ADHERENCE TO NATIONAL HEALTHCARE REFERRAL GUIDELINES AND OUTCOMES OF CHILDREN MANAGED AT MOI TEACHING AND REFERRAL HOSPITAL ELDORET KENYA

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THIS THESIS HAS BEEN SUBMITTED TO THE SCHOOL OF MEDICINE IN PARTIAL FULFILLMENT FOR AN AWARD OF THE DEGREE MASTER OF MEDICINE IN CHILD HEALTH AND PEDIATRICS OF MOI UNIVERSITY

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DECLARATION

Student declaration

This thesis is my original work and has not been presented to any other university/institution.

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DEDICATION

This thesis is dedicated to my mother, Janet Nekesa, who has been my constant source of guidance and inspiration to tackle any task with enthusiasm and determination. I am forever grateful to her.

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ACRONYMS

IMCI   Integrated Management of Childhood Illness

KEPH   Kenya Essential Package for Health

MDG   Millennium Development Goals

MTRH   Moi Teaching and Referral Hospital

WHO   World Health Organization

OPERATIONAL DEFINITIONS

Pediatric patient: a child aged 14 years and below seeking health care services.

Referral: A formal process that authorizes a medical case / patient to get care from a specialist or higher-level facility.

Inappropriate referrals: Referrals that incorrectly designate destination or necessity or lacked quality of communication, complete referral forms or accompanying documentation.

Counter referral: a process in which a referred patient is redirected back to the originating facility for follow up on the reason for referral.

Bypassing: In this study, a patient is said to have engaged in bypassing, and consequently self-referral, if (s) he was aware of other available health care facilities yet chose to seek health services directly from Moi Teaching and Referral hospital.

Outcomes: discharge from sick child clinic, transfer to specialized clinic, admission to the ward, and death at Sick Child Clinic.

Sick Child Clinic – pediatric emergence department at MTRH

Referral patterns: encompass multidirectional movement of patient and patient parameters, patient demographic characteristics as well as processes involved in patient transfer.

Adherence: a case is adherent to the referral guidelines if one is referred from another facility to MTRH and has observed transfer guidelines.

Adherence to the transfer guidelines: in this study one is adherent to the transfer guidelines if the patient had a referral document, were sent by ambulance, the referring hospitals called MTRH prior to referral and were accompanied on the way by a health worker among other requirements

ABSTRACT

Background: Referral guidelines are meant to ensure coordination and continuity across all levels of health care. In Kenya, primary health care is supposed to be the first point of entry into the referral system yet patients bypass lower level health facilities to tertiary hospitals leading to congestion and limited access by the larger population. This could result in increased morbidity and mortality among the patients who are denied access.

Objective: To determine adherence to the National Referral Guidelines and immediate outcomes of children seen at Moi Teaching and Referral Hospital (MTRH), Eldoret.

Methods: Prospective study done at the Pediatric emergency department of MTRH from February to June 2016. A total of 422 children aged 14 years and below were recruited using a systematic sampling technique. Socio-demographic data (age, gender, residence of the child as well as parental level of education andemployment status) were collected and clinical data was collected using interviewer administered questionnaires. Clinical charts were reviewed to determine chief complaint, investigations done prior to referral, diagnosis at the referring facility, management and treatment outcomes post referral.Information on adherence to transfer guidelines was collected by examining ambulances using a check list. The results were presented as frequencies, percentages, mean and corresponding standard deviation in the form of charts and tables. Pearson chi-square test and odds ratios were used to test for association between independent and dependent variables at a 95% confidence interval.

Results: Out of the enrolled participants, 234 (55.5%) were male while 217 (51.4%) were aged between 5 to 14 years. Hospital referrals accounted for 67 (15.9%) of all the participants with the rest being self-referrals. There was no counter referrals observed. Adherence to the four transfer guidelines requirements was observed in 31(46.3%) of the 67hospital referrals seen. The referral facility (MTRH) was called prior to the referral of 32 (47.8%) of the hospital referrals, 56 (83.6%) had a referral document; 43 (64.2%) were transferred in ambulances and 46 (68.7%) were accompanied by health care workers. Admissions were reported among 59 (88.1%) of the facilities were admitted while223(62.8%)of self-referrals were treated and discharged. Lower level of parental education (p= 0.025), residing outside Uasin Gishu County (p<0.001) and a child being older than five years (p = 0.015) were significantly associated with hospital referral to MTRH. Children who were referred were nearly three times (AOR = 2.932; 95% CI: 2.422 – 3.550; p<0.001) more likely to be admitted compared to those who were self-referred.

Conclusions: The overall adherence to referral guidelines was low and less than a quarter of the children seeking care at MTRH were referrals from other facilities. Majority of the participants were self-referrals and no counter-referral was observed. Less than half of the hospital referrals were transferred as per the transfer process guidelines. Most of the self-referrals were treated and discharged while nearly all the hospital-referred children were admitted.

Recommendation: Further qualitative studies determining reasons for self-referrals and lack of adherence to transfer guidelines should be conducted.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Referral is a key element of the health care system in Kenya. It is defined as any process in which health care providers at lower levels of health system, who lack skills, adequate facilities, or both to manage a specified given condition, seek the assistance of providers who are better equipped and or specially trained to guide them in managing or to take over the responsibility for a particular episode of a clinical condition in the patient(Al-Mazrou et al., 1990). It acts as a building elevator (lift) to facilitate forward and backward management of clients' needs across different floors, or levels of care. In this study, referral is defined as a process of seeking care at a referral facility.A functional referral system links health care across all levels of care and ensures optimum utilization of personnel and facilities together with improving communication among all health care providers involved in a patient's care(MOH, 2014a).

The Kenya health care system is hierarchical and is organized and implemented through a network of facilities arranged in a pyramidal pattern commonly known as a referral system. This network starts from the community health care services, primary health care, county referral services to the national teaching and referral facilities(MOH, 2014b). Facilities become more and more sophisticated in diagnostic, therapeutic and rehabilitative services at the upper levels(Tom Kizito et al, 2005).Effective referral networks are meant to provide linkages across the different levels of the health system, from the community to the tertiary level. This ensures that clients receive the full spectrum of care provided by the health system, regardless of the level at which they physically access health care.

In most countries especially those with low income economies, secondary and tertiary health care services are only available at afewhospitals located in major urban centers(Baker et al., 2007). On the other hand, community health services and primary health care facilities lack sufficient adequately skilled providers, equipment, or technology to providecare for critically ill patients(standards and norms for health care services-Kenya, 2006).

The government of Kenya through the ministry of health formulated referral policies and guidelines aimed at implementing a functional referral system to ensure equitable access to quality and cost effective health care for all citizens(Kamau et al., 2017).The linkages across various levels of care and the referral processes will be implemented based on the principles described in the ministry of health referral guidelinesof 2014-2018(GOK/MOH, 2016).The guidelines state that health care services should be first sought at primary health care facilities except in emergency situations where referral facilities can be accessed directly(with no defined acceptable limits); the referral destination will be guided by the MOH Clinical Management and Referral Guidelines for each level of care and the availability of services in the facility receiving the referral; the attending health worker will fill out a client referral form in a legible manner (printed if necessary) in English and with all the required information; all relevant diagnostic results should accompany the client referral form; for emergency referrals, The referring health worker will communicate directly by phone or any other means of communication available to the receiving health worker to ensure that advance notice of the referral is given to allow adequate preparation; All referrals shall be governed by the health sector referral guidelines; The national and county MOH will appoint a team to periodically monitor and evaluate the performance of the referral system at the national and county levels; All counter-referrals to the

originating referral facility will be communicated appropriately by using standard counter-referral forms with all the necessary information completed and that emergency referrals shall be accompanied by a trained staff to the receiving health facility.The referral form is required to contain the patient's name, gender, age, number, county, sub-county, next of kin, telephone number, referring facility , receiving (referral facility), patient history and investigations done, diagnosis, reasons for referral, referring officer and referral-back details (tracking slip). The tracking slip includes name of the facility or department, date the patient reported, referring facility's department, clinical details, clinicians name and telephone number, designation, signature and date.

The benefits of the referral system would only be realized if the referral policy was implemented and guidelines observed.However, the formulation of an excellent policy does not assure good performance (Niven, 2006). The referral system has transformed the public health system into an integrated, comprehensive national service, but failures in leadership and stewardship and weak management have led to inadequate implementation of what are often good policies(Hoosen et al,2009). This study therefore, sought to establish the level of adherence to national health referral guidelines by looking at the proportion of patients referred to Moi Teaching Referral Hospital from other hospitals as well as determining immediate outcomes at MTRH sick child clinic.

1.2 Problem Statement

The Moi teaching and referral hospital experiences a very high clinical workload both in the outpatient and inpatient departments. This has led to a high (150% to 200%) bed occupancy and strained quality of service.This congestion at the referral hospital has been attributed to national referral hospitals serve as both primary health care and national referral facilities (Health Report, 2015). This is despite the sole objectives of national hospital to serve as referring facilities where specialized care is offered. The lack of adherence to national referral guidelines could contribute to this congestion (Kue et al., 2014; MOH, 2014).Self-referral epitomizes lack of adherence to the national referral guidelines. Therefore, inappropriate referrals result in limited access to specialized services at referral facilities such as MTRH and could lead to an increased cost of health care services (Howard, 2018).

1.3 Justification

Moi Teaching and Referral Hospital is a national and teaching hospital and one of the busiest facilities in the country operating at 150% to 200% its capacity. The existing data from the medical records indicate that there is a high level of overcrowding at this facility. This study sought to interrogate the functioning of the referral system at the facility as part of performance monitoring. The lack of adherence to referral guidelines could be contributing to the congestion witnessed in the facility.By identifying gaps in the referral system, interventions could be formulated to strengthen the system leading to both a reduction in congestion and optimization of care to the affected patients.

