

**REFERRAL FOR HEALTH SERVICES AMONG OUTPATIENTS AT NYERI
COUNTY REFERRAL HOSPITAL, KENYA**

GATWIRI MURITHI (BSC. PUBLIC HEALTH)

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER
OF SCIENCE IN PUBLIC HEALTH SYSTEMS MANAGEMENT AND
APPLICATION IN THE SCHOOL OF PUBLIC HEALTH AND APPLIED
HUMAN SCIENCES OF KENYATTA UNIVERSITY**

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DECLARATION

I declare that this project is my original work and has not been put forward for a degree or any other award to any other university.

Signature_____ Date_____

Gatwiri Murithi

Q142/26857/2018

Supervisor's Approval

This project has been submitted for review with my approval as university supervisor

Signature_____ Date_____

Dr. Kenneth Rucha

Chairman, Department of Health Management and Informatics

Kenyatta University

DEDICATION

Special dedication of this project to Mr. Frankline Mwenda my husband, daughters Lexie, Angelyne and Claudine and my son Jelani.

ACKNOWLEDGMENTS

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LIST OF ABBREVIATIONS AND ACRONYMS

HCWs	Health Care Workers
KHSSP	Kenya Health Sector Strategic and Investment Plan
MOH	Ministry of Health
NACOSTI	National Commission for Science, Technology and Innovation
OPD	Outpatient Department
PHC	Primary Health Care
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
UHC	Universal Health Coverage
WHO	World Health Organization

DEFINITION OF OPERATIONAL TERMS

Emergency referrals - Referrals for suddenly occurring health conditions that may lead to death, loss of limb or eyesight.

Initiating facility - Organization, community unit or service point that prepares a first outgoing referral to communicate the client's health status.

Outpatient – A person who visits a health facility for diagnosis or treatment but does not stay there overnight.

Receiving facility - Organization or health unit that receives the referred specimens or patients from the initiating facility.

Referral - The process whereby a health professional at a one level of the health care system, with insufficient resources (drugs, equipment, skills) to adequately manage the client, seeks the assistance from a better resourced facility to manage the client.

Referral form - A written record of the clinical findings, any treatment given before referral and specific reasons for making the referral. The referral form should accompany the client (often carried by them) and give a clear designation which facility the patient is being sent.

Referral register - A record book for noting all outgoing and incoming referrals for one health center.

Referral system- An organized process that enables patients' health needs to be efficiently managed with resources that are unavailable at their initial point of access to care.

Self-referral – Patients presenting themselves to a referral facility without having seen any other health professional or being advised to do so.

Transfer - A process of moving a patient from one facility to another for management of their condition.

Independent variable – A characteristic that stands alone and is not changed by other characteristics you are trying to measure.

Dependent variable - A characteristic the researcher is interested in measuring and changes as a result of manipulation of the independent variable.

Intervening variable – A mediator characteristics that researcher uses to explain connection between other study variables

ABSTRACT

One of the fundamental human rights is right to health. To achieve this within a health system with different levels of care there is need for a functional referral system that enables continued uninterrupted care across different levels. Data available in Nyeri county health department however shows that clients bypass the primary level facilities and present themselves to referral facilities thus placing huge demands for health services on tertiary facilities. This research therefore sought to establish factors associated with referral for health care services at the County Referral hospital during (Universal Health Coverage) UHC implementation in Nyeri County. The study employed a cross-sectional study design targeting patient, health care professionals and managers at the County Referral hospital in Nyeri. Administration of structured questionnaires and key informant interviews were carried out to acquire qualitative and quantitative data. A sample size of 402 respondents was estimated proportionate to the population from a sampling frame of patients seeking outpatient services at the County Referral hospital. Purposive sampling was used to pick key informant respondents while patient respondents were picked by systematic random sampling. Acquired data was analyzed by use of SPSS version 23 and MS excel. Inferential statistics included Chi-Square tests done at a confidence interval of 95% to ascertain association between the study variables while thematic analysis was applied for qualitative data. The study found that majority of respondents were female, young, self-employed, had low income and lived in rural areas. Chi-square tests showed that sex ($p=0.004$), level education ($p=0.000$) and residence ($p=0.000$) were significant. Majority of the respondents said that they had never been given information about the referral process. Even among those who had received information, majority reported information given was not clear. Lack of awareness was also highlighted as a factor influencing referral during key informant interview. Awareness ($p=0.000$) was significant. Slightly less than half responded they were dissatisfied with health care services they received Chi-square results showed that distance ($p=0.000$), infrastructure ($p=0.004$) and general satisfaction ($p=0.000$) were significant. The odds of females practicing referral as compared to males (OR= 0.54;95% CI 0.35-0.82), awareness (OR=0.21;95% CI 0.13-0.34) residence (OR=23.47 95% CI 13.54-40.69) remained significant in the logistic regression analysis. Descriptive results showed that respondents were dissatisfied with waiting time and patient-doctor relationship. Lack of medicine and lack of information were other factors cited for dissatisfaction. The study therefore concluded that referral for health care services among outpatients was predicted by socio-demographics, awareness and health system factors with awareness being the most important predictor. The findings of this study therefore call for a public sensitization campaign to enhance the utilization of primary healthcare facility with the ultimate goal of having a smooth referral process. The county governments also need to ensure that primary health facilities are adequately staffed and well equipped especially with medicines.

CHAPTER ONE: INTRODUCTION

1.1 Background

Patient-driven referral means that patients present themselves to a referral health facility by their own. They initiate the process without being advised to do so by any health worker or health facility not bearing in mind if the illness would have been managed at a lower level or not. Literature shows that, this incorrect use of services results in overcrowding at the receiving facility, increased patient waiting time, reduced utilization rates of services at the primary facilities and increased costs for health care. referral also places an increased burden on tertiary levels of health services and planning and assigning of resources may not be done accurately as the health center catchment population is usually surpassed (Pillay & Mahomed, 2019)

Comprehensive Primary Health Care (PHC) and correct, timely transfer of clients to better health care center was put forth during the Alma-Ata Declaration of 1978; and reemphasized in 2008 and 2018 (WHO,2018). Globally, it is noted 20-40% of total expenditure on health not efficiently spent inefficiently. This was as a result of several factors but one major reason was overcrowding of higher-level facilities by patients who bypassed primary facilities and self-referred to tertiary facilities. The correct vision was that higher number of clients with simple conditions be served by PHC, whereas complicated cases be treated by the higher level facilities or consultant services via appropriate referrals (Wangmo, 2018).

