EMPLOYEE PERCEPTION OF QUALITY MANAGEMENT PRACTICES AT KENYATTA NATIONAL HOSPITAL

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DECLARATION

I, the undersigned, declare that this is my original work and that it has not been submitted for a degree in this or any other University for examination.

Signed: Limo A. 21/11/2008

Limo Albert Kipngetich Date

This project has been presented for examination with my approval as the appointed supervisor.

Signed: 22/11/2008

Mr. Onserio S. Nyamwange Date

DEDICATION

To my father Mr.N. Chuma,

Thank you for taking me to school the first day.

To my mother Mrs.R. Chuma,

Thank you for your love.

To my Brother Norman Korir,

Thank you for the moral and material support.

To my friends Bett, and Bosuben,

Thank you for your love and encouragement.

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This project was researched and written over a period of time during which many developments took place. Maintaining a sense of these developments has involved extensive reading and ongoing dialogue with several key people whom I wish to thank for their professional generosity and input.

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ABSTRACT

The major objective of the study was to establish quality management practices at Kenyatta National Hospital. The next objective was to identify the various challenges that Kenyatta National Hospital faces in providing health care services. Target respondents were drawn from all the major categories of employees at Kenyatta National Hospital, namely: administrators, paramedics, doctors, professional and support, and other cadres.

The research methodology was based on a perception study. A semi-structured questionnaire consisting of closed and open-ended questions was used to collect data. The questionnaire was divided into three (3) sub questions which were completed by the administrators, paramedics, doctors, professional and support, and other cadre personnel. Employees' categorization was based on their relative proportion to the total number of employees. The collected data has been analyzed by the SPSS tool for quantitative variables while qualitative responses have been analyzed by means of descriptive narratives.

From the findings one can conclude that Kenyatta National Hospital employees have a neutral perception with respect to quality management practices. The Hospital currently experiences several challenges in provision of the health care services of which increased demand for specialized health care is the most important challenge. The study recommends that the Hospital management put in place fundamental quality policies and plans to ensure that quality management practices are instituted. Management should also develop a framework to cope with the challenges the Hospital faces in provision of health care services.

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LIST 0F ACRONYMS

CQI	Continuous Quality Improvement
TQM	Total Quality Management
SCM	Supply Chain Management
CEO	Chief Executive Officer
SQC	Statistical Quality Control
ISO	International Organization for Standardization
USA	United States of America
JCAHO	Joint Commission on Accreditation of Health Organizations
CPHA	Commission on Professional and Hospital Authority
PSRO	Professional Standards Review Organization
ePOM	Electronic Provider Order Management
eMAR	Electronic Medication Administration Record
TPS	Toyota Production System
KNH	Kenyatta National Hospital
GOK	Government of Kenya
ICU	Intensive Care Unit
HDU	High Dependency Unit
ENT	Ear, Nose and Throat
VMMC	Virginia Mason Medical Centre
WHO	World Health Organization
ASQ	America Society for Quality
JIT	Just In Time

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Rapid changes in the operating environment such as globalization, changing customer needs and expectations, and competition to provide innovative products have become the standard backdrop for many organizations. To enable these organizations compete effectively, it is critical that they constantly enhance quality of their products and services through various practices such as differentiation of products and services and raising performance through reduction of costs (Chang and Huang, 2005). The health care industry is characterized by a similarity of services offered though often with varying levels of service quality (Youssef et al, 1996).

1.1.1 Quality Management Concept

The word quality was coined from the Latin word "*qualis*", which means, "what kind of". Literature seems to provide for different definitions of quality. Pfeffer and Coote (1991) refer to quality as a "slippery concept" since there is no emerging consensus on the definition of quality. They defined quality as adherence to specifications (Pfeffer and Coote, 1991). Oakland (1998) defines quality management as prevention of problems through planned and systematic activities. Sengeeta and Banwe (2004) looked at quality from the perspective of the organization providing goods and services, which implies the input, processes/ transformation, and output.

Al-Ghamdi *et al* (2005) observed that notwithstanding the available literature, there is an urgent need for more practical definitions of some or all practices and techniques of quality. They noted that existing definitions and classifications of quality management practices are divergent to the extent that some researchers refer to quality management practices as "techniques", "factors" "principles" or even "guidelines". The approach of this study is based on "factors" definition by Seraph *et al* (1989) since this approach captures the relevant organizational quality practices in achievement of quality management efforts. Donabedian (1988) argued that quality in health care is usually assessed in three parameters namely: structure, process and outcome to attain a specified level of performance.

In a recent survey, chief executive officers (CEOs) of healthcare organizations expressed a 62 percent likelihood of launching a new quality initiative in the next year, as compared to 52 percent for manufacturing CEOs, 31 percent for education top administrators, and 35 percent for other services CEOs (Weiler, 2004). Gowen *et al* (2006) noted that quality management programs are centered on employee commitment, customer evaluation and process improvement. Barry and Smith (2005) indicated that although quality management tools and techniques have successfully been applied in the manufacturing and industrial services sector, they have only been recently adapted to healthcare organizations.

Lurie *et al* (2002) pointed out that although various quality improvement programs contribute towards improved performance, their effectiveness depends on how efficiently they can be integrated with the organizational strategies and management practices. Unfortunately, many of the contemporary practices provide general guidelines and do not specifically address the unique problems of specific services in the hospital-based healthcare system. Hospital-based healthcare practices calls for uniform and global approaches towards identifying deficiencies of specific service and planning strategies.

Although various quality improvement programs contribute towards improved performance, their long run effectiveness mainly depends on Continuous Quality Improvement (CQI). The concept has been applied in healthcare by many researchers in the Emergency Department (Re and Krousel-Wood, 1991; Fernandes and Christenson, 1995). Chaplin and Terninko (2000) noted that quality function deployment has been used to focus on customer requirements in healthcare. Gandhi *et al* (2003) recognized the importance of integrated cross functional teams in solving patient safety problems. Six Sigma has been applied to healthcare in order to improve mortality and morbidity in hospital-based healthcare (Barry *et al*, 2005; Carey, 2003; Chassin, 1998).

Dolan (2003) observed that benchmarking healthcare facilities for best practices has emerged as the most common process improvement approach that results in higher performance in terms of productivity. Tucker (2004) argued that supply chain management (SCM) in the healthcare systems strongly goes in tandem with quality to realize better provision of services

improvement. Gowen and Tallon (2003) similarly argued that effective management of quality strongly depends on Supply Chain Management (SCM) for timely delivery of services.

1.1.2 Kenyatta National Hospital and Healthcare Organizations

The healthcare industry in Kenya comprises both public and private organizations. Public organizations comprise referral, provincial and district hospitals. It also comprises health care centres, maternity centres and dispensaries. Private health care organizations are mainly owned and controlled by single individuals, companies, partners or by institutions such as churches. Private health care organizations seem to offer competitive services compared to their public counterparts. These two categories of health care providers provide services at designated regions, with the Ministry of Health being an umbrella body and regulator of the industry (GOK, 2007).

Kenyatta National Hospital (KNH) is the oldest hospital in the country having been founded in 1901 as a Native Civil Hospital by King George VI, a British colonist (KNH, 2005). In 1987, the hospital was established as a State Corporation through Legal Notice No.109. It is currently the largest national teaching and research hospital in Kenya. Its major services include: accident and emergency services, HIV/AIDS comprehensive care services, laboratory and mausoleum services, medical specialties, medicine and poisons information management, nutrition and patient support, obstetrics and gynecology, occupational therapy, paediatric, pharmaceutical care, physiotherapy, radiotherapy and cancer treatment, specialized care (ICU, HDU , renal and burns) and surgical (orthopaedic, cardiopaedic, neuro, paediatric, ENT, dental, and maxillofacial) units. The hospital has a bed capacity for 1800 patients. An estimated 600,000 outpatients per annum and 89,000 inpatients per annum (KNH, 2006) use the hospital's services. Most of the patients are those referred from primary, secondary, or regional health facilities. The hospital also offers differential services through its private and public wings.

1.2 Statement of the Problem

Healthcare management plays a vital role in the process of economic growth and development through its products, service delivery and employment creation (GOK, 2004) activities. Feeney and Zairi (1996) observed that every country is striving hard to cope with the increasing need of health care facilities in terms of both human and material resources.

Prasanta *et al* (2006) outlined the importance of the logical framework analysis, a matrix for managing quality, as an effective method of quality management of hospital based health care services. Som (2004) illustrates the importance of clinical governance through quality management in various public and private health care firms in China.

