DETERMINANTS OF SELF DIRECTED REFERRAL AMONGST PATIENTS SEEKING HEALTH SERVICES AT KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA.

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DECLARATION

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

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DEDICATION

To my loving parents, Mr. and Mrs. Mahinda, who sponsored my studies and urged me on to the finish line; I am forever grateful.

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DEFINITION OF TERMS

1. **Continuum of care:** The full array of services, from prevention to treatment, to rehabilitation and maintenance required to support the optimum health of a population.
2. **Referral:** A formal process that authorizes a medical case / patient to get care from a specialist or higher level hospital.
3. **Reversed referral:** Scenario where doctors from higher level health facilities regularly visit lower level health facilities and see patients from facilities situated at grass root level.
4. **Health care system:** A collection of organizations, practitioners and supporting workforce, facilities and technologies, financing mechanisms, policies and information that provide and support the provision of health care for a population.
5. **Bypassing:** In this study, a patient was said to have engaged in bypassing, and consequently self referral, if (s) he was aware of other available healthcare facilities yet chose to seek health services directly from Kenyatta National Hospital.
6. **Quality Assurance:** Measures that are intended to assure or improve standards of services offered in a medical setting.

LIST OF ABBREVIATIONS AND ACRONYMS

AOP	Annual Operation Plan
CBO	Community Based Organization
ENT	Ear Nose and Throat
FBO	Faith Based Organization
GoK	Government of Kenya
GOPD	General Outpatient Department
HAI	Hospital Acquired Infections
HDU	High Dependency Unit
ICU	Intensive Care Unit
KEPH	Kenya Essential Package for Health
KNH	Kenyatta National Hospital
KSPA	Kenya Service Provision Assessment Survey
K.U	Kenyatta University
MDG	Millennium Development Goals
MTRH	Moi Teaching and Referral Hospital
NGO	Non Governmental Organization
NHSSP	National Health Sector Strategic Plan
PHC	Primary Health Care
QA	Quality Assurance
RTA	Road Traffic Accident
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

ABSTRACT

Determinants of self directed referral of patients at Kenyatta National Hospital, Nairobi, Kenya

Author: Mahinda Faith Wambui

Kenyatta National Hospital (KNH) is found at the apex of the referral system of health care. Ideally, patients seen at KNH are supposed to have sought care from lower levels of health care in the referral system first before seeking health services at KNH. Referral can assume two forms: Self and Non-self. Self referral refers to the scenario where a patient bypasses lower health care levels and visits KNH as his first point of entry while non self-referral refers to the referral done by a health care practitioner from a lower level of health care where the patient is sent to KNH with a referral note. The main objective of this study was to identify determinants (individual and institutional) of self directed referral of patients seeking health services at KNH. 404 respondents participated in the study; sample size was determined using the 10% Gay principle (Mugenda and Mugenda). The researcher conducted a cross sectional, descriptive study using both qualitative and quantitative data collection methods to examine patterns of patient self-referral at KNH according to social-economic status, education level and their perception of quality of care offered in lower levels of healthcare as well as the level of awareness of referral procedures. Descriptive and inferential statistics were analyzed using Statistical Package for Social Sciences (SPSS) while Chi square test and Logistic Regression was used to derive relationships that may exist between the dependent and independent variables; results were significant at a p value <0.05 . The findings of the study indicate that only 27.7% of patients seeking health services at the hospital self refer to KNH. Amongst the patients who self refer to KNH, ailments related to surgical complications (28.6%) were found to be the most common health problems. No statistically significant association was found between individual factors and self directed referral. Institutional factors that were found to influence patients' decision to have KNH as their hospital of choice were: location of the hospital, availability of medicines, quality of care, clear kept surroundings and affordable deposits. The health problems that cause patients to seek health services from KNH call for high level diagnostic health care which is often unavailable in lower levels of healthcare. It may be useful to introduce reversed referral within the Kenyan health care system where consultant doctors from KNH visit lower level health facilities and see patients on site. This would go a long way in reducing the number of patients who travel from far in search of quality health service at KNH and at the same time help to decongest the hospital.

CHAPTER I: INTRODUCTION

1.0 Background of the study

Continuum of care is defined as a coordinated and seamless system of settings, health care providers and service of levels to meet the needs of patients. This continuum refers to the full array of services from prevention to treatment to rehabilitation and maintenance, required to support the optimum health of a population (Besley and Gouvela, 2000). The referral system aims at ensuring continuum of care as patients are required to seek health services from dispensaries within the community and be referred appropriately to health facilities in the tiers of health care in the referral system should there be need to do so. Before devolution, the Referral system comprised of six tiers of healh care (Community, Dispensary, Health Centre, District Hospital, Provincial General Hospital and finally the Referral hospital). In the current constitution, the Referral system now comprises of four tiers of health care i.e. the Community Health services, Primary care services, County Referral services and National Referral services.

Kenyatta National Hospital (KNH) is the oldest teaching and referral hospital in Kenya found at the apex of the Kenyan healthcare system. Ideally, health problems treated at KNH are supposed to be complicated issues that could not be handled at lower levels of health care. Referral procedures are supposed to be followed whereby patients are officially referred from a lower health facility and have a referral letter detailing the medical history of the health problem and the referring facility. This is however not the case; many patients often bypass lower levels of healthcare and opt to seek healthcare

directly from KNH. It is not clear what reasons people have for bypassing lower levels of health care hence the need for this research.

1.1 Background of the study area (Kenyatta National Hospital)

Kenyatta National Hospital is located in Nairobi County in Kenya along the Hospital Road(off Ngong Road). On the northern side, the hospital faces Ngong Road near its roundabout with Mbagathi Road. On the eastern side is Hospital Road to the West is Mbagathi Road and to the south of the hospital compound is the Nairobi-Kisumu railway line.

According to the Kenyatta National Hospital website, KNH is the largest and oldest teaching and referral hospital in Kenya established in 1901. KNH has 50 wards, 22out-patient clinics, 24 theatres (16 specialized) and an Accident & Emergency Department. Out of the total bed capacity of 1800, 209 beds are for the Private Wing. On any given day the Hospital hosts in its wards between 2500 and 3000 patients.

Apart from its environs in Nairobi, KNH serves patients from all over the country and therefore has a large catchment area. The 2009 annual budgetary allocation to run KNH stood at 2.6 billion Kenya shillings. The average annual outpatient attendance is 600,000 visits while the average annual inpatient attendance is 89,000. The hospital has a staff capacity of 6,000 and a bed capacity of 1,800 beds. The average length of stay for in patients is 7 days.

Following the KNH Board Order of 1987 contained in the legal Notice No.109 (Kenya Gazette Supplement No. 23 of 10th April 1987) Kenyatta National Hospital was established as a state corporation under the State Corporation Act. According to the legal Notice the functions of the hospital were stated as follows:

1. To receive patients on referral from other hospitals within or outside Kenya for specialized health care.
2. To provide facilities for medical education for the University of Nairobi and for research either directly, or through other cooperating health institutions.
3. To provide facilities for education and training in nursing and other health and allied professions
4. To participate, as a national referral hospital, in national health planning

1.2 Problem statement

KNH, the main referral hospital in Kenya, has been reported to be one of the busiest health facilities in the country operating at more than full capacity at any given time in a year. The hospital has a bed capacity of 1,800 yet the average number of patients hosted in the hospital wards each day ranges between 2500 and 3000 patients (KNH, Records department.)This translates into a bed utilization rate of over 170%. Information on the KNH website indicates that bed occupancy rate can sometimes be at 300% (KNH, 2013, Hospital website)

With the hospital stretched to beyond full capacity as it currently is, there is an increased likelihood of incidence of nosocomial infections. A nosocomial infection, also known as a Hospital Acquired Infection (HAI), is defined as "an infection occurring in a patient while i hospital or other health care facility in whom the infection was not present or incubating at the time of admission including infections acquired in the hospital but appearing after discharge and also occupational infections among staff of the facility."(Herwaldt and Decker, 1998). Other problems that may arise as a result of overcrowding at the hospital include: system inefficiency where disadvantaged groups

suffer lack of specialist care because doctors are overwhelmed by inappropriate referrals, overworked staff which in turn results in compromised quality of health care services delivered and difficulty in keeping track of comprehensive patient information as a result of volumes of non electronic patient records to be handled.

Congestion at the hospital may be attributed to self referral of patients to the hospital where people seek care directly from KNH mainly because of the perceptions of its superiority in health care quality instead of seeking health service from lower levels of health care first.

In the findings of a study in patient visits at tertiary hospitals in Nigeria, it was revealed that a small proportion of patients visiting tertiary hospitals had initially been seen at emergency health care units situated closer to the community. This was a pointer to the fact that it is not necessarily the emergency nature of a health problem that causes patients to bypass lower levels of health care delivery; other factors influence patients' choice to seek health care directly from tertiary hospitals.

The pressure of primary care on hospital facilities may result in distortion health program planning at the community level. This happens as a result of health planners' attention on the congested tertiary hospitals which in turn creates the impression that further extension and development is required at this level when the real need lies in increasing the number of effectively functioning health centers found mainly in the lower levels of healthcare.

Having patients treated at lower levels of health care would result in a situation where there is less congestion in the referral hospitals. However, the public seems to place more trust in higher level health facilities such as KNH. It is possible that the reason why many patients bypass lower levels of health care is because the health facilities in

the lower levels offer poor quality service and lack adequate and functioning diagnostic equipment. These perceptions vary with individual, socioeconomic and institutional factors. Additionally, it is possible that a large proportion of the public is not aware that there exist referral procedures in place which they should follow before getting to the higher levels of health care. Weak referral protocols and structures which are enforced haphazardly could also be a major contributing factor to the poor implementation of the referral system procedures.

There exists limited documentation of factors influencing self directed referral of patients seeking health services at KNH. This study sought to shed more light on these factors and it is anticipated that the results of this study will be used for future research to enable healthcare providers and policy makers to make informed decisions in formulating appropriate healthcare policies.

1.3 Justification for the study

KNH is one of the busiest hospitals in the country. Statistics from the Records office implicates that there is a high level of overcrowding at the hospital; the hospital has a bed capacity of 1800 beds yet the average number of patients seen in a day ranges between 2500 and 3000. This implies a bed utilization rate of 300%. These are alarming figures in which the reasons behind the high level of congestion at the hospital need to be identified. Congestion at the hospital can be attributed to inappropriate referrals at the hospital whereby patients bypass lower levels of healthcare and opt to seek health services directly at KNH. The result of this is that a bottleneck is created at the hospital with many patients suffering health problems which can effectively handled at lower

levels of health care overcrowd at KNH. However, exceptions are usually made for emergency cases such as accidents.

The reason why it is important to protect KNH from performing the roles of a health center is because patients suffering from complicated health problems which genuinely require specialized care are likely to have their access to high quality health care interfered with by those suffering less serious problems thereby introducing a delay in their access to care as a result of longer patient waiting queues. Delays in access to health care brings with it missed opportunities for some patients which may sometimes result in serious consequences including loss of life.

It is important to address the issue of self referral at KNH so as to ensure that KNH concentrates on its role as a teaching and referral center and is not made to perform functions of a health center. This study will help shed light on the underlying factors that influence patients to bypass lower levels of health care and self refer to KNH.