Existing studies have analyzed indicators related to health workforce, transport infrastructure ,linkages in communication, and financial resources to expound on some

of the bottlenecks encountered during the referral policy implementation in middle and low income countries (Amoah & Phillips, 2017). A costing study revealed that the mean financial implication of treating an outpatient case at a receiving referral facility in Bhutan per visit is US \$13, which was two times higher than at district hospital, and tens fold higher than at a basic health unit (Ministry of Health Bhutan, 2015)

A study conducted in Thailand revealed that the expenses incurred during outpatient attendance to the regional hospital was over thrice as expensive as a visit to a district hospital ((No, 2017) International Health Policy Program, Thailand, 2017). In Nigeria 84% of children admitted into tertiary health facilities with meningitis were referrals (Akpede, G.O, Omigbeberale et al 2005). In Kenya by-passing of lower level facilities is noted to be a major bottleneck in referral systems ((Health, n.d.) (Ministry of Health Kenya, 2013)

The mandate of the Counties in devolved government includes providing of appropriate health care services and coordination of referrals across county health pharmacies and facilities. The Kenya Policy on Health 2012–2030 and the Strategic and Investment Plan of the health sector, both recognized the necessity to strengthen existing approaches as means of upgrading order and effectiveness of health service delivery thus better health outcomes ((Second, Term, & For, 2017) (Ministry of Health Kenya, KHSSP 2013-2017).

g1.2 Problem Statement

In Kenya about 32,987 deaths occur annually due to non-compliance to referral recommendations (Globs can report, 2018). There has been an influx of patients in referral health facilities in Nyeri spurred by the free services under UHC implementation and by-passing of primary facilities leading to overcrowding. The estimated Doctor to

population ratio at the County Referral Hospital is 1:5000 (Kenya Open Data) compromising the quality of care offered. There was scanty data on the status and factors associated with referral for health care as very few evaluations have been carried out by the County and scholars.

1.3 Study Justification

A functional referral process in chain of service delivery has been noted to influence access to services, the quality of care and health outcomes. Patient compliance to referral processes for health care in Nyeri is sub optimal.

This cross-sectional study was conducted in Nyeri which was implementing UHC to establish factors associated with referral among outpatients at the County Referral Hospital with the aim of identifying hindrances to compliance of referral recommendation. The findings will be used to inform the health department of the gaps and guide recommendations for action to steer the county towards a responsive health system in line with the ultimate goal of UHC.

1.4 Research Questions

- i. What socio-demographic factors are associated with referral for health services among outpatients at the Nyeri County Referral hospital?
- ii. What is the association of patients' awareness of referral processes and referral for health services among outpatients at the Nyeri County Referral hospital?
- iii. What health system factors are associated with referral for health services among outpatients at the County Referral hospital in Nyeri?

1.5 Null Hypothesis

Referral for health care services among outpatients is not dependent on socio-demographic factors, patients' awareness on referral processes or health system factors.

1.6 Study Objectives

1.6.1 Broad objective

The aim of this research was to establish factors associated with referral for health care services among outpatients at the County Referral Hospital in Nyeri County, Kenya

1.6.2 Specific Objectives

- i. To determine socio-demographic factors associated with referral for health care services among outpatients at the County Referral hospital in Nyeri.
- ii. To find out association of patients' awareness of referral processes and referral for health care services at the Nyeri County Referral hospital
- iii. To establish health system factors associated with referral for health care services among outpatients at the Nyeri County Referral hospital.

1.7 Delimitation and Limitation of Study

1.7.1 Limitations

Respondents for Key Informant Interviews (KII) were purposively picked and may be prone to bias. The findings and recommendations from the study were applicable pre-Covid 19 as this pandemic affected many aspects of the health system.

1.7.2 Delimitations

The key interview guides consisted of a wide range of perspective and the respondents included different key stakeholders as well as limiting items to gain in-depth discussion.

1.8 Conceptual Framework

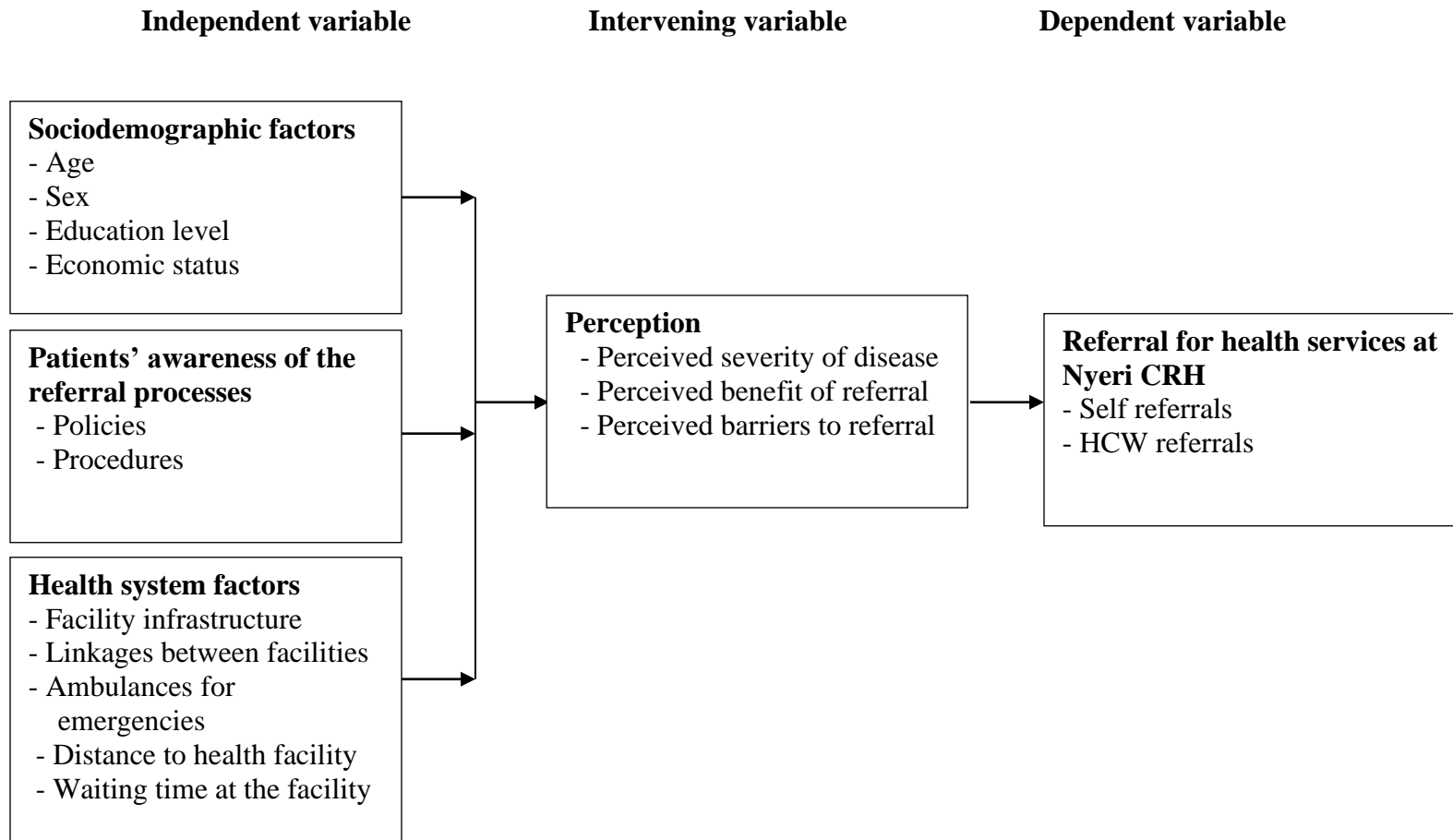


Figure 1.1 Conceptual Framework

Adopted and modified from the Health Belief Model (HBM; 1974)

1.9 Significance of Study

Findings from this study highlighted contributing factors to referral for health care services among patients during UHC implementation and provide information for policy makers, implementors and recipients of health care in Nyeri County to make informed decisions about interventions.

