

**DETERMINANTS OF AND LEVELS OF CLIENT SATISFACTION  
ASSOCIATED WITH WAITING TIME AT NYAKACH DISTRICT  
HOSPITAL, KENYA**

**BY**

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**Declaration**

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

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May God bless you all!

## **Dedication**

To my wife Purity Kiunga for her moral and financial support, daughters Cheryl and Chanel and to my dad and mum, Mr. David Mogaka and Mrs. Teresah Kerubo for having instilled in me the spirit of hard work and giving me a good foundation.

## Abstract

Client satisfaction is influenced by the efficiency of services offered in health facilities. When services are offered promptly, clients are more likely to comply with prescribed treatment. Long waiting time has frequently been mentioned as one factor which may limit health service utilization by any given community. Studies carried out in developing countries show that clients spent 3-4 hours in outpatient departments before seeing the doctor. Studies have shown that long waiting time before medical intervention may result in unnecessary anxiety, worsening of the illness, permanent disability or death. As such, there is need for periodic assessment of determinants of waiting time and client's satisfaction associated with it in different service delivery points and health facilities to guide efforts to reduce it. Nyakach District Hospital is a recently upgraded level 4 facility and is a referral hospital for the district leading to congestion of available resources. It is unclear whether this upgrading has created different determinants and clients satisfaction associated with waiting time. This study forms a basis for monitoring interventions aimed at reducing waiting time and hence improve client satisfaction with service delivery. In this hospital-based cross-sectional study, the determinants of actual waiting time and client's satisfaction at key outpatient departments in Nyakach District Hospital were evaluated. Clients were selected through random sampling at the clinicians' consultation room and followed to the laboratory, pharmacy, and cash office. A sample size of 359 clients was used for waiting time with random sampling. A structured questionnaire for waiting time measurement and patients' satisfaction was used. Staff members were blinded during measurement of waiting time. A structured questionnaire was administered to 36 staff members purposively sampled at the key departments to identify determinants of waiting times. Regression analysis was used to identify determinants of waiting time while client's satisfaction was based on a Likert Scale. This study revealed the mean waiting time at the hospital was 17, 24, 24 and 50 minutes at the cash office, laboratory, pharmacy and consultation room, respectively. Clients served at the hospital were mostly dissatisfied with the waiting times at the clinicians' consultation room (41%), laboratory (37%) and pharmacy (50%) while those served at the pay-point were generally satisfied (31%). Results further revealed that relative to the Ministry of Medical Services (MOM's) reference time, the service point (OR, 5.03, 95% CI; 3.21-7.34,  $p < 0.001$ ), having an emergency (OR, 2.05, 95% CI; 1.64-2.97,  $p = 0.042$ ), number of clients to serve (OR, 4.45, 95% CI; 2.33-5.42,  $p = 0.024$ ), number of staff attending to clients (OR, 5.39, 95% CI; 3.45-7.87,  $p < 0.001$ ), years of service of the staff and their experiences (OR, 5.97, 95% CI; 4.22-8.76,  $p < 0.001$ ), the staff's training and competencies (OR, 6.01, 95% CI; 4.27-7.88,  $p < 0.001$ ), amount of workload (OR, 1.70, 95% CI; 1.21-2.00,  $p = 0.047$ ), employee's attitude/morale (OR, 1.99, 95% CI; 1.21-2.03,  $p = 0.047$ ) significantly influenced the waiting time in this facility. Therefore, the hospital should increase efficiency at the various service points, including the emergency, increase the number of staff serving the clients, ensure they are adequately trained and be competent, reduce individual staff's workload and find ways of motivating them in order to increase client's satisfaction in this and other facilities.

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## **List of Acronyms and Abbreviations**

BP	Blood Pressure
CME	Continuous Medical Education
CRAG	Cryptococcal Antigen
DHMT	District Health Management Team
ENT	Ear, Nose and Throat
HIV	Human Immunodeficiency Virus
IV	Intravenous
KHSSS	Kenya Health Sector Satisfaction Survey
MOH	Ministry of Health
MOMS	Ministry of Medical Services
NHIF	National Hospital Insurance Fund
OJTs	On Job Trainings
OPD	Out Patient Department
SOPs	Standard Operating Procedures

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## **Operational definitions**

**Evaluation:** A process of making a comparative assessment of the value of an intervention through systematic collection and analysis of data.

**Determinants:** Factors specific to the hospital either physical (infrastructure, labour etc.) or processes that contribute to the waiting time in the hospital.

**Waiting Time:** Patients' waiting time has been defined as "the length of time from when the patient enters the outpatient clinic/or any other department (arrival) to the time the patient actually comes into first contact with the clinician e.g. a consultant or any another member of the department (beginning of service delivery) staff.

**Key departments:** The four service delivery points where most clients are likely to visit in a hospital namely clinicians' consultation room, laboratory, pharmacy and revenue/cash office.

**Client:** A client is any person (patient or otherwise) seeking health care services.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background Information

The primary function of a hospital is patient care. There exists a wide research chasm concerning the identification of the service quality gap that exists between the actual service quality delivered and expected service quality in the public health care sector (Chahal, 2003; Heiby, 1996). Effectiveness of the hospital service delivery relates to provision of quality patient care as intended and as expected by both clients and health care providers (Edlund *et al.*, 2003). Client satisfaction, when applied to medical care, can be considered in the context of client's appraisal of their desires and expectations of health care. One of the factors that influence client satisfaction is the efficiency of health care services rendered (Bernhart *et al.*, 1999; Santillan, 2000). Effectiveness refers to the promptness of the health care given to patients, that is, minimizing waiting time before doctor/clinician consultation, duration of consultation, amount of time spent with the doctor subsequently, timely admissions or referrals, quick dispensation of drugs, fast and accurate laboratory tests (Santillan, 2000).

When these services are offered promptly, the patients are more likely to comply with the prescribed treatment and advice from doctors/clinicians or other healthcare service providers.(Kenagy *et al.*, 1999; Pichert *et al.*, 1998). They are also more likely to return for additional care when necessary and may be more willing to pay for services, thereby increasing revenue collection in the facility which can be used to further improve on the range and quality of services offered (Santillan, 2000).

This clearly draws attention to the fact that health care providers (employees) equally have an important role in improving customer satisfaction. Employee satisfaction surveys have, therefore,

formed an integral component of programs aimed at improving service delivery at hospitals which ultimately affects customer satisfaction (Aldebron and Allan, 2010). An equipped, competent and well-motivated employee is more likely to offer efficient and effective services to the patient thus reduce the average waiting time and duration of stay in hospitals (Harutyunyan *et al.*, 2010; MOH, 2009).

A previous study revealed that the average waiting time in hospitals in Trinidad and Tobago was two hours forty minutes; with a range of less than 1 hour to 6 hours (Singh *et al.*, 1999). This prolonged wait before consultation was reflected in the 48% of patients who were dissatisfied with hospital care for this reason (Singh *et al.*, 1999). Prolonged waiting time before consultation and average duration of examination were found to be the greatest source of dissatisfaction among patients in Trinidad and Tobago (Singh *et al.*, 1999).

In Kenya, the overall waiting time in majority of facilities was below the recommended levels as per the Citizen Service Charter. Within the government facilities, the average waiting time was at 31 minutes (against 20 minutes charter target) while in the faith-based facilities, the average is almost on target-22 minutes (MOH, 2009). It is worth noting that the survey in Kenya was done in 2009 in selected hospitals and Nyakach was not one of them. Despite availability of information in the literature, the actual waiting times at key outpatient departments, the determinants of waiting times at key outpatient departments and the levels of client satisfaction/dissatisfaction with the waiting times at key outpatient departments of Nyakach District Hospital in Kenya, remains unknown. As such, the current study sought to evaluate the determinants of and client satisfaction with actual waiting time at four key outpatient departments of Nyakach District Hospital in Kenya.

## **1.2 Problem Statement**

Long waiting time before service delivery has frequently been mentioned as one factor which may limit health service utilization by any given community (Benyoussef and Wessen, 1974). Studies carried out in developing countries, have also shown that patients spent 3-4 hours in outpatient departments before seeing the doctor. These findings are generally at variance with the developed country. Long waiting time before medical intervention may result in the worsening of the illness and death or a permanent disability, if the patient recovers. One of the most distressing things that patients have to contend with is the anxiety that develops during hospital waiting time. Long waiting time can lead to patients opting to seek health services elsewhere or seeking other alternatives that may have poor clinical outcomes.

Rural patients often have a limited choice of providers and need to travel greater distances to obtain health care than those in urban (Wallace *et al.*, 2008). While the distances covered to reach a facility seem to be reducing, overall waiting time in majority of facilities is below the recommended levels as per Citizen Service Charter. There is need for periodic determination of actual average waiting times for different service delivery points in health facilities. This should then be followed by a concerted effort to reduce this waiting time in all service delivery points in health facilities because reducing the time in only one department will only serve to increase the waiting time in the next service point.

Since its elevation to a district hospital, Nyakach District Hospital is yet to upgrade most of its infrastructure and human resource to match its current level of service provision. In addition, the hospital is situated in a rural location hence limiting the options available to the community. This has led to increased workload to this relatively young district hospital with growing departments.

However, the determinants of and levels of client satisfaction with actual waiting time at four key outpatient departments of Nyakach District Hospital in Kenya remain unknown. As such, the current study sought to determine the determinants of and levels of client satisfaction with actual waiting time at four key outpatient departments of Nyakach District Hospital in Kenya.

### **1.3 Significance of the Study**

This study is borne out of the need for periodic assessment of the quality of services in health facilities. This enables hospital management to monitor their progress as they continuously try to reduce the waiting period. This should be through both waiting time surveys and client/employee satisfaction surveys for various service delivery points. This enables health managers identify deficiencies or gaps and bridge them to improve on the quality of health services rendered.

The most affected areas, herein referred to as key departments, are those that are likely to serve the most clients who visit a hospital. These departments are the clinicians' consultation room, the laboratory, the pharmacy, and the cash office.

Therefore, this study evaluated the determinants of the actual waiting time at key departments in Nyakach District Hospital, Kenya. It also established the actual waiting time and its determinants and makes recommendations that will form the basis for intervention at the various service delivery points. This study has enabled the hospital management team at Nyakach District Hospital to monitor their progress as they continuously try to reduce the waiting periods before services are delivered at key outpatient departments. The study findings will ultimately improve on policy, practice, and research agenda in timely and quality service provision.



#### **1.4. General Objective**

To assess the determinants of and levels of client satisfaction associated with actual waiting time at four key outpatient departments of Nyakach District Hospital in Kenya.