Weiler (2004) noted that today's healthcare organizations have increasingly employed modern quality management tools and techniques in efforts of achieving better service delivery to their customers. Flynn *et al* (1995) noted that effective implementation of quality management systems and practices could result in sustainable competitive advantage for healthcare organizations. Research by Barney (2002) demonstrates that several core quality practices result in sustaining competitive advantage for certain dimensions of quality.

Carey and Lloyd (1995) however argued that there are various doubts with regard to quality management in the health. These include questions such as: "How do we define and measure quality, which is a more subtle concept in healthcare?" "Isn't quality mainly a matter of the physician making the correct decision?" "Where is the uniform product in medical care when every patient is different?" Carey and Lloyd (1995) further identified major challenges and obstacles in healthcare management with the most important of these being the difficulty in directly addressing medical errors through performance measurement and improvement programs within healthcare organizations.

Zabada *et al* (1998) outlined serious obstacles facing the healthcare industry: These include: lack of awareness that a problem exists through the traditional medical culture of individual responsibility and blame, lack of protection from legal discovery and liability which causes errors to be concealed, primitive state of medical information systems which hamper efficient and timely information collection and analysis, inadequate data about the frequency, impact of

errors and lack of understanding of systems-based approaches to error reduction. WHO (2003) noted that health care organizations are very complex and their structures, processes and management have become increasing significant to the improvement of health care.

Kenyatta National Hospital, being a premier hospital in the East, Central, and Southern Africa region with regard to capacity, workforce and the various unique services such as the Burn Unit, Specialized Cardiac Unit, Renal Unit and Cancer Treatment Centre enjoys competitive advantage over its challengers. The above attributes therefore compel Kenyatta National Hospital to strive to be and remain a regional centre of excellence in the provision of innovative and specialized health care. This is stated in the Hospital's vision statement: "To be a competitive hospital within the region" (KNH, 2006). The Hospital has embarked on several healthcare reforms in an effort to achieve its main objectives and goals. The main health care reforms include: the five year strategic plan, introduction of service charter, investments and upgrading of healthcare facilities, human resources management, financial resources management, patient care services, improved management practices, supply chain management, information and communication technology, and ISO 9001:2000 quality management system certification (KNH, 2006).

The above efforts seem to be supporting quality management practices for greater performance. However the hospital has been taken to task several times by the media and other stakeholders for not keeping up to date with healthcare services standards. These include: failing to meet the high demand of patients which results in congestion in the hospital, poor quality data reporting, poor working conditions, operational inefficiencies and corruption (KNH, 2006). These alleged failures have been observed even when the Government of Kenya has been on the fore front in enforcing performance contracting and services charters to compel public organizations to provide better services to its citizens. KNH has, therefore, no choice but to embrace quality management practices in delivery of services effectively and efficiently. It is by doing this that the Hospital can become competitive within the East, Central, and Southern Africa region.

The following research questions emerged:

1. What quality management practices does Kenyatta National Hospital employ in provision of healthcare services?
2. What challenges does the Kenyatta National Hospital face in achievement of quality management goals?

1.3 Objectives of the Study

The objectives of the study were:

1. To establish quality management practices at Kenyatta National Hospital in provision of healthcare services.
2. To establish challenges facing Kenyatta National Hospital in its efforts to achieve its quality management goals.

1.4 Importance of the Study

The findings of the study will be useful to the following:

1. Policy makers dealing with development of healthcare standards to make informed decisions and policies.
2. Healthcare executives in enhancing delivery of better healthcare services.
3. Scholars in the field of operations management in expanding and improving their understanding of the various aspects of quality management practices as practiced by Kenyatta National Hospital.
4. Suppliers in their efforts to enhance supply chain network based on quality management practices.
5. Industry players interested in quality management practices.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework of Quality Management

2.1.1 Definition of Quality

The American Society for Quality Control defines quality as a subjective term with each person having his or her own definition. In technical usage, quality can have two meanings: The first is the characteristics of a product or service that bear on its ability to satisfy stated or implied needs. The second definition refers to a product or service free of deficiencies (ASQ, 1990).

Quality has been defined from different perspectives and orientations, according to the person making definition, the measures applied, and the context within which it is considered (Tapiero, 1996). It has been defined as "excellence", (Peters and Waterman, 1995), "value", (Feigenbaum, 1995), "fitness for use", (Juran and Gryana, 1988), "conformance to requirement", (Crosby, 1979) and meeting /or exceeding customers expectations (Parasuraman *et al*, 1989). More than often customers demand quality experience and their resultant behavior is replicated in terms of attitudes towards consumption behavior. This has led researchers and analysts to regard quality as the single most important factor for long term success and survival.

2.1.2 Evolution of Quality Management

According to the American Society for Quality Control, quality management evolved in the 1800`s as it was shaped by predominant changes in production methods beginning with the Industrial Revolution which was fundamental in the development of quality management practices. Its major phases included: craftsmanship, factory, inspection, quality control, statistical quality control, statistical process control, total quality management and best practices (ASQ, 1990).

At the beginning, craftsmen sold their goods locally and each had a tremendous personal stake in meeting customers' needs for quality. If quality needs weren't met, the craftsmen would

risk losing customers. This forced masters to maintain a firm quality control by inspecting goods before sale (ASQ, 1990).

The factory system, a product of the industrial revolution in Europe, began to divide the craftsmen trade into specialized tasks. Craftsmen were forced to become factory workers and shop owners became production supervisors, this led to empowerment and autonomy at the workplace. Quality management in the factory system was done through skilled laborers and supplemented by audits and/or inspections. Defective products were reworked or scrapped (ASQ, 1990).

Inspection followed the factory system. Summers (2000) argued that as the variety of items being mass-produced grew, so did the need for monitoring the quality of the part produced by those processes. The customer no longer dealt directly with the individuals responsible for creating the product. At first, inspection was the primary method of ensuring that a quality of product or service was provided. Inspection occurring only after the part or the assembly has been completed can be costly. If a large number of defective products were produced with a problem going unnoticed, then scrap or rework costs would be high.

Quality control was the next stage after inspection. Summers (2000) defined quality control as the use of specifications and inspection of completed parts, sub assemblies, and products to design, produce, review, sustain and improve the quality of a product or a service. It goes beyond inspection by establishing standards of a product, ensuring conformance to standards, taking action if there is lack of conformance to the standards and implementing plans to prevent future non conformance.

Statistical quality control followed the quality control stage. SQC built on the four tenets of quality control to map the results of parts inspection. Statistical charts were first used by W. Shewhart of Bell Telephone Laboratories in the 1920s to monitor and control product variables. The use of statistical methods of control in production monitoring and parts inspection became known as statistical quality control (SQC). It required that statistical data be collected, analyzed and interpreted to solve problems (Summers, 2000).

Statistical quality control led to the emergence of statistical process control. As the area of quality evolved, it became obvious that there was need to be more proactive in dealing with

quality problems. Thus, the emphasis shifted from utilizing statistical quality control methods for the inspection or detection of poor quality to their use in prevention of poor quality. This became known as statistical process control with its emphasis on the prevention of defects (Summers, 2000).

As the use of statistical process control grew in the 1980s, industry saw the need to monitor and improve the entire system of providing a quality product or service. Sensing that meeting customer needs, requirements, and expectations involved more than providing a product or a service, industry began to integrate all the areas of operations. Methods of quality management have been subsequently developed and utilized to encourage the design, production, marketing, sales and service of quality products and services. This integrated approach involving all the departments in a company in providing a quality product or service, has become to be known as Total Quality Management (TQM). It refers to a management approach that places emphasis on continuously achieving customers' satisfaction to ensure long term company success (Summers, 2000).

Over time, as consumers become more quality conscious, companies expand their quality management practices beyond the traditional manufacturing arena.TQM continues to evolve and embrace such concepts as optimization processes, elimination of waste and creation of customer focus. Global competition has also encouraged companies to seek out and emulate best practices. The term "best practice" refers to choosing methods of work that have been found to be most efficient and effective (Summers, 2000).

2.1.3 Service Quality and its Measurement

Service quality is a concept that has emerged as an area of interest in the research literature, although there is no overall emerging consensus in defining and measuring it (Wisniewski, 2001). There are a number of definitions as to what is meant by service quality. One that is commonly used defines service quality as the extent to which a service meets customer's needs and expectations (Lewis and Mitchell, 1990). Service quality can thus be defined as the difference between customer expectations of service and perceived service. If expectations are greater than performance, then perceived quality is less than satisfactory and hence customer dissatisfaction occurs (Parasuraman *et al*, 1985). It is crucial to measure healthcare service

quality, because increased competition has forced healthcare organizations to become more market oriented (Vandamme and Leunis, 1992).