1.4 Research questions

The research questions for the study were:

1. What is the proportion of self directed referrals at KNH?
2. What are the individual determinants of self directed referral at KNH?
3. What are the institutional determinants of self directed referral at KNH?
4. What are the major health problems influencing self directed referral at KNH?

1.4 Hypothesis

The hypothesis that guided this study was that there are no determinants of self directed referral at Kenyatta National Hospital.

1.5 Research objectives

The main objective of this study was to establish the determinants of self directed referral amongst patients at KNH. Specific objectives of the study were to:

1. Determine the proportion of patients that self refer at KNH.
2. Establish the individual determinants of self directed referral at KNH.
3. Establish the institutional determinants of self directed referral at KNH.
4. Find out the major health problems that influence self directed referral at KNH.

1.6 Significance of the study

According to the Kenya Vision 2030 document, Kenya's vision for health is to "provide equitable and affordable health care at the highest affordable standard to her citizens" (GoK,2007). To achieve this, it is important to find out and compile data on utilization of health facilities within the current health system from the lower tiers of health care outlined in the referral system to the higher level hospitals at the apex of the system.

In this study, information on bypassing lower levels of health care is captured. Bypassing was measured using data collected from patients about their knowledge of existing alternative providers in their neighborhood, the pathway followed before

seeking health services at KNH in terms of health service providers seen before visiting the hospital and the reasons why the respondents chose KNH as their hospital of choice.

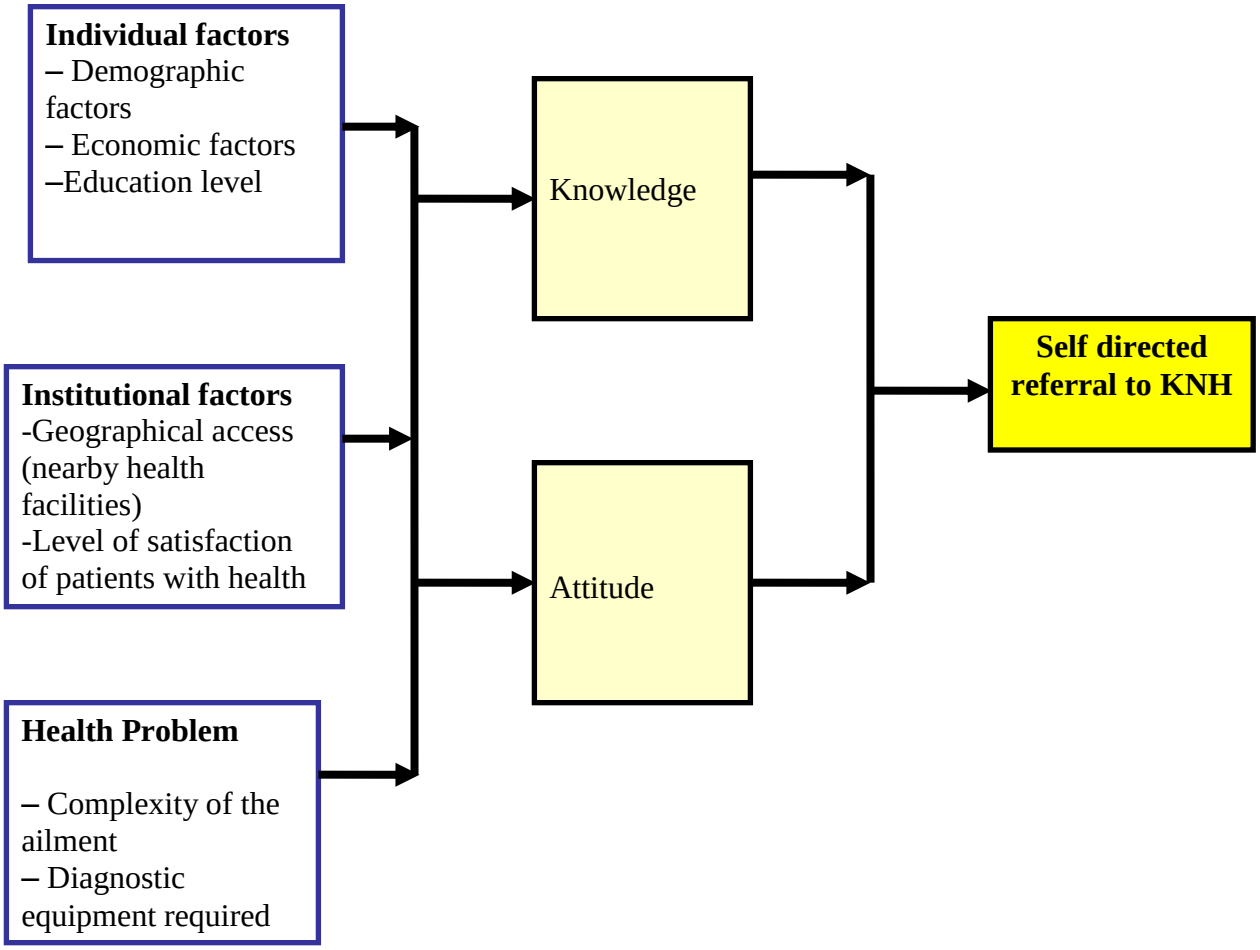
Seeing that data on utilization of healthcare facilities is scarce yet very important for health care planning, it is anticipated that the findings of the study will help inform health care planners in Kenya on the current utilization of health facilities in our country, the incidence of bypassing and the reasons why patients bypass lower level health facilities situated in their neighborhoods..

Results from this study can be used in planning for efficient devolved health service provision in line with the new constitution at county level.

1.7 Conceptual framework

The health problem, individual and institutional factors influence the knowledge and attitude of clients. This in turn influences their likelihood of self referral or non self referral to KNH. Complexity of the health problem influences the level of sophistication of diagnostic equipment required and a patient's perception on the quality of care needed to tackle the health problem which in turn influences the likelihood of self referral

Figure 1-1: Conceptual Framework



Source: Faith Mahinda guided by Zeisel, (1975).

CHAPTER II: LITERATURE REVIEW

2.0 Introduction

This chapter reviews existing evidence and gaps in the healthcare system in Kenya having analyzed available literature on the referral system and the continuum of care both in Kenya and outside Kenya. Equity in healthcare through the referral health system, continuum of care, the criteria for an effective referral health system, Referral pathways (Self/Non-self),structure of the health delivery system in Kenya, the role of the Private sector(including Non Governmental Organizations and Faith Based Organizations) in health delivery, challenges faced in health service delivery in Kenya and the functioning of the health systems in other settings.

2.1 Equity in healthcare through the referral health system

The 1978 International Conference on Primary Health Care (PHC) held in Alma-Ata defined and granted international recognition to the concept of PHC as a strategy to reach the goal of Health for All by the year 2000 (Alma-Ata Declaration,1978). This declaration defines PHC as a system of organizing and delivering health care to the community that is inclusive of curative, preventive, health promotion and rehabilitative services at a cost that both the state and community can afford.

According to the Kenya Vision 2030 document, Kenya's vision for health is to provide equitable and affordable healthcare at the highest affordable standard to her citizens (GOK, 2007). The equitability and affordability dimensions focused on in this vision are in line with the definition of PHC. A referral system offers an organized strategy for

making the best use of hospitals and tertiary health care facilities which in turn contribute to the realization of PHC.

The Health system in Kenya is organized and implemented through a network of facilities organized in a pyramidal pattern commonly known as a referral system. This network starts from the community at the bottom and has the teaching and referral hospitals at the apex. Dispensaries, health centers, district and provincial hospitals lie in between. Facilities become more and more sophisticated in diagnostic, therapeutic and rehabilitative services at the upper levels. (Tom Kizito *et al*, 2005)

2.2 Continuum of care

The Alaska Statutes pertaining to health care directives define continuum of health care as the full array of services, covering prevention, treatment, rehabilitation and maintenance required to support optimum health of a population. Continuum of care is sometimes viewed as a product of integrated service delivery. The World Health Organization (WHO) gives the overall working definition of integrated service delivery as “The management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system” (WHO,2007).

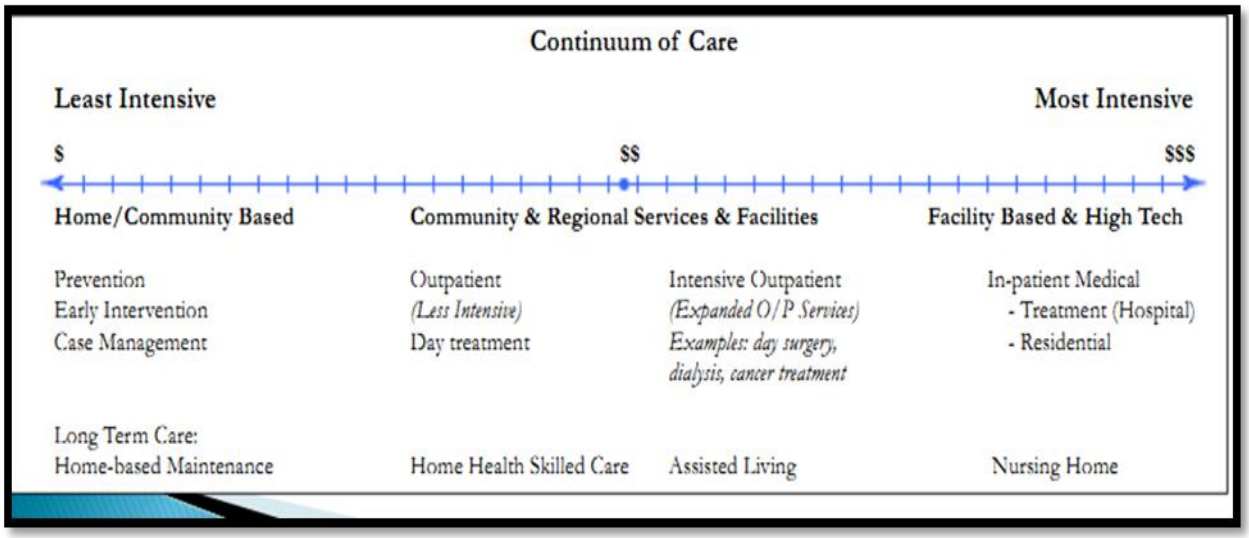


Figure 2-1: Continuum of care

Source: Alaska Statute 21.87.330

Figure 2-1 demonstrates the concept of an increasing intensity of care required as one moves along the continuum of care. In our local setting, the six tier referral system in Kenya is an array of the continuum of care as it depicts the arrangement of preventative public health services, primary care outpatient clinics, local general hospitals and regional hospitals with intensive and specialty care units. Theoretically, health care consumers are supposed to have the their first point of entry at the lowest level (dispensary) and advance to higher levels of care as need may arise depending on the complexity and demands of the health ailment. However, several studies have shown that because of the constraints of financial access to care, profit-seeking by providers of care, lack of information to assist consumers make best choices, geographic and cultural barriers, the continuum of care is a theoretical model rather than an actual system of delivery of health care

The Community strategy in Kenya addresses delivery of health care as a seamless continuum that spans the home, health center and hospital with a focus on community units and Community Health Workers (CHWs) who deliver health services in their respective community units.

