

**BARRIERS ASSOCIATED WITH THE USE OF THE KENYA QUALITY
MODEL IN ST. FRANCIS COMMUNITY HOSPITAL KASARANI AND
IGEGANIA SUB-DISTRICT HOSPITAL IN NAIROBI AND KIAMBU
COUNTIES IN KENYA**

BY:

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**A THESIS SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH,
COLLEGE OF HEALTH SCIENCES IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF MASTERS OF PUBLIC HEALTH
HEALTH SERVICES MANAGEMENT**

SCHOOL OF PUBLIC HEALTH

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DECEMBER 2013

DECLARATION

I declare that this research proposal is my original work and to the best of my knowledge has not been presented for a degree in any other institution.

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17/12/2013

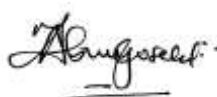
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DEDICATION

To my loving husband Dr. Joseph Lelo and our children Jeremy and Maya for bringing so much joy into my life.

ABSTRACT

Background: The Kenya Quality Model (KQM) was designed by the Department of Standards Research and Regulatory Services under Ministry of Health (MoH) in Kenya to provide a conceptual framework for quality improvement in health care. This model has been used by the National Hospital Insurance Fund (NHIF) to improve quality in NHIF accredited hospitals. NHIF and MoH have trained health workers on the use of the KQM. Despite encouraging results after using the Kenya Quality Model, this document has been poorly adopted by many health facilities. Barriers associated with the use of the KQM have not been documented locally.

Objective: To determine the barriers associated with the use of the Kenya Quality Model in St. Francis Community Hospital Kasarani and Igegania Sub-district hospital.

Methodology: A cross sectional study was done at St. Francis Community Hospital and Igegania Sub District Hospital which have hospital staff trained on using the Kenya Quality Model. A total of 155 interviews were conducted using questionnaires with health workers in all departments. A Focus Group Discussion was conducted with quality improvement team members within the hospital, quality staff from the Department of Standards Research and Regulatory Services, NHIF quality experts and other key players in the health sector.

Results: Among the respondents 69% were female and 31% male. Majority (80%) of the respondents had background medical training. The mean number of years worked in the health sector was 4.75 ± 3.814 . Lack of awareness emerged as a barrier to the use of KQM with 14.8% of respondents aware of the existence of the KQM. Only 10.3% members of staff had been trained. The use of KQM was low with 89.7% of the respondents reporting none-use. About 37.9% of respondents mentioned that not all members of the quality improvement team understood the KQM. Other barriers include that the KQM is too detailed 20.7% and a lack of clear understanding of the KQM 17.2%. Methods identified by the respondents of increasing awareness on the existence of the KQM include training 58.3%, facility improvement support 12.5% and recognition as a centre of excellence 8.3%.

Conclusion: The level of awareness of the Kenya Quality Model is low. In order to improve the utilization of the Kenya Quality Model awareness level should be increased and the barriers associated with the use of the Kenya Quality Model addressed.

Recommendation: The Ministry of Health should aim at scaling-up promotion of KQM as a tool for quality improvement and assessment among health facilities in Kenya. More health workers need to be trained on the use of the Kenya Quality Model.

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ACKNOWLEDGEMENT

I wish to acknowledge my supervisors in their guidance in writing this thesis. Dr. Timothy Abuya for his vast knowledge and quick turnaround time in providing feedback during the entire period of the study. Ms. Rachel Ileri for her guidance in identifying the best topic under health services management. Dr. Simiyu Tabu for providing reference material and local studies done on the Kenya Quality Model. Dr. Alice Lakati for her relentless efforts in guiding me to critically analyse the data and variables and proving the final shape up in this thesis.

I acknowledge the leadership and all staff members of St. Francis Community Hospital Kasarani and Igegania Sub-District hospital for their cooperation during the entire period of the study and for openness in response to the questions asked during the study.

The Ministry of Health, Division of Standards and Regulatory Services, NHIF for active participation during the focus group discussion and commitment to the quality improvement agenda.

Moi University for granting me the opportunity to interact with high calibre scholars and excel in this course.

LIST OF ACRONYMS

AKUH	– Aga Khan University Hospital
COHSASA	– Council for Health Service Accreditation for Southern Africa
CHE	– Commission for Higher Education
DSRRS	– Department of Standards, Research and Regulatory Services
EFQM	– European Foundation for Quality Management International
GTZ	– German Technical Corporation
ISO	– International Organization for Standardization
ISQua	– The International Society for Quality in Health Care
JCI	– Joint Commission International
JCHAO	– The Joint Commission
KQM	– Kenya Quality Model
KENAS	– Kenya National Accreditation Service
KEPH	– Kenya Essential Package for Health
MOMS	– Ministry of Medical Services
MOPHS	– Ministry of Public Health and Sanitation
MoH	– Ministry of Health
NHIF	– National Hospital Insurance Fund
NHSSP II	– National Health Sector Strategic Plan II
NCK	– Nursing Council of Kenya
PDSA	– Plan, Do, Study, Act
QIT	– Quality Improvement Team

DEFINITION OF TERMS

Quality – The totality of features and characteristics of the Kenyan Health System that relates to its ability to satisfy a stated or implied health need Mboya (2003).

Quality Management - The act of overseeing all activities and tasks needed to maintain a desired level of excellence. This includes creating and implementing quality planning and assurance, as well as quality control and quality improvement Investopedia (2013).

Quality Improvement – Better patient outcomes and experience achieved through using a systematic change method and strategy to change provider behavior Ovretveit (2009).

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter provides background information to this study, the problem statement, its justification and objectives of the study.

1.1 Background

Many health care workers in Kenya consider Quality Management as an add-on task to their responsibilities rather than an integral part of the health care system Mboya (2003). Most health workers have not understood the importance of quality and the benefit it would add to the patients and the entire health sector at large. In order to realize the national vision of providing accessible, affordable and quality health care for all Kenyans the Ministry of Health mainstreamed Quality Assurance into the Reform Process through the National Health Strategic Plan II (2005-2010) MoH (2005).

The Kenya Quality Model (KQM) was designed by the Department of Standards Research and Regulatory Services under the Ministry of Health to increase efficiency and effectiveness on the use of available resources (Mboya, 2003). The KQM provides the conceptual framework for Quality Improvement in Health Care in Kenya. The Kenyan Health Standards and the Master Checklist form a core element of KQM. KQM integrates evidence-based medicine (EBM) through wide dissemination of public health and clinical standards and guidelines with total quality management (TQM) and patient partnership (PP) Mboya (2003).

Within the KQM the issue of quality and quality improvement is not addressed as a separate project or set of add-on activities but are promoted as 'built-in' and fully

integrated in the health care system. Adopted from the European Foundation for Quality Management International (EFQM), the KQM was specifically adapted to suit the needs and requirements of the Kenyan Health Sector and was further enriched by a series of National Quality in Health Congresses held in 2001 and 2003.

Initial observations indicate that KQM has been implemented in public health facilities and mission hospitals but there has been poor compliance to the use of the KQM. It is not clear why use of this document has been poor and challenges of implementation have not been documented in Kenya. This study aims at examining the challenges of implementing the KQM in the hospital setup and make recommendations for enhancing the use of the KQM.

The study focuses on 2 facilities in Nairobi and Kiambu counties. Nairobi County is Located in the former Nairobi Province and has a total of 496 health facilities. These facilities include 3 District Hospitals, 2 Referral Hospitals, 156 Dispensaries, 71 Health Centres and 264 other health facilities that include mission hospitals, private hospitals, medical clinics, maternity homes and nursing homes.

St. Francis Community Hospital Kasarani is a mission hospital based in Kasarani, Nairobi County. The hospital offers outpatient services which include dental, ear nose and throat clinics, eye clinic, X-ray services, advanced Laboratory services and pharmacy services. The hospital has two theatres and offers inpatient services that include surgery, orthopaedics, obstetrics and gynaecology, medical, maternity and paediatric services. It has a bed capacity of 110 inpatient beds.

Kiambu County is located in central Kenya and borders Nairobi County. It has a total of 346 health facilities. These facilities include 4 District Hospitals, 3 Sub-District

Hospitals 108 Dispensaries, 29 Health Centers and 211 health facilities that include private hospitals, medical clinics, nursing homes and maternity homes.

Igegania Sub District Hospital is a level three health facility that is located in Kiambu County. It has a bed capacity of 14 inpatient beds. The hospital offers outpatient and inpatient services that include medical, maternity, paediatric, laboratory and pharmacy services.

1.2 Problem Statement

Kenya has a national quality model that provides a framework through which quality standards can be measured and benchmarked. A lot of resources have been spent training health care workers on the utilization of this model. After the trainings though the health workers understand the importance of quality management in health care and the impact of use of the KQM and Master Checklist on quality improvement they do not use this model. In some facilities, the quality improvement teams use the master checklist for a short duration and stop using this tool. The quality of care therefore improves for a short duration and either plateaus or goes back to the initial level Midiwo (2007).

Quality management is challenging within the health care system due to lack of understanding of the importance of quality improvement by the health workers, inadequate human resources, inadequate health infrastructure and weak health systems. Utilization of a quality model in monitoring health services and systems would ensure that the country identifies the gaps in the health care system and provide a mechanism of how to prioritize and address these challenges.

Implementation of quality models will improve the quality of services offered in health facilities and contribute to achievement of Millennium Development Goals. Kenya is considered to have made no progress towards attainment of Millennium Development Goal 4 Unicef (2011) and insufficient progress towards attainment of Millennium Development Goal 5 WHO (2012).

1.3 Justification

The Kenyan Constitution prioritizes the right to health in Section 43 (1) (a), noting that every Kenyan has the “right to the highest attainable standard of health Constitution (2010). The Jubilee manifesto states that the government will strive to ensure that every Kenyan has access to quality health services Jubilee (2013).

The Kenya Quality Model and Master Check List provide a framework for quality improvement and clear indicators for benchmarking the performance of health facilities. The results after utilization of the model were initially encouraging however there were several faults with the Model. The indicators were said to be unclear and it was difficult to score a facility. The master checklist was also being used for all Kenya Essential Package of Health (KEPH) levels but did not grade the facilities accurately Mboya (2003).

This tool provides a window of opportunity for improving the quality of health services in health facilities if utilized consistently.

There is limited data on the level of awareness of the KQM and challenges faced by health workers in utilizing the KQM. This case study seeks to establish the level of awareness of the KQM and the challenges faced by health workers when complying with the KQM standards and guidelines.

1.4 Research Questions

1. Are health workers aware of the Kenya Quality Model?
2. What are the barriers to utilization of the Kenya Quality Model?

