FACTORS INFLUENCING UPWARD REFERRAL SYSTEM OF PATIENTS IN NAIROBI COUNTY, KENYA

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DECLARATION

I declare that this thesis is my original work and has not been presented for a degree or any other award in any other University.

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DEDICATION

I dedicate this thesis to my parents for developing a good foundation for my academic and career growth with their continued support and encouragement. Also extent regards to my family for their unending moral support in the progress of the course.

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Glory and honor goes to God Almighty for His sufficient grace in the process of my academic journey. Further, I thank my supervisors Dr. Wanja Tenambergen and Dr. Kezia Njoroge for the great support, encouragement, patience as well as the unending interest for my academic success. Finally, I thank KeMU for giving me an opportunity to be part of the big family in making a mark in the growth of medical research as well as offering a conducive environment for learning. God bless you.

ABSTRACT

The right to health is the fundamental requirement of every human being. Additionally, accessible health services in the shortest possible time leads to quality health outcomes, which is a priority area in the service delivery pillar. A well-functioning health system ensures smooth movement of patient within the referral system and existence of a strong referral mechanism that provide mandated services equivalent to level of care. The study aimed at establishing the determinants of upward referral system of patients in Nairobi County. Expectancy-value theory and choice-making theory laid the foundation for this study. The study was conducted guided by the descriptive research design. The study focused on a population of 594 health workers working in three hospitals, Mbagathi hospital, Mama Lucy hospital and Makadara health center. The study sample was 239 health workers sampled through stratified and simple random sampling techniques. Raw data was realized from the field by the use of self-administered structured questionnaires as well as interview guide. The study realized both quantitative and qualitative data. SPSS version 25 was used in coding, entering and analyzing the raw data. Further, Percentages, frequencies, mean score and standard deviations were used in analyzing the data. The results were presented by the use of tables and figures while the interpretation and explanations was narratively presented. The qualitative data was analyzed thematically guided by the study variables and objectives. The Pearson's correlation and the multivariate regression analysis was conducted with the aim establishing the direction and magnitude of the connections that exists between the study variables. The study found and concluded the Proximity to the referral hospital was the only significant factor in the realization upward referral system (sig.002). Further the equipment required, complexity of patient disease and knowledge of referral system were insignificant determinants of upward referral system with significance values of .136, .113 and .171 respectively. The study recommended that health facilities should invest in the communication systems supported by the activities such as workshops and seminars aimed at promoting the awareness of the referral system guidelines amongst the HCW. Also, recommends that management should set aside some funds to finance the training of HCW on specific health concerns that lead to unnecessary referrals. The study recommends that the MoH should purchase a chopper for airlifting the critical cases which would be worse or cause death if transit done by road.

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ABBREVIATIONS AND ACROYNMS

CDCP	Center for Diseases Control and Prevention
CINAHL	Cumulative Index to Nursing and Allied Health Literature
KMPDU	Kenya Medical and Practitioner Dentist Union
KNH	Kenyatta National Hospital
MLQ	Multifactor Leadership Questionnaire
NHDN	National Healthcare Delivery Network
NNAK	National Nurses Association of Kenya
PCP	Primary Care Provider
SPSS	Statistical Packages for Social Scientists

CHAPTER ONE
INTRODUCTION

1.1 Background

The referral system forms main health systems coordinating a mechanism that ensures the harmonious movement of patients between different levels of health care institutions for effective and efficient service delivery. It refers to a situation where health facilities in the lower level without the technical-know-how and equipment required for treatment advice patients to seek for treatment from higher health facilities with better medical technology and technical skills (Barnum & Kutzin, 1993; Josefien & Criel, 2018). The development of effective patient referral systems is one of the important public health issues in developing countries. Primary health care will not work unless there is effective hospital support to deal with referred patients, and to refer patients who do not require hospital attention back to one of the other primary health care services.

The two-way referral system originated from the community first treatment system in the UK in 1948 (Ge et al., 2019). Both systems were employed in many other developed countries. The two-way referral system includes referral from community health systems (CHSs) to hospitals (upward referral), mainly from general practitioners (GPs) to specialists for further diagnosis and treatment, and referral from hospitals to CHSs (downward referral), mainly from specialists to GPs for rehabilitation. Patient movement along the referral system is a day-to-day process within the health care setting and is an essential aspect in service delivery within the health sector. There are two types of medical referrals: Horizontal (referrals among health facilities of same level and vertical (referrals among health facilities of different levels).

Globally, there are many studies on the factors influencing referral. Given the perfection of the GP system and reasonable rate of downward referral in many developed countries, foreign studies concentrate more on factors influencing upward referral by focusing on five aspects socio-demographic characteristics of patients, financial situation of patients, characteristics of healthcare institutions, characteristics of doctors and their perceptions of referral, and medical insurance (Messina 2013). However, a study in China showed that 93.4% of patients and their families are unwilling to be referred from hospitals to CHSs.

In Indonesia for instance, the National Healthcare Delivery Network (NHDN) are co-dependent where health facilities of different level work in a coordinated manner with other health facilities of different level (Imanaka & Tokunaga, 2016). To ensure there is harmony in this kind of referral system, patients are referred from one level to a higher one to seek treatment and later be back to the original health care provider (Besley & Gouvela, 2017).

Regionally, the current referral system in South Africa works in such a way that every citizen gets registered at a healthcare provider near them. All referrals to next level of health care are done by the respective primary health care providers. There is a referral form, which is unique to all health facilities, which gathers all the required information of patients before they are referred. The form will contain treatment history of patients and the justification for the referral.

Various studies conducted in Nigeria have indicated poor utilization of health referral system in the country. Some of the factors cited include: inadequate knowledge of referral process among health care workers, poor road network, poor awareness of available health facilities (Abodunrin et al., 2010). Similarly, poor public

awareness, patient's non-compliance, patient preference; poverty and poor support have impacted the system in no small measure (Welcome, 2011).

The referral system in Uganda is not very effective. The system is faced with challenges such unavailability of transport to enable patients access healthcare impassable roads, absence of medical commodities. Key inputs being lack of skilled human resources for health to offer needed specialized treatments. The higher user fees impede access to healthcare from health facilities of higher level (Munjanja et al.,2017; Rwashana et al., 2017). A common practice is that of health inversion where those who seek for treatment and are well endowed financially opt to abandon the primary health care facilities and seek treatment at higher health facilities even for medical conditions that can be treated locally This leads to high influx of people at higher health facilities.

In Kenya patients are expected to follow this hierarchy of the health services. Referral patients are prioritized at all hospitals whenever seeking an appointment with specialists in an outpatient ward, and they are also treated preferentially to other patients in emergency services. On the other hand, user fees for several services do not differ according to the complexity of hospitals, or health centres. For example, the cost of an outpatient consultation at hospitals is only about 15 cents higher than that at health centres. In addition, no excess cost is required for non-referral patients in any specialized outpatient ward.

According to the Kenya Health Policy 2014– 2030, the healthcare system in Kenya is divided into six (6) tiers. Level 1 refers to community services; level 2 refers to dispensaries and clinics; level 3 refers to health centers, maternity and nursing homes; level 4 refers to sub-county hospitals and medium-sized private hospitals; level 5 refers to county referral hospitals and large private hospitals; and level 6 refers to national referral hospitals and large private teaching hospitals. The majority of PHC services are

offered at levels 1 to 3. Health facility committees, which comprise the facility in-charge and community members, manage public PHC facilities. Government control of private PHC facilities is given through regulation, which is executed by eight regulatory entities (Dutta et al., 2018). There are other organizational factors associated factors causing bottle necks in referral system across the 4 tiers not much is known about this therefore the study was able to venture more on these contributing factors to enable policy makers reach informed decision.

1.2 Statement of the Problem

An effective referral system in any health system for service provision was aimed at facilitating harmonious liaison for the healthcare levels and patients getting required treatment at their convenience (Besley & Gouvela, 2017). Healthy referrals should be to enable patients get the needed healthcare at affordable prices, instill cost-effectiveness in all its components and timely dispensing of treatments (Josefien & Criel, 2018).

However, this was not the case in the health referral system in Nairobi County. Throughout the year, Kenyatta National Hospital (KNH), which operates beyond capacity (Dutta et al., 2018). This happens despite there being other referral hospitals in the county. 1800 is the bed capacity for KNH. On the other hand, those seeking for treatment on a daily basis are in the range between two thousand five hundred and three thousand. This is an implication that the rate of utilizing beds of 170% and above, which sometimes can stretch to 300%. These rates led to overloading the Kenyatta national hospital as some patients would have visited hospitals of lower levels and have their health needs met effectively and efficiently. This created delay problems for health service seekers who sincerely required specialized care from KNH. These kinds of delays led to missed chances of patients with health complications, which different

cases led to death or worsen the condition hence causing irreversible health complications. The study sought establish the factors influencing upward referral system of patients for health service delivery in Nairobi County.

1.3 The purpose of the Study

The study sought establish the determinants of upward referral system of patients for health service delivery in Nairobi County. Gaps exist in upward referral system were patient congest at the higher referral levels with conditions that would be treated at lower lever to allow higher level hospitals function within mandate

1.4 Research Objectives

1.4.1 General Objective

The study aimed at establishing the determinants of upward referral system of patients in Nairobi County.

1.4.2 Specific Objectives

i. To establish the influence of knowledge of referral system on upward referral system of patients in Nairobi County.
ii. To assess the influence of complexity of the disease on upward referral system of patients in Nairobi County.
iii. To investigate how equipment required influences upward referral system of patients in Nairobi County.
iv. To evaluate the influence of proximity to the referral hospital on upward referral system of patients in Nairobi County.

1.5 Research Questions

i. What is the influence of knowledge of referral system on upward referral system of patients in Nairobi County?

ii. What is the influence of complexity of the disease on the upward referral system of patients in Nairobi County?
iii. What is the influence of equipment required on upward referral system of patients in Nairobi County?
iv. What is the influence of proximity to the referral hospital on upward referral system of patients in Nairobi County?

1.6 Justification of the Study

All people have right to access the best health services at affordable prices. At the center of this right is the delivery of health services guided by a healthy hierarchy and the functional system of referring patients, which provides an opportunity for the steadiness of service delivery at different levels of providing healthcare. A well-functioning referral system is essential for maintaining consistency in the delivery of health services at all levels of the health system. A well-functioning referral system also bridges the gap between service levels and facilities with adequate resources in accordance with the available services' norms and standards. However, bottlenecks exist within higher levels in the referral system. In ideal situations, health problems that requires the attention of Kenyatta national hospital are hypothetically complicated health needs which cannot be met at health facilities of lower levels. The process of referring a client should be followed where the service seekers are officially transferred from facility of a lower level. The client must possess a referral letter containing all the details on medical history of the problem as well as the details of the facility referring the patient. However, this never the case in that the county hospitals together with teaching and referral hospital are overstretching due to high numbers of patients affecting the services delivery. This called for a study to identify factors influencing the upward patient movement in the referral system affecting service delivery at higher levels of

government owned facilities within the county of Nairobi. The paper will inform policy makers the best approach to manage persisting bottleneck at higher referral levels in Kenya.

1.7 Limitations of the Study

The paper was limited and focused government owned health facilities within Nairobi County. For this reason, the study findings would be generalizable to hospitals within Nairobi County only. Some respondents were not willing to fill the questionnaires for fear victimization Confidentiality was assured which was a very sensitive matter at the workplace, making some of the respondents reluctant in providing the information. Some respondents were not fine to fill the questionnaires for data analysis due to tight work schedules and this was well taken care of by securing appointments with the respondents during their free times.

1.8 Delimitations of the Study

The paper aimed at establishing the determinants of upward referral system of patients. The study was done in government owned health facilities within Nairobi County. The paper specifically sought to establish the influence of knowledge, complexity of the disease, equipment required and geographical access on the upward referral system of patients. The study was conducted using the health workers in the public hospitals. The study took a period of two months, which allowed the researcher enough time to collect data. The researcher visited the hospitals during tea and lunch break when staff has completed the daily routine. The researcher took time to make the respondents understand and see the different ways that the study would benefit the heath institutions thereby managing to convince the respondents to take apart in the study. Concerning privacy, the researcher assured the responders that none of the information would be used for any reason other than that specified in the institution's letter.

1.9 Significance of the Study

The national and county governments will benefit from the outcomes of this paper in developing policies, as well as improving the existing ones, aimed at improving the healthcare system in the counties to enhance the service delivery in the public hospitals. The study was important in identifying and understanding reasons for promoting effective measures towards upward flow of patients within the referral system for health service in public facilities within Nairobi County The study findings also highlight available strategic approaches which the county governments can adopt to improve the health referral systems in the counties and consequently in the country.

The outcome of this research highlights key areas where management of other hospitals requires reform, change or incentives. This form basis in relation to upward flow of patients within the referral system for health services at public hospitals in Nairobi County. The recommendation of the study is helpful with strategies to adopt and facilitate upwards flow of patients within the referral system in public hospitals of other Counties in Kenya. The knowledge of recommendation associations such as National Nurses Association of Kenya (NNAK) Kenya Medical and Practitioner Dentist Union (KMPDU) can champion for transformations as well as the reforming the policies and promote the collective strength in order to promote effective referral development in the public hospitals in Nairobi County

The academicians and scholars will benefit from the findings of this paper as they will utilize it as the basis for conducting further research. The study findings will be of great help to the current and future scholars and researchers as they would use the findings in developing the background of studies based on upward movement of patients both in the national government referral hospitals and in the devolved healthcare facilities and other similar settings. In terms of theory, the results would be of great importance

while developing sustainable, efficient and effective model for the adoption of strategies in the healthcare provision in the national government and devolved structures of governance. The study will contribute in widening knowledge on upward movement of patients in the public sector healthcare facilities.

