by the patients at means of 3.915 and response variation for 0.999. On the contrary, Ifeagwu, *et al.* (2021) shared that in Sub-Saharan African nations most of the healthcare revenues came from out-of-pocket payments from the patients and donor funding. Through the use of these

healthcare financing mechanisms, it will be difficult to attain universal healthcare coverage, hence the need for finding innovative health financing strategies. Okungu, *et al.* (2017) also noted that out-of-pocket payments and tax-funded system led to limited financial capacity. In addition, Oraro-Lawrence and Wyss (2020) shared that attaining of UHC is based on health financing framework where emphasis is made on reduction of out-of-pocket payments.

The respondents also shared that patients receive equal services not caring the payment mode at mean of 3.843 and high standard deviation of 1.122. On acceptance of other medical insurances by the facility, the mean was 3.686 and mean of 1.084. Siddharth Charterjee (2017) shared that growth of health equity is associated with investments made in healthcare interventions and cost-effective and contributory systems. Just as Phiri and Chitangala (2021) noted that effective healthcare financing mechanisms that use direct financing and indirect financing like grants leads to improved performance of health facilities. Alternatively, Ndemi (2018) revealed that operations and quality of services in healthcare facilities is constrained whenever there are problems with accessing funds and financing options.

The respondents also shared that no patients were turned away due to lack of funds with mean score of 3.560 and standard responses of 1.103 and few respondents agreed that the services were affordable at a mean of 3.475 and standard deviation of 1.179. There were few respondents who agreed that the older patients who are aged 65 years and over receive free medical treatment, at mean of 2.963 and the responses variation was at 1.190. Similar sentiments were shared by Ndemi (2018) who linked financial performance to access to financing from different options and operations of enterprises. While Doan (2020) shared that those financial decisions are directly related to performance of the firm. This implies that performance in many organizations is directly linked to financing and financial decisions that are made by the management. The quality of products and service delivered will be affected by the availability of resources especially finances.

### 4.4.3 Medical Supplies

**Table 4. 3: Medical Supplies**

<b>Statement</b>	<b>Mean</b>	<b>Std. Dev.</b>
I participate in health budgeting process	3.566	1.041
Enough resources have been allocated for my department	3.331	1.193
Supplies monitoring has improved	3.753	1.064
There are sufficient healthcare supplies in my department	3.590	1.033
Late payments to the suppliers have led to stock-outs issues	3.933	0.961
There is expiry of supplies due to under-utilization	2.974	0.960
The stocks are consumed based on FIFO and FEFO	3.831	0.931
All the supplies are stored according to manufacturer's instructions	3.909	0.958
There are wastages of supplies	2.855	1.222
All medical equipment have been calibrated and serviced in the last one year	3.759	1.085
All medical equipment are in good working condition	3.367	1.129
Service records are available	3.722	1.093
<b>Overall Score</b>	<b>3.549</b>	

**Source: Field Data (2022)**

Table 4.3 is on medical supplies that had average mean score of 3.549; an implication that the variable had medium effect to performance of the sub-county hospitals in Makeni County. When the hospitals are unable to receive quality medical supplies in a timely manner, then some services, operations and activities will be delayed. This medical supply impact on satisfaction rates of the patients and overall performance outcome as shared by Betrán, *et al.* (2018). The highest mean scores were for statements on stock-outs experienced due to late payments of suppliers with mean score of 3.933 and standard deviation of 0.961 and the acquired supplies are stored as per manufacturer's instructions at mean of 3.909 and SD of 0.958. These findings are also shared by Betrán, *et al.* (2018) that stock-outs of medical supplies failed healthcare interventions like the case of newborn mortality. The provision of medical supply kits based on effective supply chain strategy improves the quality of care given to patients by resolving the issue of stock-outs.

The respondents also agreed that the consumption of the stocks was based on FIFO and FEFO formats at mean score of 3.831 and SD of 0.931. Similar sentiments were shared by



Kausar and Siddahrth (2018) who called for inspection of all hospital supplies and regular checking of the supplies in the stores. Inspections will help in reducing poor quality materials and supplies that would increase medical waste, cost of operations and profit margins. Kanda and Iravo (2015) note that the health system must seek efficient means and sources to supply medical goods, equipment, diagnostic kits, sanitary wear and diagnostic gears. The laboratory testing equipment must be checked before buying and supplying it to the health facilities.