1.5 Objectives

1.5.1 Primary Objective

The primary objective of the study is to determine the barriers associated with the use of Kenya Quality Model.

1.5.2 Specific Objectives

1. To determine the level of awareness of the Kenya Quality Model in Igegania Sub District Hospital and St. Francis Community Hospital the hospital setup
2. To determine the barriers associated with the use of Kenya Quality Model in the hospital setup

CHAPTER TWO

LITERATURE REVIEW

2.0 Quality of Care: Conceptual Approach

According to WHO (2006) the focus of quality takes a whole-system perspective and looks at the entire health systems. The definition of quality looks at the outcomes they produce and focusses on outcomes for individual service users and entire communities. The concept looks at six dimensions.

The first dimension is on the effectiveness in delivering health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities. Secondly efficiency in terms of delivering health care in a manner which maximizes resource use and avoids waste. Thirdly accessibility in delivering health care that is timely, geographically reasonable, and provided in a setting where skills and resources are appropriate to medical need. Fourth acceptable/patient-centered with delivering health care which takes into account the preferences and aspirations of individual service users and the cultures of their communities. Fifth equity in delivering health care which does not vary in quality because of personal characteristics and finally safety in delivering health care which minimizes risks and harm to service users WHO (2006).

Within the KQM, the definition of Quality is adapted from the International Standards Organisation (ISO) which borrows largely from literature. KQM defines quality as: The totality of features and characteristics of the Kenyan Health System that relates to its ability to satisfy a stated or implied health need Mboya (2003). In this study, we adopt the definition of quality as defined in the KQM.

2.1 Models of Quality Improvement

There are different models for quality improvement that have been used nationally and internationally. This section discusses the most popular models that have been used with positive outcomes. These include the Total Quality Model (TQM), Six Sigma, plan-do-study-act cycle, European Foundation for Quality Management (EFQM) excellence model and the Kenya Quality Model.

2.2.1 Total Quality Management (TQM)

Total Quality Management (TQM) is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback Rouse (2005). It is a comprehensive quality management approach that looks at the totality of aspects relating to quality (input/infrastructure, processes, and outcome).

In this model all staff and all divisions make efforts to satisfy client needs and wishes. The goal of TQM is to improve the quality of services and the necessary processes in order to increase client satisfaction, reduce costs, improve outcomes and increase performance of the facility.

2.2.3 Six Sigma

Six Sigma brands and packages aspects of Total Quality Management Chapman (2004). Originally introduced by Motorola in 1987, it was further developed by General Electric in the late 1990s as a customer-driven approach based on careful analysis of quantitative data with the goal of cost reduction Koning (2006). Six Sigma deploys 5 phases Pocha (2010):

1. Define – Identification of a project and its scope; Development of a problem statement.

2. A supply, input, process, output, and customer (SIPOC) map is developed incorporating key quality characteristics.
3. Measure - baseline data is collected through sampling with validation of the measurement system as well as calculation of basic statistic data and process capability;
4. Analyse - this phase determines any disparity in the goal set and the current performance level. Graphical analysis, confidence interval, hypothesis testing, correlation and regression and analysis of variation (ANOVA) are commonly used statistical tools. Understanding the relationship between cause and effect is important.
5. Improve - evaluation, selection of solutions, risk assessment, pilot trials, and development of an implementation leads to improvement of existing systems and Control. This phase ensures that variations in the processes are minimized and can be used to continue sustained improvements in new processes.

2.2.4 Plan-Do-Study-Act (PDSA) Cycle

The PDSA model of quality improvement answers How will we know that a change is an improvement using a scientific method Langley (1996). The PDSA model advocates the formation of a hypothesis for improvement (Plan), a study protocol with collection of data (Do), analysis and interpretation of the results (Study), and the iteration for what to do next (Act).

The purpose of PDSA quality improvement research is to establish the relationship between changes in behaviour (interventions on system performance) and impact on outcome, that is, the direct relationship between process changes and variation in outcome. The knowledge pursued by PDSA quality improvement research is how to

improve the behaviours and capabilities of the process that affect the end product Speroff (2004).

2.2.5 European Foundation for Quality Management (EFQM) Excellence Model

The European Foundation for Quality Management (EFQM) Excellence Model is a self-assessment framework for measuring the strengths and areas for improvement of an organisation across all of its activities. It is non-prescriptive and does not involve strictly following a set of rules or standards, but provides a broad and coherent set of assumptions about what is required for a good organisation and its management (The European Foundation for Quality Management. The EFQM Excellence Model. EFQM).

The EFQM Excellence Model is being implemented by over 30 000 organisations in the world. It provides an assessment framework that can be used to gain a holistic overview of any organisation regardless of size, sector or maturity. It formed the structure around which the KQM was developed.

2.2.6 Kenya Quality Model

The KQM was designed by the Department of Standards Research and Regulatory Services under the Ministry of Health. KQM was designed to increase efficiency and effectiveness on the use of available resources. The KQM provides an integrated approach to improve quality in health care.

The model integrates Evidence based Medicine with Total Quality Management and Patient partnership. Evidence based Medicine refers to doing the right thing the right way using best available evidence on disease patterns, diagnosis and treatment. This also involves the use of standards and guidelines that are proven to be efficient,

effective, affordable and accepted. Total Quality Management involves the management of the input, process and outcome with the use of the master checklist. The KQM has 12 dimensions Mboya (2003) and are presented in figure 1 below.

The 12 Dimensions

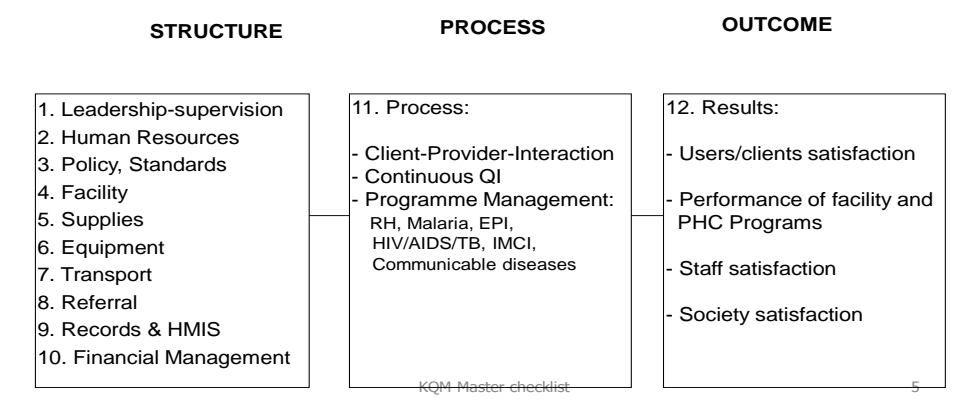


Figure 1 Kenya Quality Model Mboya (2003)

The Master Checklist is an important pillar in the KQM. It helps to critically examine each dimension of KQM and provides an idea of the quality of care that a health facility offers. It is a vital (self-) assessment tool and a useful point of reference to guide quality improvement activities. The master checklist also provides critical insight into quality gaps and is a good monitoring and evaluation tool for quality improvement activities. Patient partnership is integrated since patients/clients are co-producers in health outcomes. The model promotes community involvement and participation and respects patients' rights/ views.

2.2 INTERNATIONAL ORGANIZATIONS THAT MONITOR QUALITY STANDARDS

2.3.1 INTERNATIONAL ORGANIZATION FOR STANDARDIZATION – ISO.

ISO, a nongovernmental organisation, is a network of the National Standards Institutes of 163 member countries and is the largest developer and publisher of international standards. Through partnership with verification organizations, institutions and corporate bodies are able to analyse internal systems and processes and implement standards that meet ISO's requirements and benchmarks.

A number of healthcare organisations in Kenya have gone through an ISO certification process for varied operational and service delivery processes and attained ISO Certification ISO (2002).

2.3.2 THE INTERNATIONAL SOCIETY FOR QUALITY IN HEALTH CARE (ISQUA)

This is the only international programme that 'Accredits the Accreditors'. The International Society for Quality in Health Care (ISQua) launched its International Accreditation Programme (IAP) in 1999 ISQua (2001). The IAP provides a four year accreditation cycle for:

- i. National accreditation bodies
- ii. Service specific external evaluation bodies (i.e. Blood Transfusion, Autism Services)
- iii. Health care standards
- iv. Surveyor training programmes

Despite not having a significant presence in Kenya, a number of senior health sector executives are members of the organisation and the organizations journal. The International Journal for Quality in Healthcare has published a number of papers from Kenyan authors. The KQM was initially tailored to meet the ISQua standards for accreditation bodies.

2.3.3 THE COUNCIL FOR HEALTH SERVICE ACCREDITATION OF SOUTHERN AFRICA (COHSASA)

A nongovernmental not-for-profit organization, based in South Africa, COHSASA is the leader in the development of accreditation programs in healthcare facilities across the Southern Africa region. In Kenya, COHSASA worked closely with the then Ministry of Health in ensuring that KQM conformed to ISQua standards. Additionally COHSASA continues to work with Pharmacies, a Dutch NGO, in Kenya in ensuring that its programs meet international safety and service standards COHSASA (2011).

2.3.4 THE JOINT COMMISSION (JCHAO)

The Joint Commission is an independent, not-for-profit organization, established more than 50 years ago. It is governed by a board that includes physicians, nurses, and consumers and sets the standards by which health care quality is measured in America and around the world. The Joint Commission evaluates and accredits more than 15,000 health care organizations and programs in the US. An independent, not-for-profit organization, the Joint Commission is the nation's predominant standards-setting and accrediting body in health care. Since 1951, the Joint Commission has maintained state-of-the-art standards that focus on improving the quality and safety of care provided by health care organizations. The Joint Commission's comprehensive accreditation process evaluates an organization's compliance with these standards and other accreditation requirements JCAHO (2002).

In order to widen its reach, the Joint Commission International (JCI) was formed in 1994 to provide similar accreditation outside North America; it has since attained ISQua Accreditation and is becoming the gold standard for Healthcare standards. Within Kenya no hospital has yet attained JCI accreditation although the Aga Khan University Hospital (AKUH) in Nairobi may soon go through the process, its mother

institution in Karachi having already done so. With the above background of the quality models and International organizations that monitor quality of health standards, the next section examines the Kenyan healthcare system and how the process of monitoring quality standards is being implemented. Having reviewed the models of quality improvement and the International organizations that monitor quality standards we'll narrow down to the Kenyan healthcare system and quality initiatives.