1.10 Assumptions in the Study

i. Respondents were knowledgeable on factors influencing upward movement of patients within the referral system for service delivery.

ii. That the respondents were objective in providing the data, which promotes the accuracy and honesty of the outcomes.

iii. The study outcomes represented and it was generalizable to all the hospitals within Nairobi County.

1.11 Operational Definition of Terms

Awareness: Is perceives, knowing, feeling, or being conscious

Complexity of Disease: Refers degree to which a disease is considered, chronic and requiring specialized care.

Equipment required: This refers to the need for equipment for diagnosis or for treatment.

Health care system: This entails health facilities, equipment, human resources for health, financing models, and information that all enhance access to healthcare by the general populace.

Health System: Is composed of all establishments, individuals, and activities aimed at restoring, promoting and enhancing the quality of the health care

Knowledge: Refers to pieces of information and competencies that comes as a result of training and or work and the knowledge of the referral system

Proximity to the referral hospital: absolute distance to the nearest referral hospital. Has been used in this study to refer to the physical distance and convenience of the patient to the referral hospital

Referral: It is an official procedure that activates the need for a health service seeker to be transferred to a facility of a higher level with aim of getting specialized care

Service delivery: Has two dimensions: availability and access. Availability measures the service that has been availed to be given to the public including the resources and medical commodities required to facilitate treatment services to patients (Willis et al.,, 2018). Access on the other hand measures the capability of the citizenry to get and be able to pay for the required healthcare services.

Upward referral of patients is the process of patient movement within the referral system right from the lower levels of a hierarchy to the upper levels.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter details the literature linked to factors that affects the upward referral system in Nairobi County. Hence, the section covered literature on the knowledge of human resources (HRH) on the referral system, complexity of the disease, equipment required, and proximity to the referral hospital that influence decisions on referring a patient and or otherwise. The study literature search strategy used and was the Searching with keywords strategies and the searching with subject headings strategy. The data bases searched in were the Google scholar books, Medicare provider analysis and review; published and unpublished studies done in the past and the school library.

2.2 Upward Referral System

Provision of health care services was done at different levels and is determined by the kind of healthcare intervention that is needed by the patient. Referral can be explained as the process where health service provider at lower tier hospital for the lack of capabilities, resourceful facilities or both in the management of a specific clinical issues, request for help from providers who are equipped better or with specialized training to take them through the management or the treatment or to take over the treatment process as a whole (Singh et al., 2019) Therefore, individual patients need to begin their medication at a lower level facility before being referred upwards which is in different occasions take as the as the most active part of the health system (Hensher et al. 2006) focusing the greatest deal of the care quality accompanied by the best equipment(s) for diagnosing and treating a disease

A recent study conducted in Tanzania established that there was delays by one or two days of 48% of all the referrals. Another study conducted in Uganda established that

the clients who managed to access the referral destination(s) on the same day of referral was just 50% of all the referrals done (Peterson et al., 2003). In addition, a study conducted in the democratic republic of Ghana established that majority (96%) of the referrals managed to access their referral destination on the same day of referral (Tette et al., 2020).

According to Koltai et al. (2021) the referral rate for children seeking health care services in Uganda was at 64% while only 28% managed to access the referral destination the same day of referral. The study also established that the accumulated medical bills and insufficient hospital transport were the main challenges that hindered the health services seekers to access the referral services. Finally, a study conducted in Eritrea showed that a portion of only thirty-eight percent of the children referred managed to access the referral destination. (Chol et al., 2018).

There are two categories of Referral, the first and most common is the formal referral while the other one is the self-referral. Formal referral can be explained as when a patient is officially transferred to another hospital for better or advance treatment. Self-referral on the other hand is when the patient seeks treatment on his or her own accord and done within the healthcare set-up. There exists a lot of literature on self-referral. However, this is not the case for formal referral, which has receive little attentions from scholars. The different studies done of the referral systems, have endlessly illustrated that the guidelines are not adhered to the way they should be. According to Preker and Carrin (2004) the improvement of quality and the raised rates of referrals is likely to promote the rates of utilizing the health care services. Also, a study by Ajwang (2013) found that individual(s) fail to follow the referral systems.

Kenya's health-care system is structured in a hierarchical manner, with six tiers of care. The first level begins at the neighborhood level and is primarily concerned with

preventative health and the treatment of minor diseases. Primary care services are provided at the second and third levels, which include dispensaries and health clinics that provide basic outpatient treatment, maternity care, and minor surgical procedures. Secondary care is provided at the fourth and fifth levels, which include county health institutions that provide a wide range of services (Maru et al., 2013).

The tertiary level of care is the highest degree of treatment, and it provides specialist care as well as health professional training. Despite the hierarchical system, there have been no policy papers or standards for monitoring referral procedures between the various levels of care for a long time. The absence of rules has caused a slew of problems for the healthcare system, all while restricting patients' access to care. Ineffective coordination and networking across health institutions are among the systemic problems, which lead to incorrect referrals and wasteful use of precious resources. Patients have tendency to avoid lower-level institutions under the belief that they deliver worse care (Wangui, 2015).

The Kenya National Referral Health Strategy was launched with the goal of ensuring connections across the whole health sector, not only within public health services. The strategy framework is driven by the Millennium Development Goals and the Kenya Health Policy (2012– 2030) and is based on Vision 2030. The strategy's goals are to guide the creation of an efficient referral system, improve service providers' capacity to offer services and transfer clients, improve referral system performance monitoring to ensure efficient management, and provide evidence-based, high-quality emergency health services to all people regardless of their ability to pay (Kioko, 2013).

According to Kamau et al. (2017) inability of consultants to give follow-up information in primary care in Uasin Gishu County. The study had a target population of 1372

healthcare workers distributed in 59 public health care centers. The study sample was 240 respondents. SPSS version 24 was used to analyze the data. When users and their families are referred to various levels of services, the study revealed that communication to both the users and their families is required. It is mandatory to utilize provincially defined referral letters to route clinical information upwards and downwards in the referral chain. According to the research, all health facilities should include the contact information for the senior management and physicians on duty.

Kamau et al. (2017) discussed the difficulties in implementing a referral system for high-quality health care in Kiambu County, Kenya. The study's target group consisted of 3353 healthcare workers spread throughout 80 public health care facilities. A total of 271 people took part in the study. SPSS version 22 was used to analyze the data. The following are the primary obstacles in implementing a referral system for excellent health care services, according to the study. Failure to comply with referrals, referral delays, a high number of self-referrals to higher-level referral facilities, a faulty health information system for capturing referral data, poor transportation arrangements for emergency referrals, and under-resourced referral facilities are all issues that need to be addressed. There is a scarcity of information on the elements that impact the upward referral system in a city like Nairobi. As a result, this study bridged the gap by identifying the factors that influence the upward referral system in Nairobi County.

2.2.1 Influence of knowledge of Referral System on Upward Movement

Yu et al. (2017) conducted a study on the practices and attitudes of doctors and patients to referral in Shanghai, China. The aim of this study was to explore the effect of doctors' and patients' practices and attitudes on their willingness for downward referral and the relationship between referral and socio-demographic characteristics. According to the findings well-educated doctors who do not consider downward referral would increase

their workloads and those with a more comprehensive understanding of hospitals and downward referral process were more likely to make a downward referral decision. Single-injury patients fully recognising the community first treatment system were more willing to accept downward referral. Patients' willingness was significantly increased if downward referral was cost-saving. A better medical insurance system was another key factor for patients to accept downward referral decisions, especially for the floating population. To increase the rate of downward referral, the Chinese government should optimize the current referral system and conduct universal publicity for downward referral. Doctors and patients should promote understandings of downward referral. Hospitals should realize the necessity of downward referral, effectively reduce workloads and provide continuing education for doctors. Increasing monetary reimbursement is urgent, as is improving the medical insurance system.

Oluseye et al. (2019) in their research work in the state of Oyo, Nigeria to understand how knowledge of the referral structure among healthcare workers. The sample size was 88 healthcare personnel collected through a questionnaire. Descriptive statistics were employed to realize the stated study objectives. The study established that the healthcare personnel are aware that that referral system can either be from lower to higher levels of health facility or vice-versa. The results also show that that the knowledge of the referral system had a significant influence on the upward movement of patients in the referral system.

Celso et al. (2019) in Maputo, Mozambique did a study focusing on the role of knowledge of referral system on upward referral systems in community health facilities. This qualitative drew a sample from an in-depth interview of 22 Community Health Workers (CHWs), supervisors of CHWs and community leaders and a focus group discussion (FGDs) consisting of eight rounds with 63 members of the community. The

study established that knowledge of referral system significantly influenced the upward referral systems in community health programs.

Eskandari et al. (2018) investigated how knowledge of the referral system influences the upward movement of patients in rural Iran. The raw data was realized from the field by the use of interview guides as well as focus group discussion comprising of 26 respondents of 21 healthcare workers and 5 patients who had sought for care in these healthcare facilities. The study established a positive significant influence of knowledge of the transfer system on upward movement of patients in the referral system in the rural societies.

Higher health literacy rates have been associated with improved self-management of diseases and better medication compliance (Shipman et al., 2009). Hospital libraries that provide consumer health information and services are well-positioned to improve the health information literacy skills of patients. As a service that provides both access to consumer health information and librarian-mediated searches, the medical library can attend to patients' individualized information needs. Librarians can supply specific physician-recommended articles, books, or handouts to a patient. Additionally, librarians have unique skills to lead patients through a reference interview, which often uncovers additional information needs. The medical library is not simply a dispensary of curated materials but a service that can instruct and empower patients to engage in efficient and effective information-seeking behaviors.

Nair et al. (2019) examined how knowledge and awareness of the transfer system on affects upward movement of patients in the transfer system in Paschim Bardhaman District, India. The sample size consisted of 384 respondents having- doctors, nurses, informal providers and pharmacy attendants. The findings indicated that poor

knowledge and awareness of the transfer system negatively influenced the upward movement of patients in the referral system.

Elsewhere in Nigeria, scholars have studied the rate at which the referral system is utilized federal republic Nigeria. Different factors have been noted as the cause of the health employees' poor knowledge of the referral process (Give et al., 2019). The state of referral system in Nigeria prompted the researchers to assess the connection that exists between knowledge of the referral system and the utilization of the referral system focusing of the Oyo state's primary health facilities, while also assessing factors influencing the system with a view to proffering useful recommendations.

2.2.2 Influence of Complexity of the Disease on Upward Movement

Regge et al. (2017) focused on the role played by chronic health conditions on the movement of patients to referral hospitals in the USA. This was a methodical literature review. The results showed that chronic health conditions played a significant role in the movement of patients from care providers to referral hospitals in the USA.

Janssen (2018) focused on the role of chronic health conditions on the upward movement of patients within the Iowa's referral system in the USA. 63 chief executives at the 116 healthcare facilities in Iowa were asked to respond to the Multifactor Leadership Questionnaire (MLO). Inferential statistics and descriptive analysis were used to yield results. Results points that chronic health conditions are statistically significant in determining the upward movement of patients within the Iowa's referral system.

A study conducted in Burkina Faso by Ilboudo et al. (2012) reported that only 14.4% of severe malaria cases were correctly diagnosed and 60.6% of these were referred according to the given guidelines. These results indicated that most of the health care

providers at health centres were not utilising the guide lines when making referral decisions. Similarly, Kamau et al. (2017) reported the need for training on the use of referral guidelines. Kamau et al. (2017) and Asuke et al. (2016) also reported lack of standard referral documents to be used for referrals as given by 52.4% of the study participants. Lack of standard referral documents led to problems in providing proper referral documentation. In their studies, Madinah (2016) and Afari et al. (2014) pointed out that lack of well-trained personnel, diagnostic equipment as well as the breakdown of the entire referral system act as barriers for the people in Uganda to seek for medical care in lower level facilities. Lack of guidelines in most of the health care settings pause a challenge in provision of quality referral services (Kang'ethe, 2015). In Malawi, a study conducted by Chikowe et al. (2018) reported absence of guidelines for management of diabetes in all health centers Stekelenburg (2017) also did a study on professional health care seeking behavior and how it influences the utilization of referral healthcare services in Kalabo District in Zambia. Twelve (12) healthcare personnel were interviewed, using semi-structured questionnaires. The study established a positive significant influence of professional healthcare seeking behavior on the utilization of referral health services.

Thompson (2019) carried out a study investigating how professional health care influenced the referral of patients in Wisconsin, USA. The sample size consisted of 77 healthcare workers in state referral health facilities. Results showed that the upward movement of patients in the referral system of Wisconsin was significantly influenced by professional health care.

2.2.3 Influence of Equipment Required on Upward referral

Jaafar (2013) studied how the diagnostic tests carried affects the upward movement of patients in the Malaysian referral system. Raw data realized by the use of

questionnaires. Their records were also reviewed to ascertain the diagnosis of the patients and the diagnostic equipment used. The study established that diagnostic tests had a positively and significance role in the realization of upward movement of patients in the Malaysian referral system.