##### **1.4.1 Specific Objectives**

- i. To assess the actual waiting times at key outpatient departments of Nyakach District Hospital in Kenya.
- ii. To establish the determinants of waiting times at key outpatient departments of Nyakach District Hospital in Kenya.
- iii. To assess the levels of client satisfaction with the waiting times at key outpatient departments of Nyakach District Hospital in Kenya.

##### **1.4.2 Research Questions**

- i. What are the actual waiting times at key outpatient departments of Nyakach District Hospital in Kenya?
- ii. What are the determinants of waiting times at key outpatient departments of Nyakach District Hospital in Kenya?
- iii. What are the levels of client satisfaction with waiting times at key outpatient departments of Nyakach District Hospital in Kenya?

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Background**

Patient care is one of the yardsticks used to measure the success of the services rendered by a hospital. Service delivery at hospital is considered effective when quality medical care is given as expected by both clients and health care providers (Edlund *et al.*, 2003). Efficiency of healthcare service rendered has an influence on client satisfaction (Bernhart *et al.*, 1999; Santillan, 2000). Clients are more likely to adhere to prescribed management from health service providers when these services are offered promptly (Kenagy *et al.*, 1999; Pichert *et al.*, 1998). The client's health seeking behavior is also improved since they will be willing to go for follow up care. This increased use of health services increases revenue collection in the hospital which if used well improves on the quality of services provided (Santillan, 2000).

Health service providers need to appreciate their important role in improving customer satisfaction through the services they offer. They should incorporate regular employee satisfaction surveys in their plans to improve the service quality (Aldebron and Allan, 2010).

However, the health service providers may not offer efficient and effective services to the clients if they are not well equipped, incompetent and not motivated thus leading to an increase in the average waiting time and duration of hospital stay (Harutyunyan *et al.*, 2010; MOH, 2009).

A study done in a developing country revealed prolonged waiting time before consultation with the doctor. In this study the average waiting time was two hours forty minutes leading to 48% of clients being dissatisfied with hospital care (Singh *et al.*, 1999).

The overall waiting time in majority of facilities in a study done in Kenya was below the recommended levels as per the Ministry of Medical Services Citizen Service Charter. Government owned facilities had an average waiting time of at 31 minutes (against 20 minutes charter target) while the faith-based facilities' average wait time was almost on target-22 minutes (MOH, 2009).

The survey conducted in Kenya in 2009 was in selected hospitals excluding Nyakach District Hospital. Prior to this study, no waiting time survey had been done at Nyakach District Hospital due to limited resources and competing tasks. Nevertheless, the hospital's elevated status as the only district referral hospital has led to increased workload on the yet to be upgraded infrastructure.

## 2.2 Periodic Assessment of Waiting Time in Hospitals

Waiting time is a well-established predictor of patients' satisfaction and health-care quality (Oladapo *et al.*, 2010). In a previous study (Ofili and Ofovwe, 2005) at the University of Benin Teaching Hospital, Benin – City, Edo – State, Nigeria, the average waiting time was found to be 2 hours 53 minutes (173 minutes), while the range was 2 minutes to 2 days. Eighty-five (34%) of the patients were seen within 1 hour of arrival in the hospital, 14.8%, 15.6%, 24.0% and 6.8% waited for 61-120 minutes, 121-180 minutes, 181-240 minutes and 241-300 minutes respectively. Four (1.6%) patients waited for 301-360 minutes, 3 (1.2%) patients waited for 361-420 minutes while 5 (2.0%) waited for over 421 minutes before they were attended to as summarized below.

**Table 1: Patients' waiting time before consultation at the University of Benin Teaching Hospital**

<b>Waiting time (minutes)</b>	<b>No. (%)</b>
≤60	85 (34.0)
61- 120	37 (14.8)
121 – 180	39 (15.6)
181 – 240	60 (24.0)
241 – 300	17 (6.8)

301 – 360	4 (1.6)
361 – 420	3 (1.2)
≥421	5 (2.0)
Total	250 (100)

Adopted from the University of Benin Teaching Hospital, Benin – City, Edo – State, Nigeria (Ofili and Ofovwe, 2005).

Two hundred and ten (84%) of the patients were satisfied with the amount of time spent with the doctors, while forty of them (16.0%) were not (Ofili and Ofovwe, 2005).

However, its worth noting that in this study they estimated the waiting time through exit surveys. This perceived waiting time was thus liable to patient error or bias. There is need to measure the actual waiting time in hospitals using methods that are least likely to be influenced by the patients or the service providers.

In the same study, complaints from patients who had been served at the hospital laboratory and pharmacy were tallied and tabulated as shown below.

**Table 2: Complaints of 108 patients about services at the pharmacy department at University of Benin Teaching Hospital (Ofili and Ofovwe, 2005)**

<b>Complaints</b>	<b>No. (%)</b>
Long delay in serving customers	79 (73.1)
Unavailability of certain drugs	15 (13.9)
High cost of drugs	12 (11.1)
Rudeness of staff	2 (1.9)

**Table 3: Complaints of 64 patients about services at the laboratories at University of Benin Teaching Hospital (Ofili and Ofovwe, 2005)**

<b>Complaints</b>	<b>No. (%)</b>
Delayed results	31 (48.4)
Expensive tests	15 (23.5)
Rude workers	7 (10.9)
Delay in attending to patients	6 (9.4)
Missing results	5 (7.8)

From the two departments' results above, waiting time is a key determinant of the overall customer satisfaction at a hospital.

The results pointed to the need for quantifying actual waiting times in key service delivery points since most complaints were related to delays. This helps the facility management to establish a baseline which gives a benchmark from which improvement can be measured.

The waiting time at University of Benin Teaching Hospital was comparable with the findings in hospitals in Trinidad and Tobago (2 hours 40 minutes) (Singh *et al.*, 1999) and in an emergency paediatric unit (EPU) of Jos University Teaching Hospital, where the Pre – intervention waiting time was found to be 156 minutes (Okolo *et al.*, 2004).

In spite of the seeming similarity across continental borders, it must be acknowledged that there's a need for reduction in waiting time. The similarity may be reflective of a need that is wide spread rather than an acceptable norm. Thus, deliberate efforts at reduction of waiting time are necessary.

However, these findings were at variance with waiting time at the University College Hospital Ibadan, Nigeria (73.9 minutes) (Bamgboye *et al.*, 1992) and private hospitals (Kaur *et al.*, 2006).

It was clear that there existed variance between hospitals on average waiting times hence the need for each hospital to determine their own waiting times. In addition the method used in these studies majorly focused on the clients perceived or estimated time which was liable to bias and not an objectively determined waiting time.

The Ministry of Health in Kenya, in a survey done in 2009 noted that quality of services rendered in a facility (together with distance/access and costs) is a key factor the choice of a facility hence the need to focus on service delivery improvement. While the distances covered to reach a facility seemed to be reducing, there was still need to reduce the over-reliance on facilities in higher levels for medical conditions that could otherwise be treated in lower level facilities thereby leading to longer service times at higher level facilities. The overall waiting time in majority of facilities was below the recommended levels as per the Citizen Service Charter. Within the government facilities the average waiting time was at 31 minutes (against 20 minutes charter target) while in the Faith-based facilities the average is almost on target-22 minutes (MOH, 2009).

It is worth noting that the MOH survey was done on selected health facilities and not on all hospitals. In addition, each hospital was advised to do their specific waiting times so as to have a baseline to work with.

Another research done in 2011 in Uganda at Mulago hospital's outpatient department reported lower satisfaction levels in clients who had longer waiting time (>2 h). Waiting time was a major area to be explored by the Makerere University College of Health Sciences and Mulago hospital for

potential improvements in quality of the health service delivered (Nabbuye-Sekandi *et al.*, 2011). It should be noted that an Outpatient Department includes the clinicians' consultation rooms, the laboratory, pharmacy, and cash/revenue office.

Ibrahim (2008) conducted a patient satisfaction survey at the outpatient department of Indira Gandhi Memorial Hospital, Male' Maldives, with the aim of determining the relationship between satisfaction and explanatory factors. Using a structured questionnaire, data was derived from 251 patients using the OPD services. Patients were highly satisfied with courtesy (45.8%), quality of care (44.2%), physical environment (41.8%), convenience (24.7%), and out of pocket cost (23.5%). The majority of the patients were concerned about waiting time to seek a doctor's service and counter services being delayed due to inadequate staffing. A recommendation to do the surveys in each unit was made so as to get the real picture for further strategies (Ibrahim, 2008).

Despite the availability of the above information, the actual waiting time at the selected outpatient departments of Nyakach District Hospital against the recommended MOH Citizen Service delivery charter waiting time remains unknown. As such, the current study was designed to assess if the actual waiting time at the selected outpatient departments of Nyakach District Hospital is higher than the recommended waiting time.

### **2.3 The Determinants of Waiting Time**

In a previous study (Ofili and Ofovwe, 2005), it was shown that the dissatisfaction levels was associated with prolonged waiting times and the variations in waiting time among facilities. The study further suggested that this long waiting time could have been as a result of large number of patients waiting to see relatively few doctors (Ofili and Ofovwe, 2005). Other contributory factors could have been scheduling problems and delays caused by hospital bureaucratic bottleneck.

Therefore they were able to conclude that one of the areas needing attention to improve patient satisfaction was the reduction of the hospital waiting time by addressing the determinants (Ofili and Ofovwe, 2005).

An employee satisfaction survey with a sample size of 1500 was done by the Ministry of Medical Services and Ministry of Public Health and Sanitation in 2009 (MOH, 2009). The survey was addressing the satisfaction and expectations of the staffs from their employer. The sample size was drawn across different job groups, different facilities and different professionals. The critical questions on the survey included work environment and safety, performance management, communication management, staff promotion, job security, performance appraisal and staff training. The staff in the health sector generally felt that the measures in place to address/minimize occupational risk are insufficient. The employees indicated that they were exposed to occupational risk. Among the key areas that were suggested to improve on this score were better remuneration, improved benefits, opportunities to train and advance in the career (MOH, 2009).

The staff indicated their working tools were inadequate and not up-to-date. The facilities environment was reported not to be up to standard. The employees in government-owned facilities were exposed to more opportunities to train when compared to staff in faith-based facilities. However, the training was reported to be insufficient to equip the staff with the skills needed. The employees in faith-based facilities felt that the skill mix in the facilities is not satisfactory. It is notable that few people were likely to continue serving in their current duty station. This could have been addressed through prompt promotion and enhancement of the appraisal system (MOH, 2009).