2.4 STRUCTURE OF THE KENYAN HEALTH CARE SYSTEM

The current structure of the Kenyan health care system comprises the public sector, private sector, Faith based organizations, NGO's and the local authority MoH (2005). Health services are provided by a network of over 7,312 facilities countrywide, with the public sector accounting for 48% of all facilities. The private sector provides 34% of the health services, faith based organizations 13%, NGO's 2% and the local authority 1%(MoH 2010).

Overall in Kenya, service provision is spelt out within the Kenya Essential Package for Health (KEPH) which also prescribes the structure of the MoH. Figure 2 below shows that service provision is organized around six levels. Health services are delivered through facilities at different levels. The national level comprises national referral hospitals, providing rehabilitative and therapeutic services. The provincial level acts as a referral resource for district hospitals, where the former provide specialized care. They oversee the implementation of policy at district level, maintain quality standards and coordinate health activities. The third level is the district hospital, which delivers services and generates their own expenditure plans and budget based on guidelines from the headquarters. Facilities at this level are managed

by the District Health Management Teams. The fourth level is a health center, which provides a wide range of curative and preventive services. The fifth level is the dispensary, which is meant to be the first line of contact with patients but, in some areas, this function falls to the health centers. Dispensaries provide a wide range of preventive and curative health services NCAPD (2004).

The KEHP represents the integration of all health programmes into a single package towards the improvement of health with emphasis on the community level of care. The basic preventive and curative services for minor ailments are being addressed through the community package and synergise with services provided by NGOs, privately owned facilities, community and faith-based organisations MoH (2006).

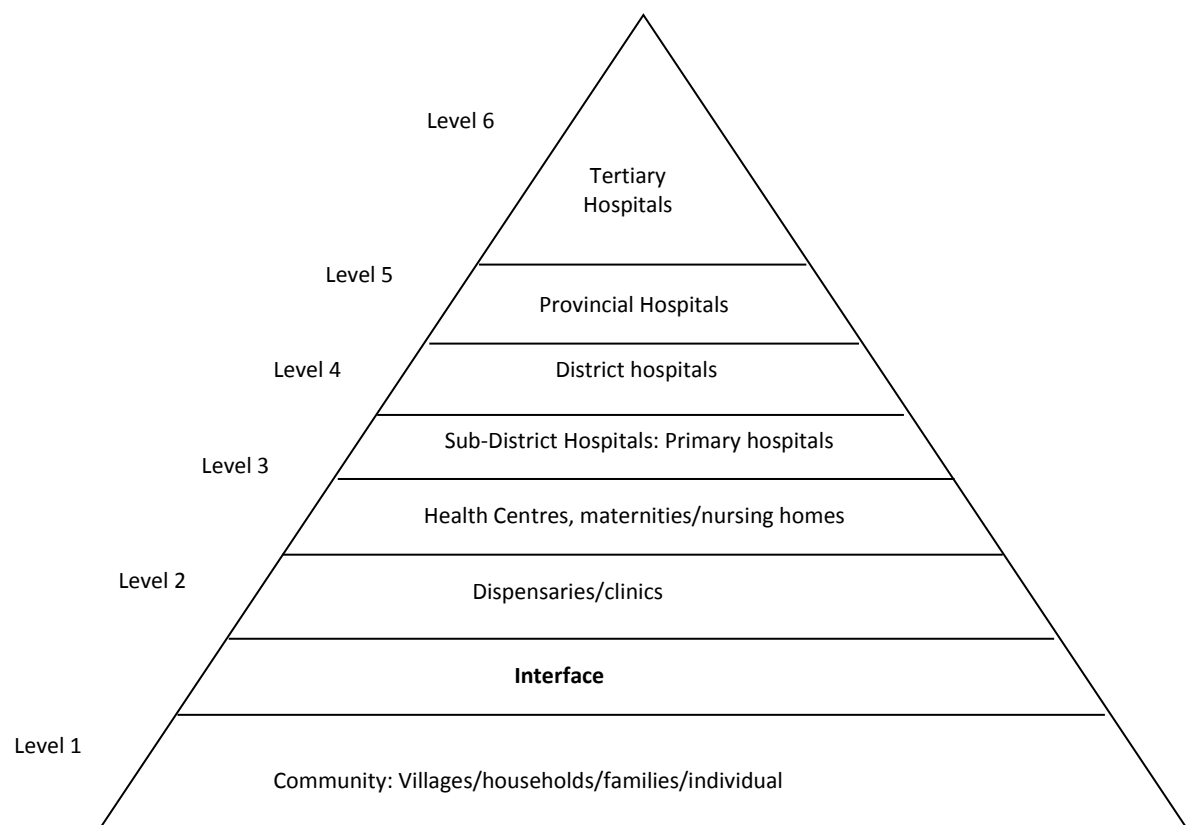


Figure 2 Levels of health care delivery within the Kenya Essential Package for Health NCAPD (2004)

2.5 KENYA NATIONAL QUALITY HEALTH STANDARDS

The government of Kenya has put in place several mechanisms to ensure quality service provision in health care. This ensures that the stated quality standards are maintained and the regulatory bodies ensure enforcement of the health laws in Kenya.

2.5.1 POLICY AND LEGISLATION

Policies can be laws, documents, procedures, guiding principles, statements of intent, working frameworks to achieve certain objectives, rules and regulations Walt (2004). Policy is a way of working, a vision, and a program of action, duties, responsibilities, accountability, and an unwritten cultural or ethical code that guides behavior. Theoretical literature defines Health policy as that which embraces courses of action that affect sets of institutions, organizations, services and funding arrangements of the health care system. It goes beyond health services, however, and includes actions or unintended actions by public, private (including households) or voluntary organizations that have impact on health Walt (2004). This lays out accepted procedures and guidelines to be followed by all who wish to practice in Kenya. The law clearly states what is termed as legal and what is not. These policies give prospective health service providers the right channel to follow before being allowed to practice.

Legislation and regulations ensure that the responsibilities, qualifications, rights and roles of each party are defined and recognized. They also create the legal basis enabling the regulatory control of activities such as drug manufacture, import, export, marketing, prescribing, dispensing and distribution and the enforcement of such laws and regulations. Examples of existing policies in Kenya include the Kenya Policy Framework for Health, Clinical guidelines for HIV, Malaria, Harmonized clinical

guidelines for level 2,3,4,5, and 6 health facilities, National Health Sector Strategic plan and Standard Operating Procedures. The NHSSP II aims to reverse the declining trends in key health sector indicators and has six broad policy objectives MoH (2005)

1. Increase equitable access to health services.
2. Improve the quality and responsiveness of services in the sector.
3. Improve the efficiency and effectiveness of service delivery.
4. Enhance the regulatory capacity of MOH.
5. Foster partnerships in improving health and delivering services.
6. Improve the financing of the health sector.

2.6 LICENSURE

An additional component linked to quality assurance is licensure. Licensing is defined as the granting of permission to use intellectual property rights, such as trademarks, patents, or technology, under defined conditions. It is considered illegal to operate without a license and is punishable under the Kenyan law. In Kenya there are six statutory regulatory authorities with legal mandates to regulate health care provision Kenya Law Reports (2011).

2.6.1 NURSING COUNCIL OF KENYA (NCK)

The NCK was established by an act of parliament Cap. 257 to regulate standards of Nursing Education and Practice. Its mandate is to make provision for the training, enrolment and licensing of nurses; to regulate their conduct and to ensure their maximum participation in the health care of community and for connected purposes. The NCK also collaborates with National, Regional and international bodies.

2.6.2 KENYA MEDICAL PRACTITIONER'S AND DENTIST'S BOARD (CAP

253)

The Medical Practitioners and Dentists Board is a statutory authority established under Cap 253 Laws of Kenya to regulate the practice of medicine and dentistry in the country. The Medical Practitioners and Dentists Board is aimed towards offering Kenyans the most effective and efficient medical services available by ensuring the medical practitioners and dentists are highly qualified and by ensuring that they continuously develop their profession. Registration of medical practitioners and dentists is open to qualified persons upon meeting the necessary stipulated requirements for various categories.

2.6.3 PHARMACY AND POISON'S BOARD (CAP 244)

This aims to implement the appropriate regulatory measures to achieve the highest standards of safety, efficacy and quality for all drugs, chemical substances and medical devices, locally manufactured, imported, exported, distributed, sold, or used, to ensure the protection of the consumer as envisaged by the laws regulating drugs in force in Kenya.

2.6.4 CLINICAL OFFICERS COUNCIL OF KENYA (CAP 260)

The functions of this council are to assess the qualifications of clinical officers, to ensure the maintenance and improvement of the standards of practice by clinical officers and to supervise the professional conduct and practice of clinical officers, to register and license clinical officers for the purpose of this act, to collaborate with other bodies such as the medical practitioners and dentists board and to consider and deal with matters pertaining to clinical officers including prescribing badges, insignia or uniforms to be worn by clinical officers.

2.6.5 KENYA MEDICAL LABORATORY AND TECHNICIANS BOARD (ACT NO. 10 OF 1999)

The board is responsible for not only assessing the qualifications of and licensing Medical laboratory technicians and technologist; it is also charged with the responsibility of registering and accrediting all Laboratory Technology training institutions.

2.6.6 RADIATION PROTECTION BOARD (CAP 243)

The Radiation Protection Board regulates the manufacture, importation, handling, use, storage and disposal of all radioactive substances in Kenya. As such it is charged with ensuring the safety of the public from radiation. It regulates and ensures the maintenance of standards for the construction of all medical facilities handling either material or machinery emitting radioactive radiation as well as the licensing and monitoring of staff involved with the handling of the same

2.6.7 ACCREDITATION

Accreditation is a process in which certification of competency, authority, or credibility is presented. Hospital accreditation has been defined as “A self-assessment and external peer assessment process used by health care organizations to accurately assess their level of performance in relation to established standards and to implement ways to continuously improve.”John (2001). Educational institutions that have been accredited are recognized as maintaining standards that qualify the graduates for admission to higher or more specialized institutions for professional practice.

2.6.8 COMMISSION FOR HIGHER EDUCATION (CHE)

This is a government body charged with the responsibility of inspecting, accrediting, chartering and regulating all universities in Kenya. By ensuring that learning institutions go through the necessary accreditation procedures, the government makes sure that graduates from those institutions are well trained. This also improves their

credibility when they choose to seek employment outside the country. Examples of Institutions of Higher Learning that have been accredited to provide undergraduate medicine degrees in Kenya are The University of Nairobi, Kenyatta University, Egerton University and Moi University and Jomo Kenyatta University of Agriculture and Technology and the Aga Khan University at a post graduate level.