Velickovski (2018) also did a study on the influence of screening, diagnosis and assessment of respiratory diseases on the upward movement of patients in Catalonian health referral system in Spain. Interview guide was used to realize primary data from the targeted at senior-level hospital managers. Catalonian hospitals' records were the source of the secondary data. The study did not find any significant influence of screening, diagnosis and assessment of respiratory diseases on the upward movement of patients in Catalonian health referral system.

Bethune (2019) also focused on the influence of life support equipment on the upward movement of patients in the Brazilian of referral system. The study used descriptive research design. Sample size was composed of 343 nurses. Simple random sampling was employed to draw 284 female and 59 male nurses. Raw information from the field was realized by the use of unstructured questionnaires that produced both qualitative and quantitative data. The study established a negative influence of life support equipment on the upward movement of patients in the referral system of Brazil.

Smith (2018) studied the role of life support equipment on the upward movement of patients in the referral system of the UK. The sample size consisted of 388 patients who were interviewed by a questionnaire through one on one interview. SPSS 25.0 was employed in coding and analyzing the data realized from the field. Descriptive statistics and regression models were employed to produce results. Life support equipment

positively and significantly influenced the upward movement of patients in the referral system of the UK.

2.2.4 Influence of Proximity to the Referral Hospital on Upward referral

Pollack et al. (2015) conducted a study on the geographical distance to the referral hospital and its influence on the upward movement of patients in the Ugandan referral system. Descriptive research methodology with data being collected from the referral hospitals in Uganda. Results have shown that the geographical distance to the referral hospital insignificantly influenced the upward movement of patients in the Ugandan referral system.

Lack of transport is a common barrier to effective referrals (Kang'ethe, 2015). Longer distances to health care facility prolong time for patient to receive the care and delay urgent referrals in poor resourced countries (Peterson et al. 2004) like Malawi. The presence of prompt vehicles can help to respond to emergency cases and referral cases at all levels of care. Previous literature has shown that transport issues contribute to the delay in seeking and receiving health care services and has been noted as one of contributing factors to prevent deaths among women with obstetric problems.

Studies have also indicated that residing away from the referral hospital affects the accessibility of referral services (Kloos, 2000). A study done in Mangochi district, showed that motorcycle ambulances are more efficient and effective in reducing referral delays by 2 to 4.5 hours. In addition, purchasing motorcycle ambulances was 19 times cheaper than buying a car ambulance with an annual operating cost of 24 times less than for a car ambulance.

In Kenya a study conducted by Kamau et al. (2017) indicated that most of the health care facilities had no transport for the patients on referral as reported by 67.2% of the participants. Eskandari et al. (2013) and Madinah, (2016) also reported distance and transport problems as the setbacks from receiving quality referral care. In Cambodia, a study conducted by Nakahara et al. (2010) revealed that transportation was a problem and people were asked to buy their own fuel for ambulances or use taxi to transfer patients which was too expensive for the care seekers.

Devesh and Rosenbaum (2018), investigated on the influence of geographical distance from the hospital on the upward movement of patients in the Referral hospital. Data was also collected from patients using semi-structured questionnaires. Data analysis was by descriptive statistics. The study revealed that the distance from primary healthcare centers Vis-a-Vis the distance from referral hospitals significantly influenced upward movement of patients in the referral system.

2.3 Theoretical Framework

2.3.1 The Theory of Expectancy-Value

According to Linder-Pelz (1982), in the theory of expectancy value, one's fulfillment is dictated by the beliefs and values they hold dear and the initial anticipations. The theory analyzed values, entitlements, and happenings expected to occur. The healthcare system is to ensure patient fulfillment has been guaranteed. The satisfaction through quality healthcare services is what drives health policy makers to maintain the standards in health service delivery (Dulgerler et al., 2012). This theory will be relevant in explicating the satisfaction level and the equipment required variables and their influence on upward movement of patient within the referral system for health service delivery.

2.3.2 The Choice-making Theory

The study also adopts the choice-making theory as developed by the (Center for Diseases Control and Prevention [CDCP], 2011). This theory has four dimensions that impact on health seeking behaviour. These are: The perceptions of gravity – has one's perception and what their associates considers to be a severe illness. There is a strong assumption here that people's culture categorizes disease in terms of severity index. The second dimension is the utilization of natural remedies as opposed to accessing treatment from a health facility. Natural treatments offered at home are mainly driven by unprofessional referrals.

Third component is the confidence in remedy that leans on one's belief on the kind of treatment they consider superior. People will tend to shun treatment methodology they consider inferior while the demand for what is considered superior will always be on the rise. The fourth component is the access to treatment, which incorporates one's evaluation of the expected medical cost and whether the services needed are available. Kolinsky (2005), opines that healthcare access is a key determining factor for healthcare utilization. The theory is relevant in advancing for the complexity of the disease and the proximity to the referral hospital variables and their influence on upward movement of patients within the referral system for health service delivery.

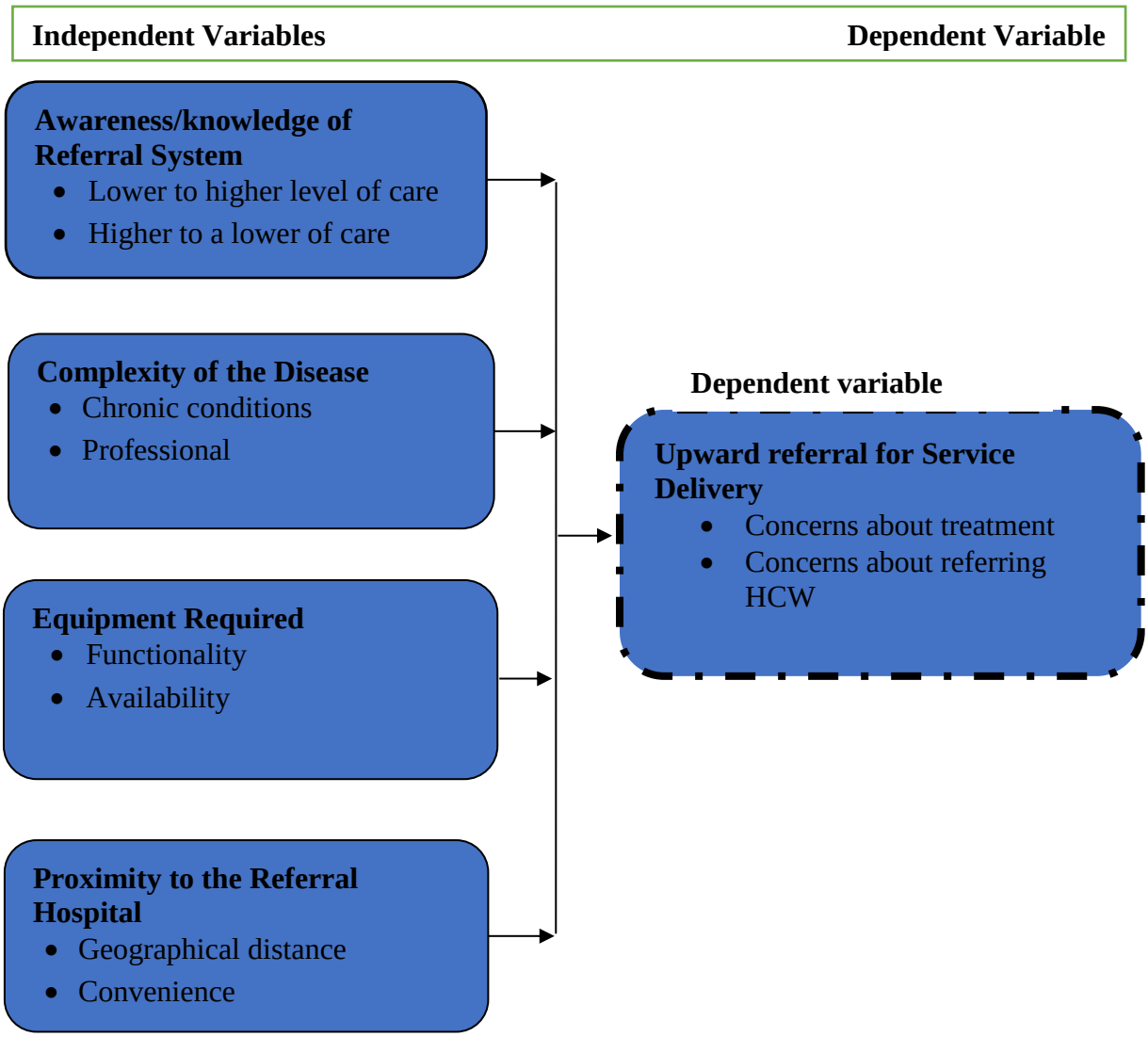
2.4 Conceptual Framework

This abstract model classifies concepts and the existing inter-relations among them. It details how different variables interact in the study, which can be illustrated in a figure (Mugenda & Mugenda, 2009). Any movement in the independent variables will correspondingly lead to a movement in the dependent variables. Below is a conceptual framework showing how variables in this study are interrelated.

Conceptual Framework

Figure 2.1

Conceptual framework



2.5 Research Gap

This study has review literature on factors influencing upward movement of patients within the referral system for health service delivery. Most of the studies reviewed are from developed and emerging nations (Aghamolaei et al., 2018; Bethune, 2019; Foster, 2018; Janssen, 2018; Mosadeghrad, 2018; Regge et al., 2017; Smith, 2018; Thompson, 2019; Velickovski, 2018). Evidently, therefore, majority of the studies reviewed were done in countries who have contextual difference with Kenya and therefore cannot be generalized to the local context. This necessitates the current study to establish the factors influencing upward movement of patients within the referral system for health service delivery from a local context.

2.6 Overview of Literature Review

In this chapter, literature on factors influencing upward referral system of patients was reviewed specifically, on the influence of, health workers` knowledge, complexity of the disease, equipment required, and proximity to the referral hospital on the upward referral system of patients. Literature reviewed has brought to the fore two key theories relevant to this study especially, with respect to the independent variables. The conceptual framework and the identified research gaps demonstrated clearly thus, showing the gaps the research was addressing.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The methods used in fulfilling the purpose of this paper interpreted and justified. It contains the design used, population of interest, and the sampling techniques, procedures of gathering data, the study tools, pretests, and methods of analyzing the data as well as the ethical concerns.

3.2 Research Design

The blueprint of conduction a study is referred to as the research design. This study was conducted using a descriptive research approach. The design tries to reflect the research variables as precisely as possible. Creswell and Creswell (2017) holds that the descriptive design is applied in a study that is seeking to realize data regarding a phenomenon by fundamentally by asking questions aimed at assessing the values, attitudes, behaviors as well as the perceptions. Therefore, the design allowed the paper to efficiently comprehensively and effectively realize the required data purposed to establish the determinants of the upward referral system within the county of Nairobi.

3.3 Target Population

A population refers to all the subjects, objects, events, elements, items that bear common observable characteristics, which are of interest the researchers. Target population for this paper was health workers working in three hospitals as presented in table 3.1. In addition, the key informants were the hospital managers concerned with the referral system.

Table 3.1

Target Population

Facility	Doctors	Nurses	Clinical health officers	Key Informants
Mbagathi hospital	15	180	18	3
Mama Lucy Kibaki hospital	28	259	22	3
Makadara Health Center	0	60	12	3
Total	**43**	**499**	**52**	**9**

3.4 Sampling Procedure

Ngechu (2004) held that it is key to select the sample guided by the developed sampling frame. The frame gives a description of the whole list of all the elements within a population of interest (Creswell & Creswell, 2017). The study used the stratified random sampling method from a target population of 297 elements. The study chose stratified sampling technique as it is the most objective approach while dealing with

heterogeneous population and grouping it into homogenous subsets hence selecting a sample from these subsets thereby promoting representation of the population. In addition, the study used the simple random sampling technique to realize the sample from each stratum. Cooper and Schindler (2011) held that random sampling was appropriate as it reduces the possibility of making an error in the process sampling. The technique further promotes the objectivity of the data collection procedures as it the subject/elements equal opportunities of being picked/chosen. The Yamane's (1967) formula was used in ascertaining the sample size.

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

Where: N = Population size

n = sample size

e = Margin of error

Sample size therefore was

$$= \frac{603}{1+603(0.05)^2} - \frac{603}{1+1.5230} = \frac{603}{2.5230} = 239$$

239 is 40% of the target population.

This sample population will be as presented in table 3.2.

Table 3. 1

Sample size

Health Facility	Doctors		Nurses		Clinical Officers	
	Total	**Sample**	**Total**	**Sample**	**Total**	**Sample**
Mbagathi Hospital	15	6	180	73	18	7
Mama Lucy Kibaki Hospital	28	11	259	104	22	9
Makadara Health Center	0	0	60	24	12	5
Total	**43**	**17**	**499**	**201**	**52**	**21**

3.4 Instrumentation

Self-administered structured questionnaires were used to collect primary data. The economic factor and its capacity to capture a wide-ranging data are just in a short time are the major reasons that informed the choice of a questionnaires as the data collection instrument (Mugenda & Mugenda, 2009). The questionnaires contained six sections where section A addressed the demographic needs of the study while sections B-F addressed the study variables guided by the study objectives. The questionnaires contained closed ended questions, which produced the quantitative data. The questionnaire adopted a five-point Likert scale with a range of 1-5 where 1-strongly disagree while 5-strongly agree. The scale was chosen as it gives room for producing major statistics for testing the hypotheses.