Among the various concepts of service quality, two of the most widely accepted and used by researchers is the SERVQUAL model by Parasuraman *et al* (1988) and the technical/functional quality framework by Gronroos (1990). According to Lassar *et al* (2000) recent researchers have started incorporating other constructs and measures along with the SERVQUAL dimensions in order to extend and improve the explanatory power of this model. Gronroos (1990) indicated that functional quality will compensate for temporary problems with technical quality but will not make up for an overall lower quality level. This means that as far as services are concerned, if technical quality is at least satisfactory, then functional quality is the important factor of consumer perceptions. Meanwhile, where technical quality is very similar among firms, functional quality is an important means of differentiation.

The two dimensions of service performance (technical and functional quality) are compared to the customers' expectations and eventually the customer has his own service quality perceptions (Chia *et al*, 2002), which consists of service culture and service process. According to Anderson *et al* (1994), the Gronroos model has received a lot of attention recently even though it has not been utilized or tested to the extent of the SERVQUAL model. Lassar *et al* (2000) in his study on service quality perspectives and satisfaction in private banking concluded that the technical/functional quality based model of service quality is better suited as compared to the SERVQUAL based model in predicting customer satisfaction. Parasuraman *et al* (1988) found that customers consider five dimensions in their assessment of service: reliability, responsiveness, assurance, empathy, and tangibles. These dimensions represent how the customers organize information on service quality (Cook and Verma 2002).

2.2 Uniqueness of Services

Haksevers *et al* (1990) observed the uniqueness of services as: inseparability from production and consumption, intangibility of services, perishability of services and heterogeneity of services.

2.2.1 Inseparability from Production and Consumption.

Services are inseparable from production and consumption which makes it unique. Also marketing of services involves creation or performance of service at the time when full or partial consumption take place. Since services experience a high degree of visibility, the conversion process means that it is not possible to hide mistakes or shortfalls. The delivery of services is mainly influenced by one group of behavior of customers which impacts the perception of others (Haksevers *et al,* 1990).

2.2.2 Intangibility of Services

Services are generally intangible in nature as no physical touch is attributable to them. This makes it difficult for the producer of services to give a description of services to consumers that ascertain its likely attributes. The main description of services includes its reputation, accessibility and communication (Haksevers *et al,* 1990).

2.2.3 Perishability of Services

Services are produced, distributed, and consumed in the interaction between the service provider and the service receiver. Accordingly, services must be viewed from an interactive perspective. Svensson (2001) noted that service quality contributes to the strength of interpersonal, intra-organizational, and inter-organizational service encounters. Therefore understanding the customer requirements is crucial in achievement of better service delivery.

2.2.4 Heterogeneity of Services

It is difficult to reproduce a service that is consistently and exactly the same. Services differ in various perspectives such as in production and services delivery. It is, therefore, not easy to standardize services although developing expectations of services is possible (Haksevers *et al*, 1990).

2.3 Quality Management Practices

In an attempt to define quality, Zeitz *et al* (1999) borrowed from the management and organizational theory literature. They looked at fundamental and interrelated terms such as adoption, fad and entrenchment. According to Zeitz *et al* (1999), adoption of a practice refers to "its selection and initial use by an organization or its sub- units that has not been used previously". Fad is defined as a "specific practice that has been adopted, but lacks entrenchment". Finally entrenchment refers to "presence of a practice within an organization

such that abandonment of it is unlikely, even under extreme pressure". Therefore quality management practice can be defined from the above statements as "quality techniques" and "behavior" within an organization or it sub units.

Eiriz (2005) argued that it is important to define the framework for quality evaluation applied to health care services. He proposed a framework that looked at health care services at two levels, namely: an assessment based focusing on organizational performance and then relating the issues to the entire health care system. Rubin *et al* (2001) approached quality in health care from a different perspective. According to Rubin *et al* (2001), the service provider ought to improve the effectiveness of his services based on clear and objective information. Baldridge National Quality Program based its evaluation on seven items. These are: leadership, strategic planning, focus on patients, other customers and market information analysis, staff focus, process management and organizational performance results. According to Clavar *et al* (2003), although the elements of effective quality management found in the literature vary from one author to another, there are common core factors. The common factors include: management commitment and leadership, communication, continuous improvement, work teams, process management, organizational awareness, cooperation with suppliers, training and social environment.

Eiriz (2005) noted that measuring health care quality at organizational level calls for definition of health care to develop a framework for evaluating and defining operational measures. Based on the SERVQUAL model developed by Parasuraman *et al* (1988), Lette and Mokwa (1992) viewed health care services as a set of three types of benefits. They include: core benefits (nucleus of the product offering or the outcome that the patient is seeking), intangible benefits (interactions between doctor and patient largely based on reliability, empathy, and responsiveness) and tangibles (physical surroundings such as location and appearance of facilities and personnel).

Quality management is better viewed as a combination of principles, practices, and techniques (Dean and Bowen, 1994). Dean and Bowen (1994) further observed that what has been written about quality is based on three principles: customer focus, continuous improvement and teams. They appreciated that other advocates of quality movement included more principles in their conceptualization of quality management. Dahigaard *et al* (1998) outlines five principles of

quality management as management commitment, focus on customer and employees, focus on facts, continuous improvement and everybody participation.

Gustafsson *et al* (2003), in their development of a framework for quality practice based on the quality awards include many of the underlying principles in quality management such as team efforts, customer focus, management support and continuous improvement. Gustafsson *et al* (2003) further elaborated on the Swedish quality framework composed of thirteen core values mainly: customer orientation, committed leadership, responsiveness, cooperation, pro-activeness, decision based on facts, benchmarking, continuous improvement, education and training, everybody involvement, long term focus and commitment, process orientation, and community involvement. They observed that there are too many variations of underlying principles in quality management, for them to be tested all in one study. They, therefore, focused on three core principles of quality management, namely: employee management, process orientation and customer orientation. Their argument being that the practices are included in every description of different quality principles.

Kin *et al* (2004) supported the empirical study by Seraph *et al* (1989) which revealed that knowledge of organizational context is useful in explaining and predicting quality practices. Kin *et al* (2004) further noted that a number of studies have used the instrument of quality context to study relationship between quality practices and other management issues. They cited Lin *et al* (1999) on the study, "Association between organizational climate and quality management practices" and Madu *et al* (1995) on the study," Relationship between performance and quality management practice". Kin *et al* (2004) therefore employed the model based on Quality Efficiency Index, by transforming input into output relative to its competitor. The algorithm to evaluate relative efficiency index was known as Data Envelope Analysis (DEA).

Yang *et al* (2003) appreciated work by Don *et al* (1999) that literature shows that quality management gurus invariably identified a set of "key practices" that they claim are essential in achieving superior quality. These include Juran's (1992) trilogy of managerial process and Deming's 14 points (Waltor, 1989). Badri *et al* (1993) argued that although there is significant research discussing a variety of critical factors of quality management practice they often neither provide clear instrument nor explain how to link customers' perception to specific

quality measures. Seraph *et al* (1989) proposed an instrument for measuring critical factors of quality management practices. They include: top management commitment, role of quality department, training, product design, supplier quality management, process management, and quality and data reporting and employee relation. .

This study on quality management practices at the Kenyatta National Hospital will adopt the Seraph (1989) framework, which defines quality management practices from the "factors" perspective. The study will establish KNH's quality management practices with respect to the Seraph framework at the organizational level which consists of eight "factors" providing a framework for quality management practices.

2.3.1 Role of Quality Assurance Department.

Knod and Richard (1997) noted that with a quality-at-the source mindset and front line associates assuming primary responsibility for quality, the quality movement changes the role of the quality department to include: companywide quality planning, generating executives' reports on quality, auditing outgoing quality, auditing quality practices, coordinating and assisting on improvement projects, developing new quality methodologies and transferring activities to line departments. The input of the quality department results into greater professionalism and heightened responsibilities for managers responsible for quality.

2.3.2 Product/Service Design

Stevenson (2002) defines product/service design as constituting of the following processes: translating customers' wants and needs into product/service requirements, refining existing product/services, developing new products or services, formulation of cost target, construct and test prototypes and document specification. She emphasizes the aim/ objectives of product /service design as enhancing business growth and increasing profits, downsizing, and product/service redesign. Design issues in product/ service include life cycle, standardization, design for mass customization, reliability, and robust design.

2.3.3 Employee Relation and Involvement

Armstrong (2006) defines employee relation as processes which deal with employee and employer management with regard to attainment of specific objectives and goals. Employee relation practices include formal processes, procedures and chain of communication. It also

entails employee participation and involvement. However, employee relations are conducted on day to day informal basis by line managers and team leaders. Graham and Bennet (1995) define employee empowerment as entrusting employees to take sensible decisions. This implies that employees' feeling of being in control and significant contribution can be enhanced. The main objective of empowerment is to deal with the problems and implementing solutions quickly without recourse to supervisors and or higher management levels. Empowerment can be enhanced through quality circles. Quality circles involve departmental workers' discussion groups that meet regularly to consider, analyze, investigate, and resolve production and quality problems.