Anticipated Output

To provide valuable lessons to other counties upon the countrywide roll out, on how to enhance compliance to referral recommendations among patients thus strengthening quality of referral services to meet the ultimate goal of universal health coverage.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides information about referral systems and work that has been documented about the same globally. In most countries, health services are provided across various levels of care. Health care systems are designed such that patients are envisioned to seek health care first at the primary facilities, then if necessary be referred to a tertiary or referral level. Ordinarily if this was followed during the actual patient health care seeking practices, then costs of health services for these clients would be minimized. However, in many instances, clients present themselves directly to the referral facilities without prior engagement with the primary level facilities even for health conditions that could be adequately managed at the PHC facility. This leads to a resource strain at the referral facility, thus increased costs of care for the patient and the system at large. Referral remains a weak component in middle- and low-income countries (Francetic, Tediosi, & Kuwawenaruwa, 2021). A study of sick children in Tanzania revealed that more than 90% of the outpatients and greater than 70% of inpatients at the main hospital lived within a 10-kilometer range. Out more than 7000 children seen at the facility, only 235(3%) had been referred to the hospital by a health care worker (HCW). A referral assessment in Ghana agreed with these findings showing that only one out of 34 patients assessed at the outpatient department (OPD) of referral sites had been referred. Only 11% of patients admitted in the inpatient of these facilities had been referred while the rest were referrals.

2.2 Referral for Health Services

Self-referral means the patient presents themselves to a referral facility by-passing

primary level facilities without advice from a health care worker. This could be due to patients' perception that services offered by lower facilities are of lesser quality, lack of infrastructure, equipment, investigation capacity or medication thus dissatisfaction with services in these facilities. This non adherence to the referral process leads to overcrowding in referral facilities and under-utilization of primary facilities. This compromises the quality of services given due to overstretching, health professional burn-out and roll over of patients requiring specialized care. (GOK/MOH, 2016)

2.2.1 Sociodemographic Factors Associated with referral

Factors influencing referral include age, sex, economic status, residence area, education levels and access to primary health care centers (Pino-Moya, Ortega-Moreno, Gómez-Salgado, & Ruiz-Frutos, 2018). In Uganda, a prospective follow-up of 227 referred children revealed that only 28% client complied with referral (New brander, Ickx, Werner and Mujadidi, 2012) A of follow-up after a fortnight revealed that, 216 of the 227 gave feedback on the child's progress. Of the all the children who either adhered to advice later than when directed, or who did not obey at all, 5% died, while none died amongst the children who observed the referral guidance as soon as it was offered.

In Nigeria examination of referral rates from health centers to the district hospital as well as compliance to referral was conducted which revealed that there were low referral rates and poor compliance to referral advice for children below 5 years and this was directly linked to high mortality rates in the children (Chioma, 2019)

A study conducted in Bhutan showed that when there is poor adherence to referral policies and loopholes in the referral processes it leads to paltry use of PHC facilities and

congestion at the tertiary facilities. This negatively affects the quality of services ultimately resulting in inefficiencies within the whole system (Wangmo, 2018)

2.2.2 Association of Awareness on Referral Processes and referral practices

Lack of awareness and familiarity is well recognized as a key reason behind low implementation of guidelines in primary health care generally, and specifically in relation to referral processes. Research conducted in Nigeria divulged that awareness levels of referral were low and perception on referral was poor. The more a person was educated the more knowledge they had about referral and the higher the likelihood they had correct perception about referral processes for health services. Researchers felt that Nigerian policy on referral and utilization of correct level facility could be more effective if the public was made aware by use of media as well as increase effort to improve the credibility of lower level facility (Abodunrin, Akande, & Osagbemi, 2010)

2.2.3 Health System Factors Associated with referral

Translating policies on referral into practice is a continued challenge in most developing countries (*Al-Namash et al., 2011*). It is hindered or enhanced by client -side elements such as transport, health-seeking behavior and trust with health systems and health system-side components such as medication availability, diagnostic ability, competent and motivated professionals and monetary allocations. A study conducted in Kiambu county by Kamau, Onyango-osuga and Njugun (2017) found that most of the facilities in the county have challenges in infrastructure at 67%, health care workers capacity at 53%, Information systems at 52% and finances at 51%. This meant that if these aspects were tackled it would improve on efficiency of referral for care services in Kiambu

County. These results were in line with findings from other regions where similar studies have been carried out. For referral to be a success, there should be access to referral care facilities, staff that are well trained to provide quality care, availability of equipment, supplies and medication. A study in Gombe state of Nigeria showed there was poor synergy among the various tiers of health care system leading to poor patient care (Agofure, 2018).

2.2.4 Perception and referral

One of the complexities of referral for care is many a times client's agreement and adherence to the referral recommendations and their perception on it. This is influenced by clients perception on need of a referral like severity of illness, client's or community past experiences with facility and the impressions they have of the referral facility or staff (*Dijk et al., 2016*)

Summary

Patients will visit any facility that they feel will meet their needs, regardless of whether it is the most appropriate level or not therefore systems should be strengthened to ensure it happens at a facility nearest to then at least cost and good quality of the services. Socio-demographic factors, awareness and health system factors have been shown to influence referral practices among patients in previous studies.

CHAPTER THREE: MATERIALS AND METHODS

3.0 Research Design

A cross-sectional study design was carried out because to enable researcher to capture multiple variables at a specific point in time

3.1 Variables

Referral for health services was the dependent variable – Indicators being count of number of patients who were referred by health care worker and number of patients that presented themselves without referral.

Independent variables are; Social demographics (Age, sex, education level, economic status), patients' awareness on referral processes and health system factors and how these influenced referral practices.

Perception about referral was the intervening variable that showed how the other two were connected and what might have affected the association.

3.2 Location of the survey

The research was carried out in Nyeri County which is located in central Kenya, coordinates 0.4197⁰ S, 37.0400⁰ E. Bordering Counties are Kirinyaga and Meru to the East. It shares borders with Laikipia, Nyandarua and Muranga. It has an area of 3,337 sq.km, population of 759,164 as per 2019 census and a population density of 208 people per sq. km. It has 6 Sub counties (Tetu, Mukurweini, Othaya, Kieni, Mathira, Nyeri Town) It was chosen because it's a pilot county for UHC implementation.

3.3 Study population

3.3.1 Target population

Patients, health care workers, managers at the County Referral hospital in Nyeri County.

3.3.2 Study population

The sample size of 402 comprised of outpatient clients, health care workers and identified managers at the County Referral hospital in Nyeri.

3.4 Sample size determination and sampling techniques

3.4.1 Sampling Techniques

Systematic random sampling without replacement was applied to recruit patient respondents who will be drawn from a sampling frame of patients seeking outpatient services in all departments of Nyeri County Referral hospital. The Kth was calculated to get interval for picking respondents N/n thus $8076/402= 20$. A skip interval of every 20th client was applied. Health care workers were stratified by cadre and then randomly picked to respond. Purposive sampling was used to pick KII who were hospital managers, based on their area of expertise.