3.5 Methods of Data Collection

The researcher self-administered the questionnaires to health in the health facilities selected by the study in Nairobi County. The questionnaires were administered individually to each respondent. The study adopted the “drop and pick later” technique

which gave the respondents to fill the questionnaires once they would find time in their busy schedules. The interviews were conducted on the 9 facility managers concerned with the referral system after securing appointments with them especially during the break times. The data collection was done in two weeks which provided the respondents with ample time to read and fill as per the needs of the study. Those who had not completed the questionnaires within the two weeks were given one more week to complete and return the questionnaires. This was necessary to make sure that the study maximized the number of respondents who returned the questionnaires dully filled hence realizing the required data. This allowed the study to overcome the limitation of time.

3.6 Pre-Testing

Connelly (2008) suggested that a pre-test sample should be almost ten percent of the sample for the main study. The pretest was conducted at Kiambu and Wangige health facilities. Therefore, to refine the data collection instrument, a pre-test was conducted using 13 respondents that were not involved in the main study. Cooper and Schindler (2013) explain that pre-testing is necessary to show the loopholes in the data collection instrument and thereby giving a picture of how the results of the main study might look likes. According to Malhotra et al. (2017), questionnaires are pre-tested to see how respondents react and to fix any items that are deemed to be unclear.

3.6.1 Validity of Research Instruments

According to Vincent et al. (2019) validity evaluates if the study actually measures what it was designed to test or how accurate the research findings are. The researcher intends to employ pre-testing to guarantee the study instruments' content and construct validity. The extent to which an instrument can completely examine the relationship between two variables is referred to as content validity. On the other hand, construct validity

refers to the amount the instrument can actually tap into the theoretical concept it is supposed to assess. Based on the above concept the researcher will use the pre-test to determine the validity of the questionnaire. The scores from the testing periods will have correlation efficient (r) and a p-value of <0.5 will be considered statistically significant.

3.6.2 Reliability of Research Instruments

Mugenda and Mugenda (2003) held that reliability illustrates a quality of a study instrument where a study tool produces similar results for a number of trials. Pretesting of the instrument was conducted to ensure it is reliable for collecting data required by the researcher. The test-retest technique was used; data was analyzed to get the results and after two weeks the same procedure was repeated on same people if the same results will be obtained then the instrument was deemed to be reliable but if different results will be obtained then the instrument was deemed to be unreliable (Cooper & Schindler, 2008). A Cronbach Alpha coefficient of 0.7 acted as the reference point in determining the reliability of the study tool.

3.7 Methods of Data Analysis

Analyzing the data refers to the process of examining, sorting, cleaning and inspecting raw data before it is organized and visualized in the tables' charts graphs with the aim of giving the data meaning (Kothari, 2011). The questionnaires were sort for completeness before coding to ensure uniformity. Quantitative and qualitative information was gathered from the field. To convert and analyze quantitative data, SPSS version 25 was used. The data was analyzed using descriptive and inferential statistics such as frequencies, percentages, standard deviation, and mean score. Tables and figures were also used to display the information. The data realized by the interviews conducted was thematically analyzed guided by the study objectives and

variables. The direct responses from the KII were quoted. The Pearson's correlations and multivariate regression analysis were employed establishing the connections, directions and magnitudes that existed between the study variables (independent and dependent variables). The study was guided by following regression equation;

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Whereby

Y = Upward movement for service delivery

$\mathbf{X_1}$ = Knowledge of the referral system

$\mathbf{X_2}$= Complexity of the disease

$\mathbf{X_3}$ = Equipment required

$\mathbf{X_4}$ = Proximity to the referral hospital

$\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$, $\boldsymbol{\beta_3}$ and $\boldsymbol{\beta_4}$ = Coefficients of determination $\boldsymbol{\varepsilon}$=error term.

3.8 Ethical Considerations in Research

Geffner et al. (2018) postulates that ethics involve the analysis and use of concepts for instance accountability, responsibility, transparency and honesty. The researcher was given ethical approval letter from the Kenya Methodist University. After approval from Kenya Methodist University (KEMU) Scientific Ethics and Review Committee to carry out the research, a permit to conduct a research obtained from the National Commission for Science, Technology and Innovation (NACOSTI). The researcher also wrote to the County Chief Officer of Health to seek permission to carry out the study in the County health facilities. A letter was written to the Medical Superintends of Mbagathi Hospital and Mama Lucy Kibaki Hospital1 and Makadara Health Center where the study took place to seek for permission to carry out the study before data collection process commence

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

The section analyses, presents and interprets the data realized from the field. The paper aimed at determining the factors influencing upward referral system of patients in Nairobi County. Finally, discussion of the findings is presented at the end of every objective.

4.2 Pre-test results

To assess the validity and reliability of the study instrument, the researcher performed a pre-test on 13 respondents from Kiambu Hospital and Wangige Health Center. Cronbach's alpha was utilized to determine the questionnaire's internal reliability. The findings are shown in Table 4.1.

Table 4.1

Summarized Cronbach's Coefficients

	Cronbach's Alpha	**No. of Items**	**Conclusion**
Knowledge	0.797	9	scale reliable
Complexity of disease	0.743	7	scale reliable
Equipment Required	0.854	8	scale reliable
Proximity to the Referral Hospital	0.795	6	scale reliable
Upward Referral	0.791	9	scale reliable
Overall	**0.796**	**29**	**Instrument reliable**

The alpha coefficient for the five items is 0.796, indicating that the instrument had a high internal consistency, meaning that it was good since reliability coefficients of 0.70 or more are considered good and acceptable.

4.3 Response Rate

The study sample was 239 respondents who were hospital staff. Out of 239 questionnaires issued out, 204 respondents completed the questionnaires contributing to 85% response rate. The rate was good as a response rate of 50% and above is good for analysis and generalization of the findings Mugenda and Mugenda (2009) as presented in Table 4.2.

Table 4.2

Response Rate

Response	**Frequency (N)**	**Percentage (%)**
Completed questionnaires	204	85
Uncompleted questionnaires	35	15
Total	**239**	**100**

4.4 Demographic Information

The paper sought to establish the basic characteristics of the respondents with the aim of determine their eligibility to take part in the study. Table 4.3 below;

Table 4. 2

Demographic Information

Characteristics	Frequency (N)	Percent (%)
Respondents' Gender		
Male	88	43
Female	116	57
Respondents' Age		
18-29 years	18	9
30-39 years	130	64
40-49 years	38	18
50-59 years	18	9
Level of education		
Diploma certificate	119	58
Higher National Diploma	46	23
Bachelor's Degree	32	16
Master's degree	7	3
Profession		
Doctor	22	10
Nurse	150	74
Clinical officer	32	16
Period of time in the current position		
2 years and below	34	17
3-5 years	99	49
6-9 years	31	15
10 years and above	40	19
Years of experience as health care worker		
2 years and below	4	2
3-5 years	49	24
6-9 years	55	27
10 years and above	96	47
Department of Work in Health Facility		
Paediatrics Ward	16	8
Casualty department	40	20
Medical Ward	32	16
Outpatient	45	22
Surgical Ward	25	12
Maternity	18	9
Eye ward	4	1
Labour ward	24	12
Health Facility Level		
Level 3	67	33
Level 4	53	26
Level 5	84	41

Findings as presented in table 4.3 majority 116(57%) of the respondents were male while 88(37%) were female. Therefore, the workforce within the Nairobi County's hospitals were females implying that the recruitment of the healthcare workers in Nairobi County is focused on recruiting females as they are considered compassionate and the best care givers.

Further the findings show that majority 130(64%) of the respondents were aged between 30-39 years while 38(18%) were aged between 40-49 years. Further, age brackets of 29 years & below and 50-59 years comprised of 18(9%) of the respondents each. The results imply that the workforce in public hospitals in Nairobi County has a workforce that is its optimum age and therefore provided with the right working conditions the workforce can easily maximize the quality of services as well as the performance of health institutions.

In addition, the results in table 4.3 above shows that majority 119(58%) of the respondents were diploma certificate holders, 46(23%) had higher national diploma. Further, 32(16%) had a bachelor's degree while 7(3%) of the respondents had master's degree. The results imply that the respondents had met the academic qualifications to work as healthcare professionals. Also, the results show that 150(74%) of the respondents were nurses and 32(16%) were clinical officers while 22(10%) were doctors implying that majority of the respondents and healthcare workforce were nurses.

As per the findings most 99(49%) of the respondents had worked for a period of 3-5 years and 40(19%) had worked for 10 years and above in their current positions. Further, 34(17%) had worked for 2 years and below while 31(15%) had worked at their current station for a period of 6-9 years. The findings show that majority (83%) of respondents had worked at their current stations for a period of 3 years and above

implying that the study reached the right respondents for the study as the period they have served at their current positions were aware and conversant with the upward referral system of patients in Nairobi county.

The findings show that 96(47%) of the respondents had experience of 10 years and above and 55(27%) had experience of 6-9 years. Further, 49(24%) had experience of 3-5 years while only 4(2%) had experience of 2 years and below. The statistics shows that the respondents had enough exposure to the operations of health facilities, which includes the upward referral systems.

The results further indicate that 45(22%) of the respondents were from the outpatient department, 40(20%) were from the casualty department, 32(16%) were from the medical wards, 25(12%) were from the surgical wards, 24(12). In addition, 18(9%) were from the maternity wings while 16(8%) of the respondents were from the pediatrics wards. The findings imply that the respondents were spread in all the hospital departments that are directly involved in the operations of an upward referral system. Hence, the data was realized from the group holding first-hand information regarding the upward referral system.

Finally, the findings in table 4.3 above shows that most 84(41%) of the respondents were from level five facilities, 67(33%) from level three facilities, 53(26%) were from level four facilities, The results shows the study realized information facilities of different levels thereby promoting the objectivity of the responses realized from them.

4.5 Upward Referral System of Patients in Nairobi County

The respondents were asked to indicate whether they were aware of the existence of Kenya health sector referral guidelines. Results are tabulated in table 4.4

Table 4. 3

Aware of the existence of Kenya Health Sector Referral Guidelines

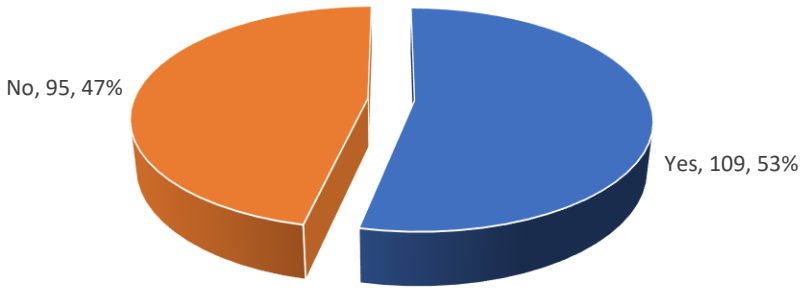
Response	Frequency (N)	Percent (%)
Yes	204	100
No	0	0
Total	**204**	**100**

Study findings in table 4.4 indicated that 204(100%) the respondents were aware of the existence of Kenya health sector referral guidelines. The results implies that everybody was aware of the existence of Kenya Health Sector Referral Guidelines.

In addition, the paper aimed at establishing whether the participants adhered to follow guidelines when referring patients. The findings are presented in the figure 4.1.

Figure 4.1

Adherence to Referral of Patients Guidelines



The findings show that majority 109(53%) of the respondents have always followed the referral guidelines set while referring a patient to a higher health facility level but 95(47%) indicated that they had missed to follow the referral guidelines once or more

times. The results imply the respondents were always willing to adhere to the set referral guidelines.

The paper required to determine the reasons that inform the decision to refer a patient to a higher-level health facility. Table 4.5 presents the findings;

Table 4.5

Reason for Referral

Attributes	**Yes**		**No**	
	N	**%**	**N**	**%**
Required Medical skill was lacking	171	84	33	16
Patient required additional (specialized) service(s)	202	99	2	1
To utilize diagnostic and therapeutic equipment (required specialized equipment were missing)	166	81	38	19
Client (patient) requested	75	37	129	63
The disease was serious (complexity of disease)	140	69	64	31

Results show that majority, 171(84%) of the respondents indicated the patients required medical skills that was lacking as a reason for referral, nearly all 202(99%) respondents indicated that patients required additional specialized service(s) as a reason for referral. Further, the utilization of diagnostic and therapeutic equipment required specialized equipment were missing was a reason for referral as indicated by 166(81%) of the respondents. Moreover, the seriousness/severity of the disease was a major reason for referring patients to a facility that is in higher level. Finally, the request by clients for referral was minor reason for referral as indicated by 129(63%) as no reason to refer.