2.6.9 KENYA NATIONAL ACCREDITATION SERVICE

The Kenya Accreditation Service (KENAS) is recognized by the Government of Kenya as the sole National Accreditation Body that gives formal recognition that Certification Bodies, Inspection Bodies and Laboratories (testing and calibration, proficiency testing scheme providers are competent to carry out specific conformity assessment tasks. KENAS is responsible for the Accreditation of Certification Bodies to ISO/IEC 17021:2006 and ISO Guide 65 (including adherence to the IAF interpretation of the same and laboratories (testing and calibration) to ISO/IEC 17025. Medical laboratories to ISO/IEC 15189, PT providers to ISO guide 43 and Inspection bodies are accredited to ISO/IEC 17020 standards. The Kenya Accreditation Service (KENAS) was established vide Legal Notice No. 55 of 2009 Kenya accreditation (2011).

2.6.10 CERTIFICATION

Certification refers to the confirmation of certain characteristics of an object, person, or organization. This confirmation is often, but not always, provided by some form of external review, education, or assessment. Several hospitals in Kenya have pursued certification from the International Standards Organization (ISO) to show that they have attained worldwide accepted levels of quality in service provision. In addition a number of private healthcare institutions provide both internationally recognised as well as purely local clinical certification, examples of which include Basic Life Support Advanced Cardiac Life Support and Advanced Trauma Life Support as well as certification for First Aiders and Emergency Medical Technicians.

2.6.11 DEPARTMENT OF STANDARDS RESEARCH AND REGULATORY SERVICES (DSRRS)

This department was established in 2001 under the Ministry of Health with the Goal of promoting and sustaining delivery of quality health care DSRS (2001). The objectives of the DSRRS are:

- a) Assess & Monitor Quality of care
- b) Establish and enforce compliance to health standards
- c) Supervise implementation of policy guidelines
- d) Coordinate medical research, traditional and alternative medicine
- e) Review, update and harmonize health laws

Today domiciled at the Ministry of Medical Services, the department also oversees the dissemination and implementation of the KQM as well as the review to the Kenya Quality Assurance Model for Health (KQAMH) through the Division of Quality Assurance.

2.7 BARRIERS ASSOCIATED WITH IMPLEMENTATION OF QUALITY IMPROVEMENT MODELS

Even though there are several quality improvement methodologies organizations continue to experience many barriers in their journey towards quality improvement. Listed below are some of the key barriers experienced in implementation of the Total Quality Model (TQM), Six Sigma, plan-do-study-act cycle, European Foundation for Quality Management (EFQM) excellence model and the Kenya Quality Model.

2.7.1 WORKFORCE RESISTANCE

Workers are often unwilling to embrace TQM for various reasons. Among these include poor communication from management to non-management staff on quality

improvement, time consuming and lack of involvement of non-management staff in the early stages of designing quality improvement initiatives.

The relationship between management and non-management is important for quality improvement initiatives to succeed. A TQM project must be supported by employee trust, acceptance and understanding of management's objectives. Employees should be recognized by the management as vital players in the decision making processes regarding to quality improvement as involving them would have motivating effect on implementation of quality programs.

Keys (1991) warned that an adversarial relationship between management and non-management should not exist, and he emphasized that a cooperative relationship is necessary for success.

2.7.3 LACK OF PROPER TRAINING

Lack of proper training is a major obstacle in implementation of quality improvement initiatives. Several studies have shown that lack of understanding and proper training exists at all levels of any organization, and that it is a large contributor to worker resistance. Schein (1990), for example, mentioned that business school failure to teach relevant process skills contributed to manager ineffectiveness. TQM requires a well-educated workforce with a solid understanding of basic math, reading, writing and communication. Although organizations invest heavily in quality awareness, statistical process control, and quality circles, often the training is too narrowly focused. Frequently, Duran's warning against training for specific organizational levels or product lines is unheeded. This has also been underscored by Newell and Dale who argue that poor education and training present a major obstacle in the development and implementation of a quality program. For a company to produce a quality product, employees need to know how to do their jobs. For TQM to be

successful, organizations must commit to training employees at all levels. TQM should provide comprehensive training, including technical expertise, communication skills, small-team management, problem-solving tools, and customer relations.

2.7.4 BAD ATTITUDES AND MANAGEMENT INFALLIBILITY

The competitive environment, poor management practice, and a general lack of higher expectations have contributed to unproductive and unhealthy attitudes. These attitudes often are expressed in popular sayings, such as “It’s not my job” and “If I am not broke, don’t fix it. Such attitude sayings stem from the popular notion that management is always right and therefore employees are” only supposed to implement management decisions without questioning. Lethargy is further propagated through management’s failure to train employees on TQM fundamentals that build better attitudes by involving them in teams that identify and solve problems. Such training can transform employees from being part of the problem to part of the solution. This will foster motivation and creativity and build productive and healthy attitudes that focus employees on basic fundamentals, such as: keep customer needs in mind, constantly look for improvements, and accept personal responsibility for your work.

2.7.5 INADEQUATE RESOURCES FOR TOTAL QUALITY MANAGEMENT

Since most organizations do not involve quality in their strategic plan, little attention is paid to TQM in terms of human and financial resources. There is little budgetary allocation made towards employee training and development which is critical for total quality management implementation. Employee training is often viewed as unnecessary cost which belittles the profits margins which is the primary objective for the existence of businesses and as a result TQM has been neglected as its

implementation “may not necessarily bring gains to the organization in the short term”.

2.7.6 POOR PLANNING

The absence of a sound strategy has often contributed to ineffective quality improvement. Duran noted that deficiencies in the original planning cause a process to run at a high level of chronic waste. Using data collected at the then recent seminars, Duran (1987) reported that although some managers were not pleased with their progress on their quality implementation agenda, they gave quality planning low priority. As Oakland (1989) said, the pre-planning stage of developing the right attitude and level of awareness is crucial to achieving success in a quality improvement program.

Newell et al (1991) in their study observed that a large number of companies are either unable or unwilling to plan effectively for quality improvement. Although many performed careful and detailed planning prior to implementation, not one of the firms studied or identified beforehand the stages that their process must endure.

Perhaps the root cause of poor plans and specifications is that many owners do not understand the impact that poor drawings have on a project’s quality, cost, and time.

Regardless of the cause, poor plans and specifications lead to a project that costs more, takes longer to complete, and causes more frustration than it should. Companies using TQM should always strive towards impressing upon owners the need to spend money and time on planning. If management took reasonable time to plan projects thoroughly and invest in partnering to develop an effective project team, a lot could be achieved in terms of product performance as these investments in prevention-oriented management can significantly improve the quality of the goods or services offered by an organization

2.7.7 LACK OF VISIBLE COMMITMENT AND INVOLVEMENT OF EXECUTIVE LEADERSHIP

Many quality improvement projects are started with lot of fanfare but due to lack of strong leadership support over a period of time, quality improvement is not sustained. Success requires devotion and highly visible and articulate champions. Newell et al (1991) found that even marginal wavering by corporate managers was sufficient to divert attention from continuous improvement. Additionally, Schein (1991) reported that the U.S. Quality Council is most troubled by the lack of top management commitment in many companies.

2.8 EXPERIENCE OF THE KQM IN KENYA

After the KQM was developed by the Department of Standards Research and Regulatory Services it was adopted by the National Hospital Insurance Fund (NHIF). NHIF is a State Parastatal that was established in 1966 as a department under the Ministry of Health. In order to improve effectiveness and efficiency, NHIF was transformed from a department of the Ministry of Health to a state corporation NHIF (2011). NHIF receives contributions from Kenyans in formal and informal employment and has benefit coverage of approximately 10million dependants. Members under this insurance fund have access to over 400 NHIF accredited health facilities and contracted hospitals. NHIF has a training program based on the KQM and has 40 certified trainers on quality management. NHIF has been training health facilities using the KQM and has assisted facilities in establishing quality improvement teams. These teams are expected to generate quarterly reports to the accrediting body.

By using the KQM and master checklist, NHIF has documented evidence of quality improvement in several hospitals in Kenya. Figure 3 below depicts the percentage change in different dimensions in the KQM before and after use of the KQM in St. Monica hospital which is a Faith Based Health facility in Nyanza district in Kenya.

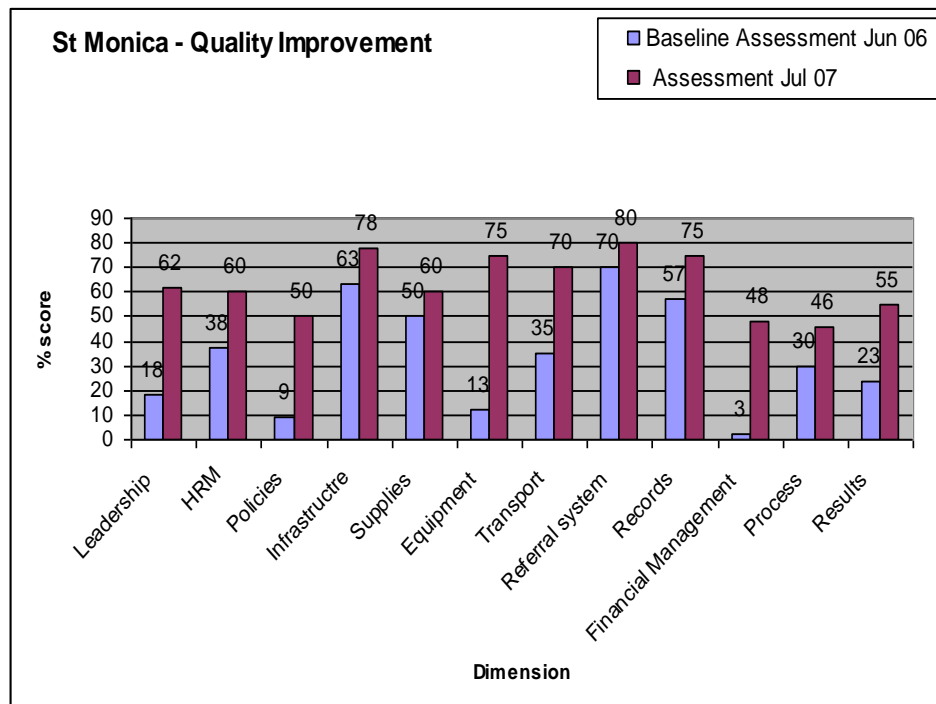


Figure 3 Quality of care assessment Midiwo (2007)

In the leadership dimension, the facility scored 18% before the KQM was used in July 2006 and after the KQM was used, the facility scored 62% in July 2007. All the other dimensions also improved after use of the KQM. According to NHIF Midiwo (2007) the figure above is replicated in other NHIF accredited hospitals but despite these positive results, health facilities have not embraced the use of this tool.

CHAPTER THREE: METHODOLOGY

3.0 INTRODUCTION

This chapter discusses the methodology used in this study, the study design, the study population, the study areas, the sampling techniques used and the methods used in data collection.

3.1 STUDY DESIGN

A descriptive cross-sectional design was employed to determine the level of awareness of the KQM among health workers and to describe the challenges associated with the use of the KQM.

The study was carried out between October 2011 and March 2012.

3.2 STUDY AREA

Two study sites were sampled for three reasons: the facilities are NHIF accredited, health workers have been trained on the KQM and the facilities have experience in utilization of the KQM. Written consent for conducting the study in the facility was given by the facility heads.

There are 432 Accredited NHIF health facilities in Kenya. In Nairobi County 58 health facilities are NHIF accredited. St. Francis Community Hospital in Nairobi County has a bed capacity of 110 and a total of 162 staff members. The facility was registered by the Medical Practitioner's and Dentist's Board in 2007. It has both outpatient and inpatient services and has two operating theatre units. The annual turnover rate of outpatients and inpatients was 45,475 and 34,675 respectively in 2012. Health care workers had been trained twice in the last 24 months by NHIF on use of the KQM and Master Check list.

In Kiambu County 57 health facilities are NHIF accredited. Igegania Sub District Hospital is a level three health facility and is located in Kiambu County. It has a bed capacity of 14 and a total of 42 staff members. The facility offers both inpatient and outpatient medical services. The annual turnover rate of outpatients and inpatients was 27,010 and 1,095 respectively in 2012. Health care workers had been trained twice in the last 24 months by NHIF on use of the KQM and Master Check list.

3.3 STUDY POPULATION

The study population comprised all hospital staff in St. Francis Community Hospital and Igegania Sub District Hospital. The participants were selected from the departments that had quality improvement teams. This included Maternity, Pediatric, out-patient, orthopedic, surgical, medicine and administration departments. The head of the quality improvement team and members of the quality improvement teams were interviewed.

3.4 SAMPLING

3.4.1 SAMPLING TECHNIQUE

The counties chosen for the study were Nairobi and Kiambu Counties. Purposive sampling was used to determine the health facilities where the study was done. The health facilities chosen were both NHIF accredited and had health care workers trained on the use of the KQM within the last 24 months.

The study sites offer both inpatient and outpatient services and had received 2 regular support supervision visits from NHIF in the last 24 months.

The sample frame was made up of the quality improvement team members in the two health facilities.

Sampling in qualitative studies differs fundamentally from quantitative approaches. Sampling focused on key actors, maximised diversity and provided flexibility needed for an iterative process. Purposive sampling was used to select actors who are key to the quality assurance. Identification of primary actors such as heads of quality assurance team, heads of departments and other actors through snowballing techniques.

Study participants for FGDs were selected purposively and included champions of quality at the national level. Sampling for FGDs endeavoured to create a homogenous group with similar experiences to facilitate free dialogue MacDougall et al (2001).

3.4.2 SAMPLE SIZE DETERMINATION

The sampling frame was all health workers in the St. Francis Community Hospital Kasarani and Igegania Sub District Hospital. Based on available records from the selected hospitals, the number of health workers was found to be 204. The study therefore the study purposed to select all the 204 health workers to be included in the study.

A sample of 155 health workers were interviewed, forming a response rate of 76%. The study could not attain the required 204 because not all health workers were on duty during data collection. %. It has however, assumed that the 155 health interviewed are a representative sample of the 204 health workers.

Among the 155 interviewed 123 were from St. Francis Community Hospital Kasarani and 32 from Igegania Sub District Hospital. The response rate in St. Francis Community Hospital Kasarani was 75.9% and in Igegania Sub District Hospital 76.2%.

3.5 DATA COLLECTION TOOLS

Data was collected through quantitative and qualitative methods. Data collection tools used included questionnaires, focus group discussions and field diaries between October 2011 and March 2012. The focus group discussion was used to get more information, verify and augment information already gathered.

3.5.1 QUANTITATIVE METHODS

Interviewer-administered questionnaires (Appendix 3) were used to collect data from the respondents. The questionnaire encompassed other questions percentage level of score improvement using the master checklist (Appendix 1)

3.5.2 QUALITATIVE METHODS

The purpose of qualitative data was to verify and augment the information received from the questionnaires.

Focus group discussion was conducted using a FGD guide. Actors for the in-depth interviews were NHIF quality assurance managers who conduct trainings for the KQM to health workers and regularly assess the facility's quality improvement initiatives and heads of quality improvement in different players of the health sector. Participants were recruited through the GIZ Health Sector Program in Kenya with actors who are key decision makers from both public and private sectors in Kenya. This provided a good platform for meeting key decision makers with technical expertise and experience quality improvement.

The FGD selection criteria were individuals involved in quality improvement at the National level, Provincial level and institutional level. The individuals had experience in the KQM and some were part of the team that was involved in designing the KQM. The FGD was conducted in a Nairobi which was convenient for the participants.

Recording used was written notes and the discussion was done in English. The FGD focused on the challenges experienced during implementation of the KQM and the recommendations to improve uptake of the KQM.

3.6 STUDY PROCEDURES

3.6.1 DESK REVIEW OF PROGRAMME ACTIVITIES

A review of documents was done at various time points. A review of global and national quality documents was conducted in the preparatory phase of the study to understand the policy context. Records reviewed included reports, work plans, minutes of quality improvement meetings. Other documents included government reports on policy, quality assurance. The desk review enabled tool modification, supported triangulation of experiences and helped to construct a description of the implementation of quality improvement.

3.6.2 FIELD DIARY

A field diary was kept throughout the data collection to record informal discussions, emerging issues and ideas. All activities during the data collection period were described in detail and relevant issues followed up using informal discussions with the key actors. Information in the diaries was useful as field memos during the analysis stage.

3.6.3 STUDY OUTCOMES

The study outcomes included; baseline information on the respondents' characteristics, knowledge on the KQM, challenges when using the KQM and ways of improving the tool.

3.6.4 STUDY VARIABLES

Table 1 describes the study variables that were studied and their corresponding scales of measure.

Table 1: Description of study variables

VARIABLE	DESCRIPTION	TYPE OF VARIABLE
DEPENDENT VARIABLE		
KQM Utilization	Awareness of KQM	Categorical
	Barriers of KQM Use	Categorical
INDEPENDENT VARIABLES		
<i>Socioeconomic variables</i>		
Medical Training	With or without background medical training	Binary
No. of years of education	Number of years of education attained.	Continuous
Training on KQM	Trained on KQM or not	Binary
<i>Demographic variables</i>		
Age	Age of participant in years	Continuous
Sex	Male or Female	Binary
Health Facility	St. Francis or Igegania	Categorical
<i>Facility characteristics</i>		
Quality Improvement team	With or without quality improvement teams	Binary

3.7 DATA MANAGEMENT

3.7.1. QUANTITATIVE DATA

There was 76% response rate with 155 questionnaires being filled and returned. The data was entered, scored into Excel and cleaned using Epi-info 3.5.1. It was found that

all the questionnaires had been completed (this was because the questionnaires were administered by the interviewer). The data was transferred to SPSS version 14 for analysis. Univariate analysis was carried out for demographic data of the study population and was presented through tables and graphs.

Measures of central tendency, frequencies were determined. Chi-square tests were performed on categorical variables to determine their relationship while regression analysis used to measure association of variables.

3.7.3 QUALITATIVE DATA

Qualitative data generated from the FGD was transcribed and content analysis done manually to complement the quantitative results. The major themes derived were: perceptions of the KQM as a quality improvement tool, perceptions of existing challenges and perceptions of changes to improve uptake of KQM.

3.8 ETHICAL CONSIDERATION

All participants were informed of the objectives of the study. Participation in the study was voluntary and participants were allowed to withdraw from study at any point. Informed consent was obtained verbally after ensuring that the participants have understood the objectives of the study. For the participant, the main cost associated with participation in the surveys was the time spent in interviews. As far as possible, data collection was planned around participants' timetables and took considerations of events and routine activities. The research aim and processes was explained to all participants as appropriate, and their informed consent was obtained both for participation and for recording of interviews where applicable.

During all FGD, use of number tags in place of names was used to ease note taking and to anonymise data at the point of collection and reporting when using quotes.

Interviewees were given an option of not using tape recorders during interviews or if they do not want their quotes used during reporting. Another measure used to maintain anonymity in reporting is the use of broad actor groups in relation to quotes, such as ‘NHIF trainers’, to indicate the perspective of the information without linking to a particular actor. This is important as certain information is considered sensitive but necessary to illustrate challenges of implementation. Data collected in this study will be used for research purposes only. Approval from the Institutional Research and Ethics Committee before commencing was sought.

3.9 STUDY LIMITATIONS

The sample size in this study is small and the sample obtained provides information that represents such levels of hospitals.

CHAPTER FOUR: RESULTS

4.0 INTRODUCTION

This chapter presents the results and interpretation from data analysed from this research. The chapter is organised as per the study objectives.

4.1 CHARACTERISTICS OF RESPONDENTS

4.1.1. THE CHARACTERISTICS OF THE RESPONDENTS

A total of 155 out of the 204 respondents participated in the study. Among the respondents majority (79.4%) were from St. Francis Kasarani in Nairobi county (n=123) and 20.6% were from Igegania Sub District hospital in Kiambu county (n=32). Among the participants 69% (n=107) were female and 31% were male (n=48)

Less than a quarter (15.5%) had a secondary level education compared to 73.5% who had college education and 11.0% with university level education. When asked whether they had any medical training, majority 80.0% reported that they had while the remaining 20% reported not to have any medical training. Most common form of medical training was nursing (41.3%), clinical officer (11.0%), medical doctor (7.7%) and social workers (5.2%). Majority had pursued the medical level of education to diploma level (40.0%), certificate (29%) and university level (11.0%).

The mean number of years worked in the health sectors was 4.75 ± 3.814 with the mean for mission facilities being 4.73 ± 3.936 for public facilities and 4.86 ± 3.290 in mission facilities demonstrating a lower turnover rate for the mission based facilities.

Members from 20 departments were involved in the study, representing a wider coverage and sharing of the challenges from the various units which could be varying. Majority of the respondents were from the surgical unit with 10.1% of the respondents. Table 2 presents the background characteristics of the study population.

Table 2 Respondents' characteristics

Variable		FREQUENCY (n)	PROPORTION (%)
GENDER	Male	48	31.0
	Female	107	69.0
	Total	155	100.0
EDUCATION LEVEL	Secondary	24	15.5
	College	114	73.5
	University	17	11.0
	Total	155	100.0
BACKGROUND MEDICAL TRAINING	No	31	20.0
	Yes	124	80.0
	Total	155	100.0
FORM OF MEDICAL TRAINING	Nursing	64	41.3
	Clinical Officer	17	11.0
	Pharmacy	6	3.9
	Medical Doctor	12	7.7
	Nutritionist	5	3.2
	Physiotherapy	2	1.3
	Counselor	6	3.9
	Social work	8	5.2
	Lab technologist	3	1.9
	Dentistry	1	.6
	Not applicable	31	20.0
	Total	155	100.0
LEVEL OF MEDICAL TRAINING	Certificate	45	29.0
	Diploma	62	40.0
	Degree	17	11.0
	Not applicable	31	20.0
	Total	155	100.0

Table 3 Respondents' Departments

Departments	Frequency	Percent
Accounts	4	2.6
Administration	9	5.8
CBHC	8	5.2
CCC/TB clinic	4	2.6
Cleaners	11	7.1
Counselling	6	3.9
Dental	5	3.2
Eye unit	4	2.6
In patient	10	6.5
Kitchen	5	3.2
Laboratory	8	5.2
Maternity	12	7.7
Medical	9	5.8
Nutrition	5	3.2
OPD	8	5.2
Outpatient clinic	9	5.8
Pediatric	11	7.1
Pharmacy	8	5.2
Theatre/Surgical	16	10.3
Physiotherapy	3	1.9
Total	155	100.0

4.1.2. AWARENESS OF KQM

The respondents were asked if they ever heard of KQM. Findings showed that less than half (14.8%) have ever heard of KQM compared to 85.2% who hadn't heard.

Among those who had heard, majority (69.6%) reported having been trained on KQM

compared to 30.4% who had not as shown on Table 4. Only 10.3% of all respondents had been trained on the use of the KQM.

All (100%) who had been trained stated that they understood KQM during the training.

Table 4 Distribution by respondents' awareness on KQM

		Frequency	Percentage
Heard of the KQM	No	132	85.2
	Yes	23	14.8
	Total	155	100.0
Have you been trained on KQM	No	7	30.4
	Yes	16	69.6
	Total	23	100.0
How many months ago were you trained?	8 months	9	56.3
	12 months	1	6.3
	24 months	6	37.5
	Total	16	100.0

There was no association between awareness of KQM and the health facility, gender or medical training as illustrated in Figure 5 below.

Table 5: Relationship between awareness levels and independent variables

Independent variable	Awareness		Statistical test
	Yes	No	p> 0.05
Health Facility			Fischer's Exact test
Igegania	9.4% (3)	90.6% (29)	$X^2 = 0.953$
St. Francis	16.3% (20)	83.7% (103)	df=1; p=0.143
Sex			
Male	14.6% (7)	31.1% (41)	$X^2 = 0.04$
Female	15.0% (16)	68.9% (91)	df=1; p=0.952
Medical Training			Fischer's Exact test
Yes	14.5% (18)	85.5% (106)	$X^2 = 0.051$
No	16.1% (5)	83.9% (26)	df=1; p=0.783

4.1.4 PRESENCE OF A QUALITY IMPROVEMENT TEAM

Approximately 68.4% (106) of the respondents reported that there was a Quality Improvement Team in their department and 23.2% (36) did not have a QIT as shown in figure 5. Less than a quarter (8.4%) reported that they didn't know if there was a quality improvement team.

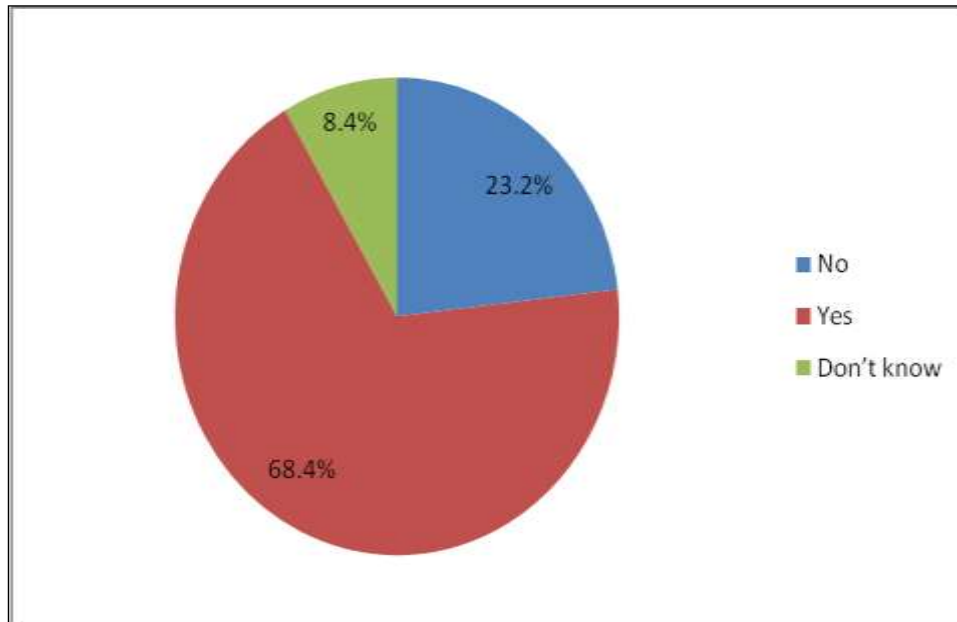


Figure 5 Distribution by presence of QIT in the facility

Majority (75.5%) of the departments had QIT meetings on a monthly basis compared to 24.5% which had quarterly QIT meetings.

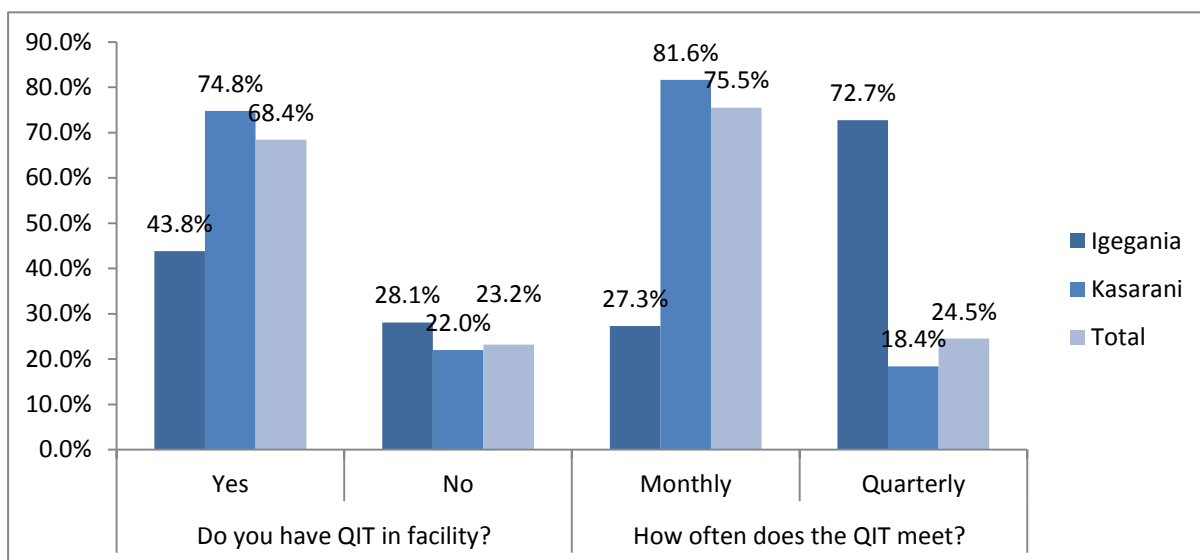


Figure 6 Distribution by presence of QIT and frequency of meetings

4.1.5 COMPOSITION OF THE QUALITY IMPROVEMENT TEAM

For most of the facilities, the QIT composed of Nurses (34.0%), clinical officers (19.3%), pharmacist assistants (15.4%) and doctors (10.6%). Other members of the QIT included sub-ordinate staff (6.4%), pharmacists (4.6%), accountants (5.2%) and secretaries (4.3%) as shown in Figure 7 below. Nurses were more than all the other cadres of the health workers.

The average number of QIT members was 3.86 ± 1.080 (3.64 ± 0.842 and 3.89 ± 1.112 for Igegania and Kasarani respectively).

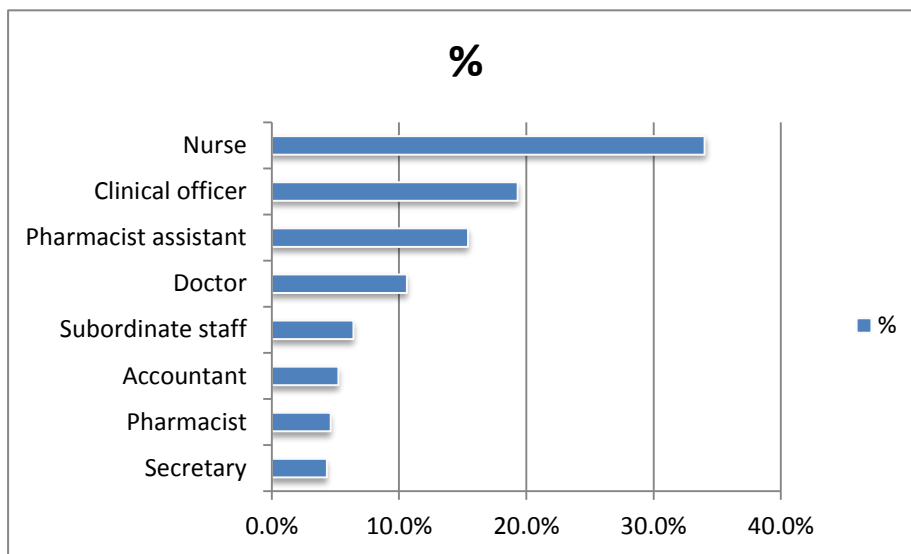


Figure 7 Distribution by composition of the QIT

4.1.6 PERCEIVED CHANGE OF SERVICES AND RATING OF KQM

All the respondents who participated in the study reported that after using KQM, the services in the facility improved. Nearly 100% of the respondents did not know the percentage by which the services improved using the master checklist scoring system.

Respondents who had used KQM rated the tool as a quality improvement tool. Majority of the respondents rated good (55.0%) while others rated average (25.0%). Nearly 20.0% of the respondents said they did not know (20.0%) as shown in Figure 10 below.