2.3.4 Training

Armstrong (2006) has defined training as a planned and systematic modification of behavior through learning events, programmes, and instructions which enable individuals achieve the levels of knowledge, skills and competence to carry out their work effectively. He noted that justifications of training include: acquisition of work skills through formal instruction, acquisition of different skills required to meet new demand, and imparting of critical information to ensure that employees meet their responsibilities and the upcoming needs.

2.3.5 Top Management Involvement and Commitment

Summers (1999) emphasizes that the foundation of continuous improvement is a management philosophy that supports customers' requirements the first time and every time. Perhaps the most obvious similarity among the various quality advocates is the consistent insistence that management be actively involved with the commitment of improving quality within organizations. The strongest continuous improvement processes are the ones that begin with genuine involvement of top management.

2.3.6 Process Management

Davenport (1993) defines process management as involving planning, direction setting, monitoring, decision making and communicating with respect to a firm's key operational processes and assets. Examples of process management in firms include: strategy formulation, planning and budgeting, performance measurement and reporting, resource allocation, human

resource management, infrastructure building and stakeholder communication. These are not the only activities of managers but they are the most structured and thus mostly likely to be conducted within a process setting. There are also other interpersonal processes, including leadership and influence building which are extremely important to managerial success but may be outside the realm of process orientation.

2.3.7 Supplier Involvement

Stanford supply chain forum (1999) defines SCM as dealing with management of materials, information and financial flows in a network constituting of supplies, manufacturers, distributors and customers. Ross (1998) defines SCM as a continuously evolving philosophy that seeks to unify the collective productive competencies and resources of business functions found both within the enterprise and outside the firm's allied business parties. The supply channels intersect into highly competitive customer networks focused on developing innovative solutions and synchronizing the focus of market place products, services and information to create unique and individualized sources of customer value. Summers (1999) provides for a framework of maintaining supply chain management. He emphasizes on the use of supplier certification requirement to provide guidelines that help companies to assess where they currently stand against the requirements and determine where improvements are in place. These requirements serve as a benchmark against which company performance will be measured by customers.

2.3.8 Quality Data Reporting

Data quality has become increasingly important to many health care organizations. Many organizations have built data warehouses to enable them focus more on customer relationship management (Ballou *et al*, 1999; Inman, 1996; Khalil *et al,* 1999; Leiheiser, 2001). The importance of data quality, emerging into information quality, has been growing in proportion to society's evolution from the industrial age to the information age (Redman, 1998). In a health care information management environment, processes are built around collecting data from transactions. Patients' data enter these systems through many touch points, such as the internet, call centers, direct mail pieces, sales systems, and orders (Meza, 2001; Stern *et al*, 1998).

Kin *et al* (2004) noted that it is often lack of a measurement of individuals' expectations that impacts negatively on service quality. Successful firms collect sufficient data and make use of them in managing quality. The introduction of computer-aided quality management systems has greatly benefited quality data reporting.

2.4 Quality and Healthcare

Developments in healthcare quality management began during the Crimean War with early measurement of technical quality and outcomes and the early work of Florence Nightingale of collecting simple mortality statistics being a notable development. Nightingale clearly established that the further from the hospital the injured troop was, the more likely he would survive. She found that more soldiers died from hospital acquired infections to their battle wounds than from the battle wounds themselves. She therefore introduced widespread improvements in hygiene with demonstrated changes which significantly improved outcomes and reduced hospital infections (Maxwell, 1984; Lionga and Forton 1991). Similarly, nineteenth century medical doctors F.Clifton and E.Codman applied the principle of quality management. Codman stated: "*Every hospital should follow up every patient treated long enough to determine whether or not the treatment was effective*" (Liang and Forton, p.552).

Bell (2004) noted that more recent work on quality in healthcare has continued to focus on technical quality with the emphasis on medical and clinical audit clearly demonstrating this reliance. There has also been some enhancement of knowledge about patients' perspective on quality, starting with the patients' charter, the enhancement of complaints mechanisms, and patient surveys. More recently, the concept of clinical governance has also emphasized the importance of the patient perspective. However, there are a number of critics of these approaches to healthcare who claim that these approaches are based on areas considered important by service providers rather than on those areas which evidence shows matters most to service users.

Ovretreit (2004), in his paper, "Formulating a health quality improvement strategy for Developing Nations", proposed four quality methods, which include: a standard-based quality management, team problem solving, assessment and regulation, and patient community participation. He further elaborates the different aspects of service quality, each of which needs

standards to state what is expected. These include: accessibility, affordability, acceptability, effectiveness and efficiency.

2.5 Quality Assurance in Healthcare

Quality assurance can be defined as all activities that contribute to defining, designing, assessing, monitoring, and improving the quality of healthcare. These activities can be performed as part of the accreditation of facilities, supervision of health workers, or other efforts to improve the performance of health workers and the quality of health services (ASQ 1990).

2.5.1 Quality Control and Assurance in the Healthcare

Williamson (1991) argued that in the past, quality management in the healthcare has relied on licensure, certification and accreditation. This implies that the traditional approach to quality management was externally focused. The approach had both positive and negative effects. The positive aspect was that it safeguarded the public through the various standards that were laid down by the licensure, accreditation and certification bodies. The negative aspect was that it uses negative incentive of punishment in cases of non-compliance and sanctions to ensure quality. In the US for instance, bodies such as the US Joint Commission on Accreditation of Healthcare Organizations (JCAHO), Commission on Professional and Hospital Activities (CPHA), and Professional Standards Review Organizations (PSROs) are responsible for licensing, certification, and accreditation of health care service providers. In one sense, these organizations form the backbone of the regulatory structure of the healthcare industry in the US. Over the years, a number of organizations have been involved in the development and deployment of these structural quality assurance mechanisms.

2.5.2 Quality Improvement in Healthcare

Berwick *et al* (1990), in the national demonstration project on quality improvement in the health care industry, observed that experiences of participating organization highlighted the following important lessons learned: quality improvement tools can work in healthcare, cross-functional teams are valuable in improving healthcare processes, and data useful for quality improvement abound, costs of poor quality are high, and savings are within reach, involving

physicians is difficult, training needs arise early and non-clinical processes draw early attention. Therefore, healthcare organizations may need a broader definition of quality. In healthcare, as in other industries, the fate of quality improvement is first of all in the hands of leaders.

Berwick *et al* (1990) noted that the focus of most research in the area of total quality management in the healthcare industry focused on business and support processes. Measurement of success is therefore considered in terms of improved status of patient and change in the organization culture. The second report of the Institute of Medicine (IOM), "Crossing the Quality Chasm for a New Health System for the Twenty-first Century (Institute of Medicine, 2001), goes beyond safety to identify other areas where the need for improvement is urgent. Safety, along with effectiveness, patient-centeredness, timeliness, efficiency, and equity are the other dimensions of healthcare performance. In order to improve on these dimensions, the healthcare systems worldwide can adopt and adapt the best practices, tools, and processes from other sectors where they have proved effective.

2.6 Relevance of Information Technology and Healthcare

The application of information technology in the healthcare industry has helped in the prevention of errors and improving quality in healthcare. However, there are a number of potential obstacles to realizing information technology are full potential (The Economist 2004). For example, most healthcare providers currently work with handwritten patient notes, which are often difficult to read, not readily available, incomplete, and prone to alteration, destruction, and loss. With information technology, electronic order entry systems that require complete data entry remove ambiguities that arise from incomplete information or illegible writing. Decision support systems can intercept errors, such as interactions between incompatible medications and the prescription of drugs to which the patient's electronic medical record notes an allergy (Institute of Medicine, 2001).

The use of Electronic Provider Order Management (ePOM), eliminates the possibility that a doctor's illegible handwriting could result in a patient getting the wrong dose of medicine or the wrong drug entirely. Another system, Electronic Medication Administration Record (eMAR), uses bar codes on individual doses of medications, and on patients' wristbands, to

make sure the right dose of the right drug reaches each patient. Nurses use laptop computers and bar code scanners to match patients and medications (Lewis, 2004). Information technology can also play a very important role in preventing errors in the delivery of clinical care itself. Electronic medical records and interactive decision-support tools have the potential to allow healthcare providers timely knowledge of a patient's health history and improve clinical care (Lewis, 2004).

Connolly (2005) analyzed a case at Virginia Mason Medical Center (VMMC) in Seattle. In this case, doctors' offices, schedulers, and the lab were located adjacent to examination and treatment rooms to reduce walking distances for patients. "In adopting the Toyota mind-set," CEO Kaplan acknowledged that the 350-bed hospital had saved $6 million in planned capital investment, freed 13,000 square feet of space, cut inventory costs by $360,000, reduced staff walking by 34 miles a day, shortened bill-collection times, slashed infection rates, spun off a new business and perhaps most important, improved patient satisfaction.

Spear (2005) argued that technology does not replace people but, in fact, generates demand for people with skills who can use that technology. Reducing costs, therefore, requires a different approach. Concepts and tools from the field of operations management have great potential to reduce waste and improve quality of care in healthcare systems. Toyota Production System (TPS) has already become the standard in automotive manufacturing. "Whether making a car or a healthier patient, the approach fundamentally is about eliminating waste – from paperwork and inventory to waiting-room delays and extraneous surgical tools. It is also about being customer-centered". Spear (2005) described many instances of hospitals and clinics using the principles underlying TPS to reduce error rates and improve efficiency. He noted that first; TPS has to be adapted to the prevailing local conditions in the healthcare organization. This is the reason institutionalization of TPS must be undertaken together with organizational transformation.

2.7 Challenges to Quality Management in the Healthcare

KNH (2005) identifies the following as the major challenges facing it: inadequate government funding for the hospital leading to inadequate resources for financing hospital activities (such as replacement of equipment and the purchase supplies). These impacts negatively on the

hospital's ability to deliver services efficiently and effectively. Increased demand for specialized healthcare is also a major challenge as it leads to congestion and over-utilization of resources. The hospital has also lagged behind in information and communication technology, the consequence of which has been inefficiency in service delivery and controls.

Lack of an appropriate organizational structure, policies, and management practices for the hospital has resulted to inefficiency, duplication of work, role conflict and ambiguity, and also in work not being rationalized. The current poor conditions of service have limited the hospital's ability to attract and retain qualified and experienced health professionals. Corruption, lack of integrity, and work ethics is a challenge since it results into diversion of resources from core activities. Other challenges include: lack of a sense of ownership, lagging behind in research, low staff morale, wastage of resources, resistance to change, under utilization of staff, poor working environment, inadequate legal framework for the hospital, lack of clear strategic direction and a deteriorating competitive position due to inadequate diagnostic and therapeutic equipment.

Rad (2005) noted that the barriers to successful implementation of TQM in healthcare management includes lack of senior management commitment and involvement, instability of senior managers, inability to change organizational culture, inflexibility of organizational culture toward quality changes and inflexibility of the organization toward environmental and technological change. Others include incorrect planning, lack of continuous education and training for employees and managers, inadequate knowledge or understanding of TQM philosophy, poor team work and participation, inappropriate evaluation of team works, poor accessibility to data and organization performance, and lack of attention to the needs of internal and external customers.

Zabada *et al* (2000) noted that complexity of healthcare systems is a powerful obstacle to systems thinking. There are also powerful subcultures in healthcare organizations based on occupation and specialization, for example physicians, nurses, and pharmacists. These groups have their own definition of errors and quality in healthcare. Their interests and functional orientations do not facilitate a systems approach to the promotion of safety and performance improvements. Surveillance systems and lack of adequate personnel hinder local data collection, feedback, and improvement.

Despite the availability of various technologies, the healthcare sector has lagged woefully behind others such as financial services, transportation, and manufacturing in adopting information technology (*The Economist*, 2005). This is unbelievable when considerations are made regarding huge investments by the healthcare firms (Pack, 2005). An important barrier is technical, for example a lack of interoperability and lack of common standards for exchanging data between different healthcare organizations like pharmacies and hospitals. This inhibits investments in information technology which succeeds in creating islands of information that cannot be moved around and shared. The huge cost of healthcare management systems is also an inhibiting factor.

Baumol (1995) indicated that in the manufacturing sector, automation has been used to improve labor productivity, but this has been difficult to achieve in the clinical side of healthcare, because the processes cannot be standardized. Because of too much variation in clinical processes across physicians and healthcare institutions, healthcare has largely been characterized as a "handicraft" industry.

2.8 Empirical Studies

Bell (2004) noted that the quality movement, both as applied in healthcare and in the wider sense implies has the potential of being exploited and in particular used to support the development of service quality. He noted that health services have focused on the work of major stakeholders rather than service users and that quality management in the health care has also most often focused on technical, rather than fundamental quality. Flynn *et al* (2004) noted that there have been a number of studies addressing different facets of quality management practices. Most of these studies reveal that quality management practices based on technique definition have resulted into the achievement of better organizational performance.

Wocher (1997) noted that in many countries, a sense of urgency seems to be setting in regarding the need to improve the quality of healthcare systems. It is hoped that this sense of urgency will help the industry catch up with the others with respect to quality and performance. An indication of this drive towards quality and performance can be seen from statistics which show that in 2005, 33 healthcare organizations applied for the Baldrige award. The award criteria require these organizations to show evidence of systems thinking, benchmarking, and

comparative results (Bidinson, 2005).This emphasizes the "techniques" definition of quality management practices.

The study on quality management practices at Kenyatta National Hospital seeks to make a unique contribution to the existing body of quality literature by addressing quality management practices from a different environmental set up, namely: by advancing on the Seraph *et al* (1989) critical eight "factors" of quality management practices.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This part describes the procedures the researcher used to collect and analyze data obtained from the field. The part covers the following major areas: Research design, respondents, research/data collection instruments, validity and reliability of instruments, data collection procedures, operationalization of the variables, ethics, limitations and data analysis procedures.

3.2 Research Design

The perception study strategy was chosen as the most appropriate. The research relied on activities that had already taken place. Thus, the researcher did not manipulate any factor that the respondents recorded with respect to quality management in Kenyatta National Hospital (KNH).

3.3 Respondents

The target respondents included all the broad categories of employees at the Kenyatta National Hospital. These include doctors, paramedics, professional and support, administration and other cadres. A total of 160 respondents was sampled in this study and was regarded as sufficient to capture the necessary data on quality management practices at the hospital.

3.5 Research Instruments

The following data collection instruments were used: questionnaires (both structured and unstructured and interviews (personal interviews which consisted of structured questions, see Appendix 2). The questionnaire was divided into three sub questionnaires: Sub questionnaire One: Aspects of Quality management definition; sub questionnaire Two: The Quality Management practices and sub questionnaire Three: Challenges faced by KNH in provision of health care services. Respondents were allowed fair latitude in their answering of interview questions

3.7 Validity of Instruments

The researcher also carried out a pilot study to appraise the soundness of the items and to estimate time required to answer the items. The pilot study covered 15 employees of K.N.H

who did not participate in the eventual survey. The results of the pilot study were discussed with the respondents and adjustments were made accordingly prior to fielding the revised questionnaire to the target respondents.

3.8 Instrument Reliability

Best and Kahn (2000) consider the reliability of the instruments to be the degree of consistency that the instruments or procedure demonstrates. The reliability of a standardized test is usually expressed as a correlation coefficient, which measures the strength of association between variables. Such coefficients vary between 0.00 and 1.00 with the former showing that there is no reliability and the latter showing there is perfect reliability, an ideal situation. Reliability was ascertained by splitting the instruments into two: by placing all the odd numbered in one sub-set and all even numbered items in another subset and then finding the coefficient of internal consistency. The reliability is estimated to be 0.72 meaning that the instruments were reliable.

3.9 Data Analysis Techniques

Data analysis was based on research questions designed at the beginning of the study. Frequency tables, percentages and means were used to analyse the data. Responses in the questionnaires were tabulated, coded and processed by use of appropriate statistical software (SPSS).

After the responses had been received, questionnaires were edited for completeness and consistency before processing. Data was then coded to facilitate categorization. Quantitative variables were analyzed by means of appropriate statistical measures of average and dispersion. Descriptive statistics were used to describe central tendency and on the basis of this make suitable explanations for the variables under study. Open-ended questions were described by means of descriptive narratives. Presentation was done by use of statistical tables. These tools were selected for their clarity, preciseness, ease of understanding and interpretation. The results of the study were compared with literature review to establish the quality management practices in the Kenyatta National Hospital.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter covers data analysis, discussions, and findings of the research. The data is summarized by means of statistical averages (including rankings) and presented in the form of tables. Out of 160 questionnaires distributed, 116 were completed and returned representing a response rate of 73%. Table 4.1 shows the various categories of employees captured in this study.

Table 4.1 Frequency table of various categories

Category	Frequency	Percent
Doctors	12	10.3
Paramedics	38	32.8
Administration	37	31.9
Professional and support	20	17.2
Other cadres	9	7.8
Total	116	100.0

Source: (Research Data)

4.2 Quality Management Practices

Employees' perception with regard to quality management practices was based on the Seraph *et al* (1989) framework of quality management practices. These practices include: top management commitment, quality data reporting, and supplier involvement, role of quality assurance department, training, employee relation, process management, and product /service design.

Others key to quality management included the respondents views on aspects of quality definition and existence of other quality management practices other than those based on the study. Table 4.2 shows the mean scores for each of these "factors".

Table 4.2: The mean scores and standard deviation of quality management practices

	Mean	Std. Deviation	Mean Rank	Ranking
Aspects of Quality Definition	3.54	0.907	8.50	1
Supplier involvement	3.09	0.823	6.23	2
Process management	3.02	0.863	5.83	3
Quality Data Reporting	2.95	1.073	5.76	4
Training	2.91	0.884	5.46	5
Top Management Commitment	2.91	1.112	5.30	6
Product/Service design	2.76	1.062	4.73	7
Other practices(such as TQM, JIT)	2.74	1.176	4.64	8
Role of Quality Assurance Department	2.69	1.073	4.30	9
Employee relation	2.73	1.004	4.25	10

Source :(Research Data)

4.2.1 Definition of Quality

The respondents were asked to indicate on a scale of 1-5 (where 1 = most unimportant, 2 = not important, 3= neither / nor important, 4= important and 5 = most important) the extent with which they considered the various aspects of quality management to be important in defining quality . From the responses, a mean of 3.54 and standard deviation of 0.90 was derived as illustrated by Table 4.2. This indicates that respondents consider aspects of quality management to be important in defining the quality practices of the Kenyatta National Hospital. Aspects of quality management include a set of organizational strategies, practices, and tools for organizational performance improvement. The practices can be considered under various levels. At the operational level, quality management practices include the application of systematic approaches to the measurement and improvement of work processes to ensure that they are adding value and meeting the needs of the customer, in this case the patient. Work simplification is often part and parcel of quality management, as it is concerned with eliminating steps that do not add value and on combining tasks to reduce the number of interfaces.

4.2.2 Supplier Involvement

Respondents were asked to indicate on a scale of 1-5 (where 1 = strongly disagree, 2 = disagree, 3= neutral, 4= agree and 5 = strongly agree) the extent with which they agreed with aspect of quality management practice that relate to supplier involvement. From the responses, there was neutral existence of practice as evidenced by the mean of 3.09 which is dispersed with a standard deviation of 0.82. Stanford (1999) noted the importance of supplier

involvement management based on management of materials, information and financial flows involving the various parties. The perception of the above practice seems to be equally split between the various categories, some feeling strongly about the need for supplier involvement while others do not seem to be as similarly inclined. This spread on both directions averages to the value of 3.09 (a neutral inclination). More weight could be attached to the above practice based on the influence it has on service quality. KNH should find ways of involving suppliers to enhance the existing relationship to improve service delivery.

4.2.3 Training

Training equips employees with skills that have a direct impact on their productivity. It is therefore an important quality management practice. Respondents in this study indicated that the training practice commands a neutral stand within the organization (mean of 3.08, standard deviation of 0.86) based on the ratings above. The relatively low standard deviation indicates that there is little spread among the various categories with respect to training aspects. This indicates that all categories of respondents consider training to be important and since most of them are professionally trained, there is little dispersion among their respective categories. However, respondents in some categories, for example doctors undergo more training compared to the other categories of employees in the organization. The differential training is also necessary given that various categories of healthcare professionals have differing skill requirements. KNH should devise a framework for meeting training needs to enhance performance.

4.2.4 Process Management

The respondents from the various categories of employees indicated that the practice of process management has a neutral existence within the organization (mean 3.01, standard deviation 0.86). This indicates that majority of respondents feel that process management has not received the importance it deserves from the organization. The low standard deviation indicates little spread in the differences among the various categories of respondents. Davenport (1993) observed that process management involves key operational processes and assets important to performance of day to day operations. The neutral score that respondents give to this aspect of quality management indicates that the organization does not seem to have

instituted this practice.KNH should come up with organization wide process management manual for effective and efficient resource allocation.

4.2.5 Quality Data Reporting

Quality data reporting has a mean score of 2.94 and standard deviation of 1.08. This indicates that respondents consider this practice to be neither important nor unimportant to the organization. The mean score indicates that the practice tends towards being regarded as not important. There is a somewhat significant variation across the various categories of employees with respect to quality data reporting. Kin *et al* (2004) has observed that quality data reporting is central in making informed decisions if quality management is to be sustained in an organization. The inconsistency in achieving quality data reporting can be largely attributed to a lack of facilities and systems to capture data for timely information. KNH should come up with an information system to meet the need of its customers and to enhance on timely information.

4.2.6 Top Management Commitment

Top management commitment is necessary for any successful implementation of quality management practices. Respondents' mean score for this practice is 2.91 which tends towards not important or neither important nor unimportant. The corresponding standard deviation is 1.11 which is relatively large compared to other aspects such as training and process management. This means that employees across all the categories report that top management commitment for the quality management practices appears to be lacking.

Seraph *et al* (1989) observed that existence of top management practice should have more emphasis within an organization, as it is most crucial towards achieving quality management efforts. The nearly neutral mean score may also be attributed to the high scores in both directions, that is, respondents are divided into two major groups, with one group feeling that top management is not at all committed to top quality management practices while the other group feels that top management is strongly committed. This variation may arise from the perceptions of employees in the various categories, with the more professional ones having a different perspective of top management which is different from that of the employees in the non-professional category. The study found that employees in the administrators and doctors category seem to strongly support the existence of top management commitment to quality management while employees in the other categories are of a different view. The top

management should show commitment to support organization wide plans and policies by involving all levels of management.

4.2.7 Products / Service Design

Respondents' views towards the various attributes of quality management practices that relate to product/service design indicate that this practice exhibits neutral existence in the organization (mean is 2.76, standard deviation of 1.06). There is a significant difference in perception of the aspect of products/services design among the various categories of employees. Doctors seem to be more perceptive of the products/service design component of quality management compared to other categories of employees. This may be explained by the close contact that doctors have with both products and services in their daily performance of their duties. This may also be explained by the fact that KNH, being a health care services institution deals principally in medical products and services, of which doctors are at the frontline. KNH should do more research and development to identify the various customers' needs.

4.2.8 Just in Time and Total Quality Management Practices

The various categories of employees were divided with respect to other quality management practices, among them Just in Time and Total Quality Management. Administrators and doctors were significantly more likely to strongly agree or agree that the existence of these practices is important compared to other categories of employees. This situation may be explained by the fact that more educated employees are more likely to understand the importance and need of these practices compared to their less educated colleagues. It is also possible that the new practices of JIT and TQM may not be well understood by the employees. All the employees categories should be educated more in relation to other quality management practice.

4.2.9 Employee Relations

Respondents were asked to indicate the extent with which they agreed with the various attributes of quality management practices that relate to employee relation as a practice. The mean score for this practice was 2.72 and a standard deviation of 1.03. The mean score tends towards not important or neutral. This score indicates that respondents do not feel that management has prioritized employee relations as an aspect of quality management practices.

Employee relations include the use of reward system practices in a manner that supports employee involvement. This is even more important given the knowledge-intensive nature of health care services.

Adoption of systems that reward collective performance and thus encourage teams and individuals to be involved in the business units of which they are a part is perceived to contribute positively to the overall quality management in the organization. Work teams and quality management circles should be in place to foster on employee relationship.

4.2.10 Role of Quality Assurance

Respondents were asked to indicate the extent to which they agreed with the aspects of quality assurance as a quality management practice. The mean score for this aspect is 2.68 and standard deviation of 1.07. This mean score shows that employees feel that quality assurance has not been given the importance it deserves in instituting the culture of quality management in the organization. This finding shows that the study organization has not lived up to the expectations of literature where quality assurance is considered the nuts and bolts of the quality movement within the organization (Richard and Knod, 1997). Quality assurance department at KNH should focus more on quality management practices than being a routine orientated department.

4.2.11 Significance Test on the Ranking of Quality Management Practices

To establish the significance of the ranking of quality management practices as earlier stated Friedman Test was done. The Friedman test is the nonparametric equivalent of a one-sample repeated measures design or a two-way analysis of variance with one observation per cell. Friedman tests the null hypothesis that k related variables come from the same population. For each case, the k variables are ranked from 1 to k. The test statistic is based on these ranks. With the null hypothesis being: There is no difference in the ranking of quality management practices, whereas the alternate hypothesis being: There is difference in the ranking of quality management practices. The following was obtained as illustrated by Table 4.2.1

Table 4.2.1: Friedman Test on ranking of quality management practices

N	115
Chi-Square	181.905
df	9
Asymp. Sig.	.000

Source: (Research Data)

Based on the study (the threshold p=0.000), we conclude our null hypothesis that there is no statistical difference in ranking of quality management practices.

4.3 Challenges Faced by Kenyatta National Hospital

The respondents were asked to indicate on a scale of 1-5 (where 1 = strongly disagree, 2 = disagree, 3= neutral, 4= agree and 5 = strongly agree) the extent with which they agree with the challenges illustrated in Table 4.3. The study revealed the following to be some of the major challenges that the hospital currently faces (Table 4.3).

Kenyatta National Hospital (KNH) faces a number of challenges in its pursuit of its objectives. The most important of these include the increased demand for specialized health care and resource constraints that impedes the financing of major activities within the organization. Other challenges include the lack of resources to expand its facilities and other infrastructure, lack of sense of ownership which results in low staff morale, corruption which hampers effective and efficient delivery of services, and a deteriorating competitive position of the hospital.

Rad (2005) also found that in addition to the above challenges, barriers to successful implementation of total quality management in the health care also include lack of senior management commitment and involvement, inability to change organizational culture and inflexibility of organizational culture toward quality changes. The study revealed the following to be some of the major challenges that the hospital currently faces (Table 4.3)

Table 4.3 Challenges Kenyatta National Hospital faces in providing health care services

Challenges	Mean	Std. Deviation	Mean Rank	Ranking
Inadequate resources to finance major activities and operations.	4.08	0.913	11.28	1
Inadequate government funding.	3.96	1.004	10.87	2
Inadequate logical framework.	3.73	1.305	10.64	3
Poor team work to achievement of goals.	3.75	1.342	10.51	4
Inadequate knowledge and understanding of quality philosophy.	3.83	1.104	10.48	5
Lagging behind in information and communication technology.	3.84	1.164	10.39	6
Increased demand for specialized health care.	3.87	1.109	10.35	7
Poor accessibility to data and organizational performance.	3.80	1.176	10.22	8
Deteriorating competitive position.	3.79	1.076	10.19	9
Lack of clear strategic direction.	3.68	1.222	9.97	10
Duplication of work that results to redundancies	3.69	1.153	9.95	11
Poor working conditions.	3.73	1.236	9.94	12
Corruption in provision of services.	3.68	1.278	9.93	13
Lack of sense of ownership leading to low staff morale.	3.68	1.223	9.69	14
Lack of appropriate organization structures.	3.67	1.102	9.52	15
Lack of organizational management practices.	3.62	1.170	9.40	16
Lack of organizational policies.	3.52	1.332	9.35	17
Lack of continuous education and training for employees and managers.	3.42	1.388	9.07	18
Lagging behind in research to which hamper efficient service delivery.	3.44	1.190	8.24	19

Source (Research Data)

From the table, the most important challenges in order of importance is the increased demand for health care and the inadequate resources to meet these demands. The lack of adequate resources has been exacerbated by regularly declining governmental budgetary allocations to the hospital. Respondents reported that the hospital does not have the most ideal working conditions as it tries to balance the needs of its customers with those of the employees. The poor working conditions have in turn impacted on the motivation and morale of staff. The study showed that there is a noticeable lack of sense of ownership of the work and responsibilities of employees. Many of them do their work more from a sense of duty rather than taking it as if it were their very own work.

Problems of corruption in the provision of services have also been noted. The hospital has been accused a number of times of failing to deliver quality services owing to a culture of corruption and impunity of its staff. Corruption has many times lead to artificial shortages in essential drugs and even in medical services themselves. There has also been a weak organizational structure which does not promote effective and efficient delivery of services. The lines of communication from the top management to the operational levels are not clear enough to promote quality management practices.

The study showed that the hospital has not been able to take advantage of the current information and communication technologies, particularly with respect to in the capture, organization and management of medical data. This low uptake of information and communication technologies has not been helped by the relatively low level of ICT skills among many of the hospital's employees. The hospital has also not been able to take advantage of information and communication technologies to enhance its research capabilities. The inability to harness current ICT capabilities has in turn seriously jeopardized the hospital's competitive position.

Human resource development, through various mechanisms including employee recognition and involvement is at the core of a successful quality management revolution. This study finds that the hospital has not institutionalized positive employee involvement practices. Literature indicates that there is a strong relationship between employee involvement practices and the adoption of quality management philosophy. Indeed, a study by Lawler *et al* (1998) has clearly shown that that employee involvement is strongly associated with the adoption of

quality management practices such as TQM. Lawler's study particularly finds a strong association between employee involvement and the development of a strong customer focus, speeding of products to market, and building knowledge and intellectual capital. It is significantly related to ensuring high levels of quality, responding quickly to change, and being a technology leader.

4.3.1Significance Test on the Rankings of Challenges

To establish the significance of the ranking of quality management practices as earlier stated Friedman Test was done. The null hypothesis was established as: There is no difference in the ranking of challenges, whereas the alternate hypothesis being there is difference in the rankings of challenges.

Table 4.3.1 Friedman Test on the rankings of challenges

N	114
Chi-Square	41.282
df	18
Asymp. Sig.	.001

Source (Research Data)

Since the p-value is 0.001, we do not reject the null hypothesis and conclude that there is no statistical difference in ranking of challenges.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings and makes conclusions based on the objectives of the study which were: to establish quality management practices at the Kenyatta National Hospital and to establish the challenges the Hospital faces in the provision of health care services. This chapter also contains a summary and recommendations for improvement arising from the study and proposes direction for further research.

5.2 Summary

The study reveals that Kenyatta National Hospital currently has a neutral existence of quality management practices based on the framework definition of quality management practices adopted for the study. This means that employees did were not able to say whether or not the hospital's has put in place quality management practices. There were noticeable differences between the responses of various categories of employees with employees in the professional services categories (doctors and administrators) more likely to report that there exist quality management practices while employees in the non-professional categories had an opposing perspective. The overall result of these differing perspectives was that results clustered around the middle of the mean (i.e. around 3.00 on a scale of 5.00) which denotes neutral. Thus, the best conclusion from this is that aspects of quality management practices do indeed exist in the hospital but that the impact of these practices has been more felt among the professional services category staff as opposed to the non-professional category employees.

Indeed, the study reveals a major division with regard to quality management practices at Kenyatta National Hospital on the basis of the category the employee belongs to. Employees involved in making major decisions have a strong feeling of existence of the quality management practices whereas those who are not actively involved directly in making key decisions seem to have strong tendency to report that that the practice does not exist. As stated above, the aggregation of these two perspectives leads to a neutral existence recorded for most of the quality management practices. There is also significant difference in the rankings of the quality management practices as indicated by the Friedman test.

The study also reveals that Kenyatta National Hospital faces many challenges in the provision of health care services. The major challenge noted was the hospital's inability to keep pace with increased demand for specialized health care services. This is compounded by decreasing governmental budgetary allocations, and inadequate internal resources to finance the hospital's major activities and operations. Other significant challenges are the lack of a sense of ownership among employees, low uptake of information and communication technologies, lack of appropriate organizational structures and policies, and duplication of work that negatively impacts on service delivery and increases redundancies. The study found that there is a blurred communication line between top management and the rest of the staff which ultimately leads to the differing perspectives between these two groups on what the hospital is trying to achieve. The Friedman test indicated that there is no significant difference on the rankings of the challenges.

5.3 Conclusion

The health care industry, being an important services industry requires quality management practices. The role of health care in the well-being of the nation cannot be overemphasized. Only a healthy nation would be best placed to deliver on its other socio-economic objectives. The changes in the management philosophy, the revolution in information and communication technologies, and rapid advances in scientific knowledge have had a major impact on the health care industry. The convergence of these and a host of many other changes mean that health care providers have no choice but to embrace them if they are to continue to be relevant. Studies have documented that health care providers can, and indeed, should take advantage of the advances in quality management practices to better realize their objectives.

The challenge of obtaining competitive advantage through organizational ability to organize itself is that there are many seemingly attractive approaches among which to choose but no one well-developed road map to success. Lawler *et al* (1998) observe that often change programs, and especially those concerned with improving performance, are often characterized by false steps, missteps, and restarts. They note that although this can be discouraging, organizations should not be discouraged but should instead organize themselves to take advantage of change as a response to a dynamic environment.

This study observes that the health care providers, and especially the large ones like Kenyatta National Hospital, should embrace various aspects of quality management practices. Employee training and involvement, for example, will inculcate in staff a sense of ownership and responsibility in their work. This will make them better placed to deliver on organizational objectives. Indeed, the study finds that there is a tremendous opportunity for the KNH to share quality management information with its employees, particularly information about the competitive challenges their organization faces, changing dynamics in the health care industry, performance, organizational plans and goals, and new technologies.

The hospital's reward systems should be restructured in ways that support employee involvement. This is even more important in view of the need to reward knowledge and skills and the adoption of systems that reward collective performance. This will encourage teams and individuals to be involved in the business units of which they are part.

This study shows that there is need for health care organizations to embrace quality management practices with a view to building effective organizational design and management. Quality management practices is not made up simply of the listed aspects as used in this study, but is an integrated set of practices and structures that draw heavily from management theories and practices.

5.4 Recommendation

The findings of the study point to the need to address a number of issues. First, there is need to ensure that all the categories of employees are directly involved in any quality management practices that the hospital wishes to put in place. This will guarantee better support of, and understanding of the intended objectives of the quality management philosophy in the organization. Their involvement will also improve the implementation process of these practices.

There is also need to ensure that the introduction of these practices is done in such a manner as to win the acceptance of all categories of employees. This may be done by ensuring that all categories are taught to view the attainment of a quality culture as being in the greater good of the organization than for individual departments. A holistic view of quality management will promote buy-in by all categories of employees, a development which will lead to more success

than is currently being realized. It is recommended that implementation teams for various aspects of quality management be drawn from across categories. This will enhance the spirit of team work and promote a learning-oriented culture in the organization. Literature by Lawler et al (1998) indicates that the adoption of quality management practices is most successful when a team work approach is used. The most effective adoption of quality management practices is achieved when organizations take them as an integrated package. Lawler et al (1998) observed that even with a relatively low use of multiple system change efforts, organizations can still gain competitive advantage by being early adopters, not just of quality management practices, such as TQM, but of an integrated set of practices that match business strategy, management practices, and change strategy. Those organizations that are able to put together the right pieces are likely to gain a significant long-term competitive advantage. Organizations that wish to compete in a global environment must take an integrated, total systems approach to quality management. To do anything less creates a high risk of losing out to those competitors who are able to do it.

5.5 Limitations of the Study

This study suffered from the usual limitations of case study method of research. The findings of this research are only applicable to the case of Kenyatta National Hospital and not to the entire health care industry in Kenya. It may therefore not be possible to generalize to the entire industry. In addition, the time and money constraints limited the depth to which this study would have been undertaken.

5.6 Suggestions for Further Research

This study proposes that further research be undertaken in the area of the role of internal and external customers in promoting quality management practices. It is also recommended that further research be undertaken to compare quality management practice between public and private health care service organization. This study should also look at the challenges that these two categories of organizations face, and if they are similar or different.

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Appendix 1: Letter to the Respondent

UNIVERSITY OF NAIROBI,

SCHOOL OF BUSINESS,

P.O. Box 30197,

NAIROBI.

Dear Sir/ Madam,

RE: QUALITY MANAGEMENT PRACTICES AT THE KENYATTA NATIONAL HOSPITAL

I am a postgraduate student undertaking a Master of Business Administration Degree at the School of Business, University of Nairobi. I am currently carrying out a research on Quality Management Practices at the Kenyatta National Hospital.

My approach to this case study is both consultative and collaborative and ensures that it causes minimum disruption to your schedule of activities. I request you to provide me with the required information by responding to the questions in the questionnaire. The information required is purely for academic purposes and will be treated in the strictest confidentiality. A copy of the research project will be made available to you upon request.

I will appreciate your co-operation in this academic exercise.

Thanking you in advance.

Yours faithfully,

Limo, Albert,

MBA Student

Appendix 2: Questionnaire

This questionnaire is designed to gather information for a research which seeks to establish quality management practices employed by Kenyatta National Hospital in provision of health care services and also to investigate the challenges faced by the hospital in achievement of its goals. The study is being carried out as partial fulfillment of the requirements for degree of Master of Business Administration (M.B.A), School of Business University of Nairobi.

Part A. General Information

A: Profile of respondents and organization

1. Respondent's name (optional) _____

2. Respondent's department/ section _____

3. Indicate by ticking the category of level of management

a. Top management [ ]

b. Middle management level [ ]

c. Lower management level [ ]

d. Others (specify) _____

_____

PART B: Definition of quality

This section seeks to define quality. Indicate by a tick (✓) in the spaces provided, the extent with which you consider the following important in defining quality.

No.	Aspects of Quality Definition	Most unimportant	Not important	Neither/nor important	Important	Most important
1	Adherence to specifications.					
2	Delivery of service on time.					
3	Superior provision of services.					
4	Sequencing of events at right time.					
5	Meeting customers needs by satisfying all the above four.					

PART C: Quality Management Practices

This section seeks to establish the quality management practices. Indicate by a tick (√) in the spaces provided the extent to which you agree to the following aspects of quality management practices.

No.	Aspects of Quality Management Practices	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Top management is involved in key quality management decisions.					
2	Quality management programmes are supported by top management.					
3	Resources are allocated to quality management programmes.					

4	Employees are involved in planning quality management programmes.					
5	Top management show commitment for quality management activities.					
6	Quality data reporting exists					
No.	**Aspects of Quality Management Practices**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
7	Information, communication technology is key to quality data.					
8	Sufficiently collects data for problem solving to quality management.					
9	Information system for various quality management activities is employed.					
10	Quality management activities depend on timely & accurate information.					
11	Quality assurance department does company-wide quality planning.					
12	Executive & daily reports on quality management are always generated.					
13	Outgoing quality audited always.					
14	Quality assurance department defines new methodologies for quality management.					
15	Monitoring & evaluation of quality management programmes is done by the quality assurance department.					
16	Quality assurance department does the transfer of quality management line activities.					
17	Employees undergo training after a specified period of time.					

18	Systematic analysis is done to determine training needs.					
19	Evaluation of training programmes is carried out often.					
20	Resources are allocated to training programmes.					
No.	**Aspects of Quality Management Practices**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
21	Employees are empowered to make decisions on quality.					
22	Employees are often asked by their supervisors to participate in decisions.					
23	There is clear communication with regard to quality programmes.					
24	Employees are empowered to work in cross functional teams.					
25	Employees are involved in strategy formulation.					
26	Process management involves strategy formulation.					
27	Resources are allocated for process management activities.					
28	Performance measurement is crucial in process management.					
29	Process management involves infrastructure building & stakeholders.					
30	Use of quality management systems are in place.					
31	They have well defined suppliers.					
32	Delivery of supplies is timely.					

33	Quality of supplies is always maintained.					
34	Supply chain network relationship is strong.					
35	Supplies focus on market requirements.					
36	Existing services / products are constantly refined.					
No.	**Aspects of Quality Management Practices**	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
37	New products/services are developed to enhance quality.					
38	Customer needs & wants are translated to products / services requirements.					
39	Cost targets for products / services designs are formulated.					
40	Products / service specifications are well documented.					
41	Continuous improvement concept is embraced.					
42	Comparison of services with the best in class is done.					
43	Performance improvement techniques are employed.					
44	Supplies are sourced at minimal cost.					
45	Best practices in specific areas of operations are adopted.					

PART D: Challenges at Kenyatta National Hospital

Part D seeks to identify the challenges facing K. N. H. Indicate by a tick (✓) in the spaces provided the extent to which you agree with the following challenges.

No.	Challenges	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Inadequate government funding.					
2	Increased demand for specialized health care.					
3	Inadequate resources to finance major activities & operation					
4	Lagging behind in information & communication technically.					
5	Lack of appropriate organization structure.					
6	Lack of appropriate organization policies.					
7	Lack of organizational management practices.					
8	Duplication of work that results to redundancies.					
9	Poor working conditions.					
10	Corruption in provision of services.					
11	Lack of sense in ownership hence low staff morale.					
12	Lagging behind in research to enhance efficient service delivery.					
13	Inadequate logical framework					
14	Lack of clear strategic direction.					
15	Deteriorating competitive position.					

No.	Challenges	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
16	Lack of continuous education & training for employees & managers.					
17	Inadequate knowledge of understanding quality philosophy.					
18	Poor team work to achievement of goals.					
19	Poor accessibility to data & organizational performance					

1. List any other definition (s) of quality management you may find important?

_____

_____

_____

2. State any other practice (s) that is/ are related to quality data reporting at K.N.H, and any measure (s) in place to enhance quality data reporting.

_____

_____

_____

3. State the frequency with which the employees undergo training.

_____

_____

_____

4. State other ways in which employees are involved in making key decisions?

4. State any other related activity to process management. What measures have been put in place to ensure implementation of process management?

5. State the relationship that exists between the organization and suppliers.

6. State the frequency with which product/service design (s) activities takes place.

7. What other challenge(s) does KNH face in provision of health care services?

8. State the priority in which K.N.H intends to pursue in achievement of quality management practices.

Thank you very much for your time