The KII on the circumstances to refer a patient to a higher category hospital. One of the participants had the following to say:

> "…when the required medical skills were missing….and that when the patient(s) required additional (specialized) service(s)…"
>
> (KII, 002, Female)

On circumstances to refer a patient to a lower category hospital: One of the participants had the following to say:

> "…when the services sought by the client were available at a lower level facility. And when the client is out of danger and requires clinics can be referred to attend clinics to a lower level facility or the local health centre..."
>
> (KII, 003, Male)

4.5.4: Reasons for not following the referral guidelines when referring a patient

Further, the study sought to determine reasons why healthcare workers did not follow the set referral guidelines when referring a patient to a higher health facility level. See results in Table 4.6:

Table 4. 6

Reasons not to follow referral guidelines

	Yes		No	
	N	**%**	**N**	**%**
Inadequate time to follow set guidelines	173	85	31	15
Didn't know about its (referral guidelines) existence	204	100	0	0
Not sure about what the guidelines stipulates	66	32	138	68
Disease was very severe/ faced with life-threatening condition	114	56	90	44
Patient insisted/ self-referred themselves	113	55	91	45
Poorly coordinated referral system	114	56	90	44
Lack of effective referral system monitoring	76	37	128	63

Results show that majority 173 (85%) of the respondents indicated inadequacy of time to follow set guidelines as a reason for not following the set referral guidelines. Further, 66(32%) indicated that they were not sure about what the guidelines stipulate and that

the disease was very severe and was a life-threatening condition as indicated by 114(56%). Moreover, 113(55%) of the respondents indicated that patient insisted/ self-referred themselves and poorly coordinated referral system as indicated by 114(56%). Finally, 76(37%) of the respondents indicated that they failed to follow the set referral guidelines due to lack of effective referral system monitoring. The results implie that the health workers have specific reasons (allowed by their profession) for not following the set guidelines for instance stabilizing a patient before following any procedures.

The respondents were asked to indicate whether there was any inappropriate referrals that have happened in their health facility. Table 4.7 presents the results.

Table 4.7

Inappropriate Referrals

Statements	**Yes**		**No**	
	N	**%**	**N**	**%**
Referral that is unnecessary	186	91	18	9
Documentation of the referral is poor	116	57	88	43
The communication is poor	140	69	64	31
The destination of the referrals is improper	119	58	85	42

Study findings revealed that nearly all 186(91%) of the respondents indicated that there were unnecessary referrals within their facilities. In addition, 116(57%) indicated that there was poor quality of referral documentation and 140(69%) indicated that there was lack of communication during the referral process. Just over half 119(58%) of the respondents indicated that there was an improper destination of the referral of the patient

The study asked the participants to indicate their degree of agreement to statements on upward referral system. The results are tabulated in table 4.8 below.

Table 4.8

Upward referral system dependent variable

Statements	SD	D	MA	A	SA	Mean	Std. Deviation
	N(%)	N(%)	N(%)	N(%)	N(%)		
I often have to decide if to refer or not which is delicate balance between quality and safety of care.	12(6)	25(12)	81(40)	67(33)	19(9)	3.2745	.99414
I always have to consult my peers	36(18)	19(9)	67(33)	50(25)	32(16)	3.1127	.79113

before referring a patient.							
I always refer patients in order to share responsibility on patient care.	27(13)	62(30)	66(32)	31(15)	18(9)	2.7598	.83439
I sometimes hesitate to refer patients because of fear of being branded incompetent by colleagues or supervisors.	50(25)	44(22)	70(34)	32(16)	8(4)	2.5294	.83785
I often refer patients in order to conform to institutional expectations.	66(32)	51(25)	62(30)	25(12)	0(0)	2.2255	.93540
I often refer patients in order to have time to take care of other issues.	67(33)	81(40)	42(21)	10(5)	4(2)	2.0343	.95402
I hesitate to refer because I always find writing a referral note to be tedious.	81(40)	51(25)	66(32)	6(3)	0(0)	1.9853	.91769
We are always encouraged to refer patients because of fear of cost of treatment.	113(56)	39(19)	25(12)	27(13)	0(0)	1.8186	.97888
We are always encouraged to refer patients because their insurance does not cover treatment costs at our facility.	127(62)	40(20)	27(13)	10(5)	0(0)	1.6078	.89505

Results tabulated in table 4.8 indicates that the respondents disagreed that they often had to decide if to refer or not which was a delicate balance between quality and safety of care (Mean=3.2745) and that they always had to consult my peers before referring a patient (Mean=3.1127). Further, they moderately agreed that they always refer patients in order to share responsibility on patient care (Mean=2.7598) and that they sometimes hesitate to refer patients because of fear of being branded incompetent by colleagues or supervisors (Mean=2.5294). In addition, the respondents disagreed that they often refer

patients in order to conform to institutional expectations (Mean=2.2255); that they often refer patients in order to have time to take care of other issues (Mean=2.0343) and that they hesitate to refer because they always find writing a referral note to be tedious (Mean=1.9853). Moreover, the respondents strongly disagreed that they always encouraged to refer patients because of fear of cost of treatment (Mean=1.8186) and that they were always encouraged to refer patients because their insurance does not cover treatment costs at our facility (Mean=1.6078). This implies that the respondents knew about the upward referral system and majority of the HCW used it when it is appropriate to.

4.6 Knowledge of Upward Referral System

The paper required the respondents to indicate their degree of agreement to the statements on knowledge of upward referral system. Table 4.9 presents the findings.

Table 4.9

Knowledge of Upward Referral System

Statements	SD N(%)	D N(%)	MA N(%)	A N(%)	SA N(%)	Mean	Std. Deviation
I am fully aware of the content in the referral strategy	4(2)	38(19)	83(41)	53(26)	26(13)	3.2892	.97742
The referral strategic document is always available for reference	15(7)	42(21)	87(43)	31(15)	29(14)	3.0833	.90437
We always keep a copy of the referral strategy in the department	12(6)	52(26)	85(42)	26(13)	29(14)	3.0392	.99113
The referral guidelines are easy to understand	20(10)	59(28)	82(40)	21(11)	22(11)	2.8431	.99405
I have read the referral strategic plan	12(6)	102(50)	50(25)	27(13)	13(6)	2.6422	.99970
We always refer to the strategic plan during the referral	31(15)	70(34)	68(33)	24(12)	11(5)	2.4784	.95454
We always have CMEs on efficient referral system	23(11)	89(44)	60(29)	18(9)	14(7)	2.4637	.93193
I have been trained on the referral strategy	19(9)	110(54)	41(20)	17(8)	17(8)	2.4245	.95251
I have been trained to be a gatekeeper in the health system with regard to referral system.	60(29)	62(30)	57(28)	13(6)	12(6)	2.2892	.93158

As per the results in table 4.9 above shows that majority of the respondents disagreed that they were fully aware of the content in the referral strategy (Mean=3.2892), the referral strategic document is always available for reference (Mean=3.0833). The respondents agreed that they always kept copy of the referral strategy in the department (Mean=3.0392); that the referral guidelines were easy to understand (Mean=2.8431) and that they had read the referral strategic plan (Mean=2.6422). In addition, the respondents disagreed that they always refer to the strategic plan during the referral

(Mean=2.4784) and that they always had CMEs on efficient referral system (Mean=2.4637). Moreover, the respondents disagreed that they had been trained on the referral strategy (Mean=2.4245) and that they had been trained to be gatekeepers in the health system with regard to referral system (Mean=2.2892). The findings implies that the health care workers were knowledgeable of the referral procedures as stipulated by the referral guidelines and strategies. The findings depict that despite the knowledge about the existence of the referral guidelines the health care workers do not pay so much attention during making a decision to refer a patient to a higher health institution as their main aim is to save lives not following the set protocol.

In regard to the knowledge of the upward referral system, the KII held that the health staff knew about the existence of the referral guidelines set by the ministry of health. One of the participants had the following to say:

> "…….it is a requirement for the employees within the referral system should to be knowledgeable on the referral guidelines….and that copies of the referral strategy are kept in the department ……'

(KII, 001, Female)

On the level of training on the referral strategy in the hospital, one of the informants had the following to say:

> "……the health care workers are sufficiently trained on the referral strategy hence were fully aware of the content in the referral strategy……."

(KII, 003,Male)

In regard to whether knowledge of the referral system influence patient upward referral system. One of the key respondents had the following to say:

"……knowing about the referral system is not a major factor on the decisions to refer patients to higher level facilities……."

(KII, 004, Male)

Respondent were requested to indicate their level of agreement with the statements relating complexity of patient disease during referral. Table 4.10 presents the results.

Table 4.10

Complexity of patient disease during referral

Statements	SD N(%)	D N(%)	MA N(%)	A N(%)	SA N(%)	Mean	Std. Deviation
I often refer a patient when I feel the case is beyond my capacity to handle.	15(7)	4(2)	31(15)	87(43)	67(33)	3.9167	.80437
In my current work place, we often have simple patient cases which don't need referral.	7(3)	33(16)	41(20)	78(38)	45(22)	3.5931	.90358
Most patients I refer are of clear-cut situations	4(2)	8(4)	97(48)	67(33)	28(14)	3.4245	.85061
I am often faced with complex cases which need immediate referral	7(3)	21(10)	93(46)	54(27)	29(14)	3.3775	.96729
I often refer patient with chronic disease	11(5)	57(28)	82(40)	44(22)	10(5)	2.9265	.95179
Most patients with chronic cases who attend who come to our facility often need referral.	19(9)	52(26)	78(38)	51(25)	4(2)	2.4480	.96819
I always refer patient because I am not sure if I have the latest treatment guidelines.	68(33)	64(31)	42(21)	26(13)	4(2)	2.1863	.99392

The results in table 4.10. the participants agreed that they often referred a patient when they felt a case was beyond their capacity to handle (Mean=3.9167) and that at their

current work place, they often had simple patient cases that did not need referral (Mean=3.5931). Further, the respondents moderately agreed that most patients they referred were of clear-cut situations (Mean=3.4245). They however disagreed that they are often faced with complex cases which needed immediate referral (Mean=3.3775) and that they often referred patients with chronic disease (Mean=2.9265). Finally, the respondents disagreed that most patients with chronic cases who a came to our facility often needed referral (Mean=2.4480) and that they always referred patient because they are not sure if they had the latest treatment guidelines (Mean=2.1863). The results implies that the severity of the diseases often influenced the referral of patients.

On what reasons they referred patients with chronic health conditions to the referral hospital and how the chronic health conditions influence patient upward referral system The KII informants had the following to say:

> "…the absence of diagnostic and treatment equipment(s) for terminal illnesses informs a referral decision to a higher level hospital as most of the higher level hospitals have the necessary equipment's…"
>
> (KII, 004, Male)

On the role professional health care influence patient upward referral system. One of the key informants had the following to say:

> "…the health care workers are professionally trained and skilled and therefore the basic skills required to meet the needs of the clients…"
>
> (KII, 002, Female)

The findings agrees with Regge et al. (2017) that chronic health conditions was a significant determinant of the movement of patients from care providers to referral hospitals in the USA.

4.8 Equipment Required

The study required the respondents to indicate their degree of agreement to statements relating to equipment(s) required. Table 4.11 below tabulates the findings:

Table 4.11

Equipment Required

Statement	SD N(%)	D N(%)	MA N(%)	A N(%)	SA N(%)	Mean	Std Deviation
There are more sophisticated diagnostic technologies at the referral hospital	0(0)	23(11)	39(19)	109(53)	33(16)	3.7451	.86173
There are more advanced therapeutic technologies at the referral hospital	0(0)	25(12)	48(24)	98(48)	33(16)	3.6814	.88860
The higher level hospital is well equipped with critical care beds and ventilators	25(12)	25(12)	64(31)	53(26)	39(19)	3.2794	.94978
There is necessary diagnostic equipment available within the hospital	8(4)	47(23)	97(48)	41(20)	11(5)	3.0000	.89882
Patients are rarely referred to a hospital with more advanced equipment(s)	7(3)	74(36)	79(39)	29(14)	15(7)	2.8578	.95947
There are highly trained health workers on handling the various critical care equipment(s)	37(18)	39(19)	97(48)	6(3)	25(12)	2.7206	.86829
Equipments within the hospital are functioning properly	64(31)	29(14)	54(27)	36(18)	21(10)	2.4127	.95808
We rarely refer patients to another hospital	66(32)	49(24)	49(24)	23(11)	17(8)	2.3922	.97234

due to failure of available equipment(s)	

Results presented in table 4.11 above shows that the respondents agreed that there were sophisticated diagnostic technologies at the referral hospitals (Mean=3.7451) and that there were more advanced therapeutic technologies at the referral hospital (Mean=3.6814). However, the respondents disagreed that the hospital were well equipped with critical care beds and ventilators (Mean=3.2794); that the necessary equipments were available within the hospitals (Mean=3.0000) and that the patients were rarely referred to a hospital with more advanced equipments (Mean=2.8578). In addition, the respondents disagreed that equipments within the hospitals were functioning properly (Mean=2.4127) and that they rarely referred patients to other hospitals due to failure of the available equipments (Mean=2.3922). The results implies that the basic equipments were available within hospitals and rarely referred patients because of failed equipments.

The findings are agrees with Foster (2018) that the need for diagnostic tests influenced the upward refferal of patients in the Malaysian referral system. In addition the findings are rejected the findings by Velickovski (2018) that screening, diagnosis and assessment of respiratory diseases did not influence the upward reffearal of patients in Catalonian health referral system. Further the findings rejected the findings of a study by Bethune (2019) that life support equipments did not influence the upward movement of patients in the referral system of Brazil. Finally, the findings are in agreeement with the findings of a stsudy by Smith (2018) that a significant positive connection exixited between the support equipment and upward movement of patients in the referral system of the United Kingdom.

On how the availability of equipment influence patient upward referral system for service delivery and how functionality of equipment influence patient upward referral system for service delivery. One of the participants said the following:

> "……in any case a diagnostic/treatment equipment is not available or malfunctioning, the client is likely to be refereed to another facility and in most cases a higher level facility……."
>
> (KII, 005, Female)

4.9 Proximity to the Referral Hospital

The study asked the respondents to indicate their degree of agreement with the statements relating to the upward referral system. Table 4.12 presents the findings.