3.4.2 Sample size determination

The sample size was calculated by *Fischer's et al* 1998 formulae

$$n = \frac{Z^2 p(q)}{d^2}$$

Where n= Sample size (population > 10,000)

Z= Normal deviation at confidence interval 95% (1.96)

p= Proportion of population with desired characteristic (50%)

q=Proportion without desired characteristic

d= Degree of precision (0.05)

$$n = (1.96^2) (0.5) (0.5) / 0.05^2$$

$$n = 384$$

Estimated population in this case was below 10,000, so Fisher's finite correction formula was applied

$$n_f = n / (1 + n/N) \text{ where;}$$

n_f = New sample size

n = desired sample size calculated using the first formula

N = Population estimate

$$N_f = \frac{384}{1 + \frac{384}{8076}}$$

$$= \frac{384}{1 + 0.0475}$$

$$= \frac{384}{1.0475}$$

$$= 366.57$$

$$= 367$$

Sample size was adjusted by 10% to take care of non-responses. Thus, 402 subjects fitting the inclusion criteria were interviewed.

Table 3.1 Probability proportionate to size

Outpatient department	Number of clients Jan-Mar 2019	Proportion	Sample Size
Clinical outpatient	2140	2140/8076*402	107
Dental	306	306/8076*402	15
Radiology	928	928/8076*402	46
IMCI	1531	1531/8076*402	76
ANC/FP	817	817/8076*402	41
Laboratory	1328	1328/8076*402	66
Special clinics	667	667/8076*402	33
Occupational therapy	359	359/8076*402	18
TOTAL	8076		402

3.5 Construction of Research Instruments

Structured questionnaires and KII guide were formulated to guide in collecting data from respondents that consisted of specific question topics to different stakeholders including the hospital management and departmental heads.

3.6 Pre-Testing

A pretest of the research tools was conducted by administering 30 questionnaires at Karatina level four hospital before the actual research. This is because the hospital has a similar setting and roles as the study site. Questionnaires were administered randomly to respondents to determine if they understood the questions clearly and if their responses gave the information required and make necessary adjustments to the tools.

3.6.1 Validity

The researcher improved validity by sampling to ensure randomization and representativeness, pretest of research tools, expert opinion as well as relevant literature review

3.6.2 Reliability

Reliability was estimated by internal consistency using Cronbach's alpha. It was important to ensure that measurements were representative and stable over time and results were due study not any other extraneous factors. For this study α was 0.821 which was good.

3.7 Data Collection Techniques

Data was collected by researcher administered structured questionnaires (appendix ii) through a guided interview where the respondent gave the answers and the researcher filled in the tool, as well as key informant interviews (appendix iii) by filling out of the tools during one-on-one open discussion interviews with respondents in the hospital.

3.8 Data analysis

Data analysis was done using version 23 SPSS software and excel in Microsoft office. It was presented in percentages and frequencies. Chi square tests were done at 95% confidence interval with p value <0.05 being significant. They were considered suitable because they showed if the results were due to relationship between the study variables. Logistic regression analysis being used to determine relationship between the dependent and independent variables. Analysis of qualitative data was by generation of themes.

Results were presented in tables and figures interpreted and used to formulate recommendations.

3.9 Ethical and logistic consideration

The researcher sought approval from Kenyatta University (appendix iv) and IMPACT Kenya to be allowed to carry out my study and present to them as part of fulfillment for the award of master's in Public Health Systems Management and Application. The researcher also sought approval from Kenyatta University ethical review committee (appendix iv) and National Commission for Science, Technology and Innovation (NACOSTI) (appendix v) as well as the County director of health and the health department of Nyeri (appendix vi) to allow her to conduct the study in the County. The researcher explained to study participants that the research is for academic purposes, participation is voluntary, verbal consent was sought and their right to privacy was ensured by strict degree of anonymity.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter dispenses the findings of the research including results on sociodemographic factors, awareness of referral process and health system factors associated with referral. Findings are presented in figure and tables, in percentages and frequencies.

4.2 Response Rate

A total of 384 respondents took part in the study depicting a response rate of 95.5% Table 4.1. shows response rate per department which was adequate.

Table 4.1 Response Rate

Outpatient Department	Sample Size	Number Of Respondents	Response Rate (%)
Clinical outpatient	107	100	93.5
Dental	15	15	100.0
Radiology	46	45	97.8
IMCI (Integrated management of childhood illness)	76	75	98.7
ANC/FP	41	38	92.7
Laboratory	66	64	97.0
Special clinics	33	30	90.9
Occupational therapy	18	17	94.4
Total	402	384	95.5

Five key informants (100%) were questioned about the guidelines/protocols the hospital used in the referral process. They all indicated that they use the Ministry of Health referral guidelines.

4.3 Socio-demographic characteristics of Respondents

Demographic characteristics assessed in this study included sex, age, level of education and income of respondents. In addition, the residence and nearest health facility were inquired. Results in Table 4.3 show that slightly above half 210(54.7%) of the respondents were female, 126(32.8%) of the respondents were aged between 25 and 34 years while 86(22.4%) were aged below 24 years. The mean age was 33 years. Majority 194(50.5%) of the respondents had acquired secondary education while 108(28.1%) of the respondents had acquired primary school as their highest level of education.

On occupation, slightly below half 176(45.8%) were self-employed. However, 96(25%) were unemployed. Further 158(41.1%) of the respondents had an income of between Ksh.5,000 - Ksh.25,000 while 99(25.8%) had an income of between Ksh.25,000 - Ksh.45,000. The mean income was 14,550. Majority 250(65.1%) of the respondents resided in a rural area. For majority of the respondents 273(71.1%), the study site (Nyeri county referral hospital) was not their nearest health facility.

Table 4.2 Socio demographic Characteristics of Respondent

Demographic characteristic	Category	Frequency (n=384)	Percent (%)
Sex	Male	174	45.3
	Female	210	54.7
Age (years)	<24	86	22.4
	25 – 34	126	32.8
	35 – 44	54	14.1
	45 – 54	63	16.4
	55 – 64	43	11.2
	> 65	12	3.1
Level of education	Primary	108	28.1
	Secondary	194	50.5
	Tertiary	82	21.4
Occupation	Employed	56	14.6
	Self-employed	176	45.8
	Unemployed	96	25.0
	Student	56	14.6
Average monthly income	< Ksh.5000	57	14.8
	Ksh.5000 - 25,000	158	41.1
	Ksh.25,000 - 45,000	99	25.8
	Ksh.45,000 – 65,000	56	14.6
	> Ksh.65,000	14	3.6
Residence	Rural	250	65.1
	Urban	134	34.9
NCRH is nearest Health Facility	Yes	111	28.9
	No	273	71.1

4.4 Respondents' referral Practices

Figure 4.1 presents the respondents referral practices. Majority 250(65.1%) of the respondents in the study were not referred to Nyeri Referral Hospital by a health worker.