The respondents noted that medical equipment had been serviced and calibrated within the last year at mean of 3.759 and response variation of 1.085; there was improvement in monitoring supplies with mean of 3.753 and SD of 1.064 and the service records were available at means of 3.722 and standard deviation of 1.093. Subramanian (2020) also shared that effective health performance can be achieved through cost-effective supply of healthcare supplies including people and processes who check the systems and medical equipment. Similarly, Kausar and Siddahrth (2018) call for inspections and close monitoring of supplies such as to reduce wastage and poor-quality medical materials.

The respondents shared that healthcare supplies were sufficient in the department at means of 3.590 and response variation of 1.033 and that they participated in health budgeting process with mean score of 3.566 and standard deviation of 1.041. Just as Chopra, *et al.* (2019) mentioned that provision of free medical supplies and knowledge sharing improves management of diseases and in this case the type 1 diabetes. Similarly, Alizadeh, *et al.* (2020) advocates for use of forward and reverse supply chain network to cut time and distance taken in supply of medical equipment. It implies that supply-chain framework plays an integral role in medical supplies and reflects on performance rate of the organization.

The respondents also noted that the medical equipment were in good working conditions at means of 3.367 and SD of 1.129 and each department was allocated enough resources at mean scores of 3.331 and standard deviation of 1.193. Lastly, few respondents shared that there was expiry of supplies linked to underutilization at means of 2.974 and response variation of 0.960 and wastage of supplies had means of 2.855 and standard deviation of

1.222, similar to the findings of Alizadeh, *et al.* (2020) who noted an increase in medical wastages. The researchers thus advocate for assessing the supply chain network and handling of medical products to reduce biological risks.

#### 4.4.4 Performance

**Table 4. 4: Performance**

<b>Statement</b>	<b>Mean</b>	<b>Std. Dev.</b>
There is a patient service delivery charter in the facility	4.331	0.616
The turn-around-time for patients in the hospital has reduced significantly	3.668	1.124
Standard Operating Procedures (SOPs) are available	4.240	0.817
There is long-term patient retention	3.813	1.104
There is increased patient satisfaction	4.096	0.847
The organization is focused on continuous improvement	4.319	0.696
The staffs deliver patient-centered services	4.283	0.737
The facility has been accredited	4.393	0.691
There are increased health promotion programs	4.018	0.856
There is an increase in numbers for the people seeking preventative health services	4.156	0.713
<b>Overall Score</b>	<b>4.129</b>	

**Source: Field Data (2022)**

Table 4.4 has the analysis on performance of the sub-county hospitals with overall mean score found to be 4.129. The high mean score of 4.331 and SD of 0.616 was for presence of patient delivery service charter, followed by focus of the facility towards continuous improvement with mean score of 4.319 and response variation of 0.696. Just as Santarsiero, *et al.* (2019) revealed that performance in hospitals looks at stability of the facilities and capacity to deliver quality healthcare services where and when needed. The services should also be able to alleviate pain and suffering in the patients. Furthermore, Manyazewal (2017) conveyed the need for healthcare services that focus on the patients and Ayah, *et al.* (2018) noted the need for proper utilization of medical equipment.

The respondents agreed that the staff delivered patient-centered services with means of 4.283 and variation of these responses at 0.737 and agreement was to the availability of Standard Operating Procedures (SOPs) with means of 4.240 and standard deviation of 0.817. These findings coincide with findings by Ndunda (2017) on the basis that a well-functioning healthcare sector should have customer-centric elements and processes should align with the needs of the patients who are customers. Arumona, *et al.* (2019) mentions aspects such as responsiveness and equity in treatment and care services.