Table 4.11

Proximity to the referral hospital

Statements	SD N(%)	D N(%)	MA N(%)	A N(%)	SA N(%)	Mean	Std. Deviation
Distance functions as a cost in determining the utilization of health services	0(0)	8(4)	41(20)	126(62)	29(14)	3.8627	.69536
Sometimes the distance from home to the health facility is longer and inconvenient	4(2)	11(5)	34(17)	116(57)	39(19)	3.8578	.85638
Costs of transportation systems to reach health facilities affects referral of patients	11(5)	4(2)	38(19)	118(58)	33(16)	3.7745	.93014
Geographical access acts independently to reduce utilization of services	0(0)	10(5)	52(26)	119(58)	23(11)	3.7598	.71311
The movement of specimen to the referral hospitals is not adequate	4(2)	11(5)	57(28)	111(54)	21(10)	3.6569	.81241
Patients decline referral due to the distance to the referral hospital	13(6)	18(9)	78(38)	84(41)	11(5)	3.3039	.93944

As presented in table 4.12 respondents agreed that distance functioned as a cost in determining the utilization of health services (Mean=3.8627) and that sometimes distance from the facility and the clients' residence was longer and inconvenient (Mean=3.8578). In addition, the respondents indicated that costs of transportation systems to reach health facilities affected referral of patients (Mean=3.7745) and that geographical access acted independently to reduce utilization of services (Mean=3.7598). Finally, the respondents agreed that the movement of specimen to the referral hospitals was not adequate (Mean=3.6569) and moderately agreed that patients declined referral due to the distance to the referral hospital (Mean=3.3039). The findings imply that the distance was a key determinant of the decision to refer a patient to a higher healthcare facility.

On how the geographical distance influence patient upward referral system for service delivery and convenience of proximity to referral hospitals influence patient upward referral System for service delivery. The KII informants had the following to say:

> "…the distance to the referral hospital significantly influences the upward referral system in that if the distance is short, it's easier to refer and transfer a patient unlike when the distance is long..."
>
> (KII, 003, Male)

The findings of the study are contrary to the findings by Malgo (2016).) that the geographical distance to the referral hospital insignificantly influenced the upward movement of patients in the Ugandan referral system. Further, the study agrees with the findings by Devesh and Rosenbaum (2018) that the distance from primary healthcare centers Vis-a-Vis the distance from referral hospitals significantly influenced upward movement of patients in the referral system.

4.10: Bivariate logistical analysis

The study sought to establish the relationships that existed between the study variables. Table 4.13 presents the results;

Table 4.12

Bivariate logistical analysis

		Knowledge of referral system	Complexity of patient disease	Equipment required	Proximity to the referral hospital	Upward Referral System
Knowledge of referral system	Pearson Correlation	1	.149*	.366**	-.096	**.179***
	Sig. (2-tailed)		.033	.000	.173	**.011**
	N	204	204	204	204	**204**
Complexity of patient disease	Pearson Correlation	.149*	1	.003	.242**	**.097**
	Sig. (2-tailed)	.033		.963	.000	**.170**
	N	204	204	204	204	**204**
Equipment required	Pearson Correlation	.366**	-.003	1	.083	**.066**
	Sig. (2-tailed)	.000	.963		.236	**.352**
	N	204	204	204	204	**204**
Proximity to the referral hospital	Pearson Correlation	-.096	.242**	-.083	1	**.181****
	Sig. (2-tailed)	.173	.000	.236		**.410**
	N	204	204	204	204	**204**
Upward Referral System	Pearson Correlation	.179*	.097	.066	.181**	**1**
	Sig. (2-tailed)	.011	.170	.352	.410	
	N	204	204	204	204	**204**

***. Correlation is significant at the 0.05 level (2-tailed).**
****. Correlation is significant at the 0.01 level (2-tailed).**

As the findings in table 4.13 above, knowledge of referral, system has small positive correlation with upward referral system with a correlation value of .179*. In addition, complexity of patient disease has a minor positive correlation with upward referral

system with a correlation value of .097. Moreover, equipment required and upward referral system have a small correlation value of .181**. Finally, proximity to the referral hospital have a significant positive correlation with the Upward Referral System. The results on correlations shows that the study independent variables had positive relationship with the dependent variable.

4.11 Inferential statistics

A general linear model was used in determining the projective influence of the four independent variables in the upward referral system of patients. This included the Model, ANOVA of regression and coefficient of determination. SPSS version 25.0 was used to transform as well as the computation of the multiple regressions.

Coefficient of determination (R^2) gives an interpretation of the degree of change in the dependent variable explained by the changes in the independent variables or the variation in percentage of the dependent variable (Upward Referral System); as interpreted by the study's independent variables (proximity to the referral hospital, equipment required, complexity of patient disease and knowledge of referral system).

Table 4.13

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.906[a]	.820	.792	.23586

a. Predictors: (Constant), Proximity to the referral hospital, Equipment required, Complexity of patient disease, Knowledge of referral system

The four independent variables in the study influence .820 of upward referral system in Nairobi County represented by R^2. This is an implication that other factors not taken into account by this study influence 20.8% the upward referral system of patients within

Nairobi County. Hence, additional research must be done to establish the other factors that 20.8% the upward referral system of patients within Nairobi County.

Table 4.14

ANOVA of regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.273	4	1.068	14.922	.000[b]
	Residual	43.188	199	.217		
	Total	47.460	203			

a. Dependent Variable: Upward Referral System

b. Predictors: (Constant), Proximity to the referral hospital, Equipment required, Complexity of patient disease , Knowledge of referral system

The model was statistically significant in the prediction of the magnitude and direction of the influence that proximity to the referral hospital, equipment required, and complexity of patient disease and knowledge of referral system had upward referral system in Nairobi County. F critical was 14.922 at 5% significance level. The overall model was statistically significant as the calculated F was greater than the F critical.

4.11.1 Coefficient of Determination

The researcher conducted a multivariate regression analysis with the aim of establishing the degree to which independent variables individually influences the upward referral system in Nairobi County. The table above shows that all the independent variables were significant predictors of upward referral system, $p<0.05$.

Table 4.16

Coefficient of Determination

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.472	.366		4.022	.000
	Knowledge of referral system	.743	.044	.240	3.236	.171
	Complexity of patient disease	.715	.084	.097	1.367	.113
	Equipment required	.735	.059	.166	2.280	.136
	Proximity to the referral hospital	.640	.066	.148	2.109	.002

As per the SPSS generated table above, the regression equation is:

($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$) becomes:

$Y = 1.472 + .743\ X_1 + .715X_2 + .735\ X_3 + .640\ X_4 + \varepsilon$

Taking all factors (proximity to the referral hospital, equipment required, complexity of patient disease, knowledge of referral system) to be constant at zero, upward referral system will be 1.472. The findings further show that taking all other independent variables at zero, a unit increase in knowledge of referral system leads to a .743 increase in upward referral system; a unit increase in complexity of patient disease leads to a .715 increase in upward referral system. In addition, a unit increase in equipment

required leads to a .735 increase in upward referral system; a unit increase in proximity to the referral hospital leads to a .640 increase in upward referral system. The results infer that the proximity to the referral hospital was the only significant factor in the realization upward referral system ($P< 0.05$). Further the equipment required, complexity of patient disease and knowledge of referral system were insignificant determinants of upward referral system with significance values of .136, .113 and .171 respectively.

The findings are contrary to Oluseye et al. (2019) that knowledge of the referral system had a significant influence on the upward movement of patients in the referral system. In addition, the study findings are contrary to the findings by Celso et al. (2019) that knowledge of referral system had a significant influence on upward referral systems in community health programs. Also the findings are contrary to the findings by Eskandari et al. (2018) that knowledge of the transfer system had positive significant influence on upward movement of patients in the referral system in the rural societies.

Further study findings are contrary to Regge et al. (2017) chronic health conditions played a significant role in the movement of patients from care providers to referral hospitals in the USA. In addition, the findings are contrary to the findings by chronic health conditions is statistically significant in determining the upward movement of patients within the Iowa's referral system.

Moreover, the findings agreed with the findings by Velickovski (2018) that screening; diagnosis and assessment of respiratory diseases did not have any significant influence on the upward movement of patients in Catalonian health referral system. In addition, the study findings agreed with the findings by Bethune (2019) that life support equipment had a negative influence on the upward movement of patients in the referral

system of Brazil. Also the study findings did not agree Smith (2018) that there was a positive and significant influence of the life support equipment and upward movement of patients in the referral system of the UK.

Further, the study findings are contrary to the findings by Pollack et al. (2015) that the geographical distance to the referral hospital insignificantly influenced the upward movement of patients in the Ugandan referral system. Also the study findings agreed with the findings a study by Devesh and Rosenbaum (2018) that the distance from primary healthcare centers Vis-a-Vis the distance from referral hospitals significantly influenced upward movement of patients in the referral system.

Further the study findings agree with Singh et al. (2019) that provision of health care services is done at different levels and is determined by the kind of healthcare intervention that is needed by the patient. Also agrees with Devesh and Rosenbaum (2018) that Referral can be explained as the process where health service provider at lower tier hospital for the lack of capabilities, resourceful facilities or both in the management of a specific clinical issues, request for help from providers who are equipped better or with specialized training to take them through the management or the treatment or to take over the treatment process as a whole. Moreover, the study findings agree with the Preker and Carrin (2004) that the improvement of quality and the raised rates of referrals is likely to promote the rates of utilizing the health care services

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The data are summarized, judgments are drawn, and suggestions are made on the elements that influence the upward referral system of patients in Nairobi County. There are other areas for future investigation in this section.

5.2 Summary of Findings

The paper found that the upward referral was practiced within Nairobi County. The study found that equipment required, complexity of patient disease, knowledge of referral system had insignificant influence on the decision to refer a patient to a higher health facility while proximity to the referral hospital was significant.

5.2.1 Knowledge of referral system

The study found that the healthcare workers were fully aware of the content in the referral strategy and that the referral strategic document is always available for reference. In addition, the study found that healthcare workers were always kept copy of the referral strategy in the department; that the referral guidelines were easy to understand and further found that they had read the referral strategic plan. In addition, the study found that the healthcare workers were always refer to the strategic plan during the referral and that they always had CMEs on efficient referral system. Moreover, the study found that the healthcare workers had been trained on the referral strategy and that they had been trained to be gatekeepers in the health system with regard to referral system.

5.2.2 Complexity of patient disease

The study found that often referred a patient when they felt a case was beyond their capacity to handle and that at their current work place, they often had simple patient

cases that did not need referral. Further, study found that most patients they referred were of clear-cut situations, that healthcare workers were often faced with complex cases which needed immediate referral and that they often referred patients with chronic disease. Finally, study found that most patients with chronic cases who a came to our facility often needed referral and that they always referred patient because they are not sure if they had the latest treatment guidelines.

5.2.3 Equipment required

The study found that there were sophisticated diagnostic technologies at the referral hospitals and that there were more advanced therapeutic technologies at the referral hospital. Further, the study found that the hospitals were well equipped with critical care beds and ventilators; that the necessary equipments were available within the hospitals and that the patients were rarely referred to a hospital with more advanced equipments. In addition, the study found that the equipments within the hospitals were functioning properly and that they rarely referred patients to other hospitals due to failure of the available equipments.

5.2.4 Proximity to the referral hospital

The study that distance functioned as a cost in determining the utilization of health services and that sometimes the distance of residence from a peripheral health facility was longer and inconvenient. In addition, the study found that the costs of transportation systems to reach health facilities affected referral of patients and that geographical access acted independently to reduce utilization of services. Finally, the study found that the movement of specimen to the referral hospitals was not adequate and moderately agreed that patients declined referral due to the distance to the referral hospital.

5.2.5 Upward referral system

The study found the healthcare workers always had to consult my peers before referring a patient. Further, the study found that healthcare workers always refer patients in order to share responsibility on patient care and that they sometimes hesitate to refer patients because of fear of being branded incompetent by colleagues or supervisors. In addition, the study found that they often refer patients in order to conform to institutional expectations; that they never refer patients in order to have time to take care of other issues and that they hesitate to refer because they always find writing a referral note to be tedious. Moreover, the study found that the healthcare workers were never always encouraged to refer patients because of fear of cost of treatment and that the healthcare workers were never encouraged to refer patients because their insurance could not cover treatment costs at our facility.

From the inferential statistics, the study found that the proximity to the referral hospital was the only significant factor in the realization upward referral system(sig.002). Further the equipment required, complexity of patient disease and knowledge of referral system were insignificant determinants of upward referral system with significance values of .136, .113 and .171 respectively.

5.3 Conclusions

The study concludes that the healthcare workers were fully aware of the content in the referral strategy and that the referral strategic document is always available for reference. In addition, the study concludes that healthcare workers were always kept copy of the referral strategy in the department; that the referral guidelines were easy to understand and further concludes that they had read the referral strategic plan. In addition, the study concludes that the healthcare workers were always refer to the strategic plan during the referral and that they always had CMEs on efficient referral

system. Moreover, the study concludes that the healthcare workers had been trained on the referral strategy and that they had been trained to be gatekeepers in the health system with regard to referral system.