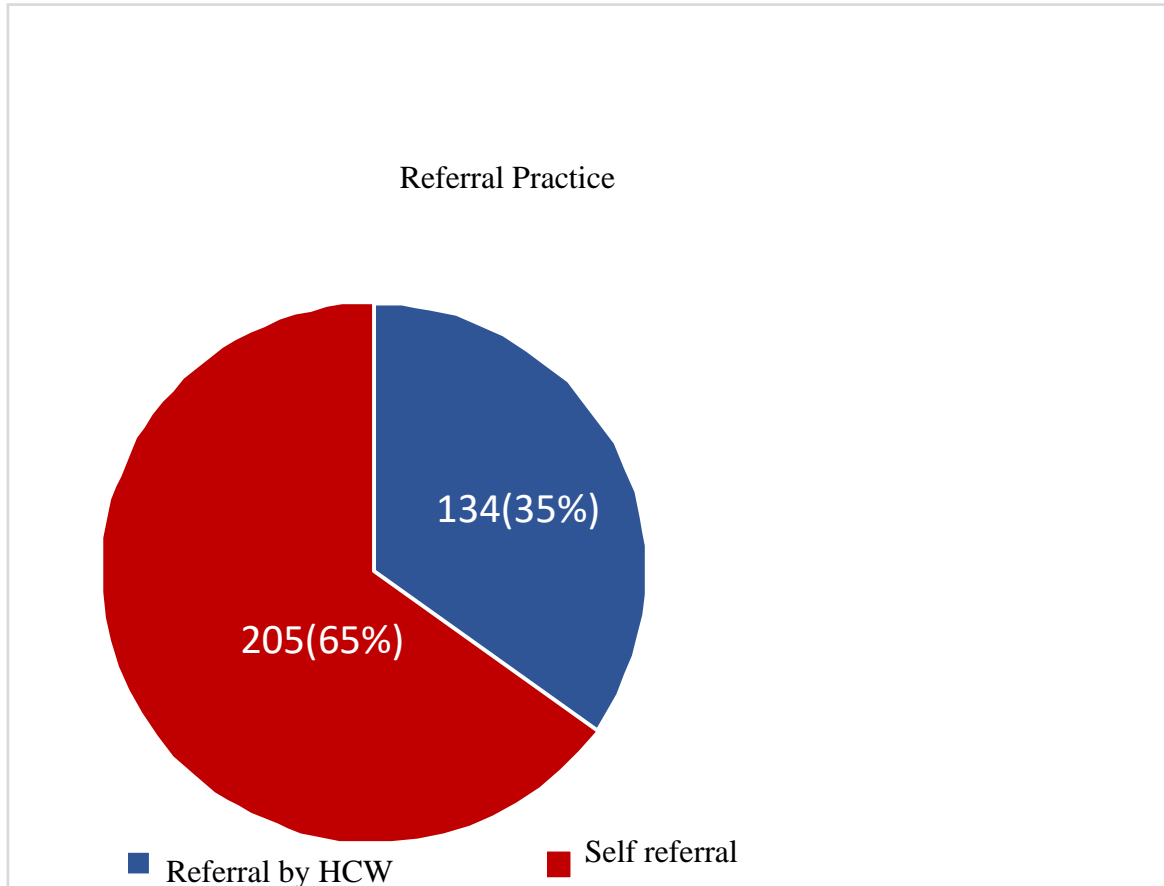


Figure 4.1 Respondents' referral practice

Among those referred by a health care worker, majority 87(64.9%) did not have a referral letter. Figure 4.2 33.6 %(n=45) were referred from a level 4 facility, 31(23.1%) from a level 3 facility while 26(19.4%) were referred from a private clinic. 44(32.8%) were referred for a child's illness, 29(21.6%) were referred for diabetes while 17.2% (n=23) were referred for hypertension. As shown in Table 4.3

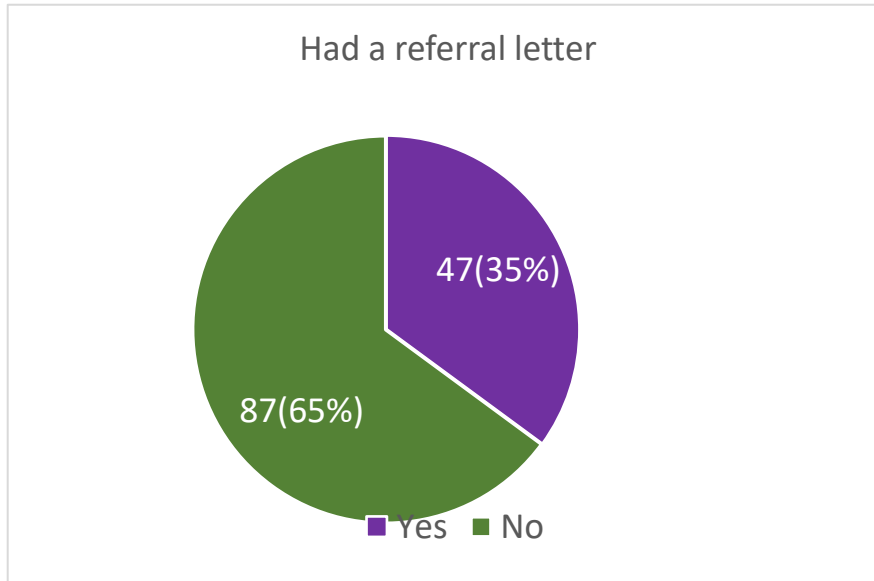


Figure 4.2 Among those referred, proportion with referral letter

Table 4.3 Facility referred from and condition referred for

Referral aspect	Response	Frequency	Percent (%)
Referred from (n=104)	Level 4	45	33.6
	Level 3	31	23.1
	Level 2	15	11.2
	Level 1	17	12.7
	Private clinic	26	19.4
Condition referred for	Child's illness	44	32.8
	Diabetes	29	21.6
	Hypertension	23	17.2
	Cancer	11	8.2
	Surgery	14	10.4
	Others	13	9.7

4.5 Association of socio-demographic factors and referral

Table 4.4 Analysis of the association between socio-demographic factors and referrals.

Results: Sex (p=0.04), level education (p=0.00), residence (p=0.000) were significant.

Table 4.4 Association of Socio-demographic Factors and referral

Demographic characteristic		Self referral n=250		Referred by HCW n=134		Chi square value	df	P value
		Freq.	%	Freq.	%			
Sex	Male	100	(28.7)	74	(21.3)	8.159	1	.004**
	Female	150	(43.1)	60	(17.2)			
Age years	<33	153	(93.9)	62	(16.1)	1.267	1	.530
	>33	97	(27.9)	72	(18.8)			
Education level	Pry	89	(23.1)	19	(4.9)	19.906	2	.000**
	Sec	112	(29.1)	82	(21.4)			
	Ter	49	(12.8)	33	(8.6)			
Occupation	Formal	38	(9.9)	18	(4.7)	2.691	3	.154
	Self	56	(14.6)	40	(10.4)			
	Un emp	116	(30.2)	58	(15.1)			
	Student	40	(10.4)	18	(4.7)			
Average income	<50k	109	(28.4)	106	(27.6)	2.397	1	.494
	>50k	141	(36.7)	28	(7.3)			
Residence	Rural	219	(57)	31	(8.1)	11.851	1	.000**
	Urban	31	(8.1)	103	(26.8)			

** P significant at 95% CI

4.6 Patients' Awareness of Referral processes

Majority 323(84.1%) of the respondents indicated that they had never been given information about the referral process. Among those who replied on the affirmative, majority 41(67.2%) of them indicated that they were advised to go to the nearest hospital while 20(32.8%) were told to have a referral letter. However, 49(80.3%) indicated that the information they were given was not clear (Table 4.5).