The respondents shared on increased number of people who search for preventative health services with means of 4.156 and SD of 0.713 and patient satisfaction has increased at mean score of 4.096 and standard deviation of 0.847. There is an increase in health promotion programs with means of 4.018 and SD at 0.856. At the same time, Onalenna, *et al.* (2014) commented on the need for support and policy reforms to improve healthcare outcomes. The policy dictates the functionality and operations in the health sector. Thus, performance in the healthcare sector needs the government both at national and regional levels to play its role in policy formulation, support for reforms and training and provision of funds to get supplies. While Moses, *et al.* (2021) shares that performance is about customer (patient) satisfaction through provision of solutions to the health problems.

The respondents also agreed to the fact that there is retention of patients for long-term periods with mean score of 3.813 and standard deviation of 1.104 and there is significant reduction of the turn-around-time for patients in the hospitals at mean of 3.668 and standard deviation of 1.124. Similar sentiments were shared by Ndunda (2017) who noted that there was need for many healthcare workers to reduce their workload and improve on wait time before patients are served. Manyazewal (2017) also noted that performance is about effective, efficient and timely service provision. This is of great concern since time is of essence in the healthcare sector which has a great effect in life-or-death situations. In addition, time as an element affects the magnitude of health complications. Delayed treatment might mean that an ailment has progressed to an advanced stage which might not be treatable, such is the case of cancer and eventually it might cause death of patients.

## 4.5 Correlation Analysis

**Table 4. 5: Correlation Analysis**

		<b>Performance of sub- county hospitals</b>	<b>Healthcare workforce</b>	<b>Healthcare financing</b>	<b>Medical supplies</b>
Performance sub-county hospitals	of Pearson	1			
	Correlation				
	Sig. (2-tailed)				
	N	166			
Healthcare workforce	Pearson	.714	1		
	Correlation				
	Sig. (2-tailed)	.000			
	N	166	166		
Healthcare financing	Pearson	.659*	.425**	1	
	Correlation				
	Sig. (2-tailed)	.000	.000		
	N	166	166	166	
Medical Supplies	Pearson	.690*	.346**	.309**	1
	Correlation				
	Sig. (2-tailed)	.000	.000	.000	
	N	166	166	166	166

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

The findings shown in Table 4.5 indicate that healthcare workforce had strong and positive relations to performance of the sub-county hospitals with r value of 0.714 and p-value of 0.000. Healthcare financing was similarly positively and strongly correlated to performance of the sub-county hospitals based on r value of 0.659 and p-values of 0.000. Medical supplies element had equally positive and significant effect to performance of the sub-county hospitals as the r value was found to be 0.690 and p-values of 0.000. All the study objectives were positively and significantly correlated to performance of the sub-county hospitals in Makeni County.

The explanation of the findings is adopted from the Huber (2004) categorization and interpretation of linear relations. The interpretation is such that values that ranging from 0.1 to 0.29 implies a weak relationship; the values from 0.3 to 0.49 imply the relationship is

moderate and r values ranging from 0.5 to 0.9 indicate strong relations between the variables. Therefore, in applying this categorization and interpretation, then healthcare workforce had the strongest correlation to performance; the second one was medical supplies and lastly with the least linkage is for healthcare financing. The listing is based on the obtained r values after conducting correlation analysis.

This implies that performance in the healthcare sector and specifically in the assessed sub-county hospitals in Makueni County is influenced by all the three organizational resources. The strongest influence on performance was from workforce at 71.4% then medical supplies at 69% and financing had an influence of 65.9%. Healthcare workforce has the largest impact largely due to the fact that hospitals are in the service-based industries and its performance relies on staffs.

#### 4.6 Regression Analysis

The researcher conducted regression analysis to assess how the relationship between the independent and dependent variables.

##### 4.6.1 Model Summary

**Table 4. 6: Model Summary**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.699 <sup>a</sup>	.552	.624	3.24065

a. Predictors: (Constant), Healthcare workforce, Healthcare financing, medical supplies

##### **Source: Field Data (2022)**

The analysis revealed that the coefficient of correlation is at 0.699 which implies that the relation between the variables is positive and significant. The adjusted R is at 0.624 which means that 62.4% of changes in performance of the sub-county hospitals can be traced to organizational resources elements of the study. Therefore, performance of sub-county hospitals in Makueni County is due to organizational resources that include healthcare workforce, healthcare financing and medical supplies. There is a residual effect of 37.6% of

factors that affect performance of the sub-county hospitals in Makueni County that have not been included in the scope of the study.