The study concludes that often referred a patient when they felt a case was beyond their capacity to handle and that at their current work place, they often had simple patient cases that did not need referral. Further, study concludes that most patients they referred were of clear-cut situations, that healthcare workers were often faced with complex cases which needed immediate referral and that they often referred patients with chronic disease. Finally, study concludes that most patients with chronic cases who a came to our facility often needed referral and that they always referred patient because they am not sure if they had the latest treatment guidelines.

The study concludes that there were sophisticated diagnostic technologies at the referral hospitals and that there were more advanced therapeutic technologies at the referral hospital. Further, the study concludes that the hospital were well equipped with critical care beds and ventilators; that the necessary equipments were available within the hospitals and that the patients were rarely referred to a hospital with more advanced equipments. In addition, the study concludes that the equipments within the hospitals were functioning properly and that they rarely referred patients to other hospitals due to failure of the available equipments.

The study that distance functioned as a cost in determining the utilization of health services and that sometimes the distance of residence from a peripheral health facility was longer and inconvenient. In addition, the study concludes that the costs of transportation systems to reach health facilities affected referral of patients and that geographical access acted independently to reduce utilization of services. Finally, the study concludes that the movement of specimen to the referral hospitals was not

adequate and moderately agreed that patients declined referral due to the distance to the referral hospital.

The study concludes that often had to decide if to refer or not which was a delicate balance between quality and safety of care and that the healthcare workers always had to consult my peers before referring a patient. Further, the study concludes that healthcare workers always refer patients in order to share responsibility on patient care and that they sometimes hesitate to refer patients because of fear of being branded incompetent by colleagues or supervisors. In addition, the study concludes that they often refer patients in order to conform to institutional expectations; that they never refer patients in order to have time to take care of other issues and that they hesitate to refer because they always find writing a referral note to be tedious. Moreover, the study concludes that the healthcare workers were never always encouraged to refer patients because of fear of cost of treatment and that the healthcare workers were never encouraged to refer patients because their insurance could not cover treatment costs at our facility.

Finally from the inferential statistics, the study concluded that the proximity to the referral hospital was the only significant factor in the upward referral system (sig.002). Further the equipment required, complexity of patient disease and knowledge of referral system were insignificant determinants of upward referral system with significance values of .136, .113 and .171 respectively.

5.4 Recommendations

The study recommends the following

I. The health facility management in order to promote the knowledge of referral system the health facilities should invest in the communication systems

supported by the activities such as workshops and seminars aimed at promoting the awareness of the referral system guidelines amongst the HCW.

II. The hospitals should invest in training of HCW on specific health concerns that lead to unnecessary referrals.

III. The health facility management should ensure that all the necessary diagnostic/treatment equipment are available and functional in order to reduce the need to refer a patient because of missing or malfunctioned equipments.

5.5 Areas for Further Research

In fulfilling the purpose of this study, the researcher came across areas that need further research. A similar study should be conducted to determine the other factors that influence 20.8% the upward referral system of patients within Nairobi County. In addition, the study recommends a study be conducted to establish the factors that led to mothers failing to attend the pre-natal antenatal and post-natal clinics during the Covid-19 period. In addition, a study to be conducted on the effectiveness of technology on patient outcomes under the universal health care guidelines.

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APPENDICES

Appendix I: Letter of Introduction

Dear Sir/ Madam,

RE: REQUEST TO CARRY OUT RESEARCH IN YOUR ORGANIZATION

I respectfully seek permission to conduct the aforementioned study within your organization. I am a Kenya Methodist University postgraduate student (Student Number HSM-3-2546-2/2016). I'm working on a master's degree in Health System Management Science. I'm working on a study called "Factors Influencing Patients' Upward Referral System in Nairobi County." This study will be carried out only for academic purposes. However, when the study is completed, the study results may be made public to assist future researchers and other key parties in their work. The data collecting method will be carefully scrutinized to verify that it adheres to ethical guidelines.

Thank you in advance for your cooperation.

Yours Faithfully,

Epony Nyakong'anyi Osoro (Bsc.HSM)

Nairobi.

19th November 2020

Kenya Methodist University

P. 0 Box 267-60200

MERU, Kenya

Appendix II: Informed Consent

Dear Respondent,

My name is Epony Nyakong'anyi Osoro M.Sc. student from Kenya Methodist University. I am conducting a study titled: **Factors influencing upward referral system of patients in Nairobi County.** The results will be used to improve Kenya's and other Africa's low-income nations' health systems. As a result, enhanced healthcare services will benefit nations, regions, and people. This study project is essential to the improvement of health systems because it will create new information in this area, allowing decision makers to make research-based choices.

Procedure to be followed

To take part in this study, I'll need to ask you some questions and gain access to all of the hospital's sections. I'll keep track of your responses in a questionnaire and check list. You have the option of declining to participate in this study. You will not be fined or persecuted for declining to participate in the study, and your decision will not be used against you or have an impact on your job. Please keep in mind that participation in the study is optional. You are free to ask any questions about the study at any time. You have the right to decline to answer any questions and to end an interview at any moment. You are free to leave the study at any moment without affecting the services you are providing.

Discomforts and risks

Some of the questions you'll be asked will be about personal matters, which may be humiliating or make you feel uneasy. If this occurs, you have the option of refusing to respond. You have the option to end the interview at any moment. It's possible that the interview will take around 40 minutes to finish.

Benefits

By taking part in this study, you will aid in the strengthening of health systems in Kenya and other low-income African nations. As a result, enhanced healthcare services will benefit countries, communities, and people. This field attachment is essential to the health-care system's strengthening since it will create new information in this area, allowing decision-makers to make research-based decisions.

Rewards

There is no reward for anyone who chooses to participate in the study

Confidentiality

The interviews will take place in a secluded area of the hospital. Your name will not appear on the questionnaire, and it will be held in a secure location at the University.

Contact Information

If you have any questions you may contact the following supervisors:

Dr Wanja Tenambergen or Dr Kezia Njoroge,

Department of Health Systems Management, Kenya Methodist University.

Email: wanja.tenambergen@gmail.com or kezia.njoroge@kemu.ac.ke

Tel. No.: Dr Wanja Tenambergen +254726678020 or Dr Kezia Njoroge +254738970746

Participant's Statement

I understand the aforementioned declaration regarding my participation in the study. I was given the opportunity to ask questions, and my queries were well answered. It is totally up to me whether I participate in this study. I accept that my information will be kept confidential and that I am free to exit the study at any time. I realize that whether I quit the study or not, I will not be mistreated at work, and that my decision will have no impact on how I am treated at work.

Participant Signature…… Date…….

Investigator's Statement

I, the undersigned, have described the procedures to be followed in the research, as well as the risks and rewards associated, to the participant in a language he or she understands.

Name of Interviewer…… Date…….

Interviewer Signature……

Appendix III: Questionnaire

Dear Participant,

Epony Nyakong'anyi Osoro (BSc.HSM), a Kenya Methodist University student, is conducting research with the use of this questionnaire. The purpose of this research is to look at the elements that influence the upward flow of patients within the referral system for health service perception of health workers at Kenyatta National Hospital in Nairobi County as part of the degree requirements (Science in Health Systems Management). You are asked to spend some of your valuable time answering these questions. The information gathered will be used solely for academic purposes and will be kept private.

Part A: Characteristics of the Respondents

1. Kindly indicate your gender

Male [ ] Female [ ]

2. What is your age in years? _____

3. What is your highest level of education?

Diploma Certificate [ ]

Higher National Diploma [ ]

Bachelor's Degree [ ]

Masters [ ]

PhD [ ]

4. What is your profession?

Doctor [ ]

Nurse [ ]

Clinical officer [ ]

5. For how long have you been working with this Hospital (years)? _____

6. Years of experience as HCW? ----------

7. Which section do you work in at this Health facility?

8. Health facility level? a. Level 1 b. Level 2 c. Level 3 d. Level 4 e. Level 5 f. Level 6

Part B: Upward Referral

9. Are you aware of the existence of Kenya Health Sector Referral Guidelines?

i. Yes ii. No

10. If your answer to (6) above is (yes), is there a time you did not follow the referral guidelines set while referring a patient to a higher health facility level?

i. Yes ii. No

11. What reasons informs your decision to refer a patient to a higher health facility level in your practice as a HCW?

Reason for a Referral	**Select all that apply**
Required Medical skill was lacking	
Patient required additional (specialized) service(s)	
To utilize diagnostic and therapeutic equipment (required specialized equipment were missing)	
Client (patient) requested	
The disease was serious (complexity of disease)	

12. What can make a Health Care Worker not to follow the set referral guidelines when referring a patient to a higher health facility level? Please tick all that apply.

Reasons not to follow Referral Guidelines	**Tick all that apply**
Inadequate time to follow set guidelines	
Didn't know about its (referral guidelines) existence	
Not sure about what the guidelines stipulates	
Disease was very severe/ faced with life-threatening condition	
Patient insisted/ self-referred themselves	
Poorly coordinated referral system	
Lack of effective referral system monitoring	

13. Has any of the following inappropriate referrals happened in a health facility you work in? Please tick all that apply.

Inappropriate Referrals	**Tick all that apply**
Unnecessary referral	
Poor quality of referral documentation	
Lack of communication	
Improper destination of the referral	

14. Kindly indicate your level of agreement with the following statements. SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree, SD-Strongly Disagree

Statements	**SA**	**A**	**N**	**D**	**SD**
HCW Concerns					
I always refer patients in order to share responsibility on patient care.					
I often have to decide if to refer or not which is delicate balance between quality and safety of care.					
I sometimes hesitate to refer patients because of fear of being branded incompetent by colleagues or supervisors.					
HCW Attitude					
I often refer patients in order to have time to take care of other issues.					
We are always encouraged to refer patients because their insurance does not cover treatment costs at our facility.					

We are always encouraged to refer patients because of fear of cost of treatment.					
I often refer patients in order to conform to institutional expectations.					
I hesitate to refer because I always find writing a referral note to be tedious.					
I always have to consult my peers before referring a patient.					

Part C: Knowledge of Upward Referral System

15. Kindly indicate your level of agreement with the following statements. SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree, SD-Strongly Disagree

Statements	**SA**	**A**	**N**	**D**	**SD**
Knowledge of Referral Strategy					
I am fully aware of the content in the referral strategy					
I have read the referral strategic plan					
We always refer to the strategic plan during the referral					
The referral guidelines are easy to understand					
I have been trained to be a gate-keeper in the health system with regard to referral system.					
Availability of a copy policy					
We always keep a copy of the referral strategy in the department					

The referral strategic document is always available for reference					
Training on the referral strategy					
I have been trained on the referral strategy					
We always have CMEs on efficient referral system					

Part D: Complexity of patient disease during referral

16. Kindly indicate your level of agreement with the following statements. SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree, SD-Strongly Disagree

Statements	**SA**	**A**	**N**	**D**	**SD**
Professional					
Most patients I refer are of clear-cut situations					
I am often faced with complex cases which need immediate referral					
In my current work place, we often have simple patient cases which don't need referral.					
I often refer a patient when I feel the case is beyond my capacity to handle.					
I always refer patient because I am not sure if I have the latest treatment guidelines.					
Chronic Cases					
Most patients with chronic cases who attend who come to our facility often need referral.					
I often refer patient with chronic disease					

Part E: Equipment Required

17. Kindly indicate your level of agreement with the following statements. SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree, SD-Strongly Disagree

Statements	**SA**	**A**	**N**	**D**	**SD**
Availability of Equipment					
There is necessary equipment available within the hospital					
Patients are rarely referred to a hospital with more advanced equipment					
There are more sophisticated diagnostic technologies at the referral hospital					
There are more advanced therapeutic technologies at the referral hospital					
The hospital is well equipped with critical care beds and ventilators					
Functionality of Equipment					
Equipment within the hospital are functioning properly					
We rarely refer patients to another hospital due to failure of available equipment					
There are highly trained health workers on handling the various critical care equipment					

Part F: Proximity to the Referral Hospital

18. Kindly indicate your level of agreement with the following statements. SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree, SD-Strongly Disagree

Statements	**SA**	**A**	**N**	**D**	**SD**

Geographical Distance					
Patients decline referral due to the distance to the referral hospital					
Geographical access acts independently to reduce utilization of services					
Distance functions as a cost in determining the utilization of health services					
Convenience of Proximity to Referral Hospitals					
Sometimes the distance of residence from a peripheral health facility is longer and inconvenient					
The movement of specimen to the referral hospitals is not adequate					
Costs of transportation systems to reach health facilities affects referral of patients					

Appendix IV: Key Informant Interviews

Thank you for your acceptance to participate in this interview. Kindly note that the information provided will be treated with utmost confidence and will be used strictly for academic purposes only.

1. How knowledgeable are the healthcare workers of this hospital on the referral strategy?.....
   .....
   .....
2. Kindly comment on the level of training on the referral strategy in the hospital?.....
   .....
   .....
3. Under what circumstances do you refer a patient to a higher category hospital?.....
   .....
   .....
4. Under what circumstances do you refer a patient to a lower category hospital?
   .....
   .....
   .....
5. How does knowledge of the referral system influence patient upward referral system?
   .....
   .....
   .....
6. For what reasons do you refer patients with chronic health conditions to the referral
   hospital?.....
   .....
   .....
7. How does chronic health conditions influence patient upward referral system?
   .....
   .....
   .....
8. How does professional health care influence patient upward referral system?
   .....
   .....
   .....
9. How does availability of equipment influence patient upward referral system for service
   delivery?.....