1.4 Research Question

What is the level of adherence to thenational referral guideline at MTRH Sick Child Clinic?

1.5 Objectives

1.5.1 Broad Objective

To determine the adherence to National Healthcare Referral Guidelines and document immediate outcomes among children seen at Moi Teaching and Referral Hospital, Eldoret

1.5.2 Specific Objectives

i.   To determine the proportion of children seen at MTRH who were referred from other health facilities.

ii.   To describe the patterns of referrals among children attending MTRH sick child clinic

iii. To determine the level of adherence of the transfer process used to bring children to MTRH sick child clinic in reference to the national healthcare referral guidelines

iv.   To determine the immediate outcomes of children seen at MTRH sick child clinic.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Background

The ministry of health referral implementation guidelines 2014-2018 defines referral as 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(MOH, 2014b). It includes patient movement from the community to the highest level and back, that is, a two-way referral system or feedback system. 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 referral hospital. In an editorial for the British Medical Journal states that the referral system contributes to high standards and permits efficient division of tasks between general practitioners and specialists, as well as containing the cost of medical care(Sweeney, 1994). Effective referral systems are an important part in ensuring that people receive appropriate care. It is of particular importance especially for those in the lower socio-economic strata(Kvamme et al., 2001). Optimal referral processes are crucial for the effectiveness, safety and efficiency of medical care in any society(Kvamme et al., 2001).

However,in most developing countries, health referral linkages across the various levels of care are weak, and this affects the overall performance of the health system and contributes to negative health outcomes.In order to strengthen the referral system, the Kenya ministry of health developed a referral strategy, standard guidelines, and forms to guide the sector in building an effective health referral system that responds to the needs of population(MOH, 2014b).

Such a 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 Primary health care initiative. It ensures a continuum of care as patients are required to seek health services from higher tiers of care in the referral system should there be need to do so. Advantages of an effective referral system include contribution to high standards of care, permitting an efficient division of tasks between lower level and higher-level facilities, freeing specialists to develop their special skills, and reducing medical cost for the patients and country at large.
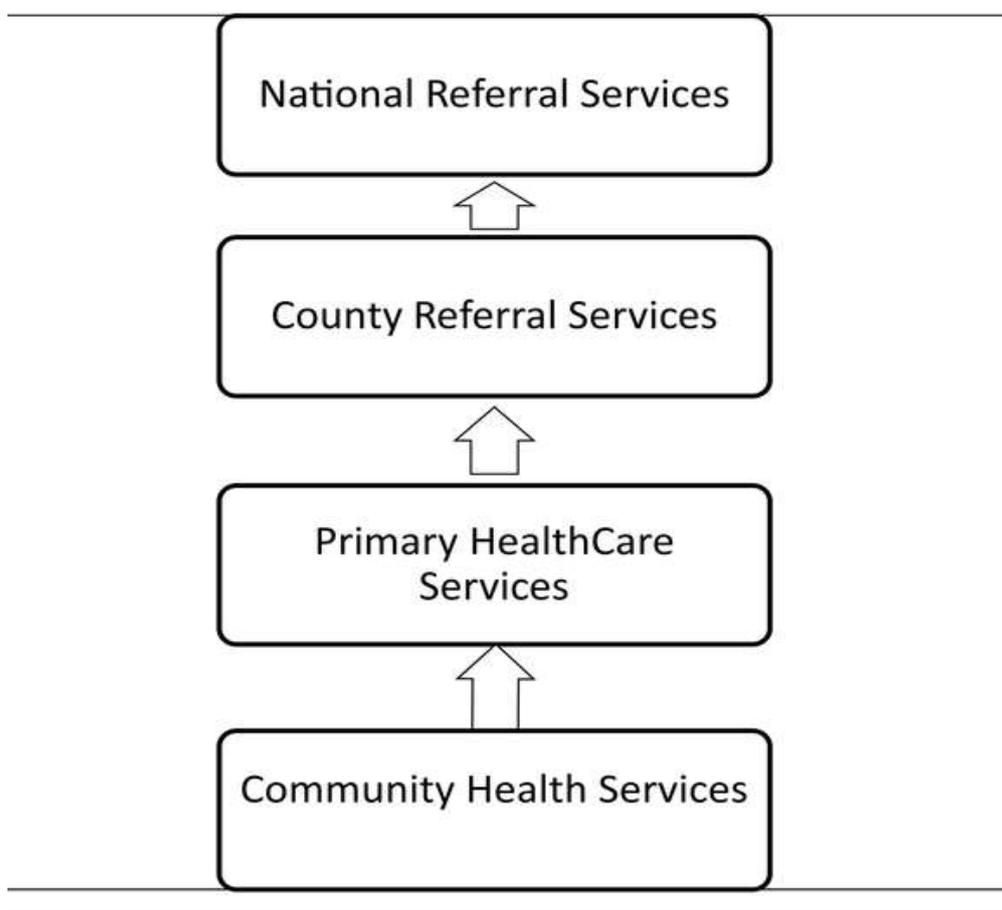
Figure 1: Organization of health services in Kenya under a devolved system.

2.2 The Kenya referral guidelines

The Kenya ministry of health referral implementation guidelines 2014-2018 provide that individuals in need of health care services first visit the primary health care where basic and essential services are provided(MOH, 2014b). If the condition is beyond the healthcare provided at the primary health care facility and warrants referral to a county referral facility, they will be so referred. If the condition still requires higher level of care, they will be referred to a tertiary level facility(national referral services). These referral guidelines were meant to ensure maximum efficiency of the health system, reduce number of inappropriate and self-referrals to tertiary facilities and strengthen lower level health facilities among others(MOH, 2014b). The guidelines were also meant to improve health systems' ability to transfer clients and experts to different levels of health care as well as improving counter referral and outreach systems for equitable and quality health care access to all Kenyan citizens. It has been suggested that effective implementation and adherence to guidelines in practice leads to improvement in outcomes(Lugtenberg et al., 2009). A systematic review of the quality of care given to adults in the United States, showed that patients received 54.9% of the care of the recommended care(McGlynn et al., 2003).

2.3 Proportion of referrals

Referral is a critically important aspect of the health care system, yet with a poorly understood process and mechanism(English et al., 2004; Gitonga, 2013). Furthermore, there is considerable evidence that the referral process is sub-optimal with unexplained variations in referral rates(Lal et al., 2016). This suggests that there is still some degree of inappropriate patient referral, with patients consuming health care resources that could have been used to provide other services. On the other hand, some patients managed inappropriately under primary care settings, would have

benefited more if they were being managed under specialist care(Okoli et al., 2017).Our tertiary hospitals are crowded by patients both in their emergence and in-patient departments, when they should be attending mainly to the clients who require highly specialized services. At MTRH pediatric emergence department, the cases seen include those referred from other hospitals and self -referrals. Irrespective of the reasons that range from cheaper hospital out-patient services to improved quality(Agrawal & Kosowsky, 2009), self-referral has generate economic concerns and is a practice that should be discouraged if its cons outweigh its pros(Moher et al., 2009). A study conducted in Ilorin found out that only 7.1% were referred from primary health centers to the hospital while 91.9% reported directly without referral(von Elm et al., 2007). Another, study that assessed referral patterns in children being treated for meningitis at two referral facilities in Nigeria found that only 16% of the children that had been admitted with meningitis in the two facilities were referrals from other facilities. It is worthy to note that the failure of the referral systems may not only be due to lack of resources in developing countries. Cuba for instance, is a third world country, but has one of the most successful health care program in the world with a well-developed primary health care and referral system, boasting of an infant mortality rate of 4.2 per thousand life births and a life expectancy of 78 years. In fact, according to WHO, Cuba's health system is a good example to the world, a statement echoed by Margaret Chan, Director General of the World Health Organization on her visit to Cuba in July 2014, particularly highlighting its sustainability and ability to respond to emergencies(WHO, OECD, 2018).

2.4 Patterns of referral

For the referral system to be functional, it needs to operate in a framework(MOH, 2014b)with clear guidelines as stated in Kenya Health policy(2012– 2030). Kenya's referral services framework provides for movement of four categories of elements: client movement, expertise movement, specimen movement and client parameter movement. This study intended to assess adherence to client movement guidelines as outlined in the ministry of health referral implementation guidelines 2014-2018. Some of the referral patterns involved in client movement are; facility to facility referrals, counter referrals and self-referrals.

A successful referral requires that there be geographical access to referral care facilities(MOH, 2014b). Provided referral services are accessible, referral staff must be trained to provide quality care, services must be affordable and should have essential drugs and equipment supplies. On the other hand, there needs to be the caretaker's acceptance and compliance with a referral recommendation. In many countries, caretakers of children often bypass primary care facilities and seek care directly at referral care hospitals for illnesses that could be easily treated at the primary care facility(Jarallah, 1998). This can overburden the referral facilities, and often increase cost for the caretaker and the health care system.

The tendency of clients to bypass lower-level facilities to access care at higher (less appropriate) levels is a challenge that has both policy and implementation dimensions. At the policy level, the lack of a referral bypass policy contributes to inappropriate self-referrals(MOH, 2014b). At the implementation level, the bypassing of lower-level facilities is driven by a perception among clients that lower-level facilities offer poorer quality services; delays in referrals, even in urgent cases; a lack of nearby

primary care facilities; and a lack of awareness among clients and providers about where to access cost-effective care for different conditions.

In most developing countries, health referral systems across the various levels of care are weak, which affects the overall performance of the health systems and contributes to negative health outcomes. Some of the challenges in under developed countries include noncompliance with referrals(Backman et al., 2008), delays in referral completion, and high numbers of self-referrals to higher-level referral facilities(Ajwang, 2013). Referral facilities generally are used as primary care facilities, as observed in a study in Tanzania. The limited facilities at tertiary hospitals are thus strained beyond reasonable measure due to high patient population at these levels(MOH, 2013).