In a study done at Mulago Hospital in Uganda, it was found that long waiting times as measured by time spent at the facility from arrival to completion of the visit were associated with lower satisfaction levels. This suggested the need to identify inefficiencies in the process of service delivery. In the case of this hospital, very high outpatient load mainly from the peripheral areas of the underserved Kampala city was found to be overwhelming the resources, including human resources thus resulting in the long waiting times and poor patient satisfaction (Nabbuye-Sekandi *et al.*, 2011).

With relatively few or in some cases non-existent computer systems to handle this huge level of patient load, especially in record keeping and manual retrieval of records, patients were bound to continue having longer waiting time in the hospitals (Nabbuye-Sekandi *et al.*, 2011).

From the above studies some determinants of waiting time were found to be common to all the study sites while other determinants were noted to be specific to particular sites. Despite this information, the significant determinants of waiting time at the selected outpatient departments of Nyakach District Hospital remain unknown. As such, the current study was designed to assess the determinants of waiting time at the selected outpatient departments of Nyakach District Hospital.

#### **2.4 Waiting Time and Improvement of Patient Satisfaction**

The mission of any outpatient department in a hospital should be to provide comprehensive and accessible services that anticipate, meet and exceed the expectations of patients, staff, investigators and the public. In addition, the services should also support professional development of staff and promote a positive work environment which facilitates open communication and team spirit between staff and patients (Aiken *et al.*, 2001; Ibrahim, 2008).

To increase satisfaction levels in hospitals and indeed the quality of healthcare, the following were suggested:

1. Improving the interpersonal skills by fostering respect, empathy, friendliness and courtesy.
2. Focus on technical quality of healthcare to improve competence of providers and adherence to high standards of diagnosis and treatment.
3. Improve on accessibility/convenience of health facilities to minimize waiting time and ease congestion in higher level facilities.
4. The government to consider proper healthcare financing scheme to provide equitable access to healthcare for all patients and minimize time on handling cash.
5. Physical environment should be improved by putting up clear signs, customer care desks and directions, orderly facilities to ease patient flow.
6. Keep front office/ customer care staff updated and orient them to new developments in the hospital to avoid confusion and save on time. (Ibrahim, 2008).

A study by Khurshid *et al.* (2005) revealed that the most satisfying factors were: working with an internationally reputable organization, patients' positive feedback and the availability of required material or equipment. Timmreck (2001) found that autonomy, clinical decision making, considerate scheduling and professional growth are very important factors in promoting job satisfaction in health care organizations (Khowaja *et al.*, 2004; Timmreck, 2001).

A report released in April 2010 by the Ministry of Medical Services and the Ministry of Public Health and Sanitation on Kenya's health sector satisfaction survey done in 2009 showed a need to

improve on the speed of service at various patient care points. The results further showed the need for the service providers to prioritize emergency cases. From the study, the average waiting time at the registration/card collection point had improved since 2008 study. However, the waiting time at the consultation room had increased. Within the government facilities the average waiting time was at 31 minutes (against 20 minutes target). To improve on the service delivery it was noted that each of the time taken at each service point be reduced since clearing the queue at a point only makes the queue in the next service point (MOH, 2009).

To further address the waiting time, the study showed an urgent need to increase the number of staff to reduce the length of time taken to serve. There was need to increase the staffing levels in the consultation points, X-ray, and laboratory especially within the district and provincial general hospitals. Increase in the staff numbers would also enhance the morale of the staff and therefore promote better service delivery (MOH, 2009). The results from this survey also point to the need to improve the facilities in general and specifically the need to upgrade and provide the facilities with modern medical equipment.

In addition, there was need to increase the number of qualified staff within the lower level facilities so as to help reduce the client load in higher level facilities. This would also improve the time taken to get to a facility from the communities (MOH, 2009).

From the studies above, determination of the factors affecting waiting time should precede efforts to reduce this waiting period. This, therefore, means that efforts geared towards reducing waiting time will vary from hospital to hospital hence the need for each facility to seek solutions to long waiting times that are specific to their hospital/work environment. Despite this information, the levels of client satisfaction/dissatisfaction with waiting time at Nyakach District Hospital remain unknown.

Therefore, this study sought to client satisfaction/dissatisfaction with waiting time at Nyakach District Hospital.

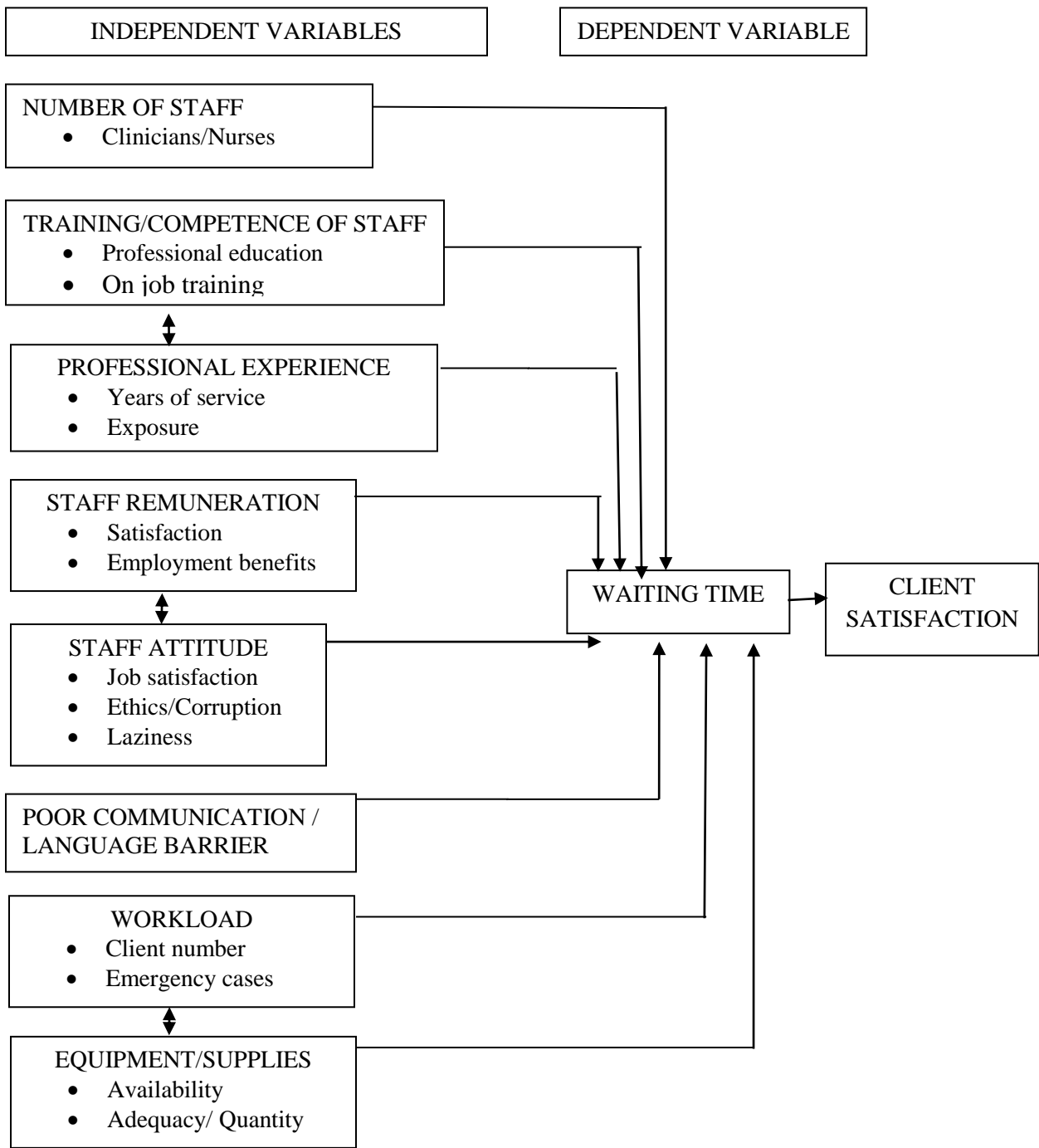
## **2.5 Conceptual Framework**

This framework presents identified concepts based on the literature review and the problem statement of this study. Waiting time has been shown to be one of the factors influencing client satisfaction with service delivery

On the other hand, waiting time has been shown to have various determinants in different settings namely the staff numbers staff competence, workload, staff experience, staff attitude to work, remuneration, communication challenges and availability of equipment and commodities aiding service delivery.

The staff number has an inverse relationship with workload while poor remuneration and communication challenges influence staff attitude to work.

Staff training and competence has a positive relationship with professional experience sine one tends to improve on the other.



**Figure 1 – Conceptual Framework** (DHMT.2012.Hospital Reforms Guidelines 2012/13)

## CHAPTER THREE: METHODOLOGY

### 3.1 Study Area

The study was carried out at the Nyakach District Hospital in Nyakach District of Kisumu County, Kenya. This is a level 4 facility (District Hospital) located in a rural setting in Pap Onditi along the Katito-Kendu Bay road. The hospital had 76 staff members with a monthly workload of 28112 patients in the outpatient department (DHMT, 2011). Nyakach District borders Rachounyo District to the South and West, Kericho District to the East and Nyando District and Lake Victoria to the North. It lies between latitude  $-0.316667$  and longitude  $34.933334$ . The hospital is located approximately 235km northwest of Nairobi, Kenya's capital city.