2.3 Definition of a Referral system

In health care delivery systems, referral is a set of activities undertaken by a health care provider or facility in response to its inability to provide the quality or type of intervention suitable to the need of the patient. On another level referral includes referral from the community to the highest level and back, that is, a two-way referral system or feedback system.

In practice, referrals are not only between lower and higher-level facilities, but also between primary facilities as well as within hospitals. To be effective, referral should be a two-way process that requires coordination and information exchange between the referring facility (usually at the primary care level) and the first referral hospital. Sweeny (1994) in an editorial for the British Medical Journal states succinctly the advantages of a referral system. He sums up the article by saying, "… the referral system contributes to high standards of care by limiting over-medicalisation, by permitting an efficient division of tasks between generalists and specialists, by freeing specialists to develop their special knowledge, and by containing the cost of medical care".

2.4 Criteria for an effective referral health system

As the NHSSP II of 2005 to 2010 states, health care delivery is one of the major determinants of the level of health in the society. The ideal health care delivery system should be able to provide both the type and options for care to meet the needs of people at all levels of society. Effective referral systems are an important part in ensuring that people receive appropriate care. It is of particular importance for those in the lower socio-economic strata.

The requirements for an effective referral system are: There should be agreed referral policies, protocols and administrative guidelines in support of the referral system put in place between levels of care, appropriateness; health professionals should be skilled in knowing when to refer and be capable of treating patients when referred, standard case management (treatment protocols and guidelines), clearly delineated levels of care and an accompanying mix of appropriate skills for each level of care, the system must take into consideration the patient's ability to pay, patient education should be encouraged, i.e. patients should be aware of what services are available at each level and what the service offers in order to be able to request appropriate referral, the health facilities should be equipped to receive referrals, mechanisms for feedback/follow-up on referrals received by hospitals, such as a standard feedback form, should be in place and finally, the system should be able to monitor, supervise and evaluate the quality of care, referral practices and support mechanisms.

It is important to emphasize that there are other factors that should be in place in order for referral systems to function effectively: personnel must be competent and available; roles and functions should be clearly delineated; at hospital level prompt and appropriate

attention is essential for the patient; and, there must be referral back to the primary care level after discharge.

2.5 Referral pathways; Self Referral and Non self referral

In the case of self referral, a patient bypasses lower levels of healthcare and seeks health services directly from a higher level health facility while in the case of non self referral, a patient has previously sought health services from lower level health facility and was formally authorized to get care from a higher level hospital, accompanied by a referral letter. In an ideal referral system, referral to the next level should occur: when the patient needs expert advice, when a patient needs a technical examination such as laboratory examination that is not available at the health center /primary facility level, when a patient requires a technical intervention that is not within the capacity or when a patient needs in-patient care. The 'gate keeping' function at the primary care level which can be performed by health centers or by general practitioners in some systems is particularly important since it filters treatments to the higher more expensive levels only for the relatively smaller numbers of people who need more complex or multiple-intervention types of treatment (Cervantes *et al,* 2003).

2.5.1 The Kenya Essential Package for Health (KEPH) within the Referral System

The Kenya Essential Package for Health (KEPH) is designed as an integrated collection of cost-effective interventions that address common diseases, injuries and risk factors, including diagnostic and health care services, to satisfy the demand for prevention and treatment of these conditions (NHSSP II, GoK, 2006). KEPH defines six lifecycle cohorts: Pregnancy and the newborn (first 2 weeks of life), Early childhood (2 weeks to

5 years), Late childhood (5 to 12 years), Adolescence (13-24 years) Adult (25-59 years) and the Elderly (Over 60 years). The health needs of each of these cohorts are catered for within the six tiers of the healthcare system.

According to the Ministry of Public Health and Sanitation (MOPHS) Strategic Plan 2008-2012, the Kenya Essential Package for Health, describes the health care system as having six levels of care: National/Tertiary hospital; Provincial/Secondary hospital; District/Primary hospital; Health care centers/Maternities/Nursing homes; Dispensaries/clinics and household/family/community.

2.6 Structure of health service delivery in Kenya Before Devolution

The National Health Sector Strategic Plan II (NHSSP II) aims to improve the health and well being of all Kenyans, based on a life cycle approach for ensuring that each age cohort receives health services according to its needs.

The Provincial Health Management Team (PHMT) provides supervision and management support to the districts and sub-districts within the province. At the district level, curative services are provided by district hospitals and mission hospitals. Public health services are managed by the District Health Management Team (DHMT) and Public Health Unit of the district hospitals. The DHMT and District Health Management Board (DHMB) provide management and supervision support to rural health facilities (sub-district hospitals, health centers, and dispensaries). At the sub-district level, both preventive and curative services are provided by the health centers as well as dispensaries and outreach services to the communities within the catchment areas. Basic

preventive and curative services for minor ailments are being addressed at the community and household level with the introduction of the community package.

A diagrammatic representation of the levels of health care delivery in the Kenya Essential Package for Health (KEPH) is shown in figure 2-2.

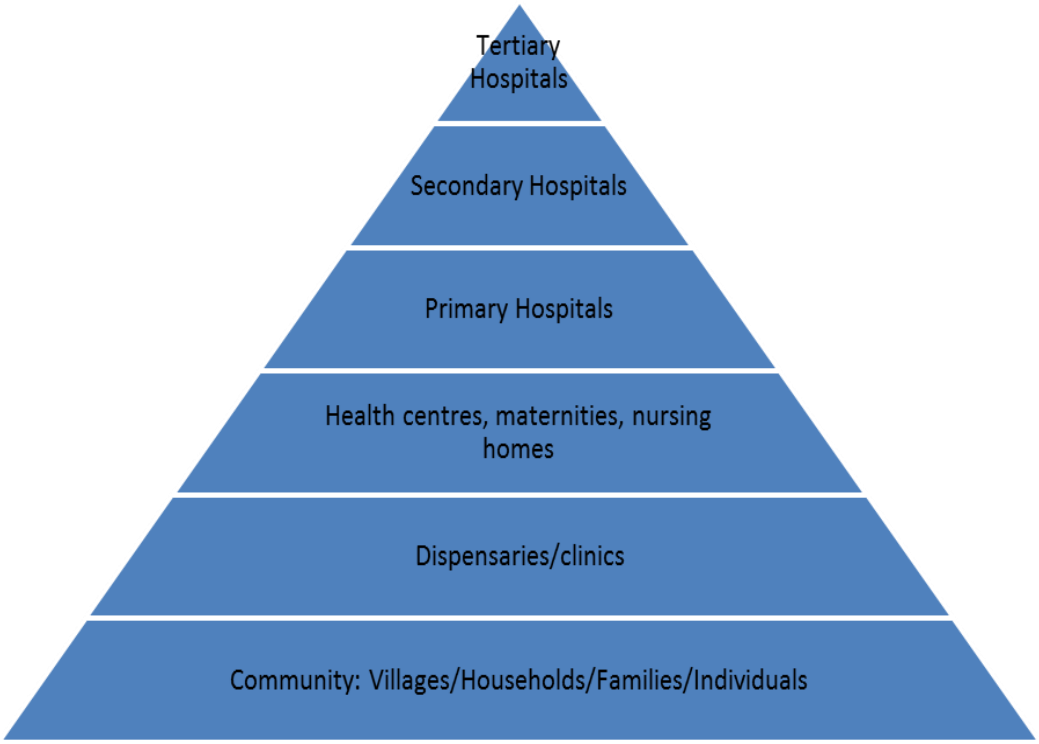


Figure 2-2: Health care delivery levels, National Health Strategic Plan II, NHSSP II (2005-2010)

In a paper titled "Overview of the Health systems in Kenya" published by Tom Kizito and Richard Muga (2005),the description of health services offered at each level is as follows: Level 1 (Community level) consists of Community Owned Resource Persons (CORPs) and Community Health Extension Workers (CHEWs) in health promotion as well as the household and village committees. Levels 2 and 3consist of primary health services where health promotion and basic treatment services are provided; simple

diagnostic and short term in-patient services are provided at this level such as maternity and short recuperative observations. Major treatments are offered in levels 4 and 5 which comprise District and Provincial/Regional General Hospitals and serve as referral centers for levels 1, 2 and 3.Level 6 comprises the teaching and referral hospital; Moi Teaching and Referral Hospital (MTRH) and Kenyatta National Hospital.

2.7 Structure of health service delivery in Kenya after Devolution

The Kenya Health and Investment and Strategic Plan (2013-2017) is informed by the Kenya Health Policy, 2012-2030 whose goal is to attain the highest possible health standards in a manner responsive to the population needs through the provision of equitable, affordable and quality health and related services at the highest attainable standards to all Kenyans (Kenya Health Policy, 2012-2030).

With the introduction of a new health delivery system following the promulgation of the constitution in August 2010, County governments will have the responsibility of running the health system in their respective areas of jurisdiction. It is envisaged that the former Provincial General Hospitals in the former provinces will serve as referral hospitals for each country. Efforts towards upgrading the former Provincial General Hospitals to Referral Hospitals are still underway.

Towards this end, the former six tiers of health have been collapsed into four levels as shown in figure 2-4. Under this new structure, the Dispensary and Health centres were collapsed to form Primary care services while the Provincial and General Hospitals have been collapsed to form the County Referral systems. Transition into the new system of health care delivery is still in its early stages as Central Government continues to make

plans on the requires financing and staffing issues that need to be in place to allow for smooth transition.