In case of self-referrals, a patient bypasses lower levels of health care and seeks services from secondary or tertiary facilities(Okoli et al., 2017). The formal referrals on other hand, patients initially seek care from lower level health facilities and from there are authorized to seek services from higher level facilities accompanied by a referral letter. In an ideal referral system, movement to the next level should occur when a patient needs expert advice, technical examination, advanced laboratory investigation or technical treatment that isn't within the operational capacity of the initial facility. The gate keeper function at the primary care center level which can be performed by health centers or general practitioners in some systems is particularly important since it filters treatment to higher more expensive levels. The higher-level hospitals are left to only care for a small number of people who need more complex or highly specialized types of treatment(Cervantes et al., n.d.).

In many developing countries, including Kenya, the higher-level hospitals do only not treat referred patients, but are also used as the first point of contact with health services for many patients(Nordberg et al., 1996). There appear to be inappropriate utilization of higher-level facilities and the apparent failure of the referral system in Kenya to function as intended(Holdsworth et al., 1993). Positive patterns of referral such as counter-referrals are not well developed. Hospitals of all levels, up to and including national tertiary facilities, especially in their out-patients departments, are overwhelmed by crowding of patients who could have been treated successfully at lower-level facilities, many of whom are self-referred, bypassing primary health care or county hospitals in the process, a situation similar to other countries in Africa (Sanders *et al.,* 2001). The problem of bypassing typically seems to be driven by a number of factors including, patients' perception of superior quality of care and resource availability at referral hospitals (London and Bachmann, 1997), and the desire to avoid delays in care if referral to a higher-level facility deemed/proves to be necessary.

There is excessive and inappropriate use of referral hospitals for primary care by urban residents. The urban phenomenon of widespread bypassing and informal referral is frequently accompanied by low rates of formal referral from outlying facilities (Nordberg et al., 1996). These problems have a number of negative impacts and consequences. Simple conditions are unnecessarily treated in a high-cost environment, outpatient departments are congested by patients requiring primary care causing long waiting times, scarce staff time is diverted from specialized areas and into inappropriate care, and more complex cases requiring specialized care are crowded out by more urgent but less technically demanding cases that could be cared for at lower levels (Stefanini, 1994). Furthermore, tertiary hospitals are forced to

replicate a whole spectrum of services offered at community, primary and secondary levels in order serve patients who inappropriately come to seek services.

In the findings of a study in patient visits at tertiary hospitals in Nigeria by Akande (2004), 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

A study done at Muhimbili National Hospital in Tanzania in 2004 found that 72.5% of the 11412 patients seen in four months were self- referrals and most were residents of Dar-es-salaam(Simba, 2004). Another study done at Ilorin University Teaching Hospital in Nigeria in 2004, found that 92.9% of the 1416 patients studied were self-referrals, and 87.1% were new patients(Akande, 2004). Furthermore, majority of the new patients were resident in Ilorin. In a Zambian study, it was reported that the University Teaching Hospital was the only public hospital in Lusaka-Zambia(Atkinson et al., 1999). Together with the bypassing of primary facilities in the city, this situation leaves the tertiary hospital functioning as a health center and first contact provider for most of Lusaka's population

The referral patterns are complex and the systems have really flourished in developed countries. In Germany, the health care system is centered on the general practitioners as the primary health care providers. The general practitioner is the primary point of contact for the patient. The transfer to specialists, therapists or hospitals is decided on an individual basis. Patients who are signed up for the Hausarzt model are free to

consult gynecologists, eye specialists and pediatricians directly. The General Practitioner in the general practice (GP) model attendstopatientsandtheir health complaints at firstvisit(Bösner et al., 2011). Apart from emergencies, patients may also visit gynecologists, ophthalmologists and pediatricians, outside the geographical area of activity of the family doctor. Patients must be enrolled for at least one year with a family doctor.Only doctors are allowed to participate in this process, with which the respective health insurance company has concluded a contract.For example; since 2004, in Germany, patients that access the services of a specialist directly are required to pay an extra fee if they were not referred by their general practitioners. The German national data showed that since the introduction of the fee, there has been a tremendous increase in the number of referrals from general practitioners or primary health care providers to secondary health care provider and reduction in self-referrals. This has thus enhanced the need for referral systems and good communication strategies between all parties involved in the process (Forrest et al., 2014).

The French system is basically similar to the German one. Primary health care is provided by a network of 23,000 general practitioners (in French, *médecinsgénéralistes*), a ratio of 1 GP per 2600 inhabitants. Most GPs are self-employed professionals, and work either on their own, or in group practices. Citizens are free to choose the GP they want, and sign up with him or her, as their personal doctor. Citizens may also consult any other GP they wish, but only the personal doctor with whom they are registered is authorized to refer patients to a specialist or to another health care provider - nurse, physiotherapist, etc, for further care under the health care system. Specialist health care is provided by thousands of specialists in all branches of medicine, in towns and cities throughout France. Visits to specialists

in France are only reimbursed by the health care system at the full rate if the patient has been referred to the specialist by his own GP. Citizens may also visit any specialist they want, without getting referred by their own GP; but if they do so, the cost of their specialist visit will only be paid back at the basic GP visit rate, however much they paid

2.5 Adherence to transfer guidelines

Many critically ill patients require transfer to a higher-level hospital for complex medical care. Despite the publication of the Kenya referral implementation guidelines for interhospital transfer and establishment of many ambulance programs, adverse events during pediatric transport still occur.

Patient transfer is a well-developed component in the referral systems of most developed countries. In France for instance,the accident and emergency services (*les urgences*) are part of the national health care system. All cities and large towns have emergency ambulance services. Paramedics and medics from the emergency ambulance service are called out in the event of accident or emergency and provide on the spot services in many emergency situations.

2.5.1 Referral letters

In Kenya, the referral process from one level of care to the next is based on clear guidelines detailing the referral process. This includes the use of a pre-designed standardized referral form with important relevant clinical and social information.In order for referral to be successful, good communication between primary, secondary and tertiary health care service providers is essential. Communication between doctors with different expertise and movement from one level of care to another is vital for a continuum of care. weak health information systems to capture referral

data(Urkin et al., 2008), poor transport arrangements for emergency referrals and inadequately resourced referral facilities (The Kenya constitution 2010) are some of the weak points in the Kenya referral system.Referral is a two-way communication process between primary care physicians and specialists in hospitals, both of whom have an important role to play. It is the responsibility of the primary care physician to convey a clear message about the need and reasons for referring a patient. On the other hand, the specialist in a hospital is responsible for conveying a clear feedback on his evaluation of the patient's condition and a plan of management. However, problems in the referral process arise from primary care or hospitals when the primary care physician fails to clarify the reasons for referral,or conveys inappropriate or incomplete information(Lee T. et al, 1983).In Saudi Arabia, looking at the quality of letters and feedback reportsfound that most were incomplete(Jarallah, 1998). He concluded that the referral letters' quality was poor and needed to improvement. The specialist may also not address the physician's reason for referral or may fail to communicate his finding to the referring physician(Shadd et al., 2011).

Several authorshave stressed the importance of good referral letters as the best mode of transmitting information to promote the understanding of a problem or patient(Ezhumalai et al., 2020; Jarallah, 1998; Spiegel et al., 2003; Urkin et al., 2008). This not only improves management, but also aids the appropriate use of resources(von Elm et al., 2007).

2.5.2 Patient Transport

Some county governments have sought to improve the client movement aspect of referral services by investing in ambulances. However, some studieshave cited challenges related to client movement, including inadequately equipped ambulances, lack of funds for maintenance, and fuel costs(Kongnyuy et al., 2008; Tayler-Smith et al., 2013). Moreover, they pointed out that the requirement that every referred patient be accompanied by a nurse exacerbates existing staff shortages. Some counties have also invested in motorcycles to transport clients from community units to lower-level facilities. However, there is limited information on whether transfer of patients to their referral destination in Kenya is in line with referral guidelines. The ambulance protocols currently used in Kenya are greatly borrowed from the British National Health Service (NHS) system. This could also cause an implementation bias due to the sociodemographic and economic differences.

There are various forms of organized patient transportation systems in Kenya. These include public and privately-owned road ambulances as well as air ambulances. Although most of the county hospitals have embedded public ambulance systems, many privately owned ambulances are stand-alone facilities and this could interfere with the counter-referral pattern. Furthermore, majority of the privately owned ambulances that are affiliated to hospitals often cater for patients within their jurisdiction.

2.6 Management Outcomes for Referred Patients

To achieve optimum outcomes a pediatric Critical Care Transport Service will work in partnership with the referral network, Pediatric Critical Care facilities and local referring centres to ensure that within the network the basic functions are provided (National Health Servic, England; schedule ii –the services; Pediatric Critical Care Retrival (Transport)). Some of the primary functions of the referral network that affect outcome include; resuscitation and stabilisation of patients by referring staff to agreed guidelines and protocols, transfer of stabilised children in an appropriately staffed and equipped ambulances, support for the care of critically ill children including provision of outreach education and proper communication between referral and referring facility to ensure preparation before patient arrival). Very little is known about what happens to ill children who do not comply with referral guidelines. Among a sample of 81 caretakers in Nepal who were told to seek care at the nearest health facility, but who chose not to do so, 77 sought care at alternative sources, primarily medical shops (75%) and hospitals (22%). The majority (53%) felt that better care was available elsewhere, and 65% felt the recommended facility was too far, closed, or would not have medicine available. Not complying the referral guidelines has been associated with adverse outcomes.