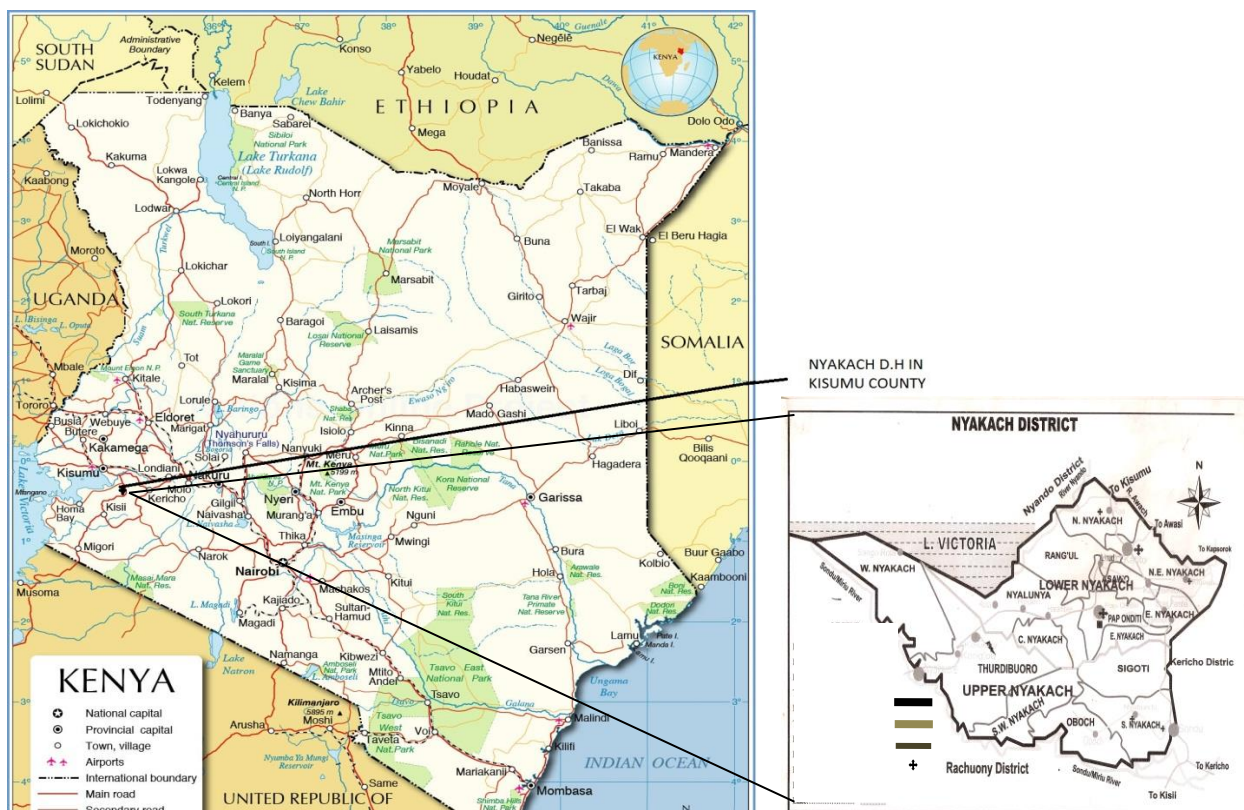


Figure 2: Map of Nyakach District Hospital

### **3.2 Study Design**

This was a cross-sectional study to assess the determinants of and client satisfaction with waiting time at Nyakach District Hospital, Kenya.

### **3.3 Study Population and Sampling Unit**

The study population consisted of health workers and clients directly involved in the selected four key service points in the Outpatient Department at Nyakach District Hospital.

In 2011, the hospital served over 2000 clients monthly in these areas with a range of 40 to 50 health workers rotating through the four areas (DHMT, 2011).

#### **3.3.1 Criteria for Inclusion of Participants**

- i. Each study participant had to give an informed verbal consent to participate in the study. This was ensured by giving a brief introduction about the study before administering the questionnaires and conducting interviews.
- ii. Had to be a client of 18 years and above or health worker in the selected four service points.
- iii. Consenting students, interns, casual employees of more than one month in service were selected for inclusion.

#### **3.3.2 Criteria for exclusion of participants**

- i. Unwillingness to give consent to participate in the study or clients below 18 years of age.
- ii. Psychiatric clients and clients who were seriously ill and without caretakers were exempted from the study. This is because they were likely to be picked during triage and received preferential service.
- iii. Clients and health providers in service points other than the four selected.

iv. Students, interns, casual employees of less than one month in service.

### 3.4 Sample Size Determination and Sampling Procedure

Sample size for estimating waiting time and patients' satisfaction with the time was 359 as computed using Fisher's method (Fisher's, 1950). It was based on an average monthly target population of 2168 patients seen at the key outpatient departments.

Fisher's method was based on the following assumptions:

1. A 50% patients' satisfaction with the outpatient waiting time.
2. A 5% level of statistical significance.
3. A 10% non-response rate adjustment upwards.

Formula for a population of >10000 is given as; Sample size,  $n = [z^2pq] \div d^2$

Where Z= standard normal deviate at 95% Confidence Interval =1.96

p= 50% since no previous studies have been done at this hospital.

q= 1-p = 0.5

d= desired precision level or allowed standard error =  $\pm 5\%$

This gives:  $n = [1.96^2 0.5 \times 0.5] \div 0.05^2 = 384.16$

The sample size for a population more than 10,000 would thus be, 384.

But targeted population was below 10,000, so the final sample size (nf) was calculated as follows:

$nf = n \div [1 + (n/N)]$  where N = target population = 2168

This gives:  $nf = 384 \div [1 + (384/2168)]$

Therefore,  $nf = 325.98$ , which takes into account the finite population correction (FPC).

Adjusting for non-response at 10% gave a required sample size of approximately 359 respondents.



### 3.4.1 Saturated Sample for Health Workers

On the other hand, the sample size for health workers was based on the number of health workers who are directly involved at the key departments.

A total of 36 respondents (including Hospital Administrator) (Table 4) from the selected key departments of Nyakach District Hospital were interviewed based on saturated sampling method since all the respondents available in the service points were interviewed.

**Table 4: Health workers interviewed at Nyakach District Hospital**

<b>Service Point</b>	<b>Cadres</b>	<b>Total Number</b>
Consultation room	Clinicians, Nurses, Nurse aids, Interns Casuals	16
Laboratory	Lab technicians/ technologists, Interns, Casuals	8
Pharmacy	Pharmacists, Pharmaceutical technologists, Interns, Subordinates	6
Revenue Office	Clerks, Social workers, Nurses, Subordinates	5
Adminstration	Hospital administrator	1
	<b>TOTAL</b>	<b>36</b>

### 3.4.2 Sampling Procedure

To determine the actual waiting time, every sixth client was randomly selected and timed purposively at the clinicians' consultation room then followed and timed at the laboratory, pharmacy, and cash office.

On the other hand, the study adopted a saturated sampling method for health workers since all the respondents available in the service points were interviewed.

### **3.5 Data Collection Methods and Tools**

#### **3.5.1 Tools**

Semi-structured questionnaires were developed and used to collect quantitative data (Appendices I, II and III). The waiting time was explicitly defined and starts and stop times standardized to all research assistants. Levels of clients' satisfaction with the waiting time were then assessed on a Likert Scale. The service providers were blinded on the client being timed. Thereafter, the relevant health workers were interviewed on the determinants of waiting time using structured questionnaires.

#### **3.5.2 Data Collection Methods**

Prior to the actual study, two research assistants (residents from the locality volunteering at the hospital) with a minimum of form four level of education were interviewed and recruited. The assistants were required to be fluent in English, Swahili and Luo languages. Theoretical and practical training of the research assistants on survey interviewing techniques was done for one day followed by another day of pre-testing of survey tools and methodologies at the Patient Support Centre in the hospital. This centre is a semi-autonomous unit of the hospital that resembles the main outpatient centre where the study was done. The pre-testing was to check on the reliability and validity of the tools. Based on the experiences and results of the pre-test, two more assistants were hired, further re-training and refining of techniques of interviewing and modification of research tool was done.

### **3.6 Data Processing and Analysis**

#### **3.6.1 Data Editing and Sorting**

The data from the field was cleaned, edited and coded to avoid incompleteness during entry. Small mistakes committed during collection were corrected in the field. Following the completion of data

collection and editing in the field, systematic organization of raw data was done to facilitate data analysis.

### **3.6.2 Data Management and Analysis**

The collected data was always in the custody of the trained research assistants before surrendering them to the researcher. The administered questionnaires were presented to the researcher every day after each day's work. During data collection, the trained research assistants ensured that all filled-in questionnaires were kept safely in the folder that was issued to each of them before embarking on data collection. To ensure that all the questionnaires were returned back to the researcher, every research assistant had to account for all the issued questionnaires and the spoilt questionnaires were to be given back to the researcher. The researcher also ensured privacy and confidentiality of the information given by the respondents.

Data analyses included 359 clients and 36 health workers as respondents. Data was imported into STATA version 12 (Stata Corp., Texas, USA) for analysis from Excel spreadsheet. Descriptive statistics using frequencies and respective proportions and means with corresponding standard deviations or medians and respective inter-quartile ranges were used after assessing for normality of the particular variable. For bivariate analysis, students t-test or rank-sum tests were used as appropriate to assess for differences in waiting time with respect to the categorical predictor variables. Univariate analysis was done using linear regression where the significant factors were included into the multivariate linear regression model. Regression coefficients, respective 95% confidence intervals and p-values were reported for each of the covariates fitted in the model. *P*-values less than 0.05 were considered statistically significant.

### **3.7 Ethical Considerations**

The study protocol was approved by Maseno University Ethical Review Board (Appendix IV). This study commenced after approval had been received from Maseno University, School of Graduate Studies. The aim and purpose of all components of the study was discussed and agreed on with the hospital management and informed consent was obtained from authorities. The researcher always briefed the respondents about the nature of the research, its purpose, and implications in order to obtain informed consent from the respondents before interview. Assent was also sought from the care givers or mothers of those aged <13 years before interview. Confidentiality of the information given was assured to the respondents before starting each interview.

### **3.8 Limitations of the Study**

Patient satisfaction with the waiting time may have been affected by other factors like time spent with service providers or charges levied.

The study was based on both respondents' answers and responses based on observations made by the researcher. There was no convenient way of verifying whether respondents correctly reported their years of professional service and the courses attended 6 months prior to the study.

There was recall bias in this study. Participants were asked questions based on a 6 month recall period. Some of the participants did not vividly remember all the different workshops or trainings attended.

To increase accuracy on years of service and courses attended, the hospital administrator was involved in verification of these responses during his interview.

Similar to other structured interview-based studies, this study was limited by the pre-determined responses, which are susceptible to response bias. However, attempts were made to minimize this potential source of bias by testing the tool, training field assistants in its administration, and amending it to make the wording familiar and appropriate.

## CHAPTER FOUR: RESULTS

### 4.1 General Characteristics

In this study, 359 study participants served at each of 4 departments namely cash office, consultation room, laboratory and pharmacy. A total of 36 health providers serving in the same departments were all included in the analysis. Two of the departments only operate between 0800-1700hrs. About 84.4% of the time (1212 out of 1436), there was only one staff at each of the departments. Emergency cases were low for pediatric 8 (0.6%), emergency maternity 2 (0.1%), emergency medical 1(0.1%) and 4 (0.3%) cases of trauma accidents. The number of clients seen by 1700 hours mainly (56.1%) ranged between 31- 40 (Table 5).