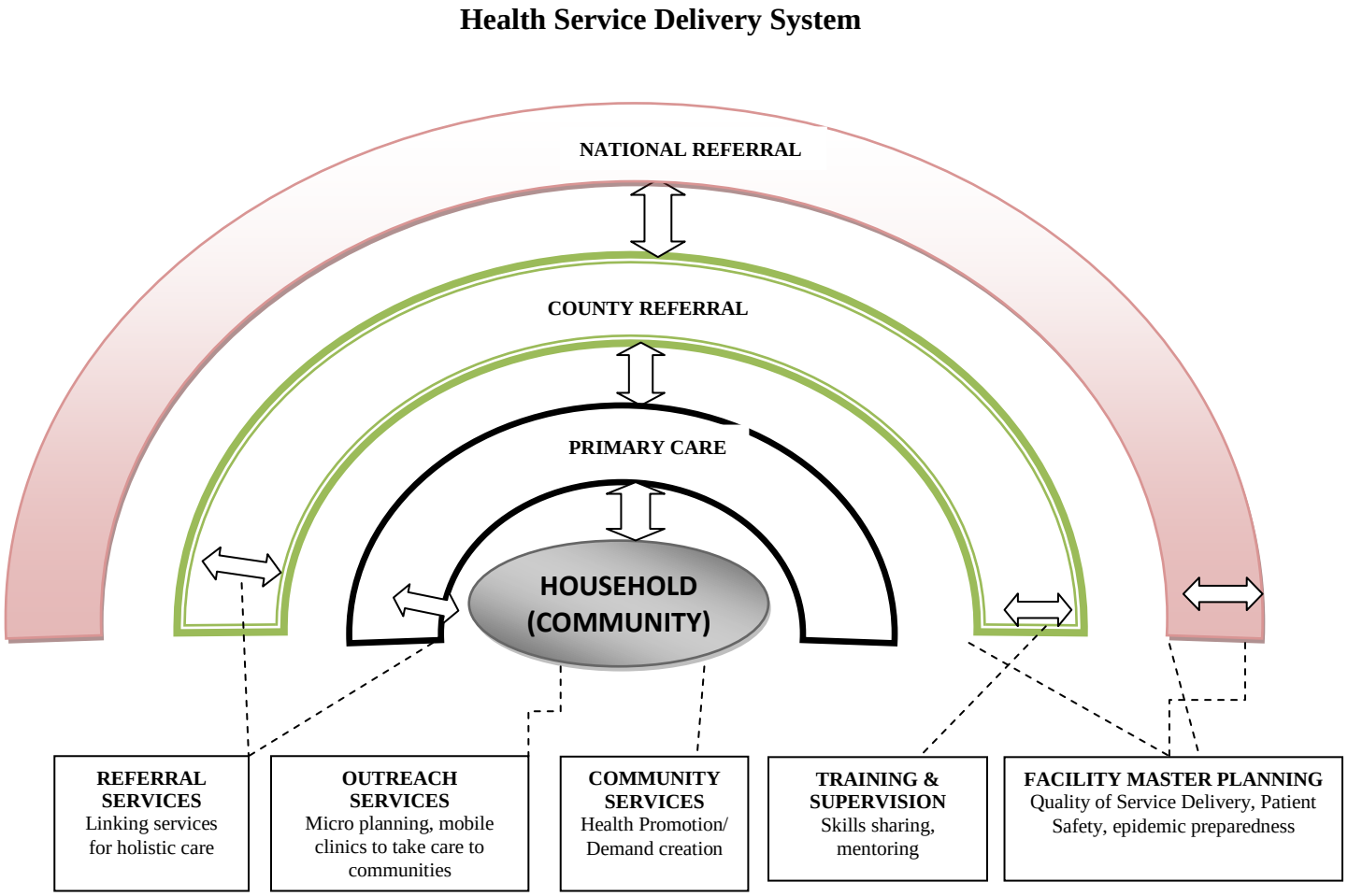


Figure 3-3: Health care delivery levels, Kenya Health Investment Plan, 2013-2017

2.8 Operations of the Referral System in Kenya

Referral of clients to another facility without any formal documentation brings in the risk of failure to access services (due to lack of a referral note) or having services delayed while the referral facility reassesses them as new clients. Thus, having a

systematic means to refer clients to a higher-level (or different) facility is an important aspect of quality of care. Also, if clients are confident that they will be assisted in gaining access to higher-level (or other) facilities when needed, they may be less likely to bypass lower-level facilities for their health care needs. The 2010 KSPA collected information on whether facilities have any official printed forms that, at a minimum, document the reason for referral and list any treatment already provided to the client. Overall, half (49 percent) of all facilities report that they refer clients outside the facility and also have referral forms or referral documents available (Table 2-1) health centres (65 percent), and hospitals (63 percent) were more likely than maternity facilities (55 percent), dispensaries (50 percent), and clinics (35 percent) to report that they refer clients and also have referral forms. NGO facilities (61 percent) and government facilities (58 percent) are the most likely to have referral forms. At the provincial level, facilities in Western province (78 percent) and Nairobi province (73 percent) seem most likely to refer and have client referral forms, while facilities in Rift Valley province (38 percent) and North Eastern province (28 percent) are least likely.

Table 2-1: Percentage of facilities with Referral systems by background characteristics

Background characteristic	% Clients referred outside facility and referral form observed[1]	% Clients referred but no referral form observed [2]	% Clients never referred outside
Facility			
Hospital	63	33	3
Health center	65	33	1
Maternity	55	39	6
Clinic	35	57	8
Dispensary	50	44	5
Managing authority			
Government	58	36	6
NGO	61	34	5
Private for profit	36	57	7
FBO	44	55	1
Province			
Nairobi	73	22	5
Central	40	56	4
Coast	42	52	5
Eastern	48	50	2
North Eastern	28	48	25
Nyanza	71	29	0
Rift Valley	38	52	10
Western	78	21	1
TOTAL	**49**	**45**	**5**

Source: Kenya SPA 2010

[1] The facility reports that they refer clients outside the facility and have a pre-printed referral form, or the facility reports that they routinely send the referred client with their medical record or file to the referral facility.
[2]The facility reports that they refer clients outside the facility but do not have a referral form to show, or they report that they write a referral note on a prescription form, a sheet of letterhead, or a blank sheet of paper, or only use verbal methods to refer clients.

2.9 The role of NGOs, Faith-Based Organizations and the Private sector

Although several health-oriented Non Governmental Organizations (NGOs) operate throughout the country, the population covered by these NGO health services cannot be easily determined. The Ministries of Health and external donors support the health

services offered by NGOs and the private sector in several ways. Depending on their comparative advantage, NGOs, Faith Based Organizations (FBOs), and Community-Based Organizations (CBOs) undertake specific health services. The Ministries of Health provide support to mission health facilities by training their staff as well as seconding staff to these facilities and offering drugs and vaccines.

Currently, the private sector (both for-profit and not-for-profit) contributes over 40 percent of health services in the country, providing mainly curative health services and very few preventive services. Modalities exist for Quality Assurance (QA) supervision and monitoring of NGO, FBO and other private-sector facilities. The NGOs and private facilities work with communities in collaboration with the DHMT.

2.10 Challenges faced in health service delivery in Kenya

Service delivery in the health sector is hampered by deteriorating health facilities, lack of adequate and functional diagnostic equipment, lack of drugs, insufficient standards, lack of enforcement of existing laws and insufficient information on which to base both policy and targeted responses. The Kenya government, through the Ministry of Medical Services (MOMS) and the Ministry of Public Health and Sanitation (MOPHS) are committed to providing efficient and high quality healthcare systems with the best standards.

Specifically, the following strategies have been put in place for the health sector: provision of a robust health infrastructure network and improving the quality of health service delivery to the highest standards and promotion of partnership with the private sector. However, according to the Ministries' strategic plan documents, a major

challenge that has hampered the achievement of this vision is the tendency for most qualifies health personnel having the preference to work in urban centers leaving facilities situated at the grass roots with health workers of lower cadres. This challenge is not peculiar to Kenya alone; in a briefing paper compiled by Action For Global Health, the urgent need for health care workers in order to meet the MDGs has been highlighted with health worker coverage being indicated as only 0.8 health workers per 1,000 (in Europe, it is as high as 10 per 1,000).

Lack of adequate health workers, who have the capacity to offer specialized care, in lower level health facilities causes citizens deprives citizens their right to equal access to healthcare services. Those who can afford are able to make arrangements to access high quality specialized care in urban centers and in the process bypass lower level health facilities in their quest for higher quality, specialized care from higher level health facilities (Kenya health situation analysis, trends and distribution, 1994-2010).

2.11 Functioning of the Referral System in other settings

The basic principles of referral remain the same across different settings although the referral system may change from country to country. According to Segen's Medical dictionary, the generally accepted definition of referral is "a formal process that authorizes a medical case or a patient to get care from a specialist or higher level hospital."

A study on formal and informal referral systems carried out in Cambodia revealed that informal systems were frequently involved but were not fully integrated into the referral network (traditional healers seldom referred patients to public facilities) while referral

protocols and procedures were hardly followed within formal referral systems. According to the researchers who conducted the study, streamlining referral mechanisms requires organization of each component of the referral mechanism by strengthening the existing system and mobilizing local resources. Guidelines along with training and supervision, and expansion of the system to cover a wide spectrum of disease conditions would strengthen the health care system as a whole in this country (Shinji et al, 2010).

T. Besley and M. Gouvela (September, 2000) published a study in the Elsevier Health Policy journal on alternative systems of health care provision. Findings of this study indicate that in the Netherlands, general practitioners act as the gatekeepers at the primary level to the more specialized and more expensive secondary health-care. As a rule, patients are required to have a referral from their general practitioners to be able to utilize higher level health care services. The results of the study showed that patients living in relatively highly urbanized areas, who are better educated, and who expect to achieve a better quality of communication at the consultation with the specialist, more commonly skip lower levels of health care before visiting a specialist.

Further, a survey by Dobbins, M. *et al* (1996) on patients requesting for "same day" consultations in primary care endorses the view that a large percentage of patients arrive at hospitals at the apex of the health care system before visiting health facilities in the lower levels of health care. The percentage of patients who self refer was found to be constantly increasing and was reported to stand at 65%. Most of the patients seen at these hospitals are sent home after examination as they often have trivial complaints and do not require medical attention at the hospital.

2.12 Characteristics of patients' visits and choices of facilities

2.12.1 General characteristics of patients

According to a study carried out in Nigeria in 2004 on tertiary level health facilities, the two way referral system is advocated from the lowest level of health care to the highest (Village health worker to health post, to primary health care, to comprehensive health centre and to state General Hospital), except in the case of an emergency when patients can be referred to any of the facilities for immediate treatment. As is the case in most developing countries, the study showed that only 127(7.1%) of all the new patients that attended a referral hospital (the University of Ilorin Teaching Hospital) during that period had gone through the referral system. A high proportion (93%) of these patients had made the Teaching Hospital their first contact with the National Health System irrespective of the types of disease. Most of the ailments were treated at the General Outpatient Department (GOPD) of the Teaching Hospital thereby resulting in overcrowding in the hospital, often with people with simple ailments that can be treated at the primary health centers.

A study on bypassing health providers in quest for better quality and health care in Chad (Bernard and Wane, 2004) revealed that characteristics of patients visiting health centers vary considerably according to the type of facility and location. In the capital city in particular, a larger proportion of patients using the private clinics and NGOs were schooled (80% compared to 60% for patients using public and religious clinics).

2.12.2 Patients knowledge on availability of alternative care

Bypassing is seen as a powerful expression of people's preference for health care, and high rates of bypassing have important implications for health system efficiency and actual (versus planned) coverage of health services (Leonard *et al*., 2002).

Previous work on bypassing, for example by Akin and Hutchinson, 1999 have mostly relied on the theoretical measure of bypassing. In contrast to this approach, the researcher measured bypassing using data collected from patients about their knowledge of existing alternative providers in their neighborhood. Therefore, a patient was said to have engaged in bypassing, and consequently self referral if (s) he knew about other available healthcare providers yet sought health services directly from KNH.

2.13 Operations of an ideal referral system

Many developing countries have designated village-level primary care facilities-variously called dispensaries, maternities or health centers-as the main point of care for uncomplicated health conditions (Barnum and Kutzin 1993; Sanders et al. 1998; Campbell et al. 2006). These are often run by non-physician clinicians, such as clinical officers or nurse midwives who are trained to attend deliveries and to refer women with complications to hospitals (Mullan and Frehywot 2007). This pyramidal structure of health care delivery, with many primary-care facilities close to communities and district hospitals designated as referral centres, is seen as an efficient way to expand service coverage in resource-constrained countries with few hospitals and doctor shortages (Koblinsky et al. 2006). However, research on health care utilization for common illness and preventive care in developing countries suggests that patients frequently bypass

first-level facilities in favor of higher-level health centres and hospitals—this despite substantial additional time and financial costs.