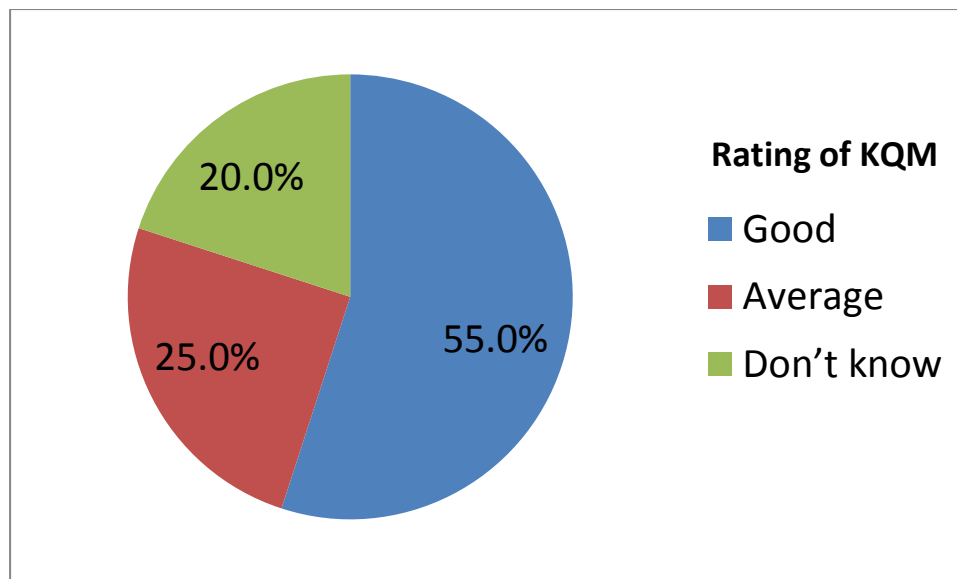


Figure 2 Distribution by rating of KQM as a quality tool

4.1.7 PERCEPTION OF THE KQM AS A QUALITY IMPROVEMENT TOOL

Results from the FGD shows that the KQM was perceived as a good tool with clearly defined standards and a good starting point for quality improvement in health facilities. NHIF personnel noted a dramatic improvement in the quality of service delivery and internal efficiency of those facilities that have embraced the tool in public, mission and private facilities. Mission hospitals use the KQM more than public hospitals and have higher levels of quality improvement after the health workers use the KQM.

On the use of the KQM most facilities don't measure the level of quality improvement using the master checklist. Weaknesses identified in the KQM are that it does not adequately address process indicators and focuses more on structural indicators. It is also weak on clinical and laboratory outcome indicators and hence may not fully address the needs of patients with regard to service quality. It has too great an emphasis on support and back office processes and financial efficiency and lacks a link to other often used QI tools like ISO and its implementation often results in

duplication. The KQM also lacks a section for level one and private outpatient facilities. Private facilities whose level of quality improvement is more sophisticated considered the KQM a rudimentary tool, not appropriate for use in private facilities.

4.1.8 BARRIERS ASSOCIATED WITH THE USE OF THE KQM

When asked whether they had experienced problems in using KQM, all the respondents (100%) said they had experienced challenges in using KQM. Barriers identified include limited understanding of the KQM by QIT members (37.9%), the KQM tool is too detailed (20.7%), lack of understanding of KQM by respondents (17.2%). Others were that the KQM is cumbersome to use, using the KQM takes much time and high staff turnover as shown in Table 7.

Table 7 Barriers in KQM implementation

Problems with KQM	Responses	
	No. of responses	Proportion (%)
Do not understand KQM	5	17.2%
Cumbersome to use KQM	2	6.9%
Using KQM takes much time	2	6.9%
It is too detailed	6	20.7%
High staff turnover	2	6.9%
Not all members of QIT understand KQM	11	37.9%
Other	1	3.4%
Total	29	

Other barriers of KQM implementation is lack of awareness of the existence of the tool. Where some awareness is present it is shallow and implementation is thought of as a form of up down additional supervision and hence met with resistance. There is also lack of motivation for managers and facilities to implement the KQM which is often regarded as extra work.

Additional barriers identified during the FGD were that most health workers trained on the KQM are quality managers, departmental heads and nurses. The hospital administrators do not understand the importance of the KQM and therefore don't offer the required leadership support for the use of the tool. Facility heads also don't understand why it takes so much time when using the tool and think quality improvement meetings take too long when the KQM is used. In the private sector there remains little experience at facility level on the use of KQM. Private facilities feel that the tool is below their own in-house and other standards. Most private facilities only refer to the tool when NHIF assessors are on the ground.

Absence of the soft copy of the KQM and Master Check list means it is not widely distributed and hence understood within facilities.

High staff turnover also hinders the use of the tool. Once a trained person leaves there remains a gap in the number of people who can use the KQM at the quality improvement team and health facility. It takes long to be trained on use of the KQM and once a trained and experienced person leaves, the facility loses a resource person.

4.1.9 RECOMMENDATIONS TO IMPROVE KQM USE

The respondents were asked whether there was anything that could be done to improve the use of the KQM. Nearly all the respondents who had heard or used the KQM were in agreement that something could be done to improve the use of the KQM. Suggestions given are as shown in Table 8 below:

Table 8 Recommendations for improving KQM use

Recommendations to improve	Responses	
	No. of responses	Proportion (%)
Recognition as a centre of excellence	4	8.3%
Financial incentives	1	2.1%
Facility improvement support	6	12.5%
Facilities using KQM be accredited	2	4.2%
Awards from NHIF	1	2.1%
Improved NHIF rebates	4	8.3%
Training	28	58.3%
Active follow-up by NHIF	2	4.2%
Total	48	

Other recommendations for improving KQM use from the FGD include:

- Introduction of the tool during the pre-service training of all health workers to understand the importance of quality improvement and form a foundation for its implementation.
- Peer to peer organization mentoring and assessment would result in greater motivation to fully implement the tool and lead to healthy competition among health facilities.
- KQM implementation and rating should be made a prerequisite for registration and annual licensing. A structure monitoring and evaluation framework for KQM country wide should be created. This can be done by an independent quasi regulatory authority to disseminate, train, supervise, monitor, evaluate and audit the content, context and implementation of the KQM.
- Revision of the tool in the following ways will also enhance implementation:
 - a. Address process indicators in addition to the structural indicators.
 - b. Include clinical and laboratory outcome indicators to fully address the needs of patients with regard to service quality.
 - c. Include a section for level one facilities and private outpatient facilities
 - d. Inclusion of a soft copy of the KQM and Master Check list

CHAPTER FIVE: DISCUSSION

5.0 INTRODUCTION

This chapter discussed the study findings.

5.1 AWARENESS LEVEL

This study found that despite KQM being a national tool only 14.8% of the respondents were aware of the existence of KQM.

In the health sector, the use of international quality standards and documented standard operating procedures is limited Feary S (2012). A survey done by the National Health Service in London shows that 15% of National Health Service bodies are working to an International Organisation for Standardisation (ISO) standard and 24% are working to other quality standards Feary S (2012). The low adoption of quality standards and lack of robust implementation of documented procedures suggests that there are a number of barriers to improving quality.

5.2 QUALITY IMPROVEMENT

It was evident that quality improvement is an important agenda in the health facilities. Most of the departments had quality improvement teams (QITs) that met regularly, 75.5% of the teams meeting monthly and 24.5% quarterly. Despite the QITs meeting regularly the use of the KQM was low indicating that as much as the facilities were interested in quality improvement they did not consider the KQM a suitable tool for use during the QIT meetings.

Many instruments are available for evaluating CQI, but most require further use and testing to establish their measurement properties Brennan et al (2012). In this study the facilities had other routine quality improvement practices in place. Some of these

initiatives included supportive supervision, use of national guidelines, continuous medical education, frequent review meetings, a feedback system in place and use of generic quality improvement tools. Supportive supervision helped ensure that the health facilities used the available guidelines and standards and enabled them to be guided whenever there is need.

5.3 NATURE OF QUALITY IMPROVEMENT TEAMS

At its core, quality improvement is a team process. Under the right circumstances, teams harness the knowledge, skills, experience and perspectives of different individuals to make lasting improvements Schwarz et al (1999). The composition of the QIT was multidisciplinary with nurses (34.0%), clinical officers (19.3%), pharmacist assistants (15.4%), doctors (10.6%), sub-ordinate staff (6.4%), pharmacists (4.6%), accountants (5.2%) and secretaries (4.3%). The QIT was inclusive of staff members of all cadres and provides a ready platform for quality improvement initiatives to be implemented successfully.

5.4 BARRIERS OF KQM USE

5.4.1 LACK OF PROPER TRAINING/ INADEQUATE HUMAN RESOURCE DEVELOPMENT

Lack of training emerged as a major barrier associated with use of the KQM with 89.7% of respondents reporting that they had not been trained. It was difficult to utilize the KQM if all members of the QIT had not been trained on it.

The QITs in the mission hospital had more healthcare workers trained on the KQM and met more frequently than the QITs in the public hospital. This enabled the mission hospital to use the KQM more frequently than the public hospital.

5.4.2 HEALTH WORKFORCE RESISTANCE

Healthcare professionals are reluctant to engage in certain national quality initiatives Davies et Al (2007). In part this is because they perceive that the initiatives will be ineffective and a waste of scarce personal and organisational resources; in addition, healthcare professionals may be concerned about harmful effects that may result from quality initiatives Davies et Al (2007).

The health workforce resisted implementation of the KQM citing that the KQM is too detailed (20.7%), cumbersome to use (6.9%) and it takes too much time (6.9%). The health workers are already burdened with the care for the patients and use of the tool is considered additional work.

Implementation is also thought of as a form of up down additional supervision from the management to the employees. Clinicians and managers seem to have a limited understanding of the latest concepts and methods underlying quality improvement, and many show relatively little interest in learning about them Davies et Al (2007).

For quality to be sufficiently prioritised and consistently applied it needs to be recognised and staff rewarded through the appraisal process Feary S (2012). There was lack of motivation for use of the KQM as those who used the tool did not get any reward and there was no penalty for not using the tool.

5.4.3 LACK OF SUPPORT FROM LEADERSHIP

Strong organizational support, strong team leadership, and high levels of interpersonal team skills help medical quality improvement teams go further to improve clinical care Mills (2004). Time available and lack of leadership are the main barriers to achieving quality Feary S (2012). In this study the hospital administrators delegated the training opportunity on KQM to the quality managers, departmental heads and

nurses. They did not offer the required leadership support for the use of the tool.

To improve quality, a clear direction, strategy and definition must be established Feary S (2012). The lack of an overall vision is leading to fragmented quality landscapes in many countries: most pilot schemes have not grown to national coverage and system-deep penetration Schneider (2006).

5.4.4. LIMITED USABILITY

According to Feary S (2012) the term quality is difficult to define and little understood therefore there is considerable confusion over the definition of quality. The lack of a clear quality improvement spectrum on implementation of the KQM leads to limited use in some departments. In the design of the tool critical areas were left out and this automatically excluded the use of the tool in important areas/departments. KEPH Level 1 health facilities and private facilities indicators were not included in the tool. Important indicators were also left out among these include Clinical and Laboratory outcome and process indicators therefore limiting the use of KQM in the laboratory and clinical areas.

The KQM has a detailed master checklist that is time consuming to fill. Absence of a soft copy that can be easily filled on a computer for ease of reference and distribution was also lacking.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.0 INTRODUCTION

This chapter summarises the study by offering conclusions and recommendations based on the study results. These are based on the study objectives which were first, to determine the level of awareness of the Kenya Quality Model in the hospital setup. Secondly to determine the barriers associated with the use of Kenya Quality Model in the hospital setup.

6.1 CONCLUSION

The level of awareness of the KQM as a quality improvement tool is low at 14.8%.

The KQM is considered a good quality improvement tool by health workers and there is sufficient evidence of improved services after use of the tool.

Inadequate human resource development is considered the greatest obstacle in implementation of the KQM. Only 10.3% of all respondents had been trained on the use of the KQM. The low level of awareness and lack of capacity in utilising the quality improvement model contributed in the low use of the KQM.

Other barriers associated with the use of the KQM were health workforce resistance, lack of support from leadership, high staff turnover and limited usability of the tool.

In order to overcome the barriers associated with KQM use there should be recognition and reward system for teams to motivate staff to use the KQM. Incentives that can be used include training of health workers on the KQM, facility improvement support, improving NHIF rebates, recognition as a centre of excellence, active follow up by NHIF, awards from NHIF and financial incentives. To improve quality in the health sector, a clear direction, strategy and definition must be established at national level Feary S (2012).

6.2 RECOMMENDATIONS

6.2.1 ORGANIZATION

1. Training of the health workforce on the KQM should include the facility heads, heads of departments and quality improvement team members.
2. The role of Quality improvement teams should be enhanced in all health facility departments as this provides a platform for use of the KQM and discussion of the quality improvement agenda.

6.2.2 GOVERNMENT

1. Revision of the KQM to improve its usability. Inclusion of core dimensions for quality improvement to address process indicators in addition to the structural indicators and inclusion of clinical and laboratory outcome indicators. A section for level one facilities and private outpatient facilities should be included.
2. Availability of a soft copy of the KQM is also mandatory for ease of reference and dissemination of information.
3. Non-financial incentives and a recognition and reward system for facilities implementing the KQM should be developed.
4. The Ministry of Health Department of Standards, Research and Regulatory Services should aim at scaling-up promotion of KQM as a tool for quality improvement and assessment among health facilities in Kenya. Such promotion should aim at cultivating ownership of the tool among health care providers and creating a sense of responsibility to quality care and can go hand in hand with training of key health workers.

6.2.3 RESEARCH

1. Further research is required in public health facilities of different levels across the country for the findings to be generalised.
2. Further research is required in private health facilities to determine the barriers faced in KQM use and KQM modifications required for use of the KQM in private facilities.
3. Research is required on quality improvement initiatives in Kenyan health facilities as there are limited studies to guide development of quality improvement programmes.

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APPENDICES

APPENDIX 1: MASTER CHECKLIST

APPENDIX 2: QUESTIONNAIRE

Kenya Quality Model Study: Health facility Survey 2011

FACILITY IDENTIFICATION		
1. District: [] []		
2. Division [_____]		
3. Department: 1 - administration 2 - pharmacy 3 - in patient ward 4 - Casualty 5 - laboratory 6- outpatient clinic 7 - other, specify.....[]		
<i>To be completed in all departments visited Interview the head of department</i>		
4. Age of health care worker	write in years	[__ __ __] years
5. Level of education:	1. None 2. Primary 3. Secondary 4. College 5. University	[__ __]
6. Do you have any medical training?	1-yes 0-No	[__ __]
7. Which form of training?	1. Nurse 2. Clinical officer 3. Pharmacy 4. Medical doctor 5. Other (specify)	[__ __]
8. What level of medical training?	1. Certificate 2. Diploma 3. Degree 4. Postgraduate	[__ __]
9. How long have you worked in the health	write in years	[__ __]

TIME INTERVIEW STARTED: [__|__:__|__]

[RECORD TIME IN 24-HOUR CLOCK]

Knowledge on the KQM		
11. Have you heard of the Kenya Quality Model?	1-Yes 0-No	[__]
12. If yes have you been trained on the Kenya Quality Model?	1-Yes 0-No	[__]
13. If YES how many months ago?	Write in months	[__]
14. Did you understand the KQM after the training?	1-Yes 0-No	[__]
15. How often do you use the KQM?	1. Never 2. Annually 3. Two times per year 4. Quarterly 5. Monthly 6. Other (Specify) _____-	[__]
16. Do you have a quality improvement team	1-yes 0-No 2 - Don't know	[__]
17. If yes how many members are in the quality improvement team	Write in numbers	[__]
18. What are the titles of the members of the quality improvement team (Tick against the	1. Head of department [__] 2. Doctor [__] 3. Nurse [__] 4. Clinical officer [__]	[__]

correct title	5. Laboratory technician [___] 6. Pharmacist [___] 7. Pharmacist assistant [___] 8. Consultant [___] 9. Subordinate staff [___] 10. Other [___]	
19. From the above titles, indicate the number of members on the quality improvement team with that title. For example, Nurses [_2_]	1. Head of department [___] 2. Doctor [___] 3. Nurse [___] 4. Clinical officer [___] 5. Laboratory technician [___] 6. Pharmacist [___] 7. Pharmacist assistant [___] 8. Consultant [___] 9. Subordinate staff [___] Other [___]	[___]
20. After using the KQM was there any improvement in the quality of the health services in your facility?	1-Yes 0-No 2 - Don't know	[___]
21. If yes, by what percentage did your score improve using the master checklist scoring system?	1. 0-24% 2. 25-49% 3. 50-74% 4. 75-99% 5. Don't know ___	[___]

CHALLENGES WHEN USING THE KENYA QUALITY MODEL	
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22. Have you experienced	1-Yes	
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any problems when using the KQM?	0-No	[__]
23. If yes, what kind of problem?	1-I don't understand the KQM 2-It is cumbersome to use the KQM 3-Using the KQM takes too much time 4-It is too detailed 5-High staff turnover 6-Not all members of the quality improvement team understand the KQM well therefore it's not easy to use 7-Other	[__]
24. Have all the members of the quality improvement team been trained on the KQM?	1-Yes 0-No	

WAYS OF IMPROVING THE USE OF THE TOOL		
25. Is there anything that can be done to improve the use of the KQM?	1-Yes 0-No	[__]
26.		[__]
1. What do you think can be done to improve the use of the KQM?	1.Recognition as a centre of excellence 2. Financial incentives 3.Facility improvement support 4.Facilites that use the KQM should be accredited 5.Awards from the Ministry of Health 6. Awards from NHIF 7. Improved NHIF rebates 8. Training 9. Other	[__]

2. What do you think of the KQM as a quality improvement tool?		1. Excellent 2. Good 3. Average 4. Poor []
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APPENDIX 3: IREC CLEARANCE



MOI TEACHING AND REFERRAL HOSPITAL
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INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

Reference: IREC/2011/134
Approval Number: 000710

15th September, 2011

Dr. Margaret Njenga,
P.O. Box 354 – 00202,
ELDORET, KENYA.

Dear Dr. Njenga,

RE: FORMAL APPROVAL

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

"The Challenges of Compliance to the Kenya Quality Model for Health: Case Study of a Catholic Mission Hospital in Kenya"

Your proposal has been granted a Formal Approval Number: **FAN: IREC 000710** on 15th September, 2011. You are therefore permitted to start your study.

Note that this approval is for 1 year; it will thus expire on 14th September, 2012. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

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

Yours Sincerely,

W. Aruasa
DR. W. ARUASA
AG. CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc: Director - MTRH
Dean - SOM
Dean - SPH
Dean - SOD

APPENDIX 4: FACILITY CONSENT FORMS

Dr. Margaret Njenga
 P.O.Box 354 (00202)
 Nairobi.
 Tel : 0733880105

Dear Sir/Madam,

RE : REQUEST FOR CONSENT TO CONDUCT A STUDY ON THE KENYA QUALITY MODEL.

I am a student in Moi University pursuing a Masters degree in public health. As part of my thesis, I am undertaking a study on the Kenya Quality Model. The Kenya Quality Model is a quality improvement tool that was developed by the Ministry of Health to help improve quality standards in health facilities. This document is currently being used by the National Hospital Insurance Fund to accredit health facilities.

The implementation of the Kenya Quality Model has faced many challenges and these challenges have not been documented. This study therefore seeks to understand the challenges faced during implementation and make recommendations that will improve the uptake of the Kenya Quality Model. I would like to use your facility to collect data that will be used in this study. I will interview members of your staff about your experience with the use of the Kenya Quality Model and the challenges you have faced when using this tool. I also want to find out your ideas on what can be done to improve the use of this tool.

The data collected will be confidential and whatever is collected will not be linked or associated with you. In addition, only my supervisors from Moi University and I will have access to the information.

I wish to request for consent from your facility to undertake this research study.

Yours Sincerely,


 Dr. Margaret Njenga

Please sign here to give the required consent



Dr. Margaret Njenga
 P.O.Box 354 (00202)
 Nairobi.
 Tel : 0738848190

Dear Sr. Victorina,

RE : REQUEST FOR CONSENT TO CONDUCT A STUDY ON THE KENYA QUALITY MODEL.

I am a student in Moi University pursuing a Masters degree in public health. As part of my thesis, I am undertaking a study on the Kenya Quality Model. The Kenya Quality Model is a quality improvement tool that was developed by the Ministry of Health to help improve quality standards in health facilities. This document is currently being used by the National Hospital Insurance Fund to accredit health facilities.

The implementation of the Kenya Quality Model has faced many challenges and these challenges have not been documented. This study therefore seeks to understand the challenges faced during implementation and make recommendations that will improve the uptake of the Kenya Quality Model. I would like to use your facility to collect data that will be used in this study. I will interview members of your staff about your experience with the use of the Kenya Quality Model and the challenges you have faced when using this tool. I also want to find out your ideas on what can be done to improve the use of this tool.

The data collected will be confidential and whatever is collected will not be linked or associated with you. In addition, only my supervisors from Moi University and I will have access to the information.

I wish to request for consent from your facility to undertake this important study.

Yours Sincerely,


 Dr. Margaret Njenga

Please sign here to give the required consent