**Table 5: Frequency table for departmental profiles**

<b>No. of staff in department at time survey</b>	<b>Frequency</b>	<b>Proportions<sup>a</sup></b>
0	45	3.1
1	1212	84.4
2	177	12.3
3	2	0.1
<b>Total</b>	<b>1436</b>	<b>100</b>
<b>Working hours for department</b>		
0800-1700hrs	2	50
0800-1700hrs, staff on call thereafter	1	25
24hrs	1	25
<b>No. of clients seen by 1700hrs</b>		
21-30	26	1.8
31-40	805	56.1
41-50	425	29.6
Over 50	178	12.4
<b>Total</b>	<b>1434</b>	<b>100</b>

<sup>a</sup>Chi-square analyses used to determine proportions.

The emergencies did not have any significant impact on waiting time. Clinics with more clients (above 30 clients) tended to have a reduced waiting time compared to clinics with 31-40, 41-50 and over 50 by about 4.22, 5.07 and 4.86 minutes, respectively. However, the differences in waiting time were not statistically significant.

**Table 6: Profile of Departmental Staff Interviewed**

Department	Staff Cadre	Government supported	Partner supported	Recommended Total No
Pharmacy	Pharmacists	2	0	2
	Pharm. technologists	1	1	4
	Interns/ Students	1	0	4
	Health records/Clerks	0	0	1
	Subordinate/Cleaners	1	0	1
Laboratory	Lab technician	0	0	4
	Lab technologist	2	2	6
	HIV Counsellors	0	2	4
	Health records/clerks	0	1	2
	Support staff	1	0	2
Consultation Room	Medical Officers	1	0	6
	Clinical Officers	3	5	14
	Nurses	2	1	12

	Nurse assistant	0	0	4
	Health records/Clerks	1	1	2
	Support staff	2	0	2
Paypoint	Accountants	0	0	1
	Revenue clerks	2	0	4
	Health records/Clerks	1	1	2
	Subordinate/Cleaners	1	0	1

At the consultation room, there was a total of sixteen staff members (Table 6). All except one mentioned inadequate space for work operation and investigations. All mentioned inadequate consumable including examination gloves. All had equipment for clinical work and three agreed their computers had relevant software. Most, (13) mentioned having manual BP machines while fourteen mentioned having no ENT set. Ten of the staff agreed they had clinical guidelines and 14 said they had job aids. All had completed various training in last six months but only three received some professional training from a college or university. Three had attended short courses while 12 attended seminars and workshops. All indicated attending CMEs. Fifteen of the staff cited having adequate competencies required but all still require further training on their work. The areas needing further training included history taking (three), clinical examination (four), sample taking (thirteen) diagnosis and treatment (seven) and communication skills (fifteen). Fourteen were fluent in English and Swahili with 11 not fluent in Luo. Ten had considered changing their career in the last one year.

At the laboratory, all eight mentioned having inadequate space for work operation and investigations and inadequate examination gloves. They all agreed that equipment for laboratory



investigation were available but seven of them cited no automated biochemistry machine. All mentioned having rapid malaria diagnostics test kits, blood slide for malaria and Indian ink test. Six of the staff agreed they had manuals and all said they had job aids. All had completed a training in the last six months but only one received some professional training from a college or university. Areas for further training include; sample collection (three), sample preparation (two), sample storage (three) and communication skills (seven). All have either fluent or good spoken English or Swahili and only one is not fluent in Luo. Six had considered changing their career in the last one year.

All the six pharmacy staff mentioned lacking dispensing bottles and drug index. All agreed they had equipment and machines for dispensing, computer with relevant software, fridge, organized shelves and drug cabinet. They also mentioned no water heater and no potable water at the pharmacy. All of them had continuous medical education and indicated possessing adequate skills from pharmacy training. Five agreed they required further training in their work; commodity management (five), drug interactions (five), reporting tools (six), communication skills (six) and computer skills (two). In terms of language rating, five were fluent in English and Swahili while only one mentioned a very poor rating in spoken Luo. In terms of satisfaction, two indicated they were satisfied with their job, two dissatisfied with work environment and four either dissatisfied or very dissatisfied.

#### **4.2 Waiting Time Comparison by Department**

A comparison of the waiting times at each of the service points showed that most of the time, median (IQR) = 45( 28 - 62) minutes, was spent at the consultation room while the least time was spent at the cash office, median (IQR) = 12 (6 - 21) minutes (Table 7).

**Table 7: Waiting times at each department in minutes**

<b>Name of Service Point</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>25 Percentile</b>	<b>75 Percentile</b>
Cash office	17	17	12	6	21
Consultation room	50	31	45	28	62
Laboratory	24	13	25	15	30
Pharmacy	24	15	21	14	31
<b>Total Time</b>	<b>29</b>	<b>24</b>	<b>25</b>	<b>12</b>	<b>34</b>

**Legend:** Table showing the waiting times in each department. The data presents mean and median times in each department. The 25 percentile and 75 percentile are the interquartile ranges (IQR) for the waiting times in the different departments.

The waiting time at the consultation room was significantly higher than at the cash office by about 32 minutes,  $p < 0.001$ . This significant effect of consultation room was still sustained in the multivariable model in which it was demonstrated to be 19.96 minutes,  $p < 0.001$ . The waiting time at the laboratory and pharmacy were also significantly higher than at the cash office by 7.26 and 7.10 minutes, respectively,  $p < 0.001$ .

#### **4.3 Client Satisfaction with waiting time**

In terms of the satisfaction with time spent waiting at each of the departments, a third of responses showed satisfaction with wait time at the cash office 111 (31%) (Table 8). However, for consultation room, laboratory and pharmacy, majority of the responses showed dissatisfaction; 147 (41%), 134 (37%) and 178 (50%), respectively (Table 8).

**Table 8: Client rating of waiting times**

	<b>Cash Office</b>	<b>Consultation room</b>	<b>Laboratory</b>	<b>Pharmacy</b>
<b>Client Rating</b>	n (%)	n (%)	n (%)	n (%)
Very satisfied	45 (13%)	6 (2%)	10 (3%)	11 (3%)
Satisfied	111 (31%)	37 (10%)	79 (22%)	51 (14%)
Indifferent	76 (21%)	30 (8%)	76 (21%)	61 (17%)
Dissatisfied	101 (28%)	147 (41%)	134 (37%)	178 (50%)
Very dissatisfied	26 (7%)	137 (38%)	60 (17%)	58 (16%)

Generally, 45% of clients were either ‘satisfied’ or ‘very satisfied’ with the waiting time at the cash office while 79%, 54% and 66% were either ‘dissatisfied’ or ‘very dissatisfied’ with the waiting time at the consultation room, laboratory and pharmacy, respectively as shown in table 8 above.

In terms of clients’ rating of determinants of waiting time, 43%, 41% and 33% of the clients believed that the number of staff, number of clients and employees attitude, respectively, weakly influenced the waiting time at the cash office while training and competence, experience and communication was thought not to influence the waiting time by 50%, 77% and 64% of the clients.

At the consultation room, 46% and 42% of the clients believed number of staff and staff attitude, respectively, very strongly influenced waiting time while 50% and 44% believed staff experience and client number weakly influenced the waiting time, respectively (Table 9).

Staff attitude was believed to very strongly influence waiting time at the laboratory by 32% of the clients while 38% and 40% believed staff number and client number weakly influenced the waiting time, respectively.

In the pharmacy, staff number was believed to have a very strong influence on waiting time by 43% while client number, staff attitude and communication having a weak influence (44%, 35% and 39% of the clients, respectively).

The following table summarizes the clients rating of various determinants of waiting time at the hospital (Table 9).

**Table 9: Clients' rating of determinants of waiting time at each service point**

Item	Rating	Cash office		Consultation room		Laboratory		Pharmacy	
		n	%	n	%	n	%	n	%
<b>Number of staff</b>	1-Did not influence	87	24%	27	8%	40	11%	36	10%
	2-weakly influenced	155	43%	86	24%	135	38%	112	31%
	3-strongly influenced	36	10%	81	23%	72	20%	57	16%
	4-very strongly influenced	81	23%	165	46%	112	31%	154	43%
<b>Years of service/ Experience of staff</b>	1-Did not influence	275	77%	180	50%	221	62%	205	57%
	2-weakly influenced	80	22%	145	40%	110	31%	130	36%
	3-strongly influenced	4	1%	18	5%	20	6%	24	7%
	4-very strongly influenced	0	0%	14	4%	8	2%	0	0%
<b>Training and competencies of staff</b>	1-Did not influence	181	50%	104	29%	163	45%	154	43%
	2-weakly influenced	125	35%	125	35%	127	35%	115	32%
	3-strongly influenced	31	9%	65	18%	33	9%	49	14%
	4-very strongly influenced	22	6%	65	18%	36	10%	41	11%
<b>Workload</b>	1-Did not influence	114	32%	79	22%	133	37%	126	35%
	2-weakly influenced	148	41%	159	44%	142	40%	157	44%
	3-strongly influenced	83	23%	88	25%	60	17%	57	16%

	4-very strongly influenced	14	4%	32	9%	24	7%	19	5%
<b>Employee attitude to work</b>	1-Did not influence	84	23%	42	12%	76	21%	65	18%
	2-weakly influenced	119	33%	98	27%	115	32%	125	35%
	3-strongly influenced	68	19%	68	19%	52	14%	71	20%
	4-very strongly influenced	88	25%	151	42%	116	32%	98	27%
<b>Communication</b>	1-Did not influence	231	64%	125	35%	191	53%	119	33%
	2-weakly influenced	85	24%	106	30%	92	26%	140	39%
	3-strongly influenced	14	4%	43	12%	26	7%	37	10%
	4-very strongly influenced	29	8%	85	24%	50	14%	63	18%

#### 4.4 Determinants of Waiting Time

In order to identify determinants of waiting time regression analysis was carried out in which waiting time was the dependent while workload, staff number, staff experience, staff training/competence, staff attitude and communication were the independent variables. In this regression analyses, the standard MOMS' reference time was used as reference in the analyses to assess how these variants alter waiting time in the facility. Results revealed that relative to the Ministry of Medical Services (MOM's) reference time, the service point (OR, 5.03, 95% CI; 3.21-7.34,  $p<0.001$ ), having an emergency (OR, 2.05, 95% CI; 1.64-2.97,  $p=0.042$ ), number of clients to serve (OR, 4.45, 95% CI; 2.33-5.42,  $p=0.024$ ), number of staff attending to clients (OR, 5.39, 95% CI; 3.45-7.87,  $p<0.001$ ), years of service of the staff and their experiences (OR, 5.97, 95% CI; 4.22-8.76,  $p<0.001$ ), the staff's training and competencies (OR, 6.01, 95% CI; 4.27-7.88,  $p<0.001$ ), amount of workload (OR, 1.70, 95% CI; 1.21-2.00,  $p=0.047$ ), employee's attitude/morale (OR, 1.99, 95% CI; 1.21-2.03,  $p=0.047$ ) significantly influenced the waiting time by some magnitude in

this facility. However, communication by staff to the clients did not alter waiting time in this facility (OR, 0.94, 95% CI; 0.62-1.54,  $p=0.061$ ) (Table 10).