A functioning referral system is generally considered to be a necessary element of successful health care delivery. Likely requisites for successful referral systems include: A referral strategy informed by the assessment of population needs and health system capabilities, an adequately resourced referral center, active collaboration between referral levels and across sectors, formalized communication and transport arrangements, agreed setting-specific protocols for referrer and receiver; supervision and accountability for providers' performance, affordable service costs, the capacity to monitor effectiveness and policy support.

It is important to emphasize that unnecessary self-directed referral makes the specialist system inefficient and leads to problems for the individual and the healthcare system, such as: accrual of unnecessary costs to the system, payment difficulties for the patient, lack of comprehensive healthcare information for the patient, lack of planned referral and its benefits of continuity of care, lowered standards of specialist care due to overburdening, compromising the established referral system, patient transportation problems, reduction in feedback and follow up after treatment procedures.

CHAPTER III: METHODOLOGY

3.0 Introduction

The following chapter gives a brief description of the research design that was adopted for the study, the research area where the study was carried out, the study population, sample size determination and finally the inclusion and exclusion criteria.

3.1 Research design

The cross-sectional descriptive study design, using both qualitative and quantitative methods of data collection, was adopted for the study. The researcher studied patterns of referral amongst patients seeking health services at KNH at one particular point in time- between October and November 2011.

The independent variable that was examined was self directed referral to KNH. The relationship between self directed referral and individual and institutional determinants existing in a representative sample of the study population at one particular time (October to November 2011) was determined. Analytical testing of the strength of the relationship between the variables of interest made it possible to test the hypothesis.

3.2 Research area

The research was carried out in Kenyatta National Hospital, (KNH) Nairobi. Kenyatta National Hospital is located in Nairobi County in Kenya along the Hospital Road(off Ngong Road). On the northern side, the hospital faces Ngong Road near its roundabout with Mbagathi Road. On the eastern side is Hospital Road to the West is Mbagathi Road and to the south of the hospital compound is the Nairobi-Kisumu railway line.

KNH has 50 wards, 22out-patient clinics, 24 theatres (16 out of the 24 are specialized theatres) and an Accident & Emergency Department. Out of the total bed capacity of 1800, 209 beds are for the Private Wing. The hospital hosts in its wards between 2500 and 3000 patients on any given day (KNH Records Department, 2011).

3.3 Location of the study

The study was conducted at the Kenyatta National Hospital in Nairobi for two main reasons: The main objective was to assess the effectiveness of the referral system in Kenya's healthcare system thus a referral hospital was critical in the research. Currently, Kenya has only two referral hospitals: Kenyatta National Hospital (KNH) in Nairobi and Moi Teaching and Referral Hospital (MTRH) in Eldoret. KNH in Nairobi was more convenient for the researcher and her research team particularly with regard to the travel arrangements, resources available and logistics involved.

3.4 Target population

The target population refers to the population from which the sample population was drawn. For this study, the target population was the total number of patients seeking health services at KNH.

To compute sample size, the average number of patients seen in the various departments at the hospital was obtained from Statistical records which are under the custody of the Records department at the hospital. According to statistical records obtained, approximately 3500 patients were seen at the hospital wards. These formed the study population as it was from this sampling frame that a sample of patients to participate in the study was obtained. The sample for this study refers to the 404 patients who met the

inclusion criteria and were willing to participate in the study and filled the data collection tool with the guidance of the Research assistants. These have been demonstrated diagrammatically in Figure 3-1 below.

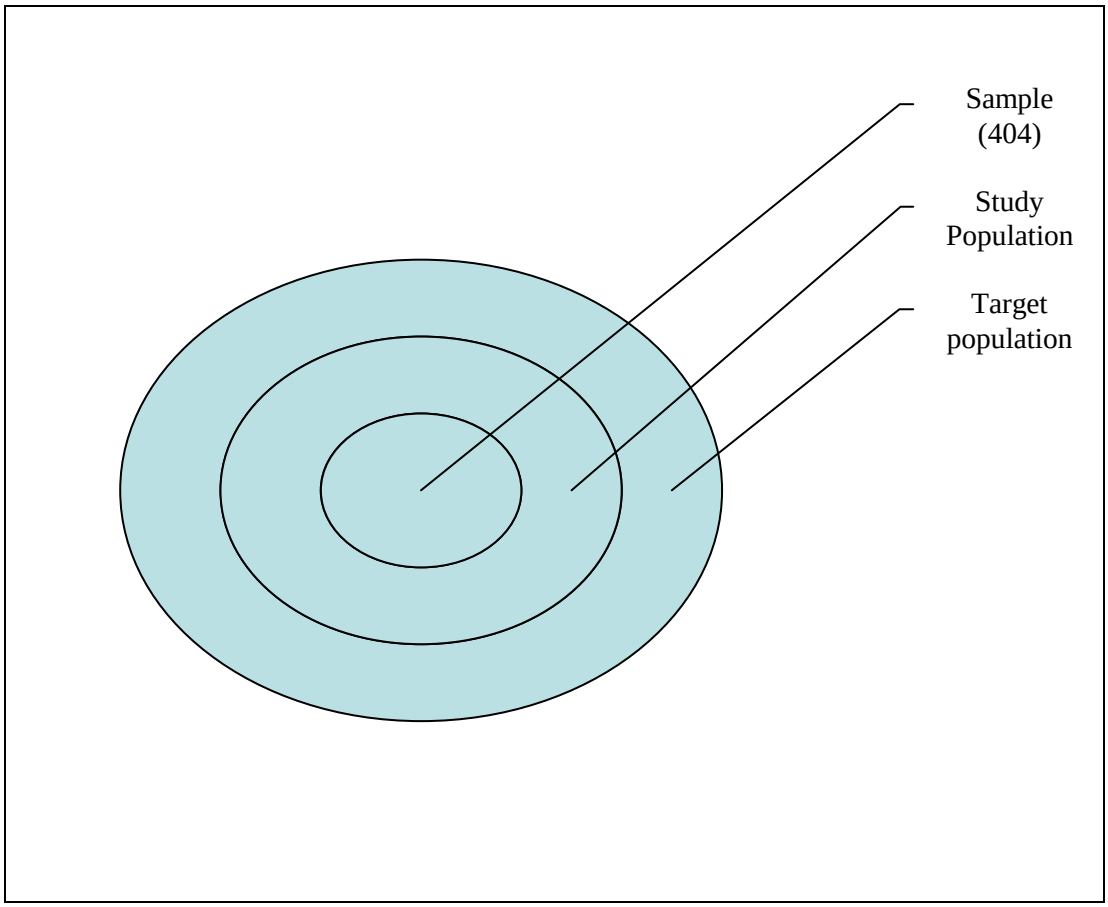


Figure3-1: Diagrammatic representation of Target, Study and Sample population

3.5 Inclusion criteria

Patients above 18 years, who were in a position to give written or verbal consent to participate in the research, were included in the study.

3.6 Exclusion criteria

The following groups of people were not allowed to participate in the study:

1. Patients who were too sick or frail to give responses to interviewers.
2. Patients less than 18 years of age (minors).
3. Patients suffering from a psychotic disorder.

3.7 Sample size

The 10% Gay principle (Mugenda and Mugenda) was adopted for computation of the sample size. The table overleaf depicts the average number of patients seen in the KNH according to figures obtained from the records office at the time the research proposal was developed. 10% of the average number of patients seen in each clinic was used to obtain the sample size that was adopted for the study.

Table 3-1: Average number of patients seen at KNH Clinical departments

SPECIALTY CLINIC	**AVG NO. OF PATIENTS**[1]	**10% SAMPLE**
Outpatient special clinics (Neurology,diabetes,cardiothoracic, Rheumatology, urology etc)	1637	163
Eye clinic	791	79
Obstetrics/gynecology	650	65
Cardiology	123	12
Dental Unit	850	85
TOTAL	4,051	**404**

[1]: Average number of patients obtained from the Records office at KNH

3.8 Sampling technique

Stratified random sampling was adopted for the study whereby randomly selected hospital units formed the strata. A list of all KNH wards and outpatient clinics obtained from the Records department at the hospital served as the sampling frame from which specific units were selected. Systematic random sampling was used to select the patients within the strata; amongst the outpatients, every 5^{th} patient on the queue who expressed willingness to participate in the interview was picked to participate in filling the questionnaire used in the study while for inpatients, every 5^{th} patient on the fifth bed from the starting point (the bed nearest to the entrance) who gave consent to participate in the study and met the inclusion criteria, took part in filling the interviewer administered questionnaire.

3.9 Design and Construction of research instruments

The research instruments were designed and constructed by prototyping whereby the final tool was arrived at by building on as well as making improvements on the original tool to develop a refined tool. In the long run, a final tool which was an improvement of the original draft tool was arrived at by the researcher. The draft was constructed from guidance and insights acquired from previous related studies. The Principal supervisor was instrumental in adding value and consequent quality to the research tool designed.

3.10 Pilot Study

A pilot study to pretest the questionnaire was conducted at the Doctor's Plaza at the Kenyatta National Hospital prior to the actual data collection exercise. 50 patients seeking health services at the KNH Doctors Plaza participated in the pilot study while the actual research was conducted in the KNH clinics and wards thus contamination of the respondents was prevented. Piloting the questionnaire served as a good platform to train the research assistants and help the research team gain familiarity with the questionnaire. A few ambiguities in the questionnaire were raised, which mainly called for changes in grammar and semantics, and the data collection tools were refined accordingly. The result of the pilot study was a data collection tool that was understood by both the research team and the sampled respondents consequently leaving the researcher both confident and satisfied that the questionnaire met the acceptable standards of reliability and validity

3.10.1 Validity and Reliability

Reliability refers to the extent to which results can give an accurate representation of the total population over time while validity determines whether the research tool truly measures that which it was intended to. Having a total of 50 questionnaires pre tested during the pilot study followed by clarification of ambiguities identified in the data collection tool by the data collection team ensured that the questionnaire had acceptable standards of validity and reliability built into it.

3.11 Data Collection Techniques

Both primary and secondary data were collected and analyzed. Primary data was collected using two main methods: Interviewer administered questionnaires and Observation. Both the Interviewer administered questionnaire and Observation checklist have been attached in the appendix of this document.

Secondary data was obtained from hospital records to collect information on the average number of patients seen at the hospital, the most common health problems seen at the hospital and the health worker (doctors, nurses): patient ratios.

3.11.1 Observation

The researcher took several walks in the wards to establish the level of congestion, professionalism with which the hospital staff conducted their duties as well as the cleanliness in selected wards. The observation checklist that was used to guide this exercise is available in appendix 3 of this document.

3.11.2 Interviewer administered questionnaires

The research team comprised of three research assistants and the researcher bringing the team to a total of four data collection personnel. The team interviewed the sampled respondents as guided by the questionnaire. A consent form and letter of authorization from the KNH Ethics Committee was shown to the respondents when requesting for permission to proceed with the interview. Patients who expressed unwillingness to participate in the study were not coerced to do so while amongst those who agreed to participate in the study, they were allowed not to answer any questions they were not comfortable with. A copy of the questionnaire used for the study is on appendix 4.