Atkinson et al in 1999 study results revealed that in urban Zambia, found that people sought care at hospital facilities, not for perceived improved quality services, but because they thought they were less costly and better stocked with drugs. As such people with less severe illnesses came to the national teaching and referral hospital where they were seen in the emergency unit and went home. A study in Tanzania where Integrated Management of Childhood Illness (IMCI) strategy was being implemented showed that 91% of sick children and 75% of admissions at the referral

hospital came from within a 10-kilometer and were self referred(Fontet al 2002). A referral assessment in Ghana showed that with only 3% caretakers interviewed in the referral sites having been referred yet 11% children admitted into the inpatient ward had been referred to the hospital. This shows that referred were more likely to be admitted to the ward than self referrals (BASICS II and the Ghana Health Service, 2003). Daudi simba et al looking at referral patterns in Tanzania, found that of the 10,735 patients whose records showed outcome at MNH, 70.1% required admission (Table 3). Admission rate was highest for patients from outside Dar es Salaam region most of whom were referrals from peripheral facilities (84.7%), but admission rates were high even for self-referrals (70%).

CHAPTER THREE

3.0 METHODOLOGY

3.1 StudyDesign

This was a cross-sectional study conducted among children in sick child clinic between February to June 2016. The design was adopted since the researcher only came into contact with the children at admission. Because children stream in at different times of the day, a cross-sectional study design gives a representative snapshot of the situation at any given point in time.

3.2 Study Setting

The study was conducted at Moi Teaching and Referral sick child clinic. MTRH is the second largest government hospital in Kenya and has a bed capacity of 800. However, anecdotal data from records department shows that it has over 1500 patients admitted on a given day. It is located along Nandi Road in Eldoret Town, Uasin Gishu County (310 Kilometers Northwest of Nairobi). The Hospital serves residents of Western and North Rift regions of Kenya, Rwanda, Burundi,Uganda and Southern Sudan with a population of approximately 24 Million. There are only four public national referral hospitals in the country, the other three are; Kenyatta National Hospital, Mathare mental health hospital and Spinal Injury Hospital. Other national referral hospitals include, Agakhan University Hospital, the Nairobi Hospital and Mater Hospital. MTRH is a highly specialized hospital, with intensive care unit (ICU), very good laboratory unity, and a fully functional renal unit with dialysis services, advanced radiological investigation services among others. Health care provision is divided into divisions.

The division of pediatric and child health is large and consists of outpatient unit (sick child clinic) and 3 inpatient units (new born unit, upendo ward and Tumaini ward). It serves patients from birth to 14 years old. Sick child clinic and the wards are located in the Shoe for AfricaChildren's Hospital. The clinic handles all the ambulatory patients, emergency cases and referrals from peripheral facilities in western Kenya, Uganda, Tanzania, Rwanda, Burundi and Southern Sudan. Approximately 100 patients both medical and surgical are seen daily; some are discharged, others are admitted to the wards or referred to the specialized clinics for follow up.

The Shoe for Africa Children's Hospital has a bed capacity of 74 patients. Yet on any given day it accommodates about 200patients. It houses sick child clinic, surgical and medical pediatric in patient. Upendo and Tumaini are both Medical inpatient and together with the pediatric oncology ward have a bed capacity of 47patients though they house an average of 120 patients on a given day. There are also special units like theatre, 3 laboratories, a radiology unit and ICU.

The new born unit on the hand is a ward for the new born (from birth to 28 days). It has a bed capacity of 60 cots and 10 incubators. However, there are between 80 and 120 patients a day, with one out 7 nurses on duty at any given time. The neonatal intensive care unit is full not operational, but has several working incubators, infusion pumps and neonatal ventilators.

The pediatric patients attending this hospital are first seen at sick child, while those on follow up are attended at specialized pediatric clinics (NOPC, POPC, neurology, diabetic, dermatology, cardiology and GIT clinics). The sick child clinic is well equipped with a waiting bay, records section where patients are registered and patient files kept temporarily, a triage unit, a pharmacy, two nursing stations, 8 examination

rooms, patient observation unit with 8 beds, a fully operational theater, a customer care desk and a security section. There are also two ambulances on standby to transport clients who may need services outside the clinic. The clinic is the ground floor of The Shoe for Africa, a building that provides wards for pediatric inpatient from all subspecialties except neonatology.

Some neonate clients are brought to sick child clinic while others are taken directly the neonatal unit from home.The clinical staff attached to the Sick Child Unit includes the pediatrician in charge, three medical officers, several clinical officers and nurses, and their deployment is not based on specialized training. HIV infected and affected patients are managed at AMPATH, but counseling and testing services are also provided at the clinic. Final year pediatric residents work at the clinic for four weeks in rotation as part of their training. The medical officer on duty consult specialits from various pediatric disciplines whenever necessary.Consultants, especially pediatric surgeons and their team see patients at sick child clinic in cases of emergency. All the patients admitted in the ward are seen by consultants and pediatric specialists on a daily basis during ward rounds and specialist reviews.

3.3 Target population

All children attended to at Moi Teaching and Referral Hospital.

3.4 Study Population

The study Population comprised of pediatric patients seeking treatment at MTRH sick child clinic.

3.5 Eligibility Criteria

3.5.1 Inclusion criteria

All children aged fourteen (14) years and below seeking medical care at MTRH sick child clinic

3.5.2 Exclusion criteria

i. Patient revisiting sick child clinic for review or follow-up due to the same condition during the study period.

3.6 Study Period

February 2016 to June 2016

3.7 Sample Size

The sample size(n) was calculated using fisher's formula based on the proportion of referrals out of the total number of patients seen at MTRH pediatric emergence 'sick child clinic'. A proportion of adherence to referralguidelines was set at 50% as most of the studies conducted in Kenya did not fully address level of adherence to referral guidelines.Therefore, the maximum proportion (p) of 50% was used, within a 0.05 level of significance and 95% confidence interval.

Thus $n = Z^2 P (1 - P)/e^2$

$= 1.96 * 1.96 * 0.5 * 0.5/ (0.05*0.05)$

$= 384.16.$

$= 384$

We added 10% of the study population to cater for those patients who may decide to leave before the completion of management (incomplete data) at sick child clinic.

$110/100 * 384 = 422$

3.8 Sampling technique

Sampling method for this study was systematic sampling. The first participant was the first patient that was seen at MTRH sick child on the first day of data collection. Then the subsequent participants was every k^{th} patient where k= study population (N) divided by (n) the sample size. In case where the kth patient didn't give consent, then the subsequent patient was recruited.

Based on the available data at sick child clinic, an average of 100 children visited the facility daily seeking health care. This gave a total of 3000 patients in a thirty day month and hence an average of 12000 patients in four months.

N= number of pediatric patients seen at sick child in 4 months/sample size

n= sample size

k = N/n

 = 12000/422 = 28

3.9 Data Collection

(i) Research assistants.

Data was collected by the principal investigator with the help of two research assistants. The research assistants were clinical officers. There was a three day training session on the study objectives, ethical issues and use of data collection tools. Role plays were also be done on how to conduct interviews using the data collection tools.

(ii) Data collection tool

Socio-demographic data (age, gender, residence of the child as well as parental level of education and employment status) were collected and clinical data was collected using interviewer administered questionnaires.

The data collection tool was divided into six sections namely, demographic data, and referral status, and referral process, patient transport, referral documents, and care

given at MTRH. If the client was self-referred, information such as the nearest health facility, and distance from MTRH was collected. Primary data was collected using investigator administered questionnaire to the patients' parent/guardian.

Clinical charts (patient files, referral notes, referral forms and patient transfer forms)were reviewed to determine chief complaint, investigations done prior to referral, diagnosis at the referring facility, management and treatment outcomes (discharge, admission, death or transfer to specialized clinic) 24 hours post-referral. Information on adherence to transfer guidelines was collected by examining ambulances using a check list.

(iii) Study procedure

The recruitment process was conducted during the day and night, throughout the week including weekends. The researcher and two assistants were at sick child clinic on shifts to cover 24hours each day.The participants were recruited at registration desk where every 28th patient was picked according to the order of entry into the register. The parents or guardians were taken through the consent form before they signed while on the bench waiting for the patient to be attended to. Ascent was obtained from children seven years and older. The first client recruited was the first patient seen in the morning on the first day of data collection, and then every 28th patient was recruited. In case the 28th patient didn't give consent, then the next patient would be recruited: the next 28th will be counted from the last one recruited.

Primary data such as demographic, reasons for coming to hospital, and the transfer process was obtained through interviewer administered questionnaire and by observation through inspection of the ambulances for those who were referred by ambulances. Secondary such as diagnosis at MTRH, final treatment plan and outcome

data was obtained from patient files within 24 hours after the patient had been attended to.

3.10 Data Management and Analysis

Collected data was entered using Microsoft access.Eight participants' file did not have the final plan after they had been seen and sent for investigations.

Patient confidentiality was upheld by removal of patient name and admission number and coding was used. Independent variables were patient characteristics, whether formal referral or not and patient diagnosis while dependent variables included, ward admission, referral to specialized clinic, discharge and death.

All variables were presented graphically using tables, frequency tables and histograms which helped establish the nature of distribution. Other variables presented in the frequency tables were the count and percentages. A p-value of < 0.05 was conventionally accepted to indicate statistical significance. Other statistical tests used for analysis include: chi-square. All data was analyzed using STATA version 2013 program with 95% level of confidence.

3.11 Ethical Consideration

Data was de-identified and entered into coded questionnaires.The researcher obtained approval and authorization to conduct the research from MTRH and IREC to proceed with the study. Voluntary participation of the respondents was ensured. Signed consent of the participants was obtained before proceeding with the interviews. Nobody was denied access to services for refusal to participate in the study. The ascent was also sought from children above seven years before proceeding with the interviews.

CHAPTER FOUR

4.0 RESULTS

4.1 Sociodemographic characteristics of Study Participants

This study enrolled 422 children seeking care at the Moi Teaching and Referral Hospital in Eldoret-Kenya. Of these, slightly more than half (51.4%; n=217) were above 5 years of age with a male female ratio of 1.2:1.