Table 4.5 Respondents' Awareness of Referral Processes

Awareness	Response	Frequency	Percent
Information about referral process	Yes	61	15.9
	No	323	84.1
Specific information given	Go to nearest hospital	41	67.2
	Have referral letter	20	32.8
Clarity of information given	Yes	12	19.7
	No	49	80.3

4.7 Association of Awareness and referral

Tests between awareness and referral presented in Table 4.6 show that patients' awareness ($p=0.000$) was significant.

Table 4.6 Association of Awareness and referral

Variable	Self referral	Referred by HCW	Chi square value	df	P value
	n=250	n=134			
	Freq. %	Freq.%			
Aware of referral process	46 (11.9)	55 (14.3)			
			43.53	1	.000**
Not aware	227(59.1)	56 (14.6)			

**P Significant at 95% CI

4.8 Health System Factors Associated with referral

Results show that 106 (27.6%) lived between 21-30 kilometers from Nyeri County Referral hospital while 99(25.8%) lived over 31 kilometers away. The mean distance was 27.6 kilometers. On waiting time, 146(38%) indicated that they waited for over an hour to receive services while 132(34.4%) said that they waited for over two hours to receive services. Slightly above half 198(51.6%) of the respondents rated the patient-doctor relationship as poor. On infrastructure, majority 247(64.3%) of the respondents rated the hospital's infrastructure as good. Slightly less than half 187(48.7%) were not satisfied with the health services received while 102(26.6%) responded they were moderately satisfied. On reasons for their level of satisfaction, 188(49%) cited long waiting times and 156(40.6%) indicated lack of medicine

Tests were conducted between health system factors and referral. Table 4.8 conveys that distance (p=0.000), infrastructure (p=0.004) and general satisfaction (p=0.00) were

significant.

Table 4.7 Association of Health System Factors and referral

		Self referral		Referred by HCW	Chi square	df	P value
		Freq.	%				
Distance Kms	<20	148	(38.5)	21(5.5)	67.08	1	.000**
	>20	102	(26.5)	113(29.4)			
Waiting time	< 1 hour	42	(10.9)	14(3.6)	2.826	1	.093
	>1 hour	208	(54.1)	120(31.5)			
Pt/ Dr. Relationship							
	Good	109	(28.4)	56(14.6)	2.575	1	.108
	Poor	141	(36.7)	78(20.3)			
Infrastructure	Good	144	(37.5)	57(14.8)	7.934	1	.004**
	Poor	106	(27.6)	77(20.1)			
General satisfaction							
	Satisfied	91	(23.7)	106(27.6)	63.68	1	.000**
	Not satisfied	159	(41.4)	28(7.3)			

4.9 Measure of association of variables with referral

Further logistic regression analysis was conducted. Significant variables in the chi-square test calculation were used. The results are presented in Table 4.9. showing that sex (OR= 0.54;95% CI 0.35-0.82) awareness (OR=0.21;95% CI 0.13-0.34) and residence (OR=23.47;95% CI 13.54-40.69) were significant. There was a strong association of sex and awareness with referral.

Table 4.8 Measure of association of variables and referral

Variable	category	Self referral		Referred by HCW		OR 95% CI	P value
		N	%	N	%		
Sex	Male	100	(28.7)	74	(21.3)	0.54 (0.35-0.82)	0.0045
	Female	150	(43.1)	60	(17.2)		
Education level	< Tertiary	201	(52.3)	101	(26.3)	1.34 (0.81-2.21)	0.2528
	Tertiary	49	(12.8)	33	(8.6)		
Awareness on referral	Aware	46	(11.9)	55	(14.3)	0.21 (0.13-0.34)	<0.0001
	Not aware	227	(59.1)	56	(14.6)		
Residence	Rural	219	(57)	31	(8.1)	23.47 (13.54-40.69)	<0.0001
	Urban	31	(8.1)	103	(26.8)		
Distance in kms	<20	148	(38.5)	21	(5.5)	7.81 (4.59-13.26)	<0.0001
	>20	102	(26.5)	113	(29.4)		
Infrastructure	Good	144	(37.5)	57	(14.8)	1.84 (1.20-2.81)	0.0051
	Poor	106	(27.6)	77	(20.1)		
Satisfaction with services	Satisfied	91	(23.7)	106	(27.6)	0.15 (0.09-0.25)	<0.0001
	Not satisfied	159	(41.4)	28	(7.3)		

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter briefly summarizes the research, concludes it, and provides recommendations for course of action.

The response rate for this study was 95.5% (384/402) which was adequate according to Mugenda and Mugenda (Mugenda, O. M. & Mugenda, A. G. (2003)

5.1.2 Referral for health services

Results showed majority of the respondents practiced referral. This means that they did not follow the referral process guidelines and were not instructed by a health care worker to visit the referral hospital for specialized care for their current illness. This resulted from the health care workers not providing guided referral or the clients themselves not visiting the primary facilities to start with.

5.1.3 Socio-demographic factors associated with referral

The first objective sought to determine socio-demographic factors associated with referral for health care services among outpatients at the County Referral hospital in Nyeri. The study found that majority of respondents were female, young, self-employed, had low income and lived in rural areas. Analysis showed that female respondents, respondents without tertiary education and respondents residing in a rural area were more likely to practice referral. Sex remained significant in the regression analysis. This may be attributed to the fact that women have better health seeking behavior than men, and the fact that they are more likely to be the care givers taking an ill child to hospital. Low

education may mean that respondents did not know about the referral process or did not have the capacity to understand referral messages by health workers. Rural residence was also significant which be attributed to the fact that patients who are lowly educated reside in rural areas. It may also be due to the belief among such respondents that facilities close to them are not good in terms of quality of service. The findings of this survey are therefore consistent with those of *Pino-Moya et al.* (2018) who found that sex, residence area and education levels were factors influencing patient self-referral. *Newbrander et al.* (2012), Wangmo (2018) and Chioma (2019) also found that gender was significant with women having higher referral practices.

5.1.4 Association of patients' awareness of referral processes and referral for health care services at the Nyeri County Referral hospital

Objective two of the study sought to determine association of patients' awareness of referral processes and referral for health care services at the Nyeri County Referral hospital. Majority of the respondents stipulated they had never been given information about the referral process. Even among those who had received information, majority reported that information given was not clear. Lack of awareness was also highlighted as a predictor of referral in key informant interview. Cross tabulation showed that patients without awareness of referral processes were more likely to practice referral. In addition, not only did awareness remain significant in the regression analysis, it also emerged as the most influencing factor among those considered in this study. These findings suggest low awareness of the referral process which can be attributed poor communication from the health system like no outreaches or written material about the subject. The fact that majority of respondents who attend this facility are from rural areas and have less than

secondary school level educated exacerbates this problem. This result agrees with findings of *Abodunrin et al. (2020)* study of Nigeria which found that awareness levels of referral were low and perception on referral was poor. The more a person was educated the more knowledge they had about referral and were more likely to have a correct perception about referral for health services. *Afrizal et al. (2019)* also found that lack of awareness and familiarity is well recognized as a key reason behind low implementation of guidelines in primary health care generally, and specifically in relation to referral processes.