3.12 Data collection

Ethical clearance was obtained from the KNH ethics committee prior to the study. Each of the research team members had a copy of the letter of authorization to conduct the research from the Ethics committee. In each department, a courtesy call visit was made to the Heads of Department where the Research assistant introduced him/herself and showed the letter from the KNH ethics committee before proceeding to interview patients on the waiting queue (for outpatients) or in the hospital wards(for inpatients). The research team then moved to the entry points (selected wards and outpatient clinics) and recruited of patients to participate in the study using the sampling techniques mentioned in section 3.8 above i.e. Stratified random sampling.

A structured questionnaire administered by the Research Assistants was used to collect data from patients. The questionnaire had sections on: demographic information of the respondent, the complaint that brought him/her to hospital, patient waiting time, factors considered when choosing a health facility and patient satisfaction with the services

offered at KNH. Observation using an observation checklist was used to collect data on level of congestion in the hospital as well as observance of good client relations in the way patients were treated by the hospital staff.

3.13 Methods of data analysis

Data was entered and analyzed using descriptive and inferential statistics. SPSS version 11.5 was the tool used for analysis. Descriptive statistics performed was mainly mode to arrive at the most frequent health problem for which people self refer. To facilitate analysis, some of the variables investigated were dichotomized into two: e.g. Employed or unemployed for occupation and under 45 years or above 45 years for age.

The significance of existing relationships between the various factors investigated (individual and institutional) and the likelihood to self refer to KNH was tested using chi-square and a relationship was deemed to be statistically significant when the p-value was less than 0.05 (<0.05).

3.14 Quality Control measures

A pilot study was carried out in selected wards of the Hospital to pretest the questionnaire. Ambiguous questions were identified and refined accordingly. Use of stratified sampling, which is a probabilistic sampling method helped to ensure that the sample was a representative of the population as far as possible. Recruited research assistants were trained on how to conduct interviews to allow the team to familiarize themselves with the data collection tools. Impromptu supervision of research assistants was carried out to ensure that research assistants' work was up to standard.

3.14.1 Training of research assistants

Research assistants were required to have at least a Form Four certificate. Higher preference was given to persons with any form of tertiary education. Recruited research assistants underwent a 3hour session of training where the purpose/objective of the study, professionalism, etiquette and ethical issues to observe were covered. A role-play on how to conduct an interview using the questionnaire was also done.

3.15 Ethical considerations

Respondents' confidentiality and privacy was upheld. The researcher obtained approval and authorization to conduct the research from Kenyatta National Hospital and Kenyatta University Graduate School to proceed with the study. Voluntary participation of respondents was ensured. Signed consent of participants was obtained before proceeding with the interviews. Nobody was denied access to services for refusal to participate in the study. The findings are to be disseminated to the management of KNH as well as to Kenyatta University, Graduate school.

CHAPTER IV: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter describes the interpretation and explanation of the findings of the study in line with the research questions and objectives of the study while at the same time making comparisons with findings of similar studies that have been conducted in other settings.

The results are discussed under the following subtopics: socio demographic profile of the study population, proportion of patients who self refer at KNH, individual and institutional factors influencing self referral and health conditions most prevalent in the study population.

4.2 Results

4.2.1 Socio-demographic profile of study population

Table 4-1 summarizes the socio demographic profile of the study population. 404 respondents were interviewed from the various wards at KNH. 195 (47.9%) of the respondents were male while 209 (31.6%) were female. Majority (273 or 68.4%) of the patients who participated in the study were aged 45 years and below. 211 (54.9%) of the participants were engaged in a form of employment while 173 (45.1%) of the participants were unemployed.

Table 4-1: Socio-demographic profile

Particulars	Number	Percentage
Gender		
• Male	195	48.3%
• Female	209	51.7%
Age		
• 45 years and below	273	68.4%
• Above 45 years	126	31.6%
Occupation	211	54.9%
• Employed	173	45.1%
• Unemployed		

4.3 Proportion and Origin of Self and Non-self directed referrals at KNH

Figure 4-1 summarizes the proportion of self referred and referred patients visiting KNH at the time the study was conducted. Majority (292 or 72.3%) of the patients who participated in the study are referred from lower levels of health care while 112 (27.3) sought health services directly at KNH without referral from lower levels of health care. However, most of these referrals were verbal as most of the patients who patients who participated in the study did not produce a referral note when the researchers requested to see it. Lack of a referral note can make it difficult to accurately determine what had been done for the patient before the referral.

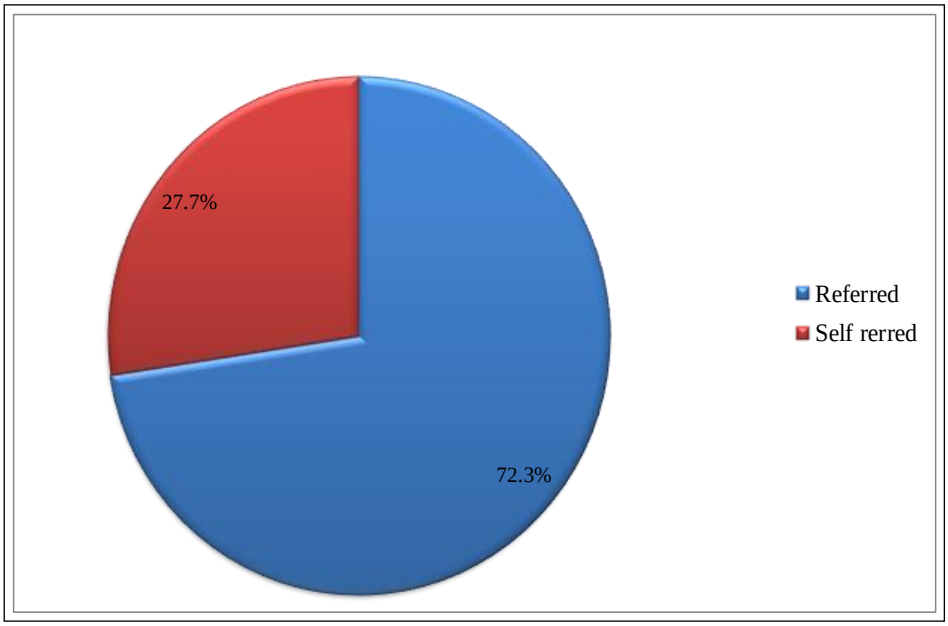


Figure 4-1:Proportion of Referred and Self referred patients at KNH

The origins of referral were varied with referral from a health facility out of town being the most common (64.1%) and referral from a traditional healer being the least mentioned (0.7%). 29% of the respondents were referred from a private clinic while 6.2% were referred from a spiritual church. Contrary to the researcher's own intuition, the majority (72.3%) of patients visiting KNH are referral cases from lower levels of healthcare. Of the proportion that is referred, 57.2% were referrals from Government health facilities. This could be a probable indicator of an a functioning referral system where patients seek health services from lower levels of health care instead of seeking medical care directly at KNH as their first point of entry.

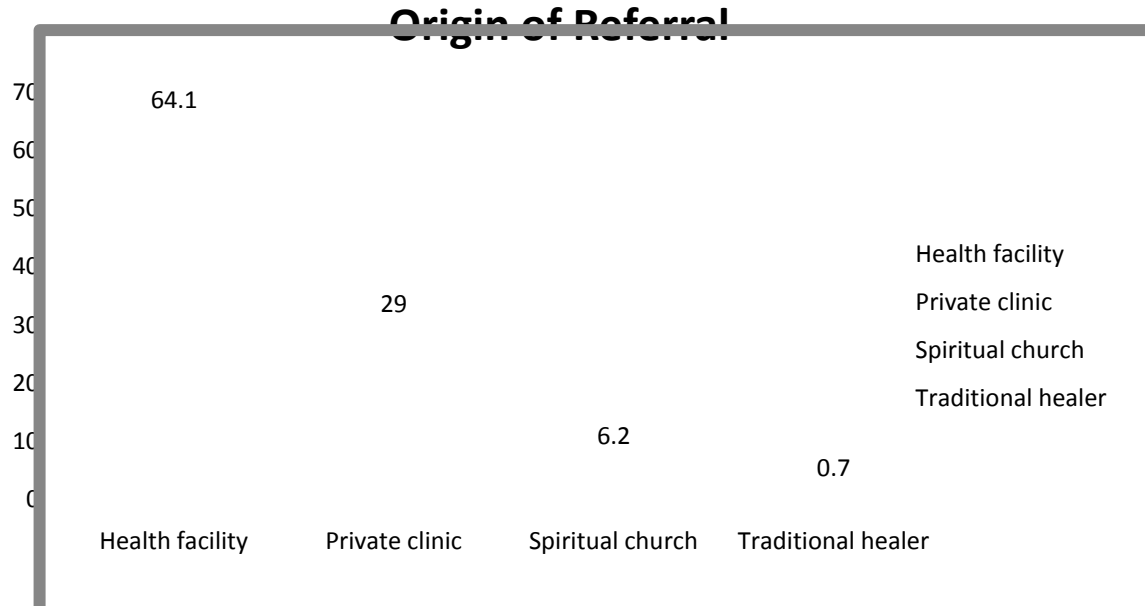


Figure 4-2: Origin of referral for referred patients

Figure 4-2 shows that majority of the patients seeking health services from KNH are referred from lower levels of healthcare indicating that referral protocols and procedures are followed within the tiers of healthcare.

Referral and Self referral was determined on the basis of bypassing reported by the respondents. Bypassing is seen as a powerful expression of people's preference for health care, and high rates of bypassing have important implications for health system efficiency and actual (versus planned) coverage of health services (Leonard *et al.* 2002). Previous work on bypassing, for example by Akin and Hutchinson, 1999 have mostly relied on the theoretical measure of bypassing. In contrast to this approach, the researcher measured bypassing using data collected from patients about their knowledge of existing alternative providers in their neighborhood. Therefore, a patient was said to have engaged in bypassing or self referral is (s) he knew about other available providers yet sought health services directly from KNH.

4.4 Individual factors influencing self-referral

4.4.1 The influence of Gender on Referral

Table 4-2 summarizes the influence of Gender on the Referral status at KNH. The Odds Ratio depicts that females are 1.4 times more likely to self refer to KNH than males pointing to the fact that amongst the patients referred and self-referred, almost equal proportions of male and female patients are seen at the hospital..

Table 4-2: The Relationship between Gender and Referral

Gender	**Referred**		**Self referred**		**Odds Ratio 95% CI**	**χ^2Test of significance**
	No.	%	No.	%		
Male	148	50.7	47	42	1 (Reference)	χ^2=2.465 d.f= 1 P Value= 0.121
Female	144	49.3	65	58	1.41	
Total	292	100	112	100		

According to the data gathered in the study, there was not much disparity in numbers of women and men who refer or self-refer to KNH. It can therefore be concluded that gender is not a factor that influences self-referral to KNH. This result was contrary to findings of a similar study on bypassing lower levels of healthcare conducted in Tanzania (Leornard *et al*, 2002) where it was found that self referral to tertiary hospitals was common amongst females because of the perception of quality maternal and newborn health services offered particularly during delivery.

4.4.2 The influence of Level of Education on Referral

Table 4-3 summarizes the influence of patients' level of education on the referral status of KNH. A majority of the patients seen at KNH have attained secondary education and below. It can be inferred that people with secondary education and below prefer to seek health services from KNH probably as a result of the affordability of services offered at the hospital.