Performance of the sub-county hospitals in Makueni County is accounted by 62.4% of organizational resources elements. The relationship between organizational resources and performance of sub-county hospitals in Makueni County is positive and strong based on the R value of 0.699. Achoki, *et al.* (2017) revealed that achievement of high performance depends on core components in the health system that include organizational resources, health information systems, health workforce, accessing essential medicines, financing and leadership. While Benson and Egbewole (2018) revealed that staff trainings and availability of resources improved performance outcomes in healthcare service delivery.

#### 4.6.2 ANOVA

**Table 4. 7: ANOVA**

<b>Model</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	117.503	3	39.166	15.269	.001 <sup>b</sup>
	Residual	415.691	162	2.565		
	<b>Total</b>	<b>533.194</b>	<b>165</b>			

a. Dependent Variable: Performance of healthcare facilities

b. Predictors: (Constant), Healthcare workforce, Healthcare financing, medical supplies

#### **Source: Field Data (2022)**

The ANOVA results shown in the Table 4.6 calculated at 0.05 significance level show that the F calculated is 15.269 and the F critical is at 2.660. The F calculated is greater than the F critical (15.269 > 2.660) implying that the model is a good fit and can be applied in the current study. This raises assurance and credibility of the findings, drawn conclusions and recommendations made in the study. All stakeholders can therefore trust the findings made in this study since, the instrument used was assessed and found to be ideal. The p-value is at 0.001 which is less than the set standard of 0.05 and indicates that at least one aspect of organizational resources has a significant effect to performance of the sub-county hospitals in Makueni County.

### 4.6.3 Regression Coefficient

**Table 4. 8: Regression Coefficient**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.841	3.126		1.868	.000
Healthcare Workforce	4.753	1.340	.105	3.547	.000
Healthcare Financing	1.249	.235	.237	5.314	.020
Medical Supplies	3.484	.814	.274	4.280	.000

a. Dependent Variable: Performance of healthcare facilities

**Source: Field Data (2022)**

The Resulting Equation takes this form:

$$Y = 5.841 + 4.753X_1 + 1.249X_2 + 3.484X_3$$

**Y = Performance of the sub-county hospitals; X<sub>1</sub> =Healthcare workforce; X<sub>2</sub> = healthcare financing and X<sub>3</sub> = Medical supplies**

Table 4.8 indicates that when all organizational resources are held constant then the performance of sub-county hospitals in Makueni County will be at 5.841. When all factors are held constant and there is a single unit increment in healthcare workforce, the performance of sub-county hospitals in Makueni County will be at 4.753. Holding all factors constant and there is a unit increment in healthcare financing will cause performance to be 1.249 and a unit increase in medical supplies when all other factors are constant will led to performance in the of sub-county hospitals in Makueni County to be 3.484.

The results of the p-value shows that healthcare workforce had significant effects on performance of the sub-county hospitals in Makueni County since  $0.00 < 0.05$ . These findings coincide with the findings of Kenya (2016) who revealed that healthcare workers capacity improvement through trainings led to huge impacts on service delivery. On the

contrary, Chesoli, *et al.* (2018) found that healthcare workers with huge workloads due to low staffing levels gave poor services to the patients.

The findings also showed that healthcare financing had p-values of  $0.02 < 0.05$  an indication that the effect of healthcare financing is significant to performance of the sub-county hospitals. This finding is also shared by Okungu, *et al.* (2017) who noted that revenues are directly linked to project expenditures but having contributory approaches can sustain high performance in health service delivery. At the same time, Phiri and Chitangala (2021) revealed that rant receipt led to better performance on health indicators for maternal and child indices. Nдеми (2018) noted that financial options including personal, formal and informal affected financial performance.

The results also indicate that the obtained p-values of  $0.00 < 0.05$  which implies that medical supply significantly affect performance of the sub-county hospitals in Makueni County. These results are similar to the findings of Chopra *et al.* (2019) found that when there were free medical supplies it led to significant improvement in healthcare provision. While Betrán, *et al.* (2018) discovered that procuring and provision of medical supply kits led to improved quality care during visits in health facilities. Subramanian (2020) found that health supply chains with elements of people and processes; the systems and data led to improving overall well-being of people and patients.



## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents summaries from the study findings, and it has sections that cover the findings, the drawn conclusions and recommendations made for policy and practice. The chapter ends with a section on the suggestions that future researchers can apply in furthering knowledge and topics.

#### **5.2 Summary of Findings**

The focus of the study was on investigating the effects that organizational resources have on performance of sub-county hospitals in Makueni County, Kenya. The organizational resources assessed was healthcare workforce, healthcare financing and medical supplies and effects on performance of the nine sub-county hospitals. The study applied descriptive research design and collected data from employees in the nine sub-county hospitals in Makueni County, namely Mbooni, Tawa, Matiliku, Kilungu, Sultan Hamud, Makindu, Kibwezi, Kiima-Kiu and Kisau. The respondents included doctors, nurses, clinical officers, lab and pharmaceutical technologists who filled the structured questionnaires.

On the first objective for healthcare workforce, the study established positive and significant effects to performance of the sub-county hospitals. Descriptive analysis revealed it had the highest mean of 4.151 as the respondents strongly agreed to it affecting performance of the sub-county hospital. The correlation analysis showed strong linkage between the variables for the  $r$  values obtained and regression analysis revealed significance effects from the obtained  $p$ -values. Aspects of healthcare workforce included staffing levels per department, competence of the hired staff, rotations made across different workstations and trainings undertaken to gain knowledge on handling patients and use of equipment. The workforce elements of rewarding good performances and taking care of their needs improved commitment and morale levels resulting in improved performance.

On healthcare financing, the study found out that it had positive and noteworthy effects to performance of the healthcare facilities in Makueni County. Descriptive analysis showed that respondents strongly agreed to financing affecting performance outcomes with an overall mean score of 3.738. The findings were based on regression and correlation analysis and the r values and p-values obtained. Healthcare financing is based on aspects such as use of MakeniCare and NHIF insurance policies, decreasing the number of patients who pay for services from out-of-the-pockets and affordability of the healthcare services. It is also included facilities accepting all medical insurances, availability of free medical camps, not turning away patients and giving equal services despite the payment mode. These aspects were found to improve performances in the sub-county hospitals within Makueni County.

The researcher also found that provision of medical supplies had positive and significant effect to performance of the sub-county hospitals based on the r values and p-values that showed the inter-relations. The respondents agreed that medical supply improved performance outcomes, based on findings made from the conducted descriptive analysis since the overall mean score was held at 3.549. Medical supplies covered aspects such as participation in health budgeting process, access to sufficient resources and monitoring the supplies to avoid wastages. It is also about payment of suppliers to avoid stock-outs, storing the supplies according to the instructions and guidance of the manufacturers and servicing medical equipment to keep them in good working conditions. These aspects led to improved performances in the sub-county hospitals in Makueni County.

### **5.3 Conclusions**

Performance of the sub-county hospitals was a measure of low turn-around time, patient-centered services, high satisfaction and retention of patients. It is also about continuous improvement in the facilities, accreditation, presence of service delivery charters and standard operating procedures and health promotion programs. The aim was to improve healthcare condition of the people as many of them seek preventive services as opposed to curative health services. To attain these, the nine sub-county hospitals applied aspects of organizational resources covering healthcare workers, financing and medical supplies

From the findings based on descriptive, correlation and regression analysis, the study concluded healthcare workforce as one element of organizational resources led to improved performance in the sub-county hospitals. The respondents shared that hiring competent and knowledgeable staffs, having adequate numbers of staffs in every department led to improved performance. When the hospitals took care of the needs of the employees and they were rewarded for working hard, the motivation and commitment levels rose and positively impacted performance of the overall hospitals.

The study further concluded that healthcare financing had improved the performance of the sub-county hospitals in Makueni County. The conclusion is drawn from findings such that the patients were able to receive equal health care and paid through the MakueniCare, NHIF, other medical insurances and cash basis through the use of out-of-the-pocket payment mode. Healthcare financing also involved patients accessing healthcare services that are affordable, availing free medical camps, not turning away patients and older patients over 65 years receiving free healthcare. These healthcare financing aspects improved the performance of the reviewed hospitals.