Table 1: Sociodemographic characteristics of Study Participants

Variable	Category	Frequency	Percent
Gender of the child	Male	234	55.5
	Female	188	44.5
Age of the child	<1year	51	12.1
	1 – 5years	154	36.5
	6 -14years	217	51.4
Occupation of parent/guardian	Formally Employed	105	24.9
	Informally Employed	199	47.2
	Unemployed	118	27.9
Monthly Family/household Income (in KSh)	<10000	126	29.9
	10000 – 20000	211	50.0
	21000 – 50000	71	16.8
	51000 - 100000	12	2.8
	>100000	2	0.5
Residence	Uasin Gishu county	375	88.9
	Other counties	47	11.1
Parental/Guardian level of Education	None	4	0.9
	Primary	65	15.4
	Secondary	274	64.9
	Tertiary	79	18.7

4.2 Proportion of children referred from other facilities to MTRH

The study determined that about15.9% (n=67) of the children referred to MTRHbetween February to June, 2016 were from other healthcare facilities; while the rest were self-referrals.Among those who were referred from health facilities, 86.6% (n=58) were from government facilities, followed by those from

privatehospitals (11.9%; n=8) with the least representation from private clinics at 1.5% (n=1).

4.3 Association between Sociodemographic Characteristics and Facility Referral

Children whose parents or guardians had secondary education or less, lived outside Uasin Gishu county were more than five (5) years of age were more likely to be referred from healthcare facilities (Table 2).

Table 2: Association between Sociodemographic Characteristics and Facility Referral

Characteristic	AOR (95% CI)	p-value
Level of Education (Parent/Guardian): ≤ Secondary Tertiary	**1.146 (1.046 – 1.256)** 0.435 (0.198 – 0.960)	**0.025**
County of Residence Uasin Gishu Other Counties	0.461 (0.353 – 0.601) **19.604 (10.256 -37.476)**	**<0.001**
Pediatric Age Group ≤ 5 years > 5 years	0.713 (0.526 – 0.968) **1.372 (1.091 – 1.727)**	**0.015**

4.4 Adherence to the transfer process to the national guidelines

The four aspects of adherence to transfer guidelines for pediatric patients were scored. Lack of adherence to any of the steps was scored as zero. Partial adherence was compliance to one of the four adherence guidelines; while total adherence was scoring for all the four aspects.When this technique was adopted, 14.9% (10) of the children referred were transferred without adhering to any of the four transfer guidelines, while nearly half (46.3%; n=31) of all hospital referrrals had total adherence. More than four-fifths of the children referred from other health facilities came to MTRH a referral document (Table 3).

Table 3: Adherence to Transfer Guidelines among Facility Referrals (N=67)

REFERRAL GUIDELINE	Yesn(%)	Non(%)
Calling prior to Referral	**32 (47.8%)**	**35 (52.2%)**
Referral Document	**56 (83.6%)**	**11 (16.4%)**
Referral form:	31 (55.4%)	
Referral note:	25 (44.6%)	
Referral by an Ambulance	**43 (64.2%)**	**24 (35.8%)**
Oxygen supply:	43 (100%)	
Oxygen supply intact:	43 (100%)	
Equipment functional:	40 (93%)	3 (7%)
Essential Medicines:	38 (88.4%)	5 (11.6%)
First Aid Kit:	40 (93%)	3 (7%)
Transfer Couch:	42 (97.7%)	1 (2.3%)
Patient Accompanied	**46 (68.7%)**	**21 (31.3%)**
Clinical officer:	6 (13%)	
Enrolled Community Nursing:	11 (23.9%)	
Registered Nurse:	28 (60.9%)	
Nursing student:	1 (2.2%)	

4.5 Management Outcomes

Of the 67 hospital referrals 59 (88.1%)were admitted while223 (62.8%)of the self-referrals were treated and discharged. There were equal frequencies (n=1) of death in both referral patterns (Table 4).

Table 4: Management outcomes of pediatric patients referred to MTRH

	Referral Pattern		Total
	Self-Referral	**Hospital-Referral**	
Admitted To The Ward	106 (29.9%)	59 (88.1%)	165 (39.1%)
Death	1 (0.3%)	1 (1.5%)	2 (0.5%)
Referred To Specialized Clinic	25 (7%)	2 (3%)	27 (6.4%)
Discharged Home	223 (62.8%)	5 (7.4%)	228 (54%)
Total	355 (100%)	67 (100%)	422 (100%)

The children who were referred from other facilities to MTRH were nearly three times (AOR = **2.932;** 95% CI: 2.422, 3.550) more likely to be admitted to the wards than those who were not (Table 5).

Table 5: Association between Referral Status and Admission

OUTCOME	Adjusted Odds Ratio		p-value
	Referred (95% CI)	**Not Referred (95% CI)**	
Admission	**2.932** (2.422 -3.550)	0.210 (0.118 – 0.374)	**<0.001**

CHAPTER FIVE

5.0 DISCUSSION

5.1 Proportion of children referred from other facilities to MTRH

Low proportions of children are often referred to national referral hospitals from other medical facilities. In this study, 15.9% of the children seen at MTRH were transferred in from other medical facilities. This is less than a third of that reported in Canada where 45.5% of the children seen were referred from lower level medical facilities(Shadd et al., 2011).

Previous studies compared the proportion of referrals in the United States of America and the United Kingdom among mixed populations of children and adults aged between 0-64 years(Bjørndal et al., 2002).In the United States of America, 30% to 36.8%of patients were referred compared to 13.9% in the United Kingdom. This difference is attributed to the low proportion of specialists in the United Kingdom in comparison to the United States of America.

This is different from previous findings in East Africa where in Tanzania's Kilombero District Health Care System (Font et al., 2002). Out of 5,030 new pediatric cases from government and second level health facilities, 28 (0.6%) were referred for specialized care. This lowproportion of referrals in Tanzania was because: accurately ill children are not often brought to the health facilities; health facility staff do not identify children who need referral and healthcare workers only refer children with socioeconomic support to travel to the referral health facility. These reasons could be similar to those affecting the referral of children in Moi Teaching and Referral Hospital.

5.2 Patterns of referrals among children attending MTRH

The patterns of referral under review were:living near a public hospital, distance to MTRH, the chief complaint of the children, tests done prior to referral, reasons given for referral and the final diagnosis.

In this study, 62% of those referred lived near a public hospital which was four times higher than 15.7% reported in South Africa(Cluver& Orkin, 2009).Majority of the children referred from other health facilities had to travel more than 10 kilometers to seek care at MTRH. Living far away from MTRH increased the likelihood of facility referral in comparison to living near the referral hospital.

Nearly half (47.8%)of the children referred to MTRH from other health facilities presented with a fever whereas 17.2% of those seen in a Hong Kong referral hospital were wheezing. This difference could be attributed to socioeconomic and environmental differences in Kenya and China. Whereas Kenya has more cases of infections reported in children and presenting as fever, wheezing could be common in China due to exposure to industrial fumes in the environment or influenza infections.

Most (79.1%) of the children were referred to MTRH for specialized care while in Hong Kong most of the children were referred due to growth problems. In Kenya, there is an insufficiency of medical infrastructure and specialists in many public hospitals in the counties. This necessitates referral to the national hospitals such as MTRH for specialized care. On arrival at MTRH, they were diagnosed with anemia (15.6%) and pneumonia (10.4%). This proportion of pneumonia diagnosis at MTRH was lower than that reported at an advanced paediatric emergency care in Vietnam, where 23.7% of the children were diagnosed with pneumonia.

5.3 Adherence to the transfer process of pediatric cases to the national guidelines

Nearly half (46.3%; n=31) of the children referred to MTRHwere transferred in total adherence to all the referral guidelines steps. The steps of interest were: the referring facility was required to call the receiving facility prior to referral; having a referral document (either a referral form or a referral note);referral by an ambulance (that has essential medicines, first aid kit, transfer couch and an oxygen supply that is both intact and functional); and the patient should be accompanied (by either a clinical officer or a registered nurse).

In this study, majority of the children (83%) had a referral document either as a referral form or referral note. This contrasts with the study findings in Saudi Arabia (Jarallah, 1998) where all the children referred from primary care to hospitals had a referral document. This disparity could be attributed to poor communication channels between the referring and receiving facilities in Kenya.In Punjab, India (Ezhumalai et al., 2020); pre-referral documentation was found to be inadequate at 3.7%which was much lower than the findings in this study.

The proportions of children who were transfered by an ambulance (64.2%) and those who wereaccompanied (68.7%) was close to those reported in Vietnam (Treleaven et al., 2017) at 57.8% and 49.6% respectively. Higher government ambulance transfer rate of 85.5% from public hospitals was reported in India (Ezhumalai et al., 2020).

Furthermore, in this study, 87% of the children transferred in an ambulance were accompanied by a nurse compared to 25.1% in Vietnam (Treleaven et al., 2017). Although no child in the current study was accompanied by a medical officer, 7.6% of those in Vietnam were (Treleaven et al., 2017). This difference could be attributed to

the variance in the proportional distribution of human resources for health both in Kenya and Vietnam.

5.4 Management Outcomes

More than one third (39.1%) of those referred were admitted at MTRH. This finding was consistent with that of Habib et al (2017) which reported admission outcomes at 39.3%.However, this was four-times higher than that in Vietnam (Treleaven et al., 2017).

A low proportion (0.5%) of the referred children in this study died comparable to that in Saudi Arabia at 3% (Habib, 2017). Furthermore, nearly all (88%) of the children referred from facilities were admitted in contrast with a study in Saudi Arabia (Habib, 2017) whereless than half of the referrals weretreated and discharged. This may be because most of the referred patient at MTRH sick child clinic were sicker and more required more than emergence care management.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

i. This study determined that less than a quarter of the children seeking care at MTRH were referrals from other health facilities.

ii. Majority of the participants were self-referrals and no counter-referral was observed.

iii. Less than half of the hospital referrals were transferred as per the health care transfer process guidelines.

iv. Most of the self-referred children were treated and discharged while nearly all the facility referrals were admitted.