Amongst the self referred patients, those with Tertiary education are more likely to self refer (Odds ratio of 0.979) compared to those with Secondary, Primary or No education.

Table 4-3: The relationship between Level of education and Referral

	Referred		**Self-referred**		**Odds Ratio (95% C.I)**	**P Value**
Education Level	**No.**	**%**	**No.**	**%**		
• None	20	7.2	9	8.3	1 (Reference)	0.848
• Primary	69	24.8	26	23.9	0.837	0.701
• Secondary	105	37.8	37	33.9	0.783	0.582
• Tertiary	84	30.2	37	33.9	0.979	0.962
Total	278	100	109	100		

17 (4.2%) of the respondents did not disclose their level of education

Most of the patients who participated in the study have attained at least some secondary education (secondary education and below). From this, it can be inferred that people with secondary education and below prefer to seek health services from KNH probably as a result of the affordability of services offered at the hospital. It is likely that individuals who have acquired at least some tertiary education opt to seek health

services from private institutions, probably because they can afford it or have access to health insurance.

A statistically significant association was found between respondents' level of education and self referral at KNH. These findings are in agreement with Bernard and Wane's (2004) research findings in the study titled "Bypassing health providers in quest for better quality and health care in Chad" where it was found that a large proportion of the schooled (80%) bypassed lower levels of health care nearer to them and sought health services from tertiary hospitals in pursuit of higher quality services.

The findings are however in contrast with those of a similar research conducted in Nigeria. In his study on the role of the health center in the rational use of Health resources in Nigeria, Imanaka Y., 1996, found that patients' educational status had no influence on whether they were referred or not as both the educated and uneducated bypassed lower levels of health care. This was attributed to the fact that people have little confidence in the care they would receive from lower levels of health care and lack of a well designed referral system with defined procedures, management support and appropriate forms.

4.4.3 Level of income vs. Referral status

Table 4-4 summarizes the influence of level of income on the referral status at KNH.

From the statistics summarized in table 4-7, after the income bracket of Ksh. 41,000, utilization of KNH as the hospital of choice decreases. Those in the income bracket of below 41,000 are the highest users of KNH.

Table 4-4: The relationship between level of income and Referral status

Level of Income	Referred		Self-referred		Odds Ratio (95% C.I)	P Value
	No.	%	No.	%		
Below Ksh.40,999 Ksh. 41,000 to 80,999 Ksh. 81,000 to 120,999	284 6 2	97.2 2.1 0.7	107 4 1	95.5 3.6 0.9	1 (Reference) 1.782 4.318	0.678 0.378 1.0
Total	292	100	112	100		

None of the respondents reported to earn above Ksh.121, 000

Lower utilization of KNH as a hospital of choice amongst higher income earners could be an indicator of reduced preference of KNH amongst those who are likely to have access to private health insurance and consequently access to private health care. Possible reasons for the change in preference amongst higher income earners, their perception on the quality of health care services offered at the hospital and influence of competition in the health sector on improving quality of health services offered in local health centers would be an interesting area to explore in future research.

4.5.5 Occupation vs. Referral status

Amongst the patients referred and self-referred, almost equal proportions of employed (72% referred and 28% self referred) and unemployed (71.1% referred and 28.9% self referred) patients are seen at the hospital. Amongst the patients referred and self-referred, more respondents were employed (54.9%). More specifically, a majority of the patients who participated in the study were either self employed (20.8%) or house wives

(18.1%). It is possible that these two groups are the most likely to utilize a government health facility such as KNH because it is affordable.

The relationship between occupation and self referral at KNH was not found to be statistically significant (χ^2=0.839 df=1 p value=0.359).The results were significant at P<0.05.

Table 4-5: The relationship between Occupation and Referral

Factor	Referred		Self-referred		Total	X^2 Test of Significance
	No.	%	No.	%		
Occupation						
Employed	152	72	59	28	211	χ^2:0.839 df:1 p :0.3596
Unemployed	123	71.1	50	28.9	173	
Total	275	71.6	109	28.4	384	

20(4.1%) of the respondents did not disclose their occupation

4.6 Multivariate analysis

The analysis on individual factors influencing self referral of patients at KNH pointed towards income being a significant determinant of self referral and as a result, the researcher focused on income levels and other socio-demographic variables (age, gender, occupation and education) when carrying out the multivariate analysis.

As shown in table 4-9, the multivariate analysis revealed that the association between self referral and income levels does not change significantly even after adjusting the crude odds ratios for the other socio-demographic variables. An inverse association was found i.e. increase in income is associated with decrease in chances of self referral.

Table 4-6: The association between socio-demographic factors and self referral with reference to levels on income

Variables	B	Sig.	Exp(B)	95% C.I. for EXP(B)	
				Lower	Upper
Income 0 - 40,999 (Reference category)		.859			
Income (41,000 - 80,999)	-.383	.581	.682	.175	2.659
Income (81,000 - 120,999)	-22.15	1.000	.000	.000	.
Gender (Male in reference to Female)	-.388	.108	.678	.423	1.089
Age (above 45 in reference to 45 and below)	-.149	.558	.862	.525	1.417
Occupation (Unemployed in reference to employed)	-.041	.872	.960	.585	1.576
Education none (reference category)		.825			
Education (Primary in reference to none)	-.036	.943	.965	.361	2.579
Education (Secondary in reference to none)	.064	.898	1.066	.399	2.851
Education (Tertiary in reference to none)	-.205	.689	.815	.299	2.223
Constant	1.272	.019	3.567		

4.7 Institutional determinants of self directed referral at KNH

The top four institutional factors cited by patients as the reasons why the respondents interviewed chose to seek health services from KNH were; location of the hospital which makes it easily accessible, good reputation of the hospital, quality of care offered at the hospital, friendly staff and clean kept premises and surroundings. To verify these findings, the researcher took several transect walks to establish the level of congestion in the various randomly sampled clinics and wards. From this, it was established that most of the wards are clean. The Burns sections was particularly clean and well kept, perhaps because the cases handled here are delicate and especially prone to acquiring infections

while at the hospital. However, in some wards, there was a lot of congestion and sharing of beds by patients was not uncommon.

Table 4-10 gives a statistical summary of institutional factors influencing self referral at KNH. Statistically significant relationships were found between self referral and certain institutional factors amongst the patients who reported to have directly sought health services from KNH. These statistically significant factors include: Location of KNH (χ^2:21.844, df:2 , p value: 0.002), Availability of medicines at the hospital (χ^2:17.003, df:2 , p value:0.02), Clear kept surroundings (χ^2:25.816, df:2, p value:0.001) and Admission procedures(χ^2:19.947, df:2, p value:0.005).

The results were significant at $p<0.05$

Table 4-7: Summary of institutional factors influencing patients' decision to seek health services directly at KNH

Variables	Important n (%)	Chi Square value (d.f)	P value	Variables
Location	46 (11.4)	21.844 (2)	0.002*	Location
Affordability of services	15 (39.1)	7.028 (2)	0.43	Affordability of services
Reputation of hospital	13 (32.7)	8.414 (2)	0.29	Reputation of hospital
Availability of medicine	15 (38.6)	17.003 (2)	0.02*	Availability of medicine
Quality of care	9 (22.8)	11.713 (2)	0.11	Quality of care
Clear kept surroundings	20 (50.5)	25.816 (2)	0.001*	Clear kept surroundings
Admission procedure	17 (43.3)	19.947 (2)	0.005*	Admission procedure

Some of the (self referred) patients indicated more than one factor as important

Key:* shows the factor was found to be statistically significant

The accessible location of the hospital and the affordability of services offered are key factors that motivate patients to seek healthcare from the KNH. In addition to this,

patients interviewed indicated that the cleanliness of the surroundings, high quality care, improved staff attitudes and availability of diagnostic equipment that is up to date also influence their preference to seek health services from the hospital.

Even though the hospital management has done a lot to improve the standards of hygiene and cleanliness in the hospital, the level of congestion in the wards is a pointer to the fact that the hospital is currently stretched beyond its capacity.

4.8 Health problems for which patients commonly self refer

Table 4-8 summarizes the health problems most frequently seen at KNH; whether referred or self referred starting with the most common. Cancer, cardiac or respiratory tract disorders and eye complications are the three top health problems amongst patients seeking health services at KNH. Amongst those who had self referred to KNH, surgical complications were found to be the most common health problems.

Table 4-8: Health conditions most prevalent in the study population

Health Conditions most prevalent in the study population			
Disease specialty	**Referred**	**Self referred**	**TOTAL**
Respiratory tract complications	70	24	94
Cancers affecting various organs	68	25	93
Road Traffic Accident injuries	37	34	71
Gynecological and Maternal Health problems	51	33	84
CCC (Comprehensive care clinic)	21	3	24
TOTAL	**247**	**119**	**366**

38(9.4%) of the respondents did not disclose their health problem

5.3.6 Health problems most commonly seen at KNH

Cancer, Road Traffic accidents, eye complications and dermatological infections are the most common health conditions seen at KNH. These are conditions that require high level diagnostic equipment which is not always available in the lower levels of health care.

CHAPTER V: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a summary of the study, the results and recommendations to the Policy makers and KNH that can go a long way in improving the health care system in Kenya if implemented.

5.1 Summary

The degree to which the referral system in Kenya is effective is an indicator of Kenyan citizens' access to health care. Generally, the range of diseases that are presented to health workers can be from the most common everyday illnesses or ailments to the most complex and life-threatening. This requires a range of skills, facilities and health care professionals/workers at different hierarchical levels of care in order to best serve the needs of a given population and is best achieved through cooperation and collaboration between different facilities at different levels to maximize resources. Ideally, if an appropriate level of care is made available when it is needed (taking geographical factors, time, affordability and emergency services into consideration), then the referral systems in Kenya can be more effective.

Effectiveness of the referral depends on other factors that are important to delivering health care such as: the availability of skilled staff capable of making appropriate referrals; the degree to which health facilities, equipment and diagnostic tests facilitate or hinder service delivery and the role different factors such as transport and other logistical factors play in the referral process as well as socio economic factors that affect

health seeking behavior. The role of these factors has been examined and discussed in this study.

5.2 Conclusion

A strengthened health care system translates to access to healthcare services for a country's citizens. Appropriate referral between health facilities is one of the indicators of a strengthened health system. To achieve effective functioning of referral systems, health personnel must be competent and available; roles and functions should be clearly delineated; at hospital level prompt and appropriate attention is essential for the patient; and, there must be referral back to the primary care level after discharge

From the results obtained in the study, a large proportion (72.3%) of patients seeking health care services from the hospital do not directly seek health services at KNH but are referred from lower levels of health care. Individual determinants that were found to be statistically significant in influencing a patient's likelihood for self referral were level of education (χ^2: 18.637, df: 4, p value: 0.001) and level of income (χ^2: 24.798, df: 4, p value: 0.001).The results were significant at $p<0.05$. The relationships between Gender /self referral and occupation/self referral were not found to be statistically significant. Location of KNH, good reputation of the hospital, quality of care and friendly staff were the top four institutional determinants cited as patients as the reasons why they choose to seek health services from KNH. Amongst the patients who self refer to KNH, eye complications and Road Traffic Accidents are the most common health problems.