**Table 10: Regression analyses of determinants of waiting time**

Outcome: Waiting Time	OR	95% CI		P-value
		Lower	Upper	
MOM's reform (reference time)	1.00	-	-	-
Service Point	5.03	3.21	7.34	<0.001
Emergency	2.05	1.64	2.97	0.042
No. of clients seen by 1700Hrs	4.45	2.33	5.42	0.024
Number of Staff	5.39	3.45	7.87	<0.001
Years of Service /Experience	5.97	4.22	8.76	<0.001
Training and competencies	6.01	4.27	7.88	<0.001
No. of clients Workload	1.70	1.23	2.00	0.047
Employee attitude to work / morale	1.99	1.21	2.03	0.045
Poor communication / Language barrier	0.94	0.62	1.54	0.061

**Legend:** OR=Odd Ratio; 95% CI= 95% Confidence Interval; The factors included in the regression model included workload, staff number, staff experience, staff training/competence, staff attitude and poor communication. The standard MOM's time (DHMT, 2011) was used as reference in the regression analyses.

## **CHAPTER FIVE: DISCUSSION**

### **5.0 Summary**

This study was designed to determine the actual waiting time in four selected outpatient service delivery points in a rural-based hospital. The study also investigated the factors that influence the waiting time in these areas of service delivery at Nyakach District hospital in Kisumu County. Lastly, client satisfaction/dissatisfaction with the waiting time was also determined. The findings from this study demonstrated that the actual mean waiting time for the four departments was lower than the waiting times estimated by the clients. The mean waiting time at Nyakach District Hospital cash office was 17 minutes, laboratory 24 minutes, pharmacy 24 minutes and consultation room 50 minutes. The cash office and laboratory times were within the MOMS' recommended time while the pharmacy and consultation room were not. Significant determinants of waiting time at Nyakach District Hospital were the service point, having an emergency, number of clients to served, number of staff attending to clients, years of service of the staff and their experiences, the staff's training and competencies, amount of workload, and employee's attitude/morale. Clients being served at the hospital were mostly dissatisfied with the waiting times at the clinicians' consultation room, laboratory and pharmacy while those being served at the pay point were generally satisfied.

### **5.1 Mean Waiting Time**

The pay point had a mean waiting time of 17 minutes with a median (IQR) =12 (6-21) minutes. This department had the least mean waiting time compared to the other three service points. These results were comparable to the KHSS Survey 2009 (MOH, 2009) which had a waiting time of 16 minutes. It is worth noting that this time is within the MOMS hospital reforms guidelines 2012-2013(DHMT, 2011) which recommends a mean waiting time of less than 30 minutes.

In the clinicians consultation room, the mean waiting time was 50 minutes with a median (IQR)=45 (28-62) minutes. This department had the highest waiting time compared to the other three departments. This time was also higher than the MOMS hospital reforms guidelines 2012-13 which recommended mean waiting time below 20 minutes before seeing the clinician (DHMT, 2011). Evaluation at the laboratory revealed a mean waiting time of 24 minutes with a median (IQR)= 25 (15-30) minutes. This was in keeping with the KHSSS 2009 which had a mean time of 18 minutes (MOH, 2009). This time is also within the recommended upper limit of 30 minutes with reference to the norms provided in the 2012-13 MOMS hospital reforms guidelines (DHMT, 2011). Assessment of the pharmacy revealed a mean waiting time of 24 minutes with a median (IQR)= 21(14-31) minutes. This time was higher than the MOMS hospital reforms guidelines 2012-2013 recommended mean waiting time of below 20 minutes before being served in the pharmacy (DHMT, 2011). However, this time was comparable to the Kenya health sector satisfaction survey 2009 which had a mean waiting time of 22 minutes (MOH, 2009).

## **5.2 Client Satisfaction with Waiting Time**

Regarding client satisfaction/dissatisfaction, a third of the responses at the pay point cited satisfaction and a further 13% were very satisfied. This department had the highest number of responses showing satisfaction with waiting time. Most clients believed that the workload, staff attitude, staff training and competence and staff number had a weak influence on the waiting time while poor communication and years of service/ staff experience did not influence waiting time.

Forty one percent of the clients visiting the clinicians' consultation room were dissatisfied with the waiting time while 38% were very dissatisfied. This result was comparable to a study done in 1999 in which 48% of respondents were dissatisfied with waiting time (Singh *et al.*, 1999). Majority of



clients indicated that the number of staff in this department and the employee attitude very strongly influenced the waiting time while the workload, staff experience, staff competence influenced waiting time while the language barrier did not. In the laboratory, 37% of the clients were dissatisfied with the waiting time with a further 17% being very dissatisfied. The pharmacy recorded the highest number of clients citing dissatisfaction (50%) with a further 16% being very dissatisfied. The clients thought that the number of staff and staff attitude to work strongly affected the waiting time.

### **5.3 Determinants of Waiting Time**

The cash office consisted of five employees (2 revenue clerks, 2 health record clerks and a subordinate cleaner) but there was no accountant. The revenue clerks and cleaners had over one year of experience each. In addition, the four clerks confirmed completing different forms of training in the prior six months including OJTs and CMEs although none had a professional training from a college or a university. All agreed that they needed further training in patient billing including for NHIF patients, counterfeit money recognition, customer care computer and communication skills. These findings are consistent with earlier studies that showed support for professional development of staff and positive work environment improves service delivery (Aiken *et al.*, 2001; Ibrahim, 2008). The results further revealed that the four clerks had considered changing their carrier in the last one year with two noting that they were satisfied with their jobs while the other two being dissatisfied especially with the work environment and remuneration. A total of 11/16 of the staff in the clinicians' consultation room had more than a year of experience including the clinicians and nurses. In addition, all had attended CMEs and different forms of trainings or seminars in the last 6 months. They all noted having adequate competencies but would

benefit from further trainings and OJTs in history taking (3), clinical examination (4), sample collection (13), diagnosis and treatment (7) and communication skills (15). Others areas mentioned included administration of cytotoxic drugs, filling medico-legal reports and performing some surgical procedures. All noted having challenges including inadequate space for operations and inadequate consumables like cotton wool, gloves, strapping, alcohol swabs and disinfectants. However, they noted that they all had the basic equipment for clinical work like stethoscopes, thermometers, clinical guidelines and job aids but only four had drug index books.

The results also showed that this department was more likely to face communication challenges with four clinicians being poor in spoken and written Luo. Most of the staff (10/16) were dissatisfied with their work environment and remuneration and had actually considered changing career in the previous one year. This is a pointer to low work morale and poor staff attitude to work. Similar findings were reported by others studies (Aiken *et al.*, 2001; Ibrahim, 2008). Khowaja *et al.*(2004) showed that patients positive feedback, autonomy, professional growth and availability of required material or equipment are important factors in promoting job satisfaction. Factors cited as strongly influencing waiting time were the staff number, employee attitude and work load in such set-ups. The employee experience and staff competence were cited as weakly influencing the time. Only two responses had poor communication as a weak determinant of waiting time. As much as some factors were considered weak in determining waiting time, more emphasis should be made towards addressing them as the number of respondents interviewed could have lowered their significance in the context of the current set-up.

Four of the six interviewees in the pharmacy had less than a year work experience but all had attended CMEs with 3 confirming having completed professional training in the last 6 months. They all cited having adequate skills but most would benefit from further trainings in communication

skills, commodity management, drug interactions, and filling reporting tools. Common challenges noted at the pharmacy included inadequate consumables like gloves and other items like tablets counters, registers, stationery and drug index. There was an urgent need for portable water. However, they had necessary equipment that facilitates dispensing e.g. computers with relevant software, fridge, drug shelves and cabinets. The results also revealed that only one person was poor in spoken Luo in this hospital's pharmacy hence language barrier was not expected to be a major problem here. Half (3) of the staff had considered changing career in the last 3 months with 4 of them being dissatisfied with the work environment. In keeping with this, they rated employee attitude/morale and the workload as very important determinants of the waiting time while remuneration, trainings, and language barrier as important factors.

Further analysis of the general determinants showed that waiting time at Nyakach District Hospital were significantly influenced by the service point, having an emergency, number of clients to served, number of staff attending to clients, years of service of the staff and their experiences, the staff's training and competencies, amount of workload, and employee's attitude/morale. This is the first time such a study is being conducted in a government health facility. Focus on improvement of services in the identified areas should be made in future evaluations with a heightened need to improve on this and other later identified factors.

## **CHAPTER SIX: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Summary of Key Findings**

The findings from this study demonstrated that the actual mean waiting time for the four departments was lower than the waiting times estimated by the clients. It was also noted that the waiting time given by clients was inaccurate since it tended to be round figure estimation. The mean waiting time at Nyakach District Hospital cash office was 17 minutes, laboratory 24 minutes, pharmacy 24 minutes and consultation room 50 minutes. Significant determinants of waiting time at Nyakach District Hospital were the service point, having an emergency, number of clients to served, number of staff attending to clients, years of service of the staff and their experiences, the staff's training and competencies, amount of workload, and employee's attitude/morale. Clients being served at the hospital were mostly dissatisfied with the waiting times at the clinicians' consultation room, laboratory and pharmacy while those being served at the pay point were generally satisfied.

### **6.2 Conclusions**

1. The mean waiting time at Nyakach District Hospital cash office was 17 minutes, laboratory 24 minutes, pharmacy 24 minutes and consultation room 50 minutes. The cash office and laboratory times were within the Ministry of Medical Services recommended time while the pharmacy and consultation room were not.
2. Significant determinants of waiting time at Nyakach District Hospital were the service point, having an emergency, number of clients to served, number of staff attending to clients, years of service of the staff and their experiences, the staff's training and competencies, amount of workload, and employee's attitude/morale.

3. Clients served at Nyakach District Hospital were mostly dissatisfied with the waiting times at the clinicians' consultation room, laboratory and pharmacy while those being served at the pay point were generally satisfied. The clients that were very satisfied took significantly lesser time than those satisfied, indifferent, dissatisfied and very dissatisfied.