6.2 Recommendations

i. Most of the children seeking care at MTRH should be encouraged to visit PHC and county referral level healthcare institutions to reduce on self-referrals.

ii. Further qualitative studies determining reasons for self referrals and lack of adherence to transfer guidelines should be conducted.

REFERENCES

Agrawal, P., & Kosowsky, J. M. (2009). Clinical practice guidelines in the emergency department. *Emergency medicine clinics of North America*, *27*(4), 555-67.

Ajwang, N. W. O. (2013). The impact of health insurance on household access to healthcare in Eldoret, Kenya. *Informal and Formal Social Protection Systems in Sub-Saharan Africa*, 231.

Akande, T. M. (2004). Referral system in Nigeria: study of a tertiary health facility.

Al-Mazrou, Y., Al-Shehri, S., & Rao, M. (1990). Principles and practice of primary health care. *Riyadh, Saudi Arabia, Ministry of Health*.

Atkinson, S., Ngwengwe, A., Macwan'gi, M., Ngulube, T. J., Harpham, T., & O'Connell, A. (1999). The referral process and urban health care in sub-Saharan Africa: the case of Lusaka, Zambia. *Social Science & Medicine*, *49*(1), 27–38.

Backman, G., Hunt, P., Khosla, R., Jaramillo-Strouss, C., Fikre, B. M., Rumble, C., ... & Vladescu, C. (2008). Health systems and the right to health: an assessment of 194 countries. *The Lancet*, *372*(9655), 2047-2085.

Baker, J. L., Michaelsen, K. F., Sørensen, T. I. A., & Rasmussen, K. M. (2007). High prepregnant body mass index is associated with early termination of full and any breastfeeding in Danish women. *The American Journal of Clinical Nutrition*, *86*(2), 404–411.

Bjørndal, A., Carling, C., Dyrnes, J. A., Forrest, C. B., Majeed, A., Weiner, J. P., Carroll, K., Bindman, A. B., Starfield, S. B., Nutting, P., & Reid, R. (2002). Comparison of specialty referral rates in the United Kingdom and the United States: retrospective cohort analysis provided technical and administrative support in the United. *Primary Care*, *325*(August), 370–371.

Bösner, S., Träger, S., Hirsch, O., Becker, A., Ilhan, M., Baum, E., & Donner-Banzhoff, N. (2011). Vom Hausarzt zum Facharzt–aktuelle Daten zu Überweisungsverhalten und-motiven. *Z Allg*, *87*, 371-7.

Cervantes, K., Kalter, H. D., & Snow, J. (n.d.). Rapid Assessment of Referral Care Systems. *2003*.

Cluver, L., & Orkin, M. (2009). Cumulative risk and AIDS-orphanhood: Interactions of stigma, bullying and poverty on child mental health in South Africa. *Social Science and Medicine*, *69*(8), 1186–1193.

English, M., Esamai, F., Wasunna, A., Were, F., Ogutu, B., Wamae, A., Snow, R. W., & Peshu, N. (2004). Assessment of inpatient paediatric care in first referral level hospitals in 13 districts in Kenya. *Lancet*, *363*(9425), 1948–1953.

Ezhumalai, G., Muralidharan, J., Bansal, A., Nallasamy, K., & Bharti, B. (2020). *Referrals to a pediatric emergency room of a tertiary care teaching hospital before and after introduction of a referral education module- a qualitative study *1–13.

Font, F., Quinto, L., Masanja, H., Nathan, R., Ascaso, C., Menendez, C., ... & Alonso, P. (2002). Paediatric referrals in rural Tanzania: the Kilombero District Study–a case series. *BioMedical Centre International Health and human rights*, *2*(1), 1-6.

Forrest, L. F., Adams, J., White, M., & Rubin, G. (2014). Factors associated with timeliness of post-primary care referral, diagnosis and treatment for lung cancer: population-based, data-linkage study. *British Journal of Cancer*, *111*(9), 1843–1851.

Gitonga, C. (2013). The state of the health referral system in Kenya: results from a baseline study on the functionality of the health referral system in eight counties. *Nairobi Kenya, Ministry of Health*.

Holdsworth, G., Garner, P. A., & Harpham, T. (1993). Crowded outpatient departments in city hospitals of developing countries: a case study from Lesotho. *The International Journal of Health Planning and Management*, *8*(4), 315–324.

Jarallah, J. S. (1998). Referral from primary care to hospitals in Saudi Arabia: 1) quality of referral letters and feedback reports. *Journal of family & community medicine*, *5*(2), 15.

Kamau, K. J., Osuga, B. O., & Njuguna, S. (2017). Challenges Facing Implementation Of Referral System For Quality Health Care Services In Kiambu County, Kenya. *Health Systems and Policy Research*, *04*(01), 1–8.

Kvamme, O. J., Olesen, F., & Samuelsson, M. (2001). Improving the interface between primary and secondary care: a statement from the European Working Party on Quality in Family Practice (EQuiP). *BMJ Quality & Safety*, *10*(1), 33-39.

Kvamme, O. J., Olesen, F., & Samuelsson, M. (2001). Improving the interface

Lal, S., Ndyomugenyi, R., Paintain, L., Alexander, N. D., Hansen, K. S., Magnussen, P., Chandramohan, D., & Clarke, S. E. (2016). Community health workers adherence to referral guidelines: evidence from studies introducing RDTs in two malaria transmission settings in Uganda. *Malaria Journal*, *15*(1), 1–13.

Lugtenberg, M., Burgers, J. S., & Westert, G. P. (2009). Effects of evidence-based clinical practice guidelines on quality of care: A systematic review. *Quality and Safety in Health Care*, *18*(5), 385–392.

McGlynn, E. A., Asch, S. M., Adams, J., Keesey, J., Hicks, J., DeCristofaro, A., & Kerr, E. A. (2003). The Quality of Health Care Delivered to Adults in the United States. *New England Journal of Medicine*, *348*(26), 2635–2645.

MOH. (2013). The State of the Health Referral System in Kenya: Results from a Baseline Study on the Functionality of the Health Referral System in Eight Counties. *Ministry of Health*, *October*, 1–61. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&ved=0CEAQFjAF&url=http://www.cpc.unc.edu/measure/pima/baseline-assessments/the-state-of-the-health-referral-system-in-kenya-results-from-a-baseline-study-on-the-functionality-of-the-health-re

MOH. (2014a). Human Resources For Health Norms and Standards Guidelines For The Health Sector Required investments for equitable, and adequate capacity to deliver the Kenya Essential Package for Health The Kenya Health Strategic and Investment. *Ministry of Health, Kenya*, 2014–2018. http://www.health.go.ke/wp-content/uploads/2015/09/16th october WHO Norms and Standarnds Book.pdf

MOH. (2014b). KENYA HEALTH SECTOR REFERRAL STRATEGY. *Ministry of Health Division of Emergency and Disaster Risk Management Afya House*.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, *6*(7), e1000097.

Nordberg, E., Holmberg, S., & Kiugu, S. (1996). Exploring the interface between first and second level of care: referrals in rural Africa. *Tropical Medicine &International Health*, *1*(1), 107–111.

Okoli, H., Obembe, T., Osungbade, K., Adeniji, F., & Adewole, D. (2017). Self-Referral patterns among federal civil servants in oyo state, South-Western Nigeria. *Pan African Medical Journal*, *26*, 1–11.

Shadd, J., Ryan, B. L., Maddocks, H., & Thind, A. (2011). Patterns of referral in a Canadian primary care electronic health record database: Retrospective cross-sectional analysis. *Informatics in Primary Care*, *19*(4), 217–223.

Simba, D. O. (2004). PRACTICE POINTS Application of ICT in strengthening health information systems in developing countries in the wake of globalisation. *African Health Sciences*, *4*(3), 194–198.

Spiegel, M., Pechlaner, C., Goss, J. R., Elmore, J. G., Lessler, D. S., Sheikh, K., Basch, P., McGlynn, E. A., Asch, S. M., Kerr, E. A., & Steinberg, E. P. (2003). Quality of Health Care Delivered to Adults in the United States [1] (multiple letters). *New England Journal of Medicine*, *349*(19), 1866–1868.

Sweeney, B. (1994). The referral system. In *BMJ* (Vol. 309, Issue 6963, p. 1180). BMJ Publishing Group. https://doi.org/10.1136/bmj.309.6963.1180

Treleaven, E., Pham, T. N., Le, D. N., Brooks, T. N., Le, H. T., & Partridge, J. C. (2017). Referral patterns, delays, and equity in access to advanced paediatric emergency care in Vietnam. *International Journal for Equity in Health*, *16*(1), 1–11.

Urkin, J., Segal, I., Barak, N., & Press, J. (2008). Referral Criteria from Community Clinics to Pediatric Emergency Departments. *Research Article TheScientificWorldJOURNAL*, *8*, 350–356. https://doi.org/10.1100/tsw.2008.38

Von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2007). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Annals of internal medicine*, *147*(8), 573-577.

WHO, OECD, T. W. B. (2018). *Delivering quality health services*. http://apps.who.int/bookorders.

APPENDICES

APPENDIX I: DATA COLLECTION FORM

Serial number..

Date …..

A. SOCIO-DEMOGRAPHICS

PARENT / GUARDIAN

1   Age.......

2   Sex; Male ☐   Female ☐

3   Education level: Primary ☐   Secondary ☐
University/college ☐ .   None ☐

4   Relationship with the child:

      Parent ☐ . Grandparent ☐   Others ☐

5   Occupation:

      Employed ☐ Unemployed ☐ House wife ☐
Self-employed ☐   Student ☐

6.   Others (specify)……………………………………………………………

7.   Monthly income; <10,000   Kshs 10000 − 20000   kshs
      21000 − 50000   kshs 51000 − 100000   kshs>Kshs100000

8.   Residence: ……………

CHILD (PARTICIPANT)

9.   Age………………

10. Sex; Male ☐   Female ☐

11   Level of education………primary ☐   secondary ☐

12   Residence: …………

DISTANCE FROM HOSPITAL

13.　　Which health facility is nearest to your residence?................

13.　　Which health facility is within your residence………………………………

4.　　Dispensary ☐　　　　　　　Health Center ☐

　　　Sub county hospital ☐　　　　　County hospital ☐　　　　Private health facility ☐

15.　　Which other hospitals are in your locality (within 10 KM)…………..

　　　………………………………………………………………….