5.3 Recommendations

It would be useful to introduce reversed referral in our hospitals where doctors at KNH visit lower level health facilities and see patients on site. This would go a long way in reducing the number of patients who travel from far in search of quality health service from KNH.

Mechanisms e.g. a simple standard feedback form should be put in place to ensure feedback on referrals received by hospitals. Having feedback and two-way referral through the system accompanied by treatment protocols and guidelines for referral will contribute towards making sure that health professionals and administrators at the different levels know what is expected of them.

Patient education should be encouraged to raise awareness on what services are available at each level of the referral system in order to be able to request appropriate referral.

Facility based financing e.g. HSSF should maximized so as to improve the quality and functionality of diagnostic equipment in the lower level health care facilities so as to win the public's buy in to utilize these facilities.

The possibility of having Level 5 Hospitals (Provincial Hospitals) "off loaded" from the Ministries of Health and be managed administratively by Universities desiring to run Medical Schools should be explored. This would help improve the quality of care offered in these hospitals while at the same time increasing the numbers of professionally trained health workers in the country. In the long run, quality of health care in lower level hospitals will be improved and KNH be less congested.

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APPENDIX

Appendix 1: Consent Form

CONSENT FORM

You are invited to participate in a study conducted by Faith Mahinda, a student in Kenyatta University pursuing a Masters degree in Public Health, (MPH). The aim of the study is to find out the factors that motivate patients to directly seek healthcare services from Kenyatta National Hospital (KNH) having bypassed lower levels of health care.

If you decide to participate, the research team will request you to fill a questionnaire that will take about twenty minutes. This information will go a long way in helping policy makers improve health services in KNH and in Kenya as a whole. The research team cannot guarantee, however that you will receive any benefits from this study.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. If you give us your permission by signing this document, we plan to disclose the results to the Ethics and Research Committee of the Kenyatta National and the Board of Examiners at the Department of Public Health and Graduate School in Kenyatta University.

Your decision whether or not to participate in the study will not prejudice your future relations with Kenyatta National Hospital. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. The KNH Ethics and Research Committee has reviewed and approved the present research. Should you have any concerns about your rights as a respondent, please do not hesitate to contact the Secretary of the Committee on Tel. No 2726300, Ext.44102.

If you have any questions, please ask the research team. If you have any additional questions later, Dr. Ochieng Otieno (Tel. No 0719-506770), who is one of the supervisors of the study, will be happy to answer them.

You will be given a copy of this form to keep.

You are making a decision whether or not to participate. Your signature indicates that you have decided to participate, having read the information provided above.

Respondent's signature: ……

OBSERVATION CHECKLIST

PARTICULARS	**PRESENT(Tick if present)**	**ABSENT(Tick if absent)**
Willingness of staff to listen and respond to patients' needs		
Clean and well cared for facilities		
Pharmacy that is reasonably stocked		
Fully equipped theatre		
Laboratory with functioning equipment		
Bed utilization in patient wards		
Professionalism of staff		
Demonstration of inclusivity of services friendly to the youth, elderly and physically challenged		

QUESTIONNAIRE FOR PATIENTS

Serial Number ☐

Date	☐	Time Started	☐
End Time	☐	Total Time Taken	☐
Interviewer's Name	☐	Interviewer's ID	☐
Interviewer's Cell phone	☐	Interviewer's Email	☐

1. Where do you reside? .....
2. Which is your nearest health facility? .....
3. What type of facility is it:

☐ Public/GOK ☐ Private ☐ Faith Based ☐ NGO ☐ DK

4. Approximately what distance (in KM) do you travel to the nearest health facility?
5. How long does it take you to get to the nearest health facility? .....
6. What other hospitals/clinics are in your neighborhood? (5-8 KM radius) **WRITE LIST VERBATIM. PROMPT ANY OTHER? .....**
7. How often do you come to this hospital?

☐ First time ☐ Occasionally ☐ Often

8. What complaint (problem/medical condition) brought you here today? ***WRITE IN VERBATIM*……...**
9. Were you referred here?

☐ Yes ☐ No

10. If yes, from where?

Facility out of town	☐	Private clinic	☐
Chemist/pharmacy	☐	Traditional healer	☐
Spiritual church	☐	Others(Please specify)	☐

11. If no, why did you choose to come to this particular hospital? ***WRITE IN VERBATIM*…….**
12. On a scale of 1-5, where 5 is Very Important and 1 is Not at all important, please rate the importance of the following factors in selecting KNH as your hospital of choice **SINGLE CODE ONLY**

	Very 1	2	3	4	5	Not at all 6	NR 7	DK
Location	☐	☐	☐	☐	☐	☐	☐	
Access by public transport	☐	☐	☐	☐	☐	☐	☐	
Proximity to home	☐	☐	☐	☐	☐	☐	☐	
Proximity to work place	☐	☐	☐	☐	☐	☐	☐	
Affordability of services	☐	☐	☐	☐	☐	☐	☐	
Services are provided by doctors	☐	☐	☐	☐	☐	☐	☐	
Time spent on queues	☐	☐	☐	☐	☐	☐	☐	
Reputation of hospital/clinic	☐	☐	☐	☐	☐	☐	☐	
Friendly staff	☐	☐	☐	☐	☐	☐	☐	

Availability of Credit facility	☐	☐	☐	☐	☐	☐	☐
Availability of medicine	☐	☐	☐	☐	☐	☐	☐
Quality Care	☐	☐	☐	☐	☐	☐	☐
Good attitude of health workers	☐	☐	☐	☐	☐	☐	☐
Clear kept surroundings	☐	☐	☐	☐	☐	☐	☐
Admission Procedures	☐	☐	☐	☐	☐	☐	☐
Affordable deposits requirements for in patients	☐	☐	☐	☐	☐	☐	☐
Others (please specify)	☐	☐	☐	☐	☐	☐	☐

13. From the time you walked into the hospital until you finished your visit, how long did it take you from the time you walked into the hospital until you finished?
    - Less than 1 hour ☐
    - 1 – 2 hours ☐
    - 2 – 3 hours ☐
    - More than 3 hours ☐
14. Were you seen by a doctor during your visit today?

    ☐ Yes ☐ No ☐ Don't Know
15. Approximately how much time did the doctor/clinician spend with you? .....
16. Thinking about the time taken to get service would you say ...

    - It was as expected ☐
    - It was shorter than expected ☐
    - It was longer than expected ☐
17. Mention the positive things you found during your visit to KNH today? **DO NOT READ OUT. CODE ALL MENTIONS BELOW. PROBE: ANY OTHER REASON?**

Was seen by a doctor	☐	Clear kept surroundings	☐
Availability of Credit facility	☐	Short waiting time	☐
Availability of medicine	☐	Proximity	☐
Quality Care	☐	Reasonable charges	☐
Good attitude of health workers	☐	Others (please specify)	☐

18. Is KNH the hospital you visit every time you are sick?

    ☐ Yes> **GO TO Q 51** ☐ No> **GO TO Q 49**
19. Would you recommend a friend to seek health service from this hospital?

    ☐ Yes ☐ No
20. If Yes, or no, why? ***WRITE IN VERBATIM……..***
21. Where do you, normally obtain your drug requirements after consultation?

    ☐ This hospital/clinic ☐ Vendors

    ☐ Private drug store ☐ Others (please specify)
22. Reasons for preferred source of drugs?

Proximity	☐	Good customer service	☐
Availability	☐	Credit facilities	☐
Qualified staff	☐	Others (Please specify)	☐

DEMOGRAPHIC QUESTIONS

Gender ☐ Male ☐ Female

ge Bracket (Yrs)

☐ Under 21 ☐ 21-25 ☐ 26-30 ☐ 31-35
☐ 36-40 ☐ 41-45 ☐ 46-50 ☐ 51-55
☐ 56-60 ☐ 61-65

Occupation

Civil/Public servant	☐	Retired	☐
Employed by a private company	☐	Student	☐
Housewife	☐	Unemployed	☐
Self-employed (please specify)	☐	Others (please specify)	☐

ducation

☐ None
☐ Primary Incomplete
☐ Primary Complete
☐ Secondary Incomplete
☐ Secondary Complete
☐ College
☐ University
☐ Other, Please specify

ncome

☐ Below 5,000 ☐ 5,000-9,999 ☐ 10,000-19,999
☐ 20,000-40,999 ☐ 41,000-60,999 ☐ 61,000-80,999
☐ 81,000-100,999 ☐ 101,000-120,999 ☐ 121,000-140,999
☐ 141,000-160,999 ☐ 161,000-180,999 ☐ 181,000- and above

Thank you for your time. Have a pleasant weekend/day/afternoon/evening.

KENYATTA UNIVERSITY
GRADUATE SCHOOL

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P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

OurRef: **P57/12598/2009**

DATE: 3rd August, 2012

The Permanent Secretary,
Ministry of Higher Education, Science & Technology,
P.O. Box 30040,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION MAHINDA FAITH WAMBUI - REG. NO. **P57/12598/2009**

I write to introduce Ms. Mahinda Faith Wambui who is a Postgraduate Student of this University. She is registered for M.P. H degree programme in the Department of Community Health.

Ms. Mahinda intends to conduct research for a proposal entitled, "Determinants of self Directed Referral amongst Patients seeking health services at Kenyatta National Hospital, Nairobi, Kenya."

Any assistance given will be highly appreciated.

Yours faithfully,

KENYATTA UNIVERSITY OFFICE OF DEAN - 7 AUG 2012 GRADUATE SCHOOL P.O. BOX 43844 - 00100, NAIROBI

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

JKN/rwm

KENYATTA NATIONAL HOSPITAL
Hospital Rd. along, Ngong Rd.
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Tel: 726300-9 Fax: 725272
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Email: KNHplan@Ken.Healthnet.org

19 July 2011

Ref: KNH-ERC/ R&R/258

Mahinda Faith Wambui
Dept.of Public Health
Kenyatta University

Dear Faith

Research proposal: "Self Referral of patients at Kenyatta National Hospital" P246/06/2011

This is to acknowledge receipt of your research proposal and to inform you that upon review the KNH-Ethics and Research Committee made the following observations and suggestions:

1. Adjust font and spacing of abstract.
2. Align acronyms.
3. Health care workers are not 6000 as indicated on page 1. The current capacity is 4800 and establishment is 6000.
4. Bed occupancy is not 300% as indicated in statement of the problem. Confirm with medical records the % occupancy.
5. Most of the listed references (see page 21) are not properly indicated in the text under literature review(see pages 12-14).
6. Budget and work plan
   Should be moved to appear before the references.
7. Other utilization data will be of great importance in the problem statement e.g. Clinic utilization, laboratory, X-ray e.t.c.
8. Respondent information is missing.
9. Informed consent
   Informed consent explanation and form for the study participants to sign are missing. What is presented on page 22 could be part of the informed consent explanation.

Revise and resubmit three (3) copies of the proposal within a period of eight (3) weeks time with effect from the date of this letter.

Yours sincerely

PROF'A N GUANTAI
SECRETARY, KNH/UON-ERC

c.c. The Deputy Director CS, KNH
Supervisors: Dr. Ochieng Otieno, Dept.of Public Health, Kenyatta University
Dr. Mohammed Karama, Dept.of Public Health, Kenyatta University