5.1.5 Association of health system factors and referral for health care services at the Nyeri County Referral hospital

The third objective sought to determine health system factors associated with referral for health care services among outpatients at the Nyeri County Referral hospital. The study found that on average, majority of patients distance to Nyeri County Referral hospital was 27.6 kilometers. Slightly less than half said they were not satisfied with the health services they received. Descriptive results showed that respondents were dissatisfied with waiting time and patient-doctor relationship. Lack of medicine and lack of information were other factors cited for dissatisfaction. Respondents in the KII identified shortage of staff, inadequate infrastructure and lack of medication. However, patients were satisfied with the hospital's infrastructure. Cross tabulation showed that respondents living less than 20 kilometers away, those who waited for over an hour and those who said they were not satisfied with services were more likely to practice referral. Patients who are dissatisfied with facility's services are likely to practice referral in search of better services. This is in agreement with *Kamau et al. (2017)* who indicated that for referral to

be a success, there should be access to referral care facilities, staff that are well trained to provide quality care, availability of equipment, supplies and medication. The finding is also in agreement with *Al-Namash et al.* (2011) findings that system-side factors like medication availability, diagnostic ability, competent and motivated staff as well as finance allocations hinder referral process. Agofure (2018) also showed that there was poor synergy among the various tiers of health care system leading to poor patient care. Other studies have showed different results in these aspects and thus further study may be required to elicit why.

5.2 Conclusion

The study concludes that self referral was practiced by majority of patients seeking health services at the Nyeri County Referral hospital.

Sex, level education and residence were the sociodemographic factors associated with referral for health care services among outpatients at the County Referral hospital in Nyeri. Specifically, women, patients without tertiary education and patients from rural areas were more likely to practice referral.

There was a strong association of patients' awareness of self referral processes and referral for health care services at the Nyeri County Referral hospital. The study found that patients lacked awareness of the referral process. Patients lamented the lack of clarity of information on the referral process. This calls for review of training and information strategy and the necessity of a public sensitization program.

Health system factors are also associated with self referral for health care services among

outpatients at the Nyeri County Referral hospital. They include distance to facility, waiting time and general satisfaction. Respondents living less than 20 kilometers away, those who waited for over an hour and those who answered that they were not satisfied with health services were more likely to practice referral. Waiting time emerged as the most significant health system factor associated with referral. Respondents were dissatisfied with waiting times indicating that they were waiting for over an hour to receive services.

5.3 Recommendations

5.3.1 Recommendations from study

On socio-demographic factors associated with self referral, public sensitization campaign to enhance the utilization of primary healthcare facilities targeting women, persons with lesser than tertiary level of education and residents in rural set ups as they more likely to practice referral. This campaign should involve multiple channels. Women –who were found to have higher referral practice – ought to be given special attention in messaging. This can be done in antenatal clinics, child welfare and postnatal clinics where they are the majority.

On patients' awareness on referral process routine health education, training and giving of clear information and guidelines on the referral processes to both health care workers and patients.

On health system factors, the Nyeri County government needs to ensure that primary health facilities are adequately staffed and well equipped especially with medicines. Also strengthening the health system to accommodate up-coming pandemics like the Covid 19.

Referral centers to consider reverse referral for ailments that can be treated in lower-level facilities.

Referral centers to consider reverse referral for ailments that can be treated in lower-level facilities by linking and coordinating cooperation between upper level and lower-level hospitals as suggested by D. Teng and N. Li (2018).

5.3 Recommendations for further study

The study found that a larger proportion of respondents were not informed on the referral process. It also found the existence of unnecessary and inappropriate referrals. This necessitates a study into the referral process from the perspective of health care workers in primary and secondary level health facilities. The current study only focused on Nyeri County Referral hospital. A similar research ought to be conducted out in other county referral hospitals.

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APPENDICES

Appendix I: Consent Form

Dear informant,

My name is Gatwiri Murithi, currently undertaking a Degree of Master of Science in Public Health Systems Management and Application. As such, it requires me to carry out a study to establish factors associated with referral for health care services among outpatients at the County Referral Hospital in Nyeri County, Kenya. I would like to request for your voluntary participation by responding to questions in the attached questionnaire. You can withdraw from the survey at any moment, without any consequences and without giving any reason. The questionnaire will not take more than ten minutes to complete. Please note that there are incorrect answers and answer the questions as accurately as possible. All responses will be kept confidential and data will only be reported in aggregate.

Respondents' statement

I have received a copy of the introductory letter, read, and understood the information contained therein. I understand that participation in this survey is by free will. There is no payment for my involvement. I can withdraw from the project at any time freely. I have read and understood that information provided will be treated with confidentiality, and that my name will not be revealed. It has been explained that the study has been approved by the relevant authorities. I have understood the explanation provided about the survey. Questions raised have been answered to my satisfaction.

.....

.....

Signature

Date

Appendix II: Questionnaire

The questionnaire seeks to assess factors associated with referral for health care services among outpatients at the County Referral Hospital in Nyeri County, Kenya. Please respond as honestly as possible.

A: Sociodemographic Factors

1. What is your sex?

- Male
- Female

2. How old are you?

- < 24 years
- 25 – 34 years
- 35 – 44 years
- 45 – 54 years
- 55 – 64 years
- > 65 years

3. What is your highest level of education?

- Primary school
- Secondary school
- Tertiary institution

4. What is your average monthly income?

- <Ksh.5000
- Ksh.5000-25000
- Ksh.25000-45000
- >Ksh.45000

5. What is your occupation?

.....

6. Where do you live?

- Rural
- Urban

B: Referral Process

1. Were you referred to this facility?

- Yes
- No

2. For what condition were you referred for?

.....

3. Do you have the referral letter with you?

Yes

No

C: Awareness of Referral Process

1. Were you given information on the referral process?

Yes

No

2. If yes in Q1, what information were you given?

.....

.....

.....

3. Was the information given to you clear?

Yes

No

D: Health System Factors

1. What is the approximate distance from your home to this hospital?

..... kilometers

2. How would you rate the waiting time in this hospital?

- Very high
- High
- Fair
- Low
- Very low

3. How would you rate the patient-doctor relationship in this hospital?

- Very Good
- Good
- Fair
- Poor
- Very Poor

4. How would you rate the infrastructure in this hospital?

- Very Good
- Good
- Fair
- Poor
- Very Poor

5. Generally speaking how satisfied are you with the services at this hospital?

Very High

High

Fair

Low

Very Low

Explain your answer

.....

.....

.....