The analyzed data and its findings led to drawing of the conclusion that medical supplies led to improved performance in the reviewed nine sub-county hospitals in Makueni County. The respondents agreed that participation in the budget process, accessing and monitoring supplies and avoid wastes improved performances. Furthermore, paying suppliers on time reduced instances of stock-outs, proper storage of supplies as per manufacturer's instructions, keeping proper records and keeping equipment in good working condition improved hospital outcomes. Medical supplies improved performance of the sub-county hospitals.

#### **5.4 Recommendations for Policy and Practice**

The study implication is such that organizational resources improve performance of hospitals. Therefore, the study makes this recommendation that to improve performance in the sub-county hospitals there is need to apply aspects of organizational resources. The

hospitals should have competent and sufficient numbers of healthcare workers since the first study variable had the largest effect on performance based on the correlation analysis results and it had the largest overall mean score from the descriptive analysis conducted. The healthcare workforce must participate in education and trainings to increase their knowledge and they should be rewarded for their efforts. For higher outcomes, the health facilities must be able to take care of the needs of the workforce which will motivate them and increase their commitment levels.

The study also recommends the provision and availability of medical supplies whenever healthcare facilities are seeking to improve their performance. The medical supplies must be acquired and paid for at the right time to avoid stock-outs and allocated to departments as demanded. There is need for proper monitoring, storing and utilization of the available resources to gain the expected outcomes. To improve performance, the health facility must implement FIFO system in utilization of resources in a manner to avoid wastage and expiry of products. There must be systems to check that medical equipment are serviced, calibrated and kept in good working condition for efficient service delivery to the patients.

Further recommendations are such that healthcare financing options should be implemented to improve performance of healthcare facilities. The hospitals and other health facilities, government and patients must broaden their financing options to ease the health costs and improve quality service delivery. There is need for using all available medical insurances, involvement in free medical camps and provision of medical treatment for the elderly in the society. To improve facility performance, there is need for providing affordable healthcare services and shifting cash payment modes to use of insurance policies.

The empirical and theoretical reviews show linkage of organizational resources to performance of the hospitals. The resource-based view theory emphasizes the need for hospitals to access and utilize resources in an effective manner so as to improve performances. The management in the health facilities must strategize on how to access resources including workforce, financing and medical supplies and utilization for realization of the stipulated goals. The new public management theory indicates the ideal management

and organizational structures to obtain expected health services and the balanced scorecard model showcases the performance metrics. The study recommends that these theories help in conceptualization of study variables and facility management can consider applying these theories when seeking to improve performances in the hospitals.

Resources are part of inputs needed for effective workings in an organization. Inputs are directly correlated to outputs, thus the researcher makes this recommendation that all stakeholders should be engaged and involved in provision of organizational resources to improve performance. The stakeholders include the national and county government, the donors and general public who must hold hands together to provide the needed resources. The healthcare workers must be trained to properly handle resources and the facilities must put control measures to avoid wastage and loss of resources. Effective use of resources will improve performance of the sub-county hospitals. The researcher also recommends to the administrative units to enact policies to improve workforce capabilities, hospital functioning and operational competencies and service delivery.

### **5.5 Suggestions for Further Research**

The study covered nine sub-county hospitals in Makueni County, thus further research can cover all hospitals in the county including private facilities, to expand literature on the same. There is need to research on other counties in Kenya and assess the performance of their hospitals and healthcare sector that is a devolved function. Future research can also consider what other factors can be used to improve performances of hospitals in county governments.

The result from the adjusted coefficient of determination was 62.4% implying that performance of the sub-county hospitals was affected by organizational resources aspects. There is a residual effect of 37.6% of factors that affect performance of the sub-county hospitals in Makueni County that are accounted for. Future researchers can concentrate on these 37.6% performance influencing factors and expand knowledge on performance in hospitals.

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## APPENDICES

### Appendix I: Introduction Letter



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Our Ref: D53/OL/CTY/32003/2017

DATE: 18<sup>th</sup> March, 2022

Director General,  
National Commission for Science, Technology  
and Innovation  
P.O. Box 30623-00100  
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR CHARLES IDAH KATILE – REG. NO. D53/OL/CTY/32003/2017.