B:REFERRAL STATUS

16　　How often is the patient brought to MTRH?　First time ☐ occasionally

　　　Often ☐

17　　Was the patient been referred?　Yes ☐　　No ☐

　　　If yes, proceed with questions 18 - 41　：if no go to question 42

C: REFERRAL PROCESS

18　　From which facility were you referred?　Government facility (name)…,…………　　Private hospital (name) ………..

　　　Private clinic ☐

19　Chemist /pharmacy ☐　　Traditional healer ☐

　　Spiritual ☐　　　　Others ☐

20. What is the approximate distance between hospitals (referring and MTRH):<10Km ☐

>10km ☐

21. What complain / problem/ medical condition made you go to the referring hospital?

Hotness of body ☐   Delayed milestones ☐

Cough ☐   Excessive bleeding

☐

Difficulty in breathing ☐ Abdominal mass ☐

Wheezing ☐   Yellowness of eyes

☐

Edema ☐   Vomiting ☐   Weight

loss   Diarrhea ☐

Convulsions

☐

Altered level of consciousness ☐

Trauma ☐

22. Which investigations done before referral?

CBC ☐   Blood Culture ☐

U/E/Cr ☐   CXR ☐

LFT ☐   Stool for O/C ☐

Urinalysis ☐   U/S ☐

Stool for M/C/S ☐   CT scan ☐

Barium studies ☐

23. What was the diagnosis at referring hospital?..............

24. Which treatment was given at referring facility?

Parenteral medication ☐

Oral medication ☐

Oxygen ☐

Intravenous fluids ☐

Surgery ☐

Physiotherapy/occupational therapy ☐

Nutrition support ☐

25. Which Cadre of Clinician referred the patient?

Clinical Officer ☐

Nursing officer ☐

Enrolled community nurse ☐

Midwife ☐

Consultant pediatrician ☐

Medical officer ☐

Medical officer intern ☐

Clinical officer intern ☐

Nutritionist ☐

Laboratory technologist ☐

Counselor/psychologist ☐

Others; specify…………………………..

26.   What was the reason for referral?   Tick the correct box;

Lack of supply ☐

Lack of personnel ☐

Lack of equipment ☐

For specialized care ☐

For investigation ☐

Unspecified reason ☐

Others; specify……………………………………

27.   Was the patient accompanied by a health worker? Yes ☐   No ☐

28.   If yes which health professional?

Clinical Officer ☐

Nursing officer ☐

Nursing student ☐

Enrolled community nurse ☐

Midwifery ☐

Medical officer ☐

Others ☐

specify………………………………………………………………………………………………

……………………………………………………..

29.   Which treatment was given on the way to the hospital?

IV fluids ☐   oxygen ☐   Antibiotics ☐

others ☐

30.   Did the referring hospital call and inform MTRH?

Yes ☐

No ☐

N/A ☐

STATUS OF VEHICLE/AMBULANCE

31   Did you travel by ambulance; yes ☐ :   No ☐

If yes proceed the investigator will inspect the ambulance to answer questions in this section; if no go to section F.

32.   Referring vehicle; Ambulance ☐   No ambulance ☐

33.   Was Oxygen supply present? Yes ☐   No ☐

34.   Was the oxygen supply intact/not broken?   Yes ☐   No ☐

35.   Was resuscitation equipment functional?   Yes ☐   No ☐

36.   was essential medicine available?   Yes ☐   No? ☐

37.   Was first aid kit available and intact?   Yes [   ]   No

[   ]

38.   Was transportation couch available?   Yes   [   ]

No [   ]

REFERRAL DOCUMENT

39   Do you have a referral document?   Yes [   ]   No

[   ]

40.   What was the referral document used?

   Referral form [   ]

   Referral Note [   ]

   Both   [   ]

   None   [   ]

41.   Was the referral form dully filled? Yes [   ]   No [   ]

(Use the checklist referral form in the appendices)

. CARE GIVEN AT MTRH

42.   What complain / problem/ medical condition made you come to MTRH?

   Hotness of body [   ]

   Cough   [   ]

   Difficulty in breathing [   ]

   Wheezing   [   ]

   Edema   [   ]

Weight loss ☐

Convulsions ☐

Altered level of consciousness ☐

Diarrhea ☐

Vomiting ☐

Yellowness of eyes ☐

Abdominal mass ☐

Delayed milestones ☐

Excessive bleeding ☐

Trauma ☐

Others:

specify……………………………………………………………………..

43. What was the diagnosis at MTRH?

....

....

44. Which investigations were done/requested MTRH?

CBC ☐

U/E/Cr ☐

LFT ☐

Urinalysis ☐

CXR ☐

Barium studies ☐

U/S ☐

CT scans ☐

Others; specify……………………………………..

45.   What is the management outcome at MTRH?

Treated and discharged home ☐   Admitted to the ward ☐

Treated and referred to specialized clinic ☐   Counter referral ☐

Transferred to a private facility ☐   death ☐

46. Which cadre of Clinician/clinicians managed the patient?

Clinical Officer ☐

Nursing officer ☐

Enrolled community nurse ☐

Midwifery ☐

Consultant pediatrician ☐

Medical officer ☐

☐ Medical officer intern

☐☐ Clinical officer intern

☐ Nutritionist

Laboratory technologist

☐ Counselor/psychologist

APPENDIX II: PATIENT INFORMED CONSENT

Adherence to National referral guidelines and hospital outcomes among pediatric referrals at Moi Teaching and Referral Hospital, Eldoret, Kenya

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Consent Form

Introduction

Good morning/afternoon, Madam/Sir. I am Dr. Paul J. W. Njanwe, a postgraduate student of Moi University. I am conducting a study among patients and health professionals towards the award of M Med Child Health and Pediatrics.

This research has been approved by the Institutional Research and Ethics Committee (IREC) of Moi University. The overall aim of the project is to suggest ways of improving the patient referral care system to MTRH by identifying the major problems associated with poor patient referrals and making recommendations on how this can be improved upon. The study will involve approximately 422 participants (Patients and health professionals). The questionnaire will take approximately 25 minutes to complete.

There are no direct risks or benefit to you. Information will be stored by a third party and given to me as coded data and therefore there is no risk of leading participant to their responses.

Benefits

This is a research project and findings can also be used to improve integration of clinical research and medical care in our settings in future. Your participation will help us to gain a better understanding of the level of adherence to the national referral guidelines among children seen at sick child clinic in MTRH.

Risks

I am aware of the fact that some of the questions regarding research participation are not convenient to you. Everything you will tell me will be kept confidential. Under no circumstance will we link your name to the data during analysis and dissemination of the study findings. If you choose not to participate, it will not affect you in anyway. If you feel uncomfortable in the course of the survey, you can withdraw at any time. If you agree to participate, it will take 25 minutes to complete the interview. If you have any further questions during the period and in the future, please do not hesitate to contact the research team using the telephone numbers below.

Contacts for the research team

For further inquiries, please contact me at cell: 0726276180; email;njanwejp@gmail.com

I declare that I have read or had this information and consent form read to me and it is written in a language with which I am fluent and comfortable.

I have had a chance to ask questions and all my questions have been adequately answered.

I understand that taking part in this study is voluntary and I have not been pressurized to take part.

I may chose to leave the study at any time and will not be penalized or prejudiced in any way.

I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to. I freely volunteer to have my child take part in the study.

Signed at (place)……...........................on (date and month).............................
……………………………..20...

_____ _____ _____

Participant's parent   Signature of parent or Guardian   Date   &
                                                                                                                      time

_____ _____ _____

Parent or guardian of   Signature: Date and
participant's parent(if<18yrs)

time

_____ _____ _____

Name of person Obtaining Consent   Signature of person   Date   and
Time

Obtaining Consent

_____ _____ _____

Printed name of Investigator   Signature of Investigator   Date and

time

Declaration by investigator

I (name) ………………………………………..……… declare that:

I explained the information in this document to …………………………………..

I encouraged him/her to ask questions and took adequate time to answer them.

I am satisfied that he/she adequately understands all aspects of the research, as discussed above

I did/did not use an interpreter. (If an interpreter is used then the interpreter must sign the declaration below.

Signed at (place) ....…......…………….. On (date) …………...……….. 2015.

Signature of investigator

      Signature of witness

Declaration by interpreter

I *(name)* …………………………………………..……… declare that:

I assisted the investigator (*name*) ……………………………………. to explain the information in this document to (*name of participant*) ……………..………………………….. Using the language medium of Swahili.

We encouraged him/her to ask questions and took adequate time to answer them.

I conveyed a factually correct version of what was related to me.

I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) ....…......……………….. On (*date*) …………....………

Signature of interpreter   Signature of witness

APPENDIX III :FOMU YA IDHINI

Fomu hii imetayarishwa kwa nia ya kusomwa na kujazwa na wazazi au wasimamizi wa watoto wanaohusika katika utafiti huu.

Fomu hii ina sehemu mbili:

- Sehemu ya maelezo.
- Sehemu ya makubaliano na sahihi.

Sehemu 1: maelezo:

Unaombwa kutoa ruhusa kwa mtoto wako kuhusika katika utafiti huu. Maelezo yafuatayo yataweza kufafanua minaajili ya utafiti huu.Unaruhusiwa kuuliza swali au maelezo zaidi kwa ufafanuzi zaidi. Iwapo utakubali kuhusishwa katika utafiti huu utakabidhiwa nakala ya fomu hii. Kuhusishwa kwa motto wako katika utafiti huu ni kwa hiari. Unaweza kusitisha kuhusishwa katika utafiti huu kwa wakati wowote. Huduma ya afya unayopata haitabadilishwa kwa vyovyote vile.