.....
.....

10. How does functionality of equipment influence patient upward referral system for service
    delivery?.....
    .....
    .....
11. How does geographical distance influence patient upward referral system for service
    delivery?.....
    .....
    .....
12. How does convenience of proximity to referral hospitals influence patient upward referral

    System for service delivery?
    .....
    .....

    .....
    .....

END

Appendix V: KeMU Ethical approval

KENYA METHODIST UNIVERSITY
P. O. BOX 267 MERU - 60200, KENYA FAX: 254-64-30162
TEL: 254-064-30301/31229/30367/31171 EMAIL: serc@kemu.ac.ke

April 26, 2021 KeMU/SERC/HSM/18/2021

Epony Nyakonga'nyi Osoro
Kenya Methodist University

Dear Epony,

SUBJECT: FACTORS INFLUENCING UPWARD REFERRAL SYSTEM OF PATIENTS IN NAIROBI COUNTY

This is to inform you that Kenya Methodist University Scientific Ethics and Review Committee has reviewed and approved your above research proposal. Your application approval number is KeMU /SERCHSM/18/2021. The approval period is 26th April 2021 – 26th April 2022.

This approval is subject to compliance with the following requirements

I. Only approved documents including (informed consents, study instruments, MTA) will be used.

II. All changes including (amendments, deviations, and violations) are submitted for review and approval by Kenya Methodist University Scientific Ethics and Review committee.

III. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KeMU SERC within 72 hours of notification.

IV. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KeMU SERC within 72 hours.

V. Clearance for export of biological specimens must be obtained from relevant institutions.

VI. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal

VII. Submission of an executive summary report within 90 days upon completion of the study to KeMU SERC.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

Dr. A. WAMACHI
Chair, SERC

Appendix VI: Introduction Letter to NACOSTI

KENYA METHODIST UNIVERSITY
P. O. Box 267 Meru - 60200, Kenya
Tel: 254-064-30301/31229/30367/31171
Fax: 254-64-30162
Email: deanrd@kemu.ac.ke

DIRECTORATE OF POSTGRADUATE STUDIES

April 26, 2021

Commission Secretary,
National Commission for Science, Technology and Innovations,
P.O. Box 30623-00100,
NAIROBI.

Dear sir/ Madam,

RE: EPONY NYAKONGA'NYI OSORO (HSM-3-2546-2/2016)

This is to confirm that the above named is a bona fide student of Kenya Methodist University, Department of Health Systems Management undertaking a Degree of Master of Health Systems Management. He is conducting research on **'Factors influencing upward referral system of patients in Nairobi County.**

We confirm that his Research proposal has been defended and approved by the University.

In this regard, we are requesting your office to issue a permit to enable him collect data for his research.

Any assistance accorded to him will be appreciated.

Thank you.

Dr. John Muchiri, PHD.
Director Postgraduate Studies

Appendix VI Research permit NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 664723

Date of Issue: 18/May/2021

RESEARCH LICENSE

This is to Certify that Ms.. Epony Nyakong'anyi Osoro of Kenya Methodist University, has been licensed to conduct research in Nairobi on the topic: FACTORS INFLUENCING UPWARD REFERRAL SYSTEM OF PATIENTS IN NAIROBI COUNTY for the period ending : 18/May/2022.

License No: NACOSTI/P/21/10578

664723

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix VII: Request Letter to Nairobi Metropolitan Services

To the Director Nairobi Health Services,

Nairobi Metropolitan Services.

19th May 2021.

Dear Sir/ Madam,

RE: REQUEST TO CARRY OUT RESEARCH IN YOUR ORGANIZATION

I do request to be allowed to carry out the above research within your organization. I am a postgraduate student at Kenya Methodist University (Student Number HSM-3-2546-2/2016). I am undertaking a master's degree in Science of Health System management. I am conducting a research on "Factors influencing upward referral system of patients in Nairobi County", the research will be done in Mbagathi Hospital, Mama Lucy Hospital and Makadara Health Centre, for purely academic purposes. However, the research findings may be made public after the completion of the study for future researchers and other relevant stakeholders to guide in their work. Every care will be taken in the data collection procedure to ensure that it is within ethical limits.

Thank you in advance for your cooperation.

Yours Faithfully,

Epony Nyakong'anyi Osoro (Bsc.HSM)

Nairobi.

Kenya Methodist University

P. 0 Box 267-60200

MERU, Kenya

Appendix VIII: Approval Letter to Nairobi Metropolitan Services

NAIROBI METROPOLITLAN SERVICES
HEALTH DIRECTORATE
Department of Health Policy Planning and Quality Assurance

APPLICATION FOR AUTHORITY TO CONDUCT RESEARCH Date of application:	
Name of Principal Investigator:	EPONY. N. OSORO
Institution:	KENYA METHODIST UNIVERSITY
Cell Contact:	0722697443
Email:	eponyk@gmail.com
Duration Of Study:	One year
Site:	1. MBAGATHI HOSPITAL
	2. MAMA LUCY HOSPITAL
	3. MAKADARA HEALTH CENTRE.

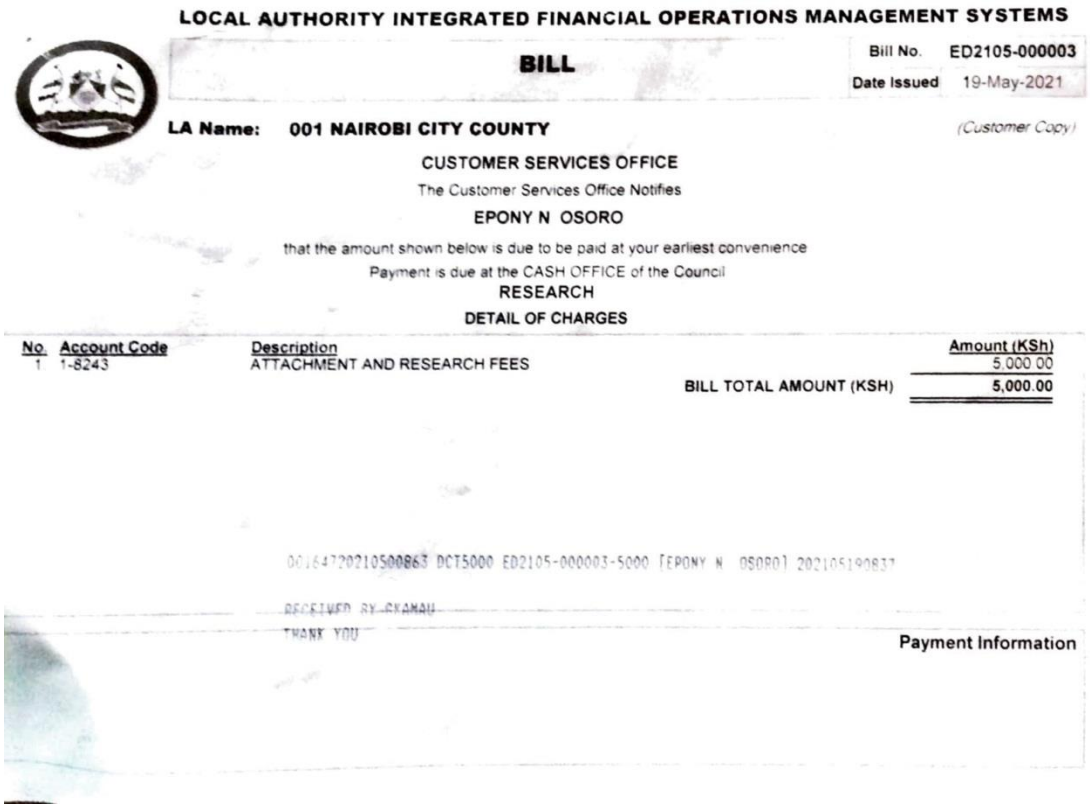
Kindly attach and check box :

1. Application Letter ☑
2. Protocol/Data Collection Tools ☑
3. Ethical Approval ☑
4. Payment [code 1-8243] ☑ Kshs5000.

Research TWG email contact: nmshealth.researchtwg@gmail.com

Edited 27th August 2020

Appendix IX: Nairobi City County Research Approval Letter



LOCAL AUTHORITY INTEGRATED FINANCIAL OPERATIONS MANAGEMENT SYSTEMS

BILL

Bill No. ED2105-000003
Date Issued 19-May-2021

LA Name: 001 NAIROBI CITY COUNTY *(Customer Copy)*

CUSTOMER SERVICES OFFICE

The Customer Services Office Notifies

EPONY N OSORO

that the amount shown below is due to be paid at your earliest convenience

Payment is due at the CASH OFFICE of the Council

RESEARCH

DETAIL OF CHARGES

No.	Account Code	Description	Amount (KSh)
1	1-8243	ATTACHMENT AND RESEARCH FEES	5,000.00
		BILL TOTAL AMOUNT (KSH)	5,000.00

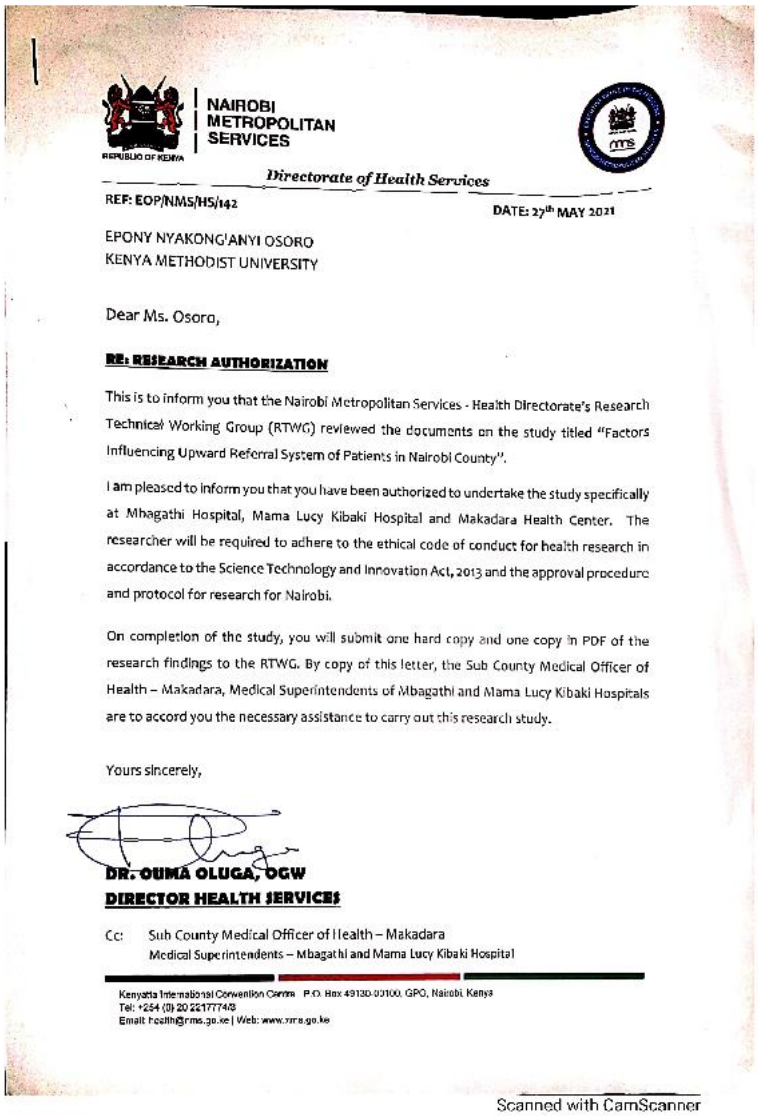
001647202105000863 DCT5000 ED2105-000003-5000 [EPONY N OSORO] 202105190837

RECEIVED BY CKAMAU

THANK YOU

Payment Information

Appendix X: Nairobi Metropolitan Services authorization letter



NAIROBI METROPOLITAN SERVICES

REPUBLIC OF KENYA

Directorate of Health Services

REF: EOP/NMS/HS/142

DATE: 27th MAY 2021

EPONY NYAKONG'ANYI OSORO
KENYA METHODIST UNIVERSITY

Dear Ms. Osoro,

RE: RESEARCH AUTHORIZATION

This is to inform you that the Nairobi Metropolitan Services - Health Directorate's Research Technical Working Group (RTWG) reviewed the documents on the study titled "Factors Influencing Upward Referral System of Patients in Nairobi County".

I am pleased to inform you that you have been authorized to undertake the study specifically at Mbagathi Hospital, Mama Lucy Kibaki Hospital and Makadara Health Center. The researcher will be required to adhere to the ethical code of conduct for health research in accordance to the Science Technology and Innovation Act, 2013 and the approval procedure and protocol for research for Nairobi.

On completion of the study, you will submit one hard copy and one copy in PDF of the research findings to the RTWG. By copy of this letter, the Sub County Medical Officer of Health – Makadara, Medical Superintendents of Mbagathi and Mama Lucy Kibaki Hospitals are to accord you the necessary assistance to carry out this research study.

Yours sincerely,

DR. OUMA OLUGA, OGW
DIRECTOR HEALTH SERVICES

Cc: Sub County Medical Officer of Health – Makadara
Medical Superintendents – Mbagathi and Mama Lucy Kibaki Hospital

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Email: health@nms.go.ke | Web: www.nms.go.ke

Scanned with CamScanner

Appendix XI: Map of Nairobi County