I write to introduce Charles Idah Katile who is a Postgraduate Student of this University. The student is registered for M.B.A degree programme in the Department of Business Administration.

Charles intends to conduct research for a M.B.A Project Proposal entitled, “**Organizational Resources and Performance of Sub-County Hospitals in Makueni County, Kenya**”.

Any assistance given will be highly appreciated.

Yours faithfully,

  
PROF. ELISHIBA KIMANI  
DEAN, GRADUATE SCHOOL

AM/lnn

## Appendix II: Research Questionnaire

### **Instructions**

Please tick the appropriate box. There is no right, or wrong answer so choose the answer which represents your opinion.

### **SECTION A: GENERAL INFORMATION**

1. What is your gender? Male  Female

2. What is your age?

20 - 29 years  30 – 39 years  40- 49 years  above 50 years

3. What is your level of education?

PhD  Masters  Degree  Diploma  Certificate

4. What is your position at the sub-county hospital?

Doctor  Clinical Officer  Nurse  Pharmaceutical Technologist

Laboratory Technologist

5. Are you registered by your respective professional body? Yes  No

6. How many years of experience in your profession?

1 - 4 years  5 – 9 years  10 – 14 years  15 – 20 years  above 20 years

**SECTION B: ORGANIZATIONAL RESOURCES**

Please state to what extent the following statements relate to the service delivery processes in healthcare. Use the Likert Scale for all these sections: where: 1 = strongly disagree, 2 = disagree, 3 = not disagree or agree, 4 = agree, and 5 = strongly agree

**B 1: HEALTHCARE WORKFORCE**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Staffing levels in my department are sufficient					
Competent employees are hired					
There is rotation of staff in the department					
Have services been automated in your department					
The time taken by patients in the department has reduced					
The process of service delivery and coordination is well understood					
All staff have knowledge on use of PPEs					
Number of trainings have increased compared to last year					
Employees attend and participate in continuous medical education					
Employee performance is measured every quarter					
Employees are rewarded for their performance					
Employee’s needs are well taken care of					
Improving employee commitment, morale or both is part of the product development strategy adopted by the firm					

**B2: HEALTHCARE FINANCING**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
There is increased number of patients using MakueniCare					
There is increased number of patients using NHIF					
All patients receive equal service despite mode of payment					
There is decreased out-of-pocket payments					
The facility participates in free medical camps to the population					
All services are affordable					



Are other medical insurances accepted in the facility					
No patient is turned away for lack of funds					
Patients over 65 years receive free medical treatment					

### **B3: MEDICAL SUPPLIES**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
I participate in health budgeting process					
Enough resources have been allocated in my department					
Supplies monitoring has improved					
There are sufficient healthcare supplies in my department					
We experience stock-outs due to suppliers having not been paid					
We experience expiry of supplies due to under-utilization					
We consume stocks FIFO and FEFO					
Our supplies are stored according to manufacturer's instructions					
There are wastages of supplies					
All medical equipment have been calibrated and serviced in the last one year					
All medical equipment are in good working condition					
Service records are available					

### **B4: PERFORMANCE**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
There is a patient service delivery charter in the facility					
The turn-around-time for patients in the hospital has reduced significantly					
Standard Operating Procedures (SOPs) are available					
Long-term patient retention					
There is increased patient satisfaction					
The organization is focused on continuous improvement					
The staffs deliver patient-centered services					
The facility has been accredited					
There are increased health promotion programs					
There is an increase in numbers for the people seeking					

preventative health services					
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Thank You!

### Appendix III: Research Permit

  
**REPUBLIC OF KENYA**

  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **446560** Date of Issue: **04/April/2022**

**RESEARCH LICENSE**



**This is to Certify that Miss. Idah Katile Charles of Kenyatta University, has been licensed to conduct research in Makueni on the topic: Organizational Resources and Performance of Sub-County Hospitals in Makueni County, Kenya. for the period ending : 04/April/2023.**

License No: **NACOSTI/P/22/16603**

**446560**  
Applicant Identification Number

  
Director General  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION**

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