~Thank you for participating~

Appendix III: Key Informant Interview guide

1. What guidelines/protocols does the hospital use in the referral process?
2. What internal challenges exist in the referral process?
3. Which patient-related challenges do you face in the referral process?
4. Do you get unnecessary and inappropriate referrals?
5. What is the hospital doing to enhance the referral process?
6. What else do you think is of importance in the referral process?

Appendix IV: KUERC Approval



Kenyatta University
P.O Box 43844-00100
Nairobi-Kenya

REF: KU/ERC/APPROVAL/VOL1/1

Date: 28th October, 2020

Gatwiri Murithi
Co_invest..Dr.Kenneth Rucha
Email:Kennethrucha @gmail.com
P.O BOX 43844-00100
Nairobi.

Dear Ms. Murithi,

APPLICATION NUMBER: PKU/2148/I1292 PATIENT DRIVEN REFERRAL FOR HEALTH SERVICES AMONG OUT PATIENTS AT COUNTY REFERRAL HOSPITAL IN NYERI COUNTY, KENYA.

This is to inform you that **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE** has reviewed and approved your above research proposal. Your application approval number is **PKU/2148/I1292**. The approval period is **28th October, 2020 – 28th October, 2021**.

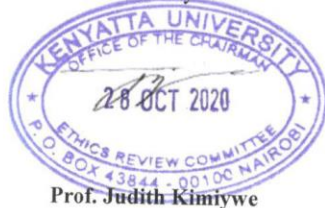
This approval is subject to compliance with the following requirements;

- 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 **KENYATTA UNIVERSITY ETHICS 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 **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE** 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 **KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE** 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 ***KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE***.

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



Prof. ~~Judith~~ Kimiywe

CHAIRPERSON- KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE.

Appendix V: NACOSTI Research Permit



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Date of Issue: 30/October/2020

RESEARCH LICENSE



This is to Certify that Miss. Gatwiri Marithi of Kenyatta University, has been licensed to conduct research in Nyeri on the topic: Patient Driven Referral for Health Services among Outpatients at County Referral Hospital in Nyeri County, Kenya for the period ending : 30/October/2021.

License-No: NACOSTI/P/20/6410

Applicant Identification Number: 447139

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



Verification QR Code

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Appendix VI: Nyeri County Approval

REPUBLIC OF KENYA



COUNTY GOVERNMENT OF NYERI
DEPARTMENT OF HEALTH SERVICES
OFFICE OF THE DIRECTOR

Email: nyericountyhealth@yahoo.com

COUNTY COMMISSIONER'S HQ
BLOCK 'A'
P.O. Box 110 - 10100

REF: CGN/HEALTH/HRM/5/VOL.II

Date: 16th December 2020

The Medical Superintendent
County Referral Hospital
NYERI

RE: RESEARCH AUTHORIZATION

The bearer of this letter, **Gatwiri Murithi** is a student at Kenyatta University School of Public Health, pursuing a degree of Master of Science in Health Systems Management.

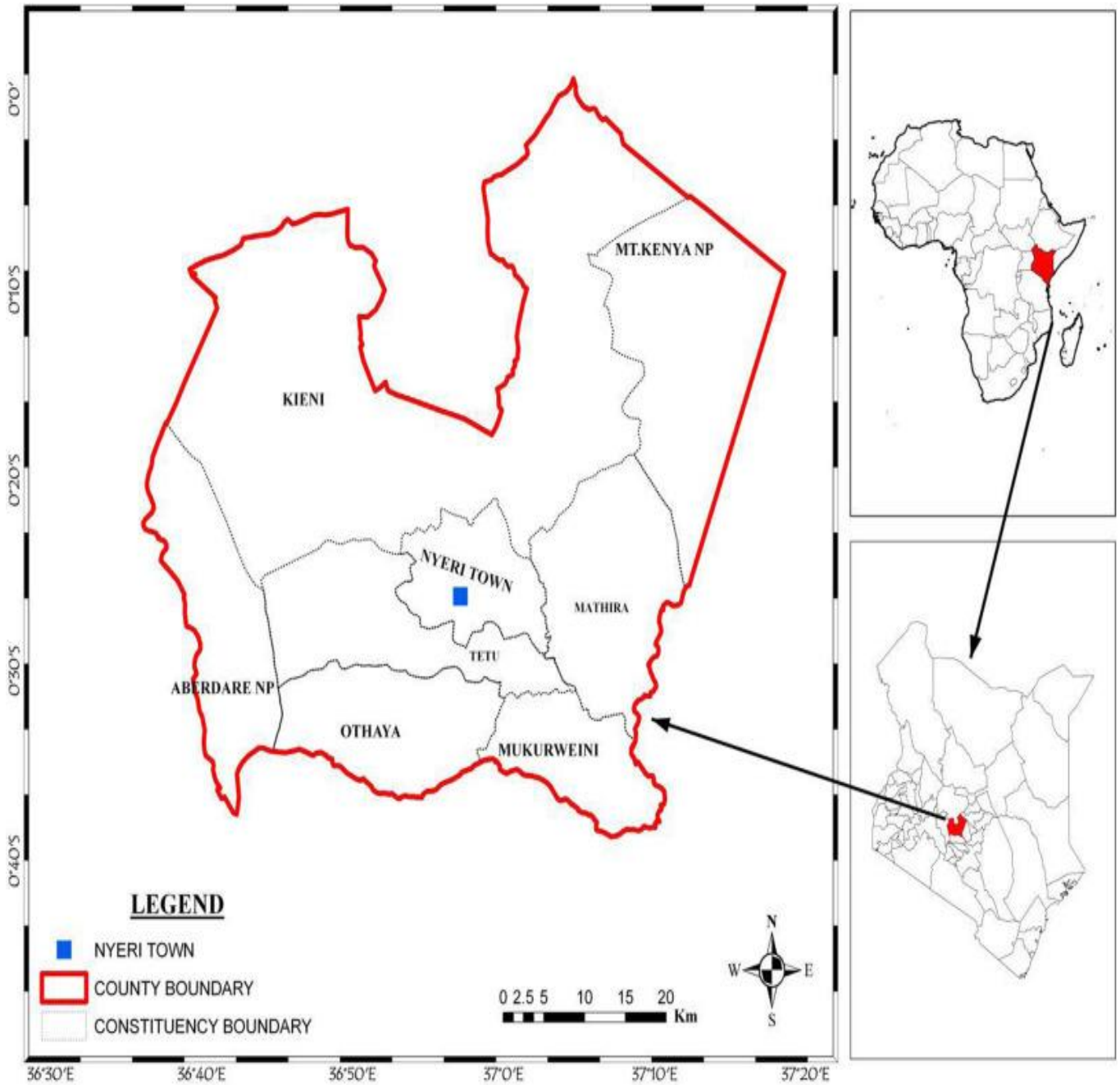
She is hence introduced to carry out a research on "**Patient driven referral for health services among outpatient at Nyeri County Referral Hospital**".

Kindly accord her the necessary assistance.

The student **must** deposit a copy of the final report with the department following completion of the study.

Dr. Oscar Agoro
For: Director of Health Services
NYERI COUNTY

Appendix VII: Map of Nyeri County



Source: Kenya National Bureau of Statistics 2010