### **6.3 Recommendations from the Current Study**

1. There is need for intervention by the hospital management to reduce waiting time at the hospital to conform to the Hospital Reforms Guidelines. This should especially target the clinicians' consultation room which had significantly higher waiting time compared to the recommended upper limit.
2. There is need to increase the staffing levels at the four selected OPD departments in order to decrease waiting time and improve service delivery. The employees also need capacity building through regular refresher trainings and CMEs. There's also need to balance on staff with more experience and the relatively less experienced and to encourage mentorship.
3. There's need to improve on client satisfaction levels specifically with waiting time reduction at the four selected areas of service delivery.

### **6.4 Recommendations for Further Studies**

1. Further studies should be considered on optimum staffing levels for Nyakch District Hospital while factoring the hospitals workload and expected service delivery.
2. Studies should be designed to explore the specific training needs of the various staff cadres in the hospital with the aim of building their capacity.

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**Appendix 1: Questionnaire for Waiting time and Client satisfaction  
Questionnaire Administered to Clients in Seeking Services at the Consultation room,  
Laboatory, Pay point or Pharmacy, Nyakach District hospital.**

**Informed Consent Form**

**1.0 Identification**

Questionnaire Code..... Date of Interview.....

Respondent Name.....OPD Number.....

**1.1 Introduction**

My name is Omwenga Peter Mogaka. I am a postgraduate student undertaking Masters in Public Health at Maseno University. We are carrying out a study whose aim is to evaluate the determinants of and client satisfaction with waiting time at Nyakach District Hospital, Kenya

**1.2 Benefits**

The information from this study will be strictly for learning purposes. It may also be used by the hospital management and/or Ministry of Health and other stakeholders to improve on quality of services at the hospital.

**1.3 Basis of participation**

Your participation will purely be voluntary. You will need approximately 10 minutes to respond to the questions. The information will be given to the researcher and it will be treated with confidentiality. Your sincere and true response will contribute to the achievement of the aim of this study.

Name of Respondent: \_\_\_\_\_

Signature (Optional): \_\_\_\_\_



## Measurement of Waiting Time

1. Name of Service Point/Department:  Consultation room  Laboratory  
 Pharmacy  Cash Office

2. Working hours for department:

i) 0800-1700Hrs       ii) 0800-1700Hrs, staff on call thereafter.   
iii) 24 Hrs       iv) Other, Specify .....

3. No of staff in department at the point in time 0 1 2 3 4 5

4. Arrival time ..... Time service started .....

5. Number of emergency cases preferentially served during measurement.

i) Emergency Paediatric 0 1 2 3 4 5  
ii) Emergency Maternity 0 1 2 3 4 5  
iii) Emergency Medical 0 1 2 3 4 5  
iv) Emergency Trauma/Accidents 0 1 2 3 4 5

6. Number of clients seen by 1700Hrs 10-20 21-30 31-40 41-50 Over 50

7. Estimate the time you spent waiting before you were served \_\_\_\_\_ minutes.

8. Using the scale below, please rate your satisfaction with the time spent waiting before getting served in this department.

*Very satisfied (1) Satisfied (2) Indifferent (3) Dissatisfied (4) Very dissatisfied (5)*

Answer

9. Please rate the roles of the following factors that you feel affected the waiting time in this department today using the key:

*Did not influence [1]      Weakly Influenced [2]      Strongly influenced [3]      Very strongly influenced [4]*

- |   |                          |  |                          |
|---|--------------------------|--|--------------------------|
| a. Number of staff                      | <input type="checkbox"/> | d. Number of clients/Workload          | <input type="checkbox"/> |
| b. Age/experience of staff              | <input type="checkbox"/> | e. Employee attitude to work/morale    | <input type="checkbox"/> |
| c. Confidence and competencies of staff | <input type="checkbox"/> | f. Poor communication/Language barrier | <input type="checkbox"/> |
| g. Other, specify .....                 |                          |  |                          |

**THANKS A LOT FOR YOUR TIME**

## **Appendix 2: Semi-Structured Interview Guide (Health Care Providers)**

### **Key Informant Interviews with Health Care providers at Consultation Room, Laboratory, Pay point and Pharmacy Departments in Nyakach District Hospital, Kenya.**

#### **1.0 Identification**

Date of Interview..... Interview Number.....

Respondent Name.....Service Point.....

#### **1.1 Introduction**

My name is Omwenga Peter Mogaka. I am a postgraduate student undertaking Masters in Public Health at Maseno University. We are carrying out a study whose aim is to evaluate the determinants of and client satisfaction with waiting time at Nyakach District Hospital, Kenya

#### **1.2 Benefits**

The information from this study will be strictly for learning purposes. It may also be used by the hospital management and/or Ministry of Health and other stakeholders to improve on quality of services at the hospital.

#### **1.3 Basis of Participation**

Your participation will purely be voluntary. You will need approximately 10 minutes to respond to the questions. The information will be given to the researcher and it will be treated with confidentiality. Your sincere and true response will contribute to the achievement of the aim of this study.

Name of Respondent: \_\_\_\_\_

Signature (Optional): \_\_\_\_\_

**SECTION A: CONSULTATION ROOM**

1. What is your designation?

- a.  Medical Officer
- b.  Nurse
- c.  Subordinate staff
- d.  Clinical Officer
- e.  Clerk
- f.  Other,Specify.....

2. What is your duration of service in current speciality generally?  
Years.....Months.....

3. What is your duration of service in current speciality in this hospital?  
Years.....Months.....

4. Does your consultation room have adequate space for your work / operations?

5. a)Do you have adequate non-pharmaceutical consumables you require for patient examination?

b)If No, Mention the non-pharmaceuticals that are **inadequate**.

- i)Examination gloves
- ii)Branula / IV cannula
- iii)Gauze rolls
- iv) Zinc oxide strapping
- v) Cotton wool
- vi)Other,specify ... ..

6. a)Do you have any equipment /machines which facilitate in clinical consultation?.

b) If yes, mention the machines or equipment you have.

- a.  Computer with relevant software
- b.  Stethoscope
- c.  Digital Thermometer
- d.  Mercury Thermometer
- f.  Digital BP machine
- g.  Manual BP machine
- h.  ENT set
- i.  Clinical guidelines

e  Drug index

j.  Job aid

Other, .....

. 7 a) Have you had and completed any training in the last 6 months?

a. Yes

b. No

b) If the answer is *yes* in the above question, state type of training.

a.  Professional training from a College/University.

b.  Short courses

c.  Seminars and Workshops

d.  On the job training/ Continuous Medical Education

e. Other .....

c) From the above stated training, do you think you have adequate competencies/skills required in your work?

a) Yes

b) No

8. a) Do you require any further training in your work?

b) If *yes*, kindly specify areas which you think you need some training.

9. Rate your understanding and communication ability in the following languages:

*Fluent/Excellent [1] Good [2] Average [3] Poor [4] Very Poor [5]*

Spoken : English  Swahili  Local Language (Luo)

Written : English  Swahili  Local Language (Luo)

10. a) Have you considered changing career in the last one year? a) Yes  b) No

b) Using the scale below, please rate your satisfaction with your job, work environment and remuneration.

*Very satisfied (1) Satisfied (2) Indifferent (3) Dissatisfied (4) Very dissatisfied (5)*

- a. Job
- b. Work environment
- c. Remuneration

11. Please rate the roles of the following factors that may affect waiting time in your department using the key:

*Not important [1]      Important [2]      Very important [3]      Extremely important [4]*

- |  |                          |  |                          |
|--|--------------------------|--|--------------------------|
| a. Number of staff                       | <input type="checkbox"/> | e. Number of clients/ workload         | <input type="checkbox"/> |
| b. Years of service/Experience of staff  | <input type="checkbox"/> | f. Employee remuneration.              | <input type="checkbox"/> |
| c. Training and competencies of staff    | <input type="checkbox"/> | g. Employee attitude to work/ morale   | <input type="checkbox"/> |
| d. Available equipment (modern/outdated) | <input type="checkbox"/> | h. Poor communication/Language barrier | <input type="checkbox"/> |

Others.....

**THANKS A LOT FOR YOUR TIME**

**SECTION B: LABORATORY**

1. What is your designation?

- a.  Lab. Technologist
- b.  Lab. technician
- c.  Subordinate staff
- d.  HIV counselor/ tester
- e.  Clerk
- f.  Other, Specify.....

2 What is your duration of service in current speciality generally?  
Years.....Months.....

3. What is your duration of service in current speciality in this hospital?  
Years.....Months.....

4. Does the laboratory have adequate space for your work / operations?

- a. Yes
- b. No

5. a) Do you have adequate consumable items you require for investigations?

- a. Yes
- b. No

b) If *No*, Mention the items that are **inadequate** from the following list

- i)Examination gloves
- ii)Blood lancet
- iii)Cotton wool
- iv) Zinc oxide strapping
- v) Vacutainers
- vii) Other, specify .....

6 a) Do you have any equipment /machines which facilitate laboratory investigation?

- a. Yes
- b. No

b) If yes, mention the machines or equipment you have.

- a  Computer with relevant software
- f.  CRAG test

- |                             |                                |                             |                      |
|-----------------------------|--------------------------------|-----------------------------|----------------------|
| b. <input type="checkbox"/> | Automated biochemistry machine | g. <input type="checkbox"/> | Indian ink test      |
| c. <input type="checkbox"/> | Manual biochemistry machine    | h. <input type="checkbox"/> | Laboratory incubator |
| d. <input type="checkbox"/> | Rapid Malaria diagnostic tests | i. <input type="checkbox"/> | S.O.P.s              |
| e. <input type="checkbox"/> | Blood slide for malaria        | j. <input type="checkbox"/> | Job aids             |

Others.....

7. a) Have you had and completed any training in the last 6 months?

- a. Yes                       b. No

b) If the answer is *yes* in the above question, state type of training.

- a.  Professional training from a College/University.  
 b.  Short courses  
 c.  Seminars and Workshops  
 d.  On the job training/ Continuous Medical Education  
 e.  Other Specify.....

c) From the above stated training, do you think you have adequate competencies/skills required in your work?

- a. Yes                       b. No

8. a) Do you require any further training in your work?

- a. Yes                       b. No

b) If *yes*, kindly specify areas which you think you need some training.