Madhumuni ya utafiti huu:

Utafiti huu unafanywa kwa minajili ya kudhihirisha kama watoto wanaoletwa hapa kwa matibabu wanafuata mfumo wakitaifa wa rufaa.

Aina ya utafiti:

Sababu ya kuchaguliwa kwa motto wako:

Mtoto wako amechaguliwa kwa sababu ako katika umri wa miaka chini ya kumi na nne na amekuja kutibiwa katika Hospitali ya Rufaa ya Moi. Hospitali hii ya kitaifa yafaa kushughulikia wagonjwa waliotumwa kutoka hospitali nyinginezo hasaa za Kaunti kulingana na mupangilio wa Rufaa wa Taifa la Kenya wa Mwaka 2014.

Hivyo katika utafiti huu , unadhamiria kuthibitisha kama mfumo wa kitaifa wa rufaa una- zingatiwa , asilimia ya wagonjwa wanaoufuata mfumo huo kikamilifu na matokeo ya watoto wagonjwa wanaotibiwa hapa Hospitali ya Rufaa Ya Moi.

Utafiti huu utaendeshwa kwa muda wa miezi minne. Mtoto wako atahesabika katika utafiti huu kwa leo tu. Katika muda wa karibu dakika ishirini na tano, utaulizwa

maswali kuhusu mototo wako, na jinsi ulivyotafuta matibabu. Maswali hayo yatahusisha sehemu ya makaazi, unapotoka , maji ya matumizi na pia mapato yako yakifedha kwa mwezi.

Maswali haya ni ya siri na yataulizwa katika chumba kilichotengwa kuwezesha usiri huu kudumishwa. Habari zote zitakazo patikana katika utafiti huu hazitafichua jina au chochote kinachoweza kufanya wewe au motto huyu kutambulika kwa njia yoyote.

Hakutakuwa na faida ya moja kwa moja ya kushiriki katika utafiti huu mbali na matokeo ya matokeo ya utafiti huu ambayo yakitumiwa yataboresha utawaji wa huduma za afya nchini Kenya. Kushiriki katika utafiti huu ni kwa hiari na una uhuru wa kusitisha kushiriki katika utafiti huu kwa wakati wowote na kuondoka.

Hakuna hatari yoyote katika kuhusika kwa utafiti huu. Weka sahihi au alama yoyote ya kuonyesha kwamba umekubali kuhusika katika utafiti huu.

Manufaa ya kuhusishwa katika utafiti huu:

- Hakuna malipo yoyote.
- Jamii yetu kwa jumla itafaidika kutokana na habari itakayopatikana katika utafiti huu.

Mawasiliano:

Ikiwa ungependa kuwasiliana na mtafiti mkuu au wasimamizi wake, wasiliana nao kupitia simu; nambari zao zikiwa:

Dr. Paul Njanwe – 0726276180 – mtafiti mkuu .

Unaweza kuwasiliana na shirika la Institutional Review Ethics Committee (IREC) 053 33471 Ext.3008 , ambalo linatetea nakuhakikisha haki za mhusika yeyote katika utafiti huu hazija dhulumiwa.

Usiri wa habari zinazopokelewa:

Habari zozote utakazotoa katika utafiti huu zitawekwa kwa usiri mkubwa. Habari zote zitakazopatikana katika utafiti huu hazita fichua jina au chochote kinachoweza

kufanya wewe au motto huyu kutambulika kwa njia yoyote. Habari hiyo itaweza tukutolewa kwa wasimamizi, shirika la IREC na shirika la National Bioethics Committee.

Kutolewa kwa habari hiyo itafuata sheria iliyowekwa na National privacy guidelines.

Kuweka sahihi katika fomu hii inatukabidhi ruhusa kutumia habari unazotupatia kwa jinsi tulioieleza hapa.

Matokeo ya utafiti huu, yatawekwa kwa muda wa miaka sita. Baada ya muda huu, habari hizo zitaweza kuchomwa kwa usiri. Habari iliyo katika maktaba ya hospitali inayohusu matibabu na ugonjwa wa motto zita endelea kuwekwa katika maktaba hiyo, kwa muda usiojulikana.

Ikiwa utaamua kujitoa katika utafiti huu, tafadhali wasilia na mtafiti mkuu Dr. Paul Njanwe kwasanduku la posta 4606 eldoret. Tutasitisha kuchukua habari zaidi kwako. Habari utakayokuwa umetupatia itatumika kwenye sutafitihuu.

Huduma ya matibabu kwa motto wako haitasitishwa ama kubadilishwa hata usipohusika katika utafiti huu.

Sehemu 2: makubaliano:

Mimi nimeweza kusoma na

Kuelewa sehemu ya maelezo ya utafiti huu. Mtafiti mkuu au msaidizi wake amenieleza kinagaubaga na kujibu maswali yangu yote. Nimeeleze wa manufaa na hatari zitakazokuwa katika utafiti huu. Nimejitolea kwa hiari kuhusishwa na utafiti huu.

Signed at (place)…….........................on (date and month)............................

……………………………..20...

_____   _____   _____

Mzazi wa muhusika   Sahihi: Tarehe

_____   _____   _____

Mzazi au mlezi wa mzazi   Sahihi: Tarehe

Wamuhusika(kama ni chiniya miaka 18)

_____   _____   _____

Jina la mutafiti anayechukuwa

ruhusa   Sahihi   Tarehe

_____   _____   _____

Jina la mutafiti mkuu   sahihi   tarehe

Azimio la mtafiti

Mimi (jina) ……………………………………………..………naapa kwamba:

Nilivyoeleza habari katika waraka huu kwa..(jina)...................................... ..

Mimi(na yeyote aliyehusike katika) kuuliza maswali nilichukua mda wakutosha kujibu maswali ya wahusika.

Mimi niliridhika kwamba mhusika alielewa maswali yote ya utafiti, kama yalivyoulizwa hapo juu.

Nilifanya ukalimani.(Kama mkalimani hutumiwa basi mkalimani lazima kutia sahihi hapachini).

Sainikatika (nafasi) .... (tarehe) ....
2010.

Sahihi ya mtafiti   Sahihi yaShahidi

APPENDIX IV: MINISTRY OF HEALTH OFFICAL REFERRAL FORM

Client Referral Form

Emergency urgent Routine (*Tick as appropriate)

Local Inter - county Overseas (*Tick as appropriate)

Date…………………………   Time…………………………   Facility
code…………………………………

Client Details:

Name …………………………………………..……………. Age ………......... Sex:
Male Female

IP/OP number:………………………….ID number: ………………………………….

NHIF Number:………………………… Telephone Number(s)……………………

Physical Address…………………………County……………………………

Sub County………………………. Sub Location…………………....

Assistant Chief…………………………….Telephone Number(s)………………

Next of Kin Details:Name ……………… Relationship to client …………………

Telephone Number………………………….....................

Referring from Facility/Department ……………………………………

Referral to Facility/Department ……………………………………………

History/Investigations……………………………………………………………………

Diagnosis:

……………………………………………………………………………………………………

……………………………………………

Reasons for Referral:

……………………………………………………………………………………………………

…………………………………………………………….

Referring Officer Details:

Name…………………………………Telephone Number………………………

Designation………………………………………………………………

Signature…………………………………………………………

Referral Back Details (Tracking Slip):

Name of the Facility or Department……………………………………………………

Date Client Reported…… Referred from Facility/Department ……………………

Clinical Details:……………………………

Clinician Name………………………Telephone Number…………………………

Designation………………………………………………………………………

Signature…………………………….......Date……………………………………

M.O.H

38 Kenya Health Sector Referral Implementation Guidelines

Kenya Health

M., A. T. (2004). "Referral system in Nigeria: Study of a tertiary facility."

APPENDIX V:IREC APPROVAL

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471/2/3

MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORET

Reference: IREC/2015/155
Approval Number: 0001516

23rd September, 2015

Dr. Paul Jairus Wafula,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Dr. Wafula,

RE: FORMAL APPROVAL

The Institutional Research and Ethics Committee has reviewed your research proposal titled:-

"Adherence to National Referral Guidelines and Outcomes of Children Attended to at Moi Teaching and Referral Hospital, Eldoret, Kenya."

Your proposal has been granted a Formal Approval Number: **FAN: IREC 1516** on 23rd September, 2015. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; it will thus expire on 22nd September, 2016. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

You are required to submit progress report(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change (s) or amendment (s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Sincerely,

PROF. E. WERE
CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc	Director	-	MTRH	Dean	-	SOP	Dean	-	SOM
	Principal	-	CHS	Dean	-	SON	Dean	-	SOD

APPENDIX :VI:HOSPITAL APPROVAL (MTRH)

MOI TEACHING AND REFERRAL HOSPITAL

Telephone: 2033471/2/3/4
Fax: 61749
Email: director@mtrh.or.ke
Ref: ELD/MTRH/R.6/VOL.II/2008

P. O. Box 3
ELDORET

15th September, 2015

Dr. Paul Jairus Wafula,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.

RE: APPROVAL TO CONDUCT RESEARCH AT MTRH

Upon obtaining approval from the Institutional Research and Ethics Committee (IREC) to conduct your research proposal titled:-

"Adherence to National Referral Guidelines and Outcomes of Children Attended to at Moi Teaching and Referral Hospital, Eldoret, Kenya".

You are hereby permitted to commence your investigation at Moi Teaching and Referral Hospital.

DR. JOHN KIBOSIA
DIRECTOR
MOI TEACHING AND REFERRAL HOSPITAL

CC   -   Deputy Director (CS)
      -    Chief Nurse
      -    HOD, HRISM