- |                        |                          |                          |                          |
|------------------------|--------------------------|--------------------------|--------------------------|
| i) Sample collection   | <input type="checkbox"/> | iv) Communication skills | <input type="checkbox"/> |
| ii) Sample preparation | <input type="checkbox"/> | v) Other, Specify.....   |                          |



iii) Sample storage

10. Rate your understanding and communication ability in the following languages:

*Fluent/Excellent [1] Good [2] Average [3] Poor [4] Very Poor [5]*

Spoken : English  Swahili  Local Language (Luo)

Written : English  Swahili  Local Language (Luo)

11. Have you considered changing career in the last one year?

a. Yes  b. No

12. Using the scale below, please rate your satisfaction with your job, work environment and remuneration.

*Very satisfied (1) Satisfied (2) Indifferent (3) Dissatisfied (4) Very dissatisfied (5)*

a. Job   
b. Work environment   
c. Remuneration

13. Please rate the roles of the following factors that may affect waiting time in your department using the key:

*Not important [1] Important [2] Very important [3] Extremely important [4]*

a. Number of staff	<input type="checkbox"/>	e. Number of clients/ workload	<input type="checkbox"/>
b. Years of service/Experience of staff	<input type="checkbox"/>	f. Employee remuneration.	<input type="checkbox"/>
c. Training and competencies of staff	<input type="checkbox"/>	g. Employee attitude to work/ morale	<input type="checkbox"/>
d. Available equipment (modern/outdated)	<input type="checkbox"/>	h. Poor communication/Language barrier	<input type="checkbox"/>

**SECTION C: PHARMACY**

1. What is your designation?

- a.  Pharmacist
- b.  Pharm. technologist
- c.  Subordinate staff
- d.  Intern/ Student
- e.  Clerk
- f.  Other, Specify.....

2. What is your duration of service in current speciality generally?

Years.....Months.....

3. What is your duration of service in current speciality in this hospital?

Years.....Months.....

4. Does the pharmacy room have adequate space for your work / operations?

- a. Yes
- b. No

5. a) Do you have adequate dispensing tools you require for your work?

- a. Yes
- b. No

b) If *No*, mention the tools that are **inadequate**

- i)Gloves
- ii)Tablet counters
- iii)Registers & stationery.
- iv) Dispensing bottles
- v) Drug index
- vi) Other, specify .....

6. a) Do you have any equipment /machines which facilitate in dispensing and stock control?

- a. Yes
- b. No

b) If yes, mention the machines or equipment you have.

- a.  Computer with relevant software
- d.  Drug cabinet

- b.  Fridge
- c.  Organized shelves
- g.  Other, specify .....
- e.  Water heater
- f.  Potable water

7. a) Have you had and completed any training in the last 6 months?

- a. Yes
- b. No

b) If the answer is *yes* in the above question, state type of training.

- a.  Professional training from a College/University.
- b.  Short courses
- c.  Seminars and Workshops
- d.  On the job training/ Continuous Medical Education
- f.  Other .....

c) From the above stated training, do you think you have adequate competencies/skills required in your work?

- a) Yes
- b. No

8.a) Do you require any further training in your work?

- a)Yes
- b. No

b) If *yes*, kindly specify areas which you think you need some training.

- |                             |                          |                          |                          |
|-----------------------------|--------------------------|--------------------------|--------------------------|
| i) Commodity management     | <input type="checkbox"/> | iv) Computer skills      | <input type="checkbox"/> |
| ii) Reporting tools         | <input type="checkbox"/> | v) Communication skills  | <input type="checkbox"/> |
| iii) Drug-drug interactions | <input type="checkbox"/> | vi) Other, specify ..... | <input type="checkbox"/> |

9. Rate your understanding and communication ability in the following languages:

*Fluent/Excellent [1] Good [2] Average [3] Poor [4] Very Poor [5]*

Spoken : English  Swahili  Local Language (Luo)

Written : English  Swahili  Local Language (Luo)

11. Have you considered changing career in the last one year?

a. Yes  b. No

12. Using the scale below, please rate your satisfaction with your job, work environment and remuneration.

*Very satisfied (1) Satisfied (2) Indifferent (3) Dissatisfied (4) Very dissatisfied (5)*

a. Job  b. Work environment   
c. Remuneration

13. Please rate the roles of the following factors that may affect waiting time in your department using the key:

*Not important [1] Important [2] Very important [3] Extremely important [4]*

a. Number of staff  e. Number of clients/ workload   
b. Years of service/Experience of staff  f. Employee remuneration.   
c. Training and competencies of staff  g. Employee attitude to work/ morale   
d. Available equipment (modern/outdated)  h. Poor communication/Language barrier

**THANKS A LOT FOR YOUR TIME**

**SECTION D: PAY POINT**

1. What is your designation ?

- a.  Accountant
- b.  Revenue clerk
- c.  Health records clerk
- d.  Subordinate/ cleaner

Other, Specify.....

2. What is your duration of service in current speciality generally?

Years.....Months.....

3. What is your duration of service in current speciality in this hospital?

Years.....Months.....

4. Does the revenue office have adequate space for your work / operations?

- a. Yes
- b. No

5. a) Do you have adequate cash collection tools and equipment you require for your work?

- a. Yes
- b. No

b) If *No*, Mention the tools that are **inadequate** :

- i) Computer with relevant software
- ii) UPS (Power back up)
- iii) Receipt books.
- iv) Secure cash box/safe
- v) Reinforced door/counter
- vi) Calculator
- vi) Other, specify ... ..

7. a) Have you had and completed any training in the last 6 months? a)Yes  b) No

b) If *yes* in the above question, state type of training.

- a.  Professional training from a College/University.
- b.  Short courses
- c.  Seminars and Workshops
- d.  On the job training/ Continuous Medical Education
- e.  Other .....

c) From the above stated training, do you think you have adequate competencies/skills required in your work?

- a. Yes
- b. No

8.a) Do you require any further training in your work?

- a. Yes
- b. No

b) If your answer in the above question is yes, kindly specify areas which you think you need some training.

- |                        |                          |                         |                          |
|------------------------|--------------------------|-------------------------|--------------------------|
| i) Patient billing     | <input type="checkbox"/> | iv) Computer skills     | <input type="checkbox"/> |
| ii) Customer care      | <input type="checkbox"/> | v) Communication skills | <input type="checkbox"/> |
| iii) Counterfeit money | <input type="checkbox"/> | vi) Other, Specify..... | <input type="checkbox"/> |

9. Rate your understanding and communication ability in the following languages:

*Fluent/Excellent [1] Good [2] Average [3] Poor [4] Very Poor [5]*

Spoken : English  Swahili  Local Language (Luo)

Written : English  Swahili  Local Language (Luo)

10. Have you considered changing career in the last one year? a) Yes  b) No

11. Using the scale below, please rate your satisfaction with your job, work environment and remuneration.

*Very satisfied (1) Satisfied (2) Indifferent (3) Dissatisfied (4) Very dissatisfied (5)*

- a. Job
- b. Work environment
- c. Remuneration

12. Please rate the roles of the following factors that may affect waiting time in your department using the key:

*Not important [1]      Important [2]      Very important [3]      Extremely important [4]*

- |  |                      |  |                      |
|--|----------------------|--|----------------------|
| a. Number of staff                       | <input type="text"/> | e. Number of clients/ workload         | <input type="text"/> |
| b. Years of service/Experience of staff  | <input type="text"/> | f. Employee remuneration.              | <input type="text"/> |
| c. Training and competencies of staff    | <input type="text"/> | g. Employee attitude to work/ morale   | <input type="text"/> |
| d. Available equipment (modern/outdated) | <input type="text"/> | h. Poor communication/Language barrier | <input type="text"/> |

**THANKS A LOT FOR YOUR TIME**

### **Appendix 3: Semi-Structured Interview Guide (Hospital Administration)**

#### **Key Informant Interview to be Conducted with the Hospital Administration at Nyakach D.H.**

##### **1.0 Identification**

Date of Interview..... Interview Number.....

Respondent Name.....

##### **1.1 Introduction**

My name is Omwenga Peter Mogaka. I am a postgraduate student undertaking Masters in Public Health at Maseno University. We are carrying out a study whose aim is to evaluate the determinants of and client satisfaction with waiting time at Nyakach District Hospital, Kenya

##### **1.2 Benefits**

The information from this study will be strictly for learning purposes. It may also be used by the hospital management and/or Ministry of Health and other stakeholders to improve on quality of services at the hospital.

##### **1.3 Basis of Participation**

Your participation will purely be voluntary. You will need approximately 10 minutes to respond to the questions. The information will be given to the researcher and it will be treated with confidentiality. Your sincere and true response will contribute to the achievement of the aim of this study.

Name of Respondent: \_\_\_\_\_

Signature (Optional): \_\_\_\_\_



**1. Staff Profile Consultation/Clinicians room.**

Staff Cadre	Government supported	Partner supported	Recommended Total No
Medical Officers			
Clinical Officers			
Nurses			
Nurse aids/Counsellors			
Health records/Clerks			
Subordinate/Cleaners			

**2. Staff Profile Laboratory**

Staff Cadre	Government supported	Partner supported	Recommended Total No
Laboratory technician			
Laboratory technologist			
HIV Counsellors/Testers			
Health records/Clerks			
Subordinate/Cleaners			

### 3. Staff Profile Pharmacist

Staff Cadre	Government supported	Partner supported	Recommended Total No
Pharmacists			
Pharm. technologists			
Interns/ Students			
Health records/Clerks			
Subordinate/Cleaners			

### 4. Staff Profile Revenue Office

Staff Cadre	Government supported	Partner supported	Recommended Total No
Accountants			
Revenue clerks			
Health records/Clerks			
Subordinate/Cleaners			

5. Confirm the cadres of staff, the trainings attended, their years of service in this hospital and any relevant information that can be clarified further.

## Appendix 4: Maseno University Ethics review Committee Approval



### MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050  
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya  
Email: muerc-secretariate@maseno.ac.ke

**FROM:** SECRETARY - MUERC

**DATE:** 26<sup>th</sup> August, 2013

**TO:** Mr. Peter Mogaka Omwenga,  
PG/MPH/0066/2011,  
School of Public Health and Community Development,  
Maseno University, Maseno, Kenya.

**REF:** MSU/DRPC/MUERC/000022/13

**RE: EVALUATION OF WAITING TIME AT NYAKACH DISTRICT HOSPITAL, KENYA.  
PROPOSAL REFERENCE NO: MSU/DRPC/MUERC/000022/13**

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that issues raised at the initial review were adequately addressed. Consequently, the study is granted approval for implementation effective this 26<sup>th</sup> day of August, 2013 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 25<sup>th</sup> August, 2014. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 24<sup>th</sup> July, 2014.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 24<sup>th</sup> July, 2014.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advise MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

Dr. Bonuke Anyona,  
Secretary,  
Maseno University Ethics Review Committee.

Cc: Chairman,  
Maseno University Ethics Review Committee.



MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED

