UNIVERSITY OF KWAZULU-NATAL

AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTHCARE FACILITY IN RWANDA

BY

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AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTHCARE FACILITY IN RWANDA

Dissertation submitted in fulfilment of the requirements for the Master's degree in Nursing Administration in the School of Nursing and Public Health, College of Health Sciences, University of KwaZulu-Natal, Durban, South Africa.

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Declaration

I, Antoinette BATUNGA declare that this research dissertation titled "An analysis of quality improvement by nurses at a selected tertiary healthcare facility in Rwanda" and under supervision of Dr. Jane Kerr is my original work, and all resources and materials that have been used or quoted have been indicated and acknowledged by means of reference.

Antoinette BATUNGA	Dr Jane KERR
DATE	DATE

Dedication

This dissertation is dedicated to my beloved family for psychological, physical, social support and love that was given throughout this course which enabled me to complete the course successfully.

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Abstract

BACKGROUND: Improving and maintaining the quality of care in healthcare institutions is not easy and has become a continuous challenge. Though quality improvement continues to be a global issue, the Government of Rwanda, guided by its Vision 2020, has made significant progress in the health field, especially in providing accessible quality care and services to all Rwandan citizens. Furthermore, the Rwanda Ministry of Health, through its 2015 health policy, has introduced a number of interventions to improve quality of care, such as promoting customer care, ongoing training and capacity building of the staff in the health sector, and decentralising health care infrastructures. A number of constraints have been noted which hinder effective quality improvement, such as shortage of human and material resources. It has become important to analyse quality improvement by nurses at a selected tertiary healthcare facility in Rwanda.

Purpose of the study: The purpose of this study was to analyse quality improvement by nurses; in order to develop guidelines for nurses on effective quality practices at a selected tertiary healthcare facility in Rwanda.

Methodology*:* A concurrent mixed methods approach (quantitative and qualitative), was used in this study. Data were collected by the researcher over a two month period. In a quantitative approach, data were collected using a checklist to conduct an audit of quality improvement activities by nurses and purposive sampling was used to identify 13 quality improvement documents in 11 units/departments. In a qualitative approach, data were collected from registered nurses and patients who were seeking healthcare services at the time of data collection. Interview guides were used. Purposive sampling was used to identify 15 registered nurses; and 17 patients for the qualitative data collection and 12 nurse managers and experts in guideline development to participate in guideline development process. Quantitative data were analysed using SPSS version 23, while qualitative data were analysed using thematic content analysis. Nominal group technique was used to develop guidelines for nurses to improve the quality of care at the selected facility.

Findings: Out of 11 departments from the selected hospital, the majority (90.9 %) of departments had incident reporting documents. Seventy-two per cent of departments reported having an audit tool for measuring the quality of care that was available and accessible to users. It was found that 36.6 % had a copy of quality policy document; 18.2% reported having registration books for complaints, however it was found that these complaints books were not

used on a daily basis. Furthermore, it was noted that only 18.2% of departments had a copy of the quality action plan. Concerning annual quality report findings indicated that of 11 departments, none had a copy of the annual quality report.

Findings from qualitative data in this study revealed a number of factors related to quality improvement, which were grouped into three categories: organisational resources, managerial roles, and customer care. Regarding the organisation resources, a number of subthemes emerged in this study: lack of materials and equipment, shortages of nurses and doctors, lack of guidelines to guide nurses on improving the quality of nursing care and lack of sufficient drugs in the hospital pharmacy (reported by both nurses and patients). Construction and renovation of buildings has been happening which has reduced congestion for patients. Regarding managerial role, factors that hindered quality improvement were nurses' resistance to change, lack of knowledge concerning quality improvement, lack of supervision, and lack of health education for patients. Regarding customer care, patients were dissatisfied with the lack of sufficient drugs, long waiting times, lack of sufficient beds and rooms.

Although a number of challenges were reported that hinder quality of care, patients appreciated effective performance and care from their healthcare workers that increased their satisfaction with the quality of care provided. Proper explanations and orientation made it easy for patients to seek healthcare services in the different departments and pharmacy turn around time has improved. It was also noted that nurses recognised that career development and support was helping them to improve the quality of care. Based on the findings from this study, quality improvement guidelines for nurses have been developed for the selected tertiary hospital where this study was conducted.

Recommendations: Increase in-service training on quality improvement to raise employees' knowledge and skills levels. Emphasise proper staffing and staff management of employees to avoid work overload in some units. Reduce waiting times and provide sufficient essential drugs in the hospital pharmacy reducing the need for patients to buy drugs from private pharmacies. Remedy lack of equipment and materials to enable nurses to work in a suitable environment.

Conclusion: Despite challenges faced by the healthcare facility, there has been remarkable progress in quality improvement through response to needs in human and material resources. Improvement of quality care is a cornerstone in the health of the population of Rwanda.

Keywords: Quality improvement, Quality of care, Standards of care, Patient Satisfaction**.**

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List of Abbreviations

CDC:	Centre for Disease Control
COSSASA:	Council for Health Services Accreditation of Southern Africa
FRW:	Rwandan Francs
ICLEI:	Local Government for Sustainability-Africa
ICU:	Intensive Care Unit
NICU:	Neonatal Intensive Care Unit
PC:	Client Participant
PN:	Nurse Participant
P:	Participant
R:	Researcher
RMH:	Rwanda Military Hospital
UCLGA:	United Cities and Local Government of Africa
U.S:	United States
WHO:	World Health Organization
TShs:	Tanzanian shillings

Chapter 1
Introduction and Background

1.1 Introduction

Quality improvement, or quality assurance, is a recognised and organised exercise of problem identification and planning activities to overcome problems and taking measures to prevent new problems. Booyens (2011:605) states that quality improvement is a recognised approach of setting standards, monitoring and assessing performance, in order to take remedial actions to maintain those standards. Quality improvement is an approach of enhancing quality of care in all milieus of healthcare institutions (Bakerjian and Zisberg, 2013:403). Quality of care has also been reported to be a global issue and an important criterion for evaluating performance regarding government programmes for well-being of the community (Haj, Lamrini and Rais, 2013:27). The literature indicates that quality improvement initiatives have become difficult even in developed countries, while in resource-poor countries it is even more demanding (Leatherman, Ferris, Berwick, Omaswa and Crisp, 2010:239; World Health Organization, 2006:3). The Health Foundation (2013:3) makes the point that improving the quality of care is concerned with initiating healthcare which is safe, effective, person-centred, timely, efficient and equitable. The Health Foundation (2012:7) notes also that the intention of quality improvement is to provide practitioners and managers with the skills and knowledge required to assess the performance of healthcare and people's needs in order to fill the gaps between current actions and best practice and have the tools and assurance to develop activities that can reduce the gaps.

Curtis, Wall, Angus, Bion, Kacmarek, Kane-Gill et al. (2006:213) state that quality improvement is a continuous journey rather than a discrete and time-limited project. To achieve continuous improvement, healthcare institutions should introduce quality improvement programmes that can offer trainings on the skills and knowledge needed to improve the quality of care delivered to their clients (which is a human right). A quality improvement programme is a recognised, valid and consistent process of assessing the quality of nursing in order to improve standards (Booyens, 2011:629). Huber (2010:526) argues that quality improvement programmes need to embrace the organisational plan to guarantee accountability of all personnel, incorporating evidence-based healthcare quality indicators to constantly improve

care provided to large numbers of people. According to Booyens (2011:597), quality improvement signifies that a formal programme to monitor, quantify and assess the quality of service provided is in process, while chances for improvement are recognised and a mechanism is provided remedial steps to maintain improvements and bring about change and transformation. Donabedian (2005:692) cautions that quality of care is not an easy concept to describe, noting further that three standards are involved –structure, process and outcome – in describing and measuring the quality of healthcare. According to Booyens (2011:251), quality improvement indicates the level of quality of healthcare service delivery. Quality of healthcare signifies the level to which health services for people escalate the possibility of the required health outcomes, and it should be consistent with present knowledge and skills, hence satisfying the anticipated health needs of the customers (World Health Organization, 2008b:75; Buttell, Hendler and Daley, 2007:62). Participation by patients, care givers and the public in quality improvements is crucial in planning for improvement and monitoring healthcare activities and the anticipate deffects, since they are the ones who are stakeholders in care and services delivery (Health Foundation, 2013:32).

1.2 Background

Improving and maintaining the quality of care in healthcare institutions is not easy and remains a continuous challenge (Beattie, Lauder, Atherton and Murphy, 2014:1), both as a global issue and as an important criterion in evaluating performance in government programmes for community well-being (Haj et al., 2013:27). Moreover, healthcare organisations have taken on the challenge in order to enhance the quality of care, including services provided to clients in fulfilling their needs (Haj et al., 2013:27). Nevertheless, quality improvement initiatives have become difficult even in developed countries, and more demanding still in resource-poor countries (Leatherman et al., 2010:239). There is evidence that quality continues to be an issue even in advanced and well-resourced nations due to differences in standards of healthcare delivery in and among the expected outcomes of different healthcare systems (World Health Organization, 2006:3). Patients' experiences in the quality of healthcare delivery can offer awareness to healthcare providers on how they can improve the quality of services (Beattie et al., 2014:1). Quality care is every person's responsibility, including that of the patient, the family, and the community (Booyens, 2011:595). On the other hand, quality improvement is influenced by the method in which services are planned and provided (Alexander, Weiner, Shortell, Baker and Becker, 2006:11). Patients' quality of care has been recognised as a key

element for improved healthcare outcomes and efficiency in the widely adopted World Health Organization (WHO) framework for health system strengthening in resource-poor countries (Leatherman et al., 2010:1).

Despite progressive use worldwide of modern methods of improving quality of care, their adoption is not frequent in developing nations (Leatherman et al., 2010:1). Healthcare professionals, healthcare managers, and support staff have a legal and ethical responsibility to deliver the best possible quality of health care (Booyens, 2011:595). Kovner, Brewer, Yingrengreung and Fairchild (2010:29) state that quality improvement skills are essential in recognising the gaps between present care and expected best practice and in designing, implementing, testing and evaluating changes. Quality improvement skills are imperative for nurses to participate effectively in quality improvement activities and be able to deliver quality healthcare which can lead to client satisfaction. Nevertheless, lack of adequate knowledge, concepts, and tools on the part of nurses may negatively affect quality of care delivery, since nurses are directly appointed to deliver healthcare service to patients (Kovner et al., 2010:29). Kovner et al. (2010:29) found that 38.6% (n=159) of new nurses believed that they were not well prepared for quality improvement, and some had not heard about it. Receiving healthcare services is becoming expensive. Output and quality of care are the main issues, but more emphasis is needed on improving the quality of care and reducing the high costs in healthcare service delivery (Booyens, 2011:595). Since individual health is a precious asset in life, the quality of healthcare delivery should be maximised and patients, including their families, should be involved in the health care delivery (Booyens, 2011:595).

Draper, Felland, Liebhaber and Melichar (2008:2-3) note that nurses are the largest group involved in the delivery of health care. In their study, nurses were identified as the heart and soul of the hospital and recognised as special people during patients' stay in the hospital. This is because they are always present to save patients' lives in case there is medication error, a patient falls, or a patient requires other types of assistance. This has led people to designate nurses as the eyes, ears, heart and soul of the hospital and as being at the same time in position to instil confidence in patients about their experiences and outcomes (Draper et al., 2008:3).

A supportive hospital culture or organisational culture has been reported to be an important aspect in improving quality of care, which is crucial to making important progress in quality improvement (Ababaneh, 2010:245; Hughes, 2008a:6). According to Huber (2010:82), organisational culture contributes to both quality and quantity of nursing care and patient

outcomes. Culture is the participatory approach of an organisation/institution whereby people share their values, opinions, beliefs, and ways of working together which influence how different individuals communicate with one another (Huber, 2010:81; Ababaneh, 2010:245). Organisational culture contributes in attaining goals and rendering suitable quality levels to customers, and it creates a pleasant and warm atmosphere which helps healthcare providers to become open, rational and authentic (Ababaneh, 2010:245-246). Organisational culture has the power to adjust attitudes, strengthen opinions, direct conduct and create performance expectations (Ababaneh, 2010:245). When there is a collaborative and supportive organisational culture, there is a shared understanding and ownership, thus improving the quality of care.

Strong leadership has been recognised as another important aspect in improving the quality of care (Curtis et al., 2006:211; World Health Organization, 2006:22). Strong leadership usually creates a common vision in that it influences all the workers by communicating and creating a shared understanding through role modelling. This helps everyone to work in a safe environment and be responsible, and accountable for all the services provided and for the safety and quality of healthcare services (Huber, 2010:86). When the leadership behaviour at the top improves it affects the behaviour of employees in a top-down effect, in that employees become inspired by their leaders as role models, thus improving the quality of care (Booyens, 2011:602). Successful quality improvement programmes necessitates interdisciplinary team work which allows nurses to deliver the right care and to ensure that patients will benefit from safe, quality care (Hughes, 2008a:6).

Effective communication and collaboration among healthcare workers has been associated with improved quality of care. Hudelson, Cléopas, Kolly, Chopard and Perneger (2008:33) argue that effective communication and collaboration among healthcare workers regarding their experiences with problems encountered, and ways of solving them, contributes to quality of care. On the other hand, individual knowledge and skills attained through training and supervision, together with incentives and personal motivation, were recognised to be vital to the delivery of quality of healthcare (Hudelson et al., 2008:33). Literature indicates that both nurses and doctors reported staffing insufficiencies and augmented administration responsibilities as being major problems, causing frustration and compromising the quality of healthcare delivery (Hudelson et al., 2008:34).

Although the literature indicates that quality improvement initiatives have become difficult even in developed countries, and more difficult still in resource-poor countries (Leatherman et al., 2010:239; World Health Organization, 2006:3), in recent years there has been progress in the area of quality improvement, particularly in African countries. In South Africa initiatives to improve quality of care in the health sector over the past two decades have shown positive results, notably in the establishment of the Council for Health Service Accreditation of Southern Africa, charged with setting standards of healthcare for hospitals and later also for primary health care (Whittaker, Shaw, Spieker and Linegar, 2011:61). The accreditation process, and deficiencies identified in certification, have led the National Department of Health to use information obtained from patients' complaints in planning based on patients' needs and the provisions of the South African Constitution (Whittaker et al., 2011:63).

Measures and initiatives driving the government endeavour to improve quality of care in South Africa include the Batho Pele principles, the Patients' Rights Charter, and the National Core Standards (NCS). The Batho Pele (people first) principles were aimed at guiding government institutions to offer effective client-centred services (Public Service Commission, 2008:18). Priority areas for immediate improvement were identified which included values and attitudes of staff that support respectful treatment of patients and their right to privacy and choice, and reduction of waiting times and queues for administration. Additional issues of concern were assessment, diagnosis, pharmacy, surgery, referral and transfer time, cleanliness of the hospital, equipment and staff, keeping patients safe and providing reliable care. Steps to improve reliability of care were reduction of adverse events resulting from care given, prevention of nosocomial infection, ensuring availability of medicine, supplies and equipment, and making sure that patients get their prescribed treatment on the same day (Whittaker et al., 2011:63). The Patients' Rights Charter was designed to inform patients about their rights and responsibilities so that they can assert their rights to good quality healthcare. Patients' rights include a healthy and safe environment, involvement in healthcare decision making, access to healthcare, choice of healthcare services, being treated by a named healthcare provider, confidentiality and privacy, informed consent, right to refuse treatment, continuity of care, freedom to complain about poor quality of healthcare (People's Health Movement South Africa, n.d). The Patients' Rights Charter also lists the responsibilities of the patients themselves in securing quality healthcare services. They include the following: taking care of their health; respecting the rights of other patients and of healthcare professionals; taking care of their hospital cards; providing relevant information to facilitate diagnosis, treatment,

rehabilitation and counselling; complying with the prescribed treatment; and getting information about local health services (People's Health Movement South Africa, n.d). Furthermore, national core standards were established to detect unsatisfactorily low levels of standards compliance in order to eradicate poor quality, unsafe and unacceptable practices (Whittaker et al., 2011:66). These standards indicate what is anticipated and needed in order to offer decent, safe, quality care; they are grounded in the current policy environment and designed to fit South Africa's healthcare environment and reflect international evidence-based best practices. In addition, they indicate ways in which all South African health institutions can offer quality care and undergo evaluation to identify and assess gaps and strengths as a basis for national certification of public hospitals (Whittaker et al., 2011:62).

In Rwanda, guided by its Vision 2020, government has made significant progress in the field of health, especially in providing accessible quality care and services to all Rwandan citizens. The year 2000 was a starting point for improvement of health of the Rwandan community, with remarkable improvement having been seen from 2005 onwards (Drobac, Basinga, Condo, Farmer, Finnegan, Hamon et al., 2013:1). Quality improvement interventions that have been introduced in healthcare institutions include explanation of client-care norms in healthcare and a focus on changing attitudes of healthcare professionals at all levels of the hospitals to enhance the quality of care that they provide (International Health Partnership and Related Initiatives, 2011:43). Additional measures, such as reducing waiting times and improving outcomes through better diagnosis and treatment, highlight the necessity for constructive attitudes towards clients. There has also been a focus on getting clients to adhere to treatment, establishing committees for quality improvement, and providing suggestion boxes to get views of both clients and healthcare professionals (International Health Partnership and Related Initiatives, 2011:43). Accreditation programmes to improve quality of care have been introduced in hospitals throughout the country by the Rwandan, Ministry of Health in partnership with other stakeholders (Rwanda Ministry of Health, 2012:74). Motivation and retention of healthcare workers also has a crucial impact on the delivery of quality care in the context of Rwanda, and in this regard the Rwandan Ministry of Health has introduced performance-based financing (PBF) (Rwanda Ministry of Health, 2012:59) characterised by the ministry as health financing approach that shifts attention from inputs to outputs and eventually outcomes in health services. The Rwandan national PBF scheme provides bonus payments to government and faith-based primary care facilities based on the provision of

various types of services and the quality of those services (Rwanda Ministry of Health, 2011c:26).

To achieve the intended outcomes, individual employee evaluation forms have been compiled to evaluate the performance of employees. Although there have been significant improvements in accessibility and affordability of healthcare services, there are still some challenges that were identified. For example, an integrated Household Living Conditions Survey (EICV) done in 2010 found that approximately 23 per cent of the population live more than five kilometres from the nearest health facility. Whereas the requirement is that health institutions should be within one hour's reach for the average population, the Rwanda Ministry of Health (2011b:1) indicates that 40 per cent of the population have to walk for more than one hour to reach the nearest healthcare facility. Reported walking distances of more than five kilometres constitute a significant accessibility gap for quality healthcare delivery (Logie et al., 2008:256).

Another important challenge in the healthcare sector in Rwanda concerns referral hospitals, including the selected hospital, where the demand is high due to the fact that all referrals from 42 district hospitals have to be catered for by these referral hospitals. Moreover, the referral hospitals do not have sufficient resources, in personnel or infrastructure, to respond to these demands (Rwanda Ministry of Health, 2012:86). In addition, the health support system has been expanded from time to time without expanding the infrastructure, and diagnostic and standardised medical equipment are also issues of concern (Rwanda Ministry of Health, 2012:66-67). Delivery of quality healthcare in Rwanda, as in other resource-constrained countries in sub-Saharan Africa, is affected by shortage of medical personnel, medical supplies, and equipment, and quality of care in rural health centres in Rwanda is also hampered by the knowledge and skills levels of individual nurses (Manzi, Hema, Redditt, Karamaga, Niyonzima, Drobac et al., 2013:137-142). Remote populations, along with disadvantaged communities, face both topographical and financial difficulties in accessing healthcare services (Rwanda Ministry of Health, 2014a:5). A study by Drobac, Basinga, Condo, Farmer, Finnegan, Hamon et al. (2013:1) showed that in terms of vital health outcomes rural parts of the country have remained behind in the improvement in healthcare service delivery compared to urban areas. Instability and turnover of employees, mainly in remote areas, are other challenges that the health sector in Rwanda is facing; this is because many healthcare personnel want to work in urban areas rather than in rural areas, on the assumption that they will have more opportunities for career development and be able to earn more in urban areas than if they remain in remote areas. Although performance-based financing was put in place to motivate healthcare

workers, the system is not applied consistently or used as a tool for supervisors to manage individual employee performance (Rwanda Ministry of Health, 2011c:26).

Lack of infrastructure and standardised medical equipment are other issues of concern which negatively affect process and outcome standards (Rwanda Ministry of Health, 2012:66-67). Huber (2010:531) stresses the need for all healthcare standards to be met for quality of health care to be rendered to customers. All three care quality standards must be maintained for delivery of care that is safe, timely, efficient, effective, and patient-centred. In addition regular surveys are needed to take account of public attitudes; weak quality assurance gives rise to common problems such as shortfalls in human resource and infrastructure that fail to meet the norms of healthcare delivery (International Health Partnership and Related Initiatives, 2011:43). Government in Rwanda has an obligation to ensure that, in collaboration with the Rwandan community, its citizens receive healthcare services which are equitably accessible, effective and efficient (Rwanda Ministry of Health, 2011b:2). A study by Manzi, Magge, Gauttier, Michaelis, Cyamatale, Nyirazinyoye et al. (2014:1) found that there was an important advantage for clinical performance and outcomes in programmes providing mentorship and improved supervision at healthcare centres in rural districts.

Despite the challenges the country faces in quality improvement, there has been progress since the 1994 Tutsi genocide that in one hundred days killed one million people, including healthcare professionals. Since 1994, shattered infrastructure has been restored and social norms have been re-established, and the country is now determined to develop a strategy to transform the nation from a low-income and agriculture-built economy to a knowledge-based service economy by the year 2020 (National Institute of Statistics of Rwanda, 2009:1). The Ministry of Health (2012:86) notes that the aim of the Rwandan government regarding tertiary healthcare is to deliver high-quality specialised care in all medical fields to respond to national requirements and in some circumstances also to those of bordering nations. “Improvement of the accessibility, affordability of health services and the quality of care were the key goals of the health sector strategic plan 2005-2009 which is embedded within the broad framework of the Economic Development and Poverty Reduction Strategy [EDPRS]”(Logie, Rowson and Ndagije, 2008:256). Government health policy, guided by Vision 2020, is committed to solving problems of shortage of specialised health providers and improving the quality of healthcare (Republic of Rwanda, 2012b:12). In addition, policy will continue to target the poorest member of the population in improving healthcare quality and geographical and financial accessibility of healthcare (Republic of Rwanda, 2012b:12).

In the context of the selected tertiary hospital, high quality healthcare service delivery is the ultimate goal, operating in a milieu of vertical and horizontal collaboration in the interest of its patients (RMH, 2012:2). Furthermore, the selected hospital has an obligation to advocate for and pursue the promotion of hospital services nationally, regionally and internationally (RMH, 2012:2). The target for the selected tertiary healthcare facility in 2011–2012 was to deliver high quality of care in a safe environment that ensures patient-centred service delivery and to attain accreditation status as a referral healthcare institution (RMH, 2012:7). In 2011, the selected healthcare facility, in partnership with the Ministry of Health, introduced a formal quality improvement programme and a quality improvement department was created to design and supervise the implementation of the quality programmes with the intention of preparing the healthcare facility to participate in a formal accreditation programme (RMH, 2012:7). There is a quality improvement committee with six members. The structure of the committee is crucial for the success of quality improvement programme (Booyens, 2011:630). Booyens (2011:639) emphasises that the staff should have constructive attitudes regarding formal quality improvement and acknowledge successes while avoiding errors and looking for ways to improve when necessary. The six members of the quality improvement programme committee are as follows: two doctors (one heading internal medicine and one working as division manager of both the quality improvement and the risk management departments), the director of the quality improvement department, member from the support staff in the department of finance and accountancy, one from the radiology department, and one committee member drawn from the 250 nurses working at the hospital. Booyens (2011:330) makes the point that it is crucial for everyone to participate in quality improvement, taking into account clinical and non-clinical experts of all categories. Furthermore, it is essential to make sure that all nursing units are represented on the planning committee, and larger units should have more representatives than smaller units. At the selected hospital, Nurses are under represented even though they are the majority of the hospital staff.

Following the introduction of the quality improvement program in June 2011 certain achievements were recognised: senior staff underwent training in the basic principles and fundamentals of quality assurance in healthcare and customer care, as well as other necessary training to reinforce understanding of improvement in the quality of healthcare services (RMH, 2012:7). In addition, a continuous learning and development process was introduced to encourage and facilitate staff in focused development of their potential in delivering a national and regional class service according to institutional objectives (RMH, 2012:9). Among other

achievements, the quality assurance department introduced software which has enhanced customer care service delivery (RMH, 2012:11). In personal conversation with Basinga on 29 September 2015 about quality improvement initiatives, it was confirmed that accessibility and quality of care have been improved at the tertiary healthcare facility by establishing distribution pharmacies in every department to reduce waiting times for patients getting medicines (Basinga, 2015). Waiting times have also been reduced by the establishment of a laboratory unit in the outpatient department to collect blood samples from patients without requiring them go to the main laboratory as was previously the case.

Challenges nonetheless persist at the selected hospital that hinder doctors, nurses, paramedics and healthcare managers in the provision of clinical and administrative services, and inadequacies remain in relation to hospital infrastructure and medical equipment (RMH, 2012:14). Although the quality improvement programme is in place and although employees have undertaken various in-service training programmes, the hospital still does not have specific guidelines for quality improvement. These are challenges that might hinder continuous quality improvement and a gap exists in the three classic quality-of-care components (structure, process and outcome standards) which are described in detail in the conceptual framework (Section 1.9). Huber (2010:531) notes that the three classic quality of care standards introduced by Donabedian in 1980 are a prerequisite for delivery of quality care in any healthcare setting.

In response to these quality improvement challenges, this study undertook to analyse quality improvement by nurses at the selected tertiary healthcare facility in Rwanda.

1.3 Problem statement

Quality improvement is an important approach in enhancing quality of care in the milieu of healthcare institutions (Bakerjian and Zisberg, 2013:403). A number of challenges have been reported as hampering quality improvement in hospitals, mainly relating to shortage of nurses (Al-Qahtani and Messahel, 2013:104; Hughes, 2008a:6). The literature shows that shortage of nurses negatively affects their role in healthcare delivery and other important activities like quality improvement, compromising patients' recovery (Al-Qahtani and Messahel, 2013:104). Among the issues noted are inadequate training of the nursing workforce in quality improvement (Kovner et al., 2010:29), poor motivation of nurses to learn innovative techniques and new care approaches (Oshvandi, Zamanzadeh, Ahmadi, Fathi-Azar, Anthony and Harris, 2008:430), instability and nursing turnover (Hayes, O'Brien-Pallas, Duffield, Shamian,

Buchan, Hughes et al., 2012:887), lack of infrastructure (Ouko, 2012:ix, 18), and inadequate medical equipment and standardised procedures to providing service efficiently (Ouko, 2012:viii).

Rwanda, like any other developing country, is facing challenges regarding shortage of healthcare providers such as nurses, doctors, paramedic and healthcare managers (RMH, 2012:14). In 2013, there was one doctor in Rwanda per 16,046 inhabitants; one midwife per 18, 790 inhabitants, and one nurse per 1,227 inhabitants, which indicate a low ratio of healthcare professionals to the population which they serve (Rwanda Ministry of Health, 2014: 9). In addition there is inadequate hospital infrastructure and medical equipment (RMH, 2012:14). Manzi, Hema, Redditt, Karamaga, Niyonzima, Drobac et al. (2013:137,142) found that quality of care in rural health centres in Rwanda is hampered by the knowledge and skills levels of individual nurses. In Rwanda, the majority of nurses are enrolled nurses (A2) who are trained at secondary school level, have a diploma level education and are well distributed in the country, while registered nurses with an advanced diploma represent less than ten per cent of nursing workforce (Rwanda Ministry of Health, 2011b:13). Enrolled nurses have been trained in content-based curricula and have little knowledge regarding quality improvement.

Health Rwanda (2012) points out that the shortage of nurses in Rwandan rural health centres has negatively affected the quality of care delivery despite empowerment through career advancement. Emphasis has been put on policies concerning the dominant infectious diseases such as HIV/AIDS, malaria, TB and other infectious diseases. It is now time to deal with changes in epidemiology, infrastructure, human resources for health, service delivery and new policy development (Rwanda Ministry of Health, 2014a:iii). Apart from the above-mentioned findings no recorded study has been carried out to analyse quality improvement by nurses of the selected hospital. Therefore, this study analysed quality improvement by nurses at a selected tertiary healthcare facility in Rwanda.

1.4 Purpose of the study

The purpose of this study was to analyse quality improvement by nurses in order to develop guidelines on effective quality practices for nurses at a selected tertiary healthcare facility in Rwanda.

1.5 Research objectives

1. To conduct an audit of quality improvement activities by nurses at a selected tertiary healthcare facility in Rwanda.
2. To analyse the factors associated with quality improvement by nurses at the selected tertiary healthcare facility in Rwanda.
3. To analyse patient satisfaction with the quality of care received at a selected tertiary healthcare facility in Rwanda**.**
4. To develop quality improvement guidelines for nurses at the selected tertiary healthcare facility in Rwanda to improve the quality of care.

1.6 Research questions

1. What quality improvement activities are carried out by nurses at a selected tertiary healthcare facility in Rwanda?
2. What are the factors associated with quality improvement by nurses at the tertiary healthcare facility in Rwanda?
3. How satisfied are the patients with the quality of care received at a selected tertiary healthcare facility in Rwanda?
4. What activities, actions, timeframe and outcomes should be considered in the quality improvement guidelines for nurses at the selected tertiary healthcare facility in Rwanda?

1.7 Significance of the study

This study is significant as it provides current information related to quality improvement at the selected tertiary healthcare facility in the areas of the study. Knowing the current status in quality improvement is important in healthcare systems, nursing practice and administration, nursing education, and nursing research.

Healthcare system: The findings and the guidelines developed from this study could help to provide standardised packages of services at each level of health service provision. The guidelines would assist in equitably increasing access to quality and effective healthcare service for all the Rwandan population. Furthermore, the developed guidelines will support public health policies, enhance the quality of nursing care delivery, augment the involvement of nurses in shaping the health system, and enhance decision making that impact on both nurses and the people whom they care for. The developed guidelines will also help the healthcare system to put effort into patient/client care and improved quality of care using evidence-based practice. In addition, the findings in this study will inform the policy makers and implementers

in the health sector about the importance of developing standardised packages of services at all levels, and in particular at tertiary level. In view of the shortage of qualified nursing workforce in Rwanda, which impacts negatively on quality improvement and patient satisfaction, the findings in this study could be used in fundraising to recruit and retain nursing workforce and provide incentives to all those who are involved in daily patient care. Furthermore, it will assist the health system to introduce ongoing in-service training to enhance the knowledge and skills of nurses, thereby improving quality of care.

Nursing practice: The findings from this study could inform administrators and enable them to understand the situation in which nurses function while providing care to patients, which could positively impact on quality improvement. Deeper understanding of the role nurses play in quality improvement and the problems which they encounter during the process can create greater awareness of ways in which the health institution can provide resources to improve the quality of care (Draper et al., 2008:1). This study will inform health practitioners about the importance of improving quality of care by providing care and services that are evidence-based and consumer-centred. Evidence-based practice in nursing is part of quality improvement; its purpose is to enhance the quality of client care and it also involves critical review of all clinical techniques to see if they are appropriate (Booyens, 2010:286-287). The quality improvement guidelines for nurses developed in this study will lead to improvement of healthcare services delivered by nurses and more adequate response to patients' needs.

Nursing education: The findings from this study could be used by teaching institutions to upgrade nursing curricula and include concepts relating to quality improvement. Training students and health professionals in quality improvement will increase knowledge, skills and attitudes and enable improved delivery of care. Furthermore, the findings and guidelines developed could be used to design, implement and evaluate in-service training in line with quality improvement.

Nursing research: The findings and guidelines developed from this study can help researchers to introduce further inquiries regarding quality improvement. Furthermore, analysing the current status of quality improvement at the selected healthcare facility can assist in conducting similar studies in other health settings. As no documented study could be found which analyses quality improvement by nurses at tertiary healthcare facilities in Rwanda, the findings will contribute towards improvement of quality of health services rendered by nurses, and at the same time assist in reviewing standards, policies, and practices relating to improved quality of

nursing care and associated patient/client satisfaction. Furthermore, the findings add to the existing body of knowledge on quality improvement in the nursing profession.

1.8 Definition of key terms

Quality

The WHO (1983) defines quality as having several dimensions: appropriateness, equity, accessibility, effectiveness, acceptability and efficiency. Quality implies a fair share for all members of society free from any discrimination (Booyens, 2011:596-597)**.** In this study, quality refers to the characteristics or features associated with excellence, and these characteristics form the criteria for evaluating the quality of a specific service and the characteristics associated with excellence (Booyens, 2011:596).

Quality improvement

Batalden and Davidoff (2007:2) define *quality improvement* "as a combined and unceasing effort of everyone healthcare professionals, patients and their families, researchers, payer, planners and educators to make changes that will lead to better patients outcomes (health), better system performance (care), and better professional development (learning)". In this study, quality improvement refers to a formal process of setting standards, monitoring and evaluating performance against those standards while taking remedial actions to maintain the standards, improving the existing performance and output and facilitate change by means of capacity building (Booyens, 2011:606). In this study, quality improvement is defined as actions undertaken by the whole institution in order to enhance the effectiveness and efficiency of activities and processes so that the healthcare facility and the clients can get additional benefits (World Health Organization, 1999:107).

Standards

According to Booyens (2011:606), *standards* are written explanations of preferred level of performance, comprising the features related with quality for assessing and appraising the real performance or service provision. Booyens (2010:266) defines healthcare standards as explanations of preferred level of acting in evaluating the quality of healthcare. The National Department of Health (2011:9) defines *standard* as "[the] statement of an expected level of quality delivery that reflects the ideal performance level of a health establishment in providing quality care". In this study, standards refer to statements which define the necessary activities,

practices and structures for units/departments within a healthcare institution to be able to offer optimal services (Whittaker et al., 2011:60).

Nurse

The International Council of Nurses (2015a) defines *nurse* as "a person who has completed a programme of basic, generalised nursing education and is authorised by the appropriate regulatory authority to practice in his/her country."

In this study, *nurse* refers to a person who has pursued, and passed exams successfully completing, educational courses prepared and organised by the relevant organ in collaboration with the National Council as defined by the Rwandan National Council for Nurses and Midwives (2008:9).

Patient/client

According to the WHO (2012), *patient/client* is defined as an individual who receives healthcare services. The WHO definition is the definition of patient/client adopted in this study.

Patient satisfaction

Lochoro (2004:243) defines *patient satisfaction* as "an expression of the gap between the expected and perceived characteristics of a service" In this study, patient satisfaction is the extent to which patient expectations are achieved and at the same time is considered to be a real measure of clinical service delivery (Sajid, Ali, Rashid and Raza, n.d).

Tertiary healthcare facility

A *tertiary healthcare facility* is a teaching healthcare institution which offers specialised medical services including complicated curative interventions with a full range of medical and paramedical specialists for 24 hours a week (Whittaker et al., 2011:65). Cullinan (2006:17) defines a tertiary healthcare facility as a hospital which delivers specialised clinical services and innovations as well as conducting research. In this study, a tertiary healthcare facility refers to a teaching hospital which provides specialised referral services and university teaching services as defined by the Rwanda Ministry of Health (2011d:7).

1.9 Conceptual framework

The conceptual framework is an organised set of concepts gathered together in a rational system by virtue of their relevance to a common theme (Polit and Beck, 2008:749). This study

uses a conceptual framework adapted from Donabedian (1980) which is widely used by professional nurses to assess standards of quality. Donabedian's standards of structure, process and outcome offers an important ideal that directs designing, organising and assessment of healthcare innovation (Gardner, and and O'Connell, 2013:20). The healthcare standards and measures are grouped in three categories: structure standard, process standard and outcome standard (Huber, 2010:531). Figure 1 below explains the three (3) standards; structure standard, process standard and outcome standard as shown in the conceptual framework adapted from Donabedian (1980).

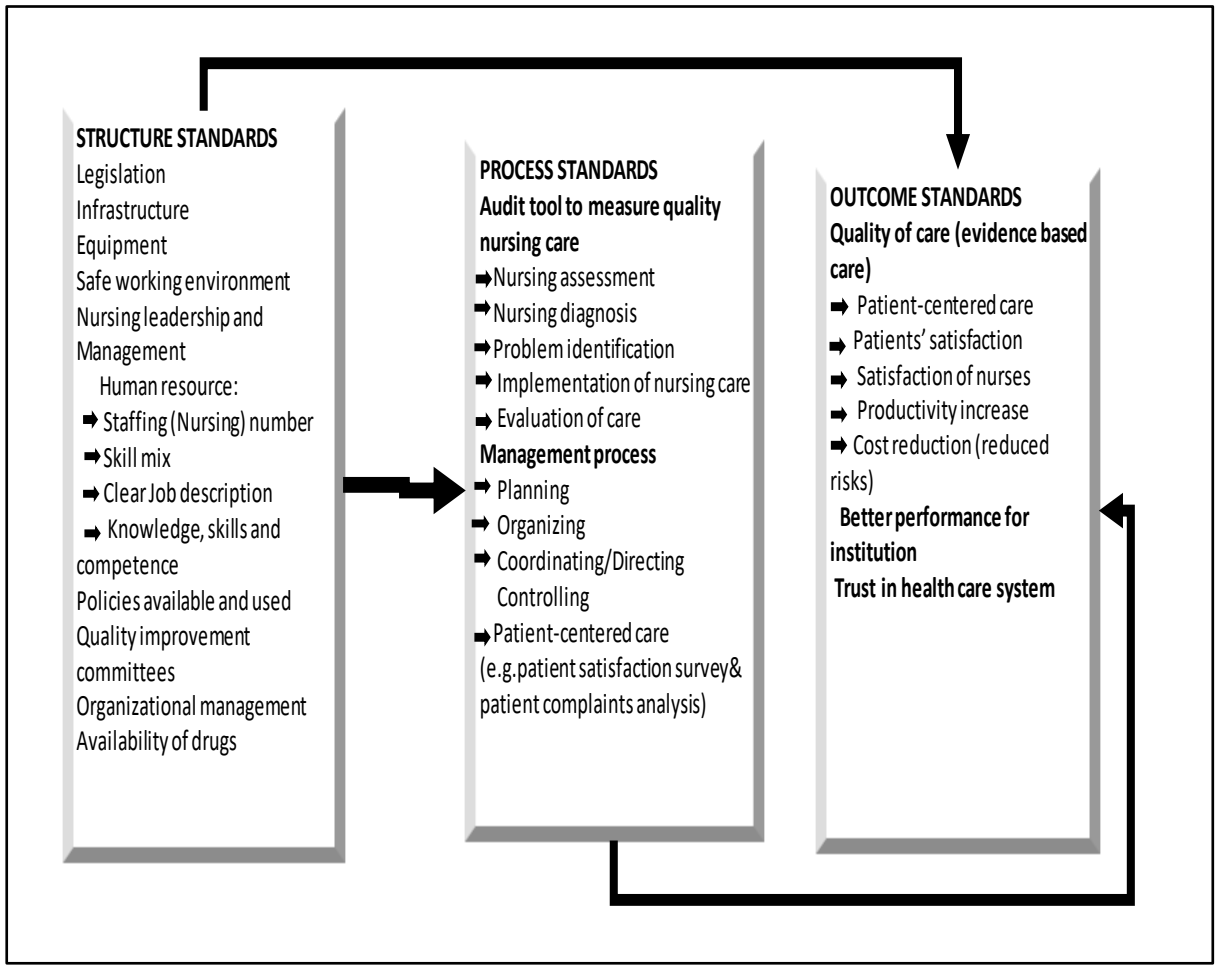

Figure 1.1 Conceptual Framework adapted from Donabedian (1980).

Structure standard: For the purpose of this study, structure standard includes legislation, physical infrastructure, equipment, safe working environment, organisational management, nursing leadership and management, availability of policies, quality improvement committee, organisational management, and availability of drugs. Structure denotes the location in which care is provided and it includes sufficient facilities and equipment, qualifications and allocation of healthcare providers required to deliver healthcare, the administration structure and the

functioning of the programmes (Donabedian, 1980:81). Kelley, Brandon and Docherty (2011:155) and (Haj et al., 2013:20) note that structure standard is related to the setting of the institution where care is provided and includes the employees, facilities and the equipment. According to Donabedian (1988:81-82), a suitable structure escalates the possibility of achieving a desired process, while good process can also augment the desired outcome. Evaluating the structure standard is an indirect means of evaluating the quality of care, and structure is linked to quality because it can either enhance or lessen the possibility of achieving good performance (Donabedian, 1980). Structure is crucial in the planning, designing and execution of systems which are proposed to offer individual healthcare services, and good structure, with sufficient resources and suitable system design, is significant in protecting and improving the quality of care (Donabedian, 1980:82).

Process standard: For the purpose of this study, process standard is an audit tool to measure quality of nursing care that covers nursing assessment, nursing diagnosis**,** problem identification**,** implementation of nursing care **a**nd evaluation of care. Management process includes planning, organising, coordinating/directing**,** controlling of patient-centred care (e.g. by means of patient satisfaction surveys and patient complaints analysis). Process standard is connected with activities which nurses perform to render care (Kelley et al., 2011:155). Donabedian (2003:46) states that process standard encompasses healthcare activities such as diagnosis, treatment, rehabilitation, prevention and client education – which is usually conducted by healthcare providers, involving both clients and their families. Process observes how care can be provided in terms of appropriateness, acceptability, and completeness/competency (Donabedian, 2005).

Outcome standard: For the purpose of this study, outcome standard includes quality of care, patient-centred care, patient satisfaction, satisfaction of healthcare providers, increase in productivity, cost reduction, better performance for the institution, and trust in the healthcare system. Donabedian (2005) points out that outcome standard signifies the end point of care: for example, recovery, improvement in function, or survival. Kelley et al. (2011:155) argue that outcome in Donabedian's 1980 framework signifies achieving the best quality status of a single client or category of clients who receive care.

1.10 Outline of this dissertation

This dissertation is organised into the following six chapters:

Chapter One, presents an introduction and the background to the study, the research problem, purpose of the study, research objectives, and research questions. It outlines the significance of the study, gives definitions of key terms, presents the conceptual framework, and gives an overview of the study and conclusion.

Chapter Two, reviews the related literature, which involves identification, location and analysis of documents or materials contained information related to the research problem. These are organised into topics which ware presented as subheadings.

Chapter Three focuses on the methodology, outlining the research methods, the study population and the instruments which were used to collect data. The chapter also describes the process of data collection and outlines the methods used for data analysis (Page 81-88), and the use of nominal group in guidelines development (page 81-83).

Chapter Four presents the results of analysis, which were triangulated through the use of thematic content analysis.

Chapter Five presents discussion of the findings, recommendation, conclusion and limitations of the study.

Chapter Six presents quality improvement guidelines for nurses on improving the quality of nursing care delivery (page 166-182).

1.11 Conclusion

This chapter indicated the background to quality improvement in healthcare services, the problem statement relating to this phenomenon, the research objectives, the research questions, the significance of the study, and definition of key terms, and sets out and discusses the conceptual framework.

The next chapter explores the literature with reference to analysis of quality of care improvement in healthcare services

Chapter 2
Literature Review

2.1 Introduction

Literature review helps the researcher to decide if a topic can be researched and offers awareness through which a researcher may limit the scope to a required area of investigation (Creswell, 2014:25). Through the literature review a researcher is able to share the results of other studies which are connected to the study being conducted; it provides a blueprint to establish the significance of the study and a standard for comparing the outcomes with other findings (Creswell, 2014:27-28). A literature review involves the identification and location of information on a particular topic or topics (Babbie, 2009; Cronin, Ryan and Coughlan, 2008). Prytherch (2000) states that a literature review is a survey of progress in a particular aspect of a subject over a given period, and may range from a bibliographical index or a list of references, to a general critical review of original publications. In this literature review, the theme that directed the search of information is the analysis of quality improvement by nurses at a selected tertiary healthcare facility in Rwanda**.** Information was gathered on the following topics: ideas supporting quality improvement, factors associated with the quality of care, and patient satisfaction with quality of care delivery in healthcare facilities. The data base search included: Google Scholar, EBSCO, PubMed, MEDLINE (Medical Literature Online), Academic Search Premier, Nexus, CINAHL (Cumulative Index to Nursing and Allied Health Literature), and ERIC.

Keywords: quality improvement, quality of care, standards of care, patient satisfaction.

2.2 A brief history of quality improvement

Quality improvement in healthcare has its origin in the work of an American statistician and consultant called Deming. There is an assumption that the life Deming led when he was still a young boy motivated him to develop a prudent character and attitude regarding productivity as well as quality improvement and his campaign against waste and practices that did not contribute to value (Best, 2005:310). After the Second World War, Deming was approached for assistance by Japanese leaders and he developed fourteen principles to help management and staff to realise and be committed to quality. These fourteen principles helped the Japanese

industries after the Second World War to improve the quality of their production. Through this, the Japanese products changed from association with low quality to association with optimal quality and they dominated the world markets (Booyens, 2011:600; Booyens, 2010:252; Best, 2005:310). Deming realised that these established management principles can cause high-quality service to become part of life and believed that the fourteen principles of management can be successfully applied in hospitals and other healthcare services. In addition, Deming introduced a "Plan, Do, Study and Act" (PDSA) cycle of quality improvement which is an arrangement in four repetitive phases (Visnjic, Kovic and Jovic, 2012). The PDSA cycle commences by identifying the nature and scope of the issue, changes that can be done, a strategy for particular amendment, people that can be included, things that can be assessed in order to comprehend the effect of change, and identifying where a plan can be fixed (Hughes, 2008a:5). This cycle when applied efficiently can minimise waste and enhance the quality of healthcare delivery. Scoville and Little (2014:11) argue that the PDSA cycle deals with improvement and the extent to which change can improve performance, revising the change or process or omitting the change depending on the data obtained. Booyens (2011:600-601) emphasises that health services should shift from quality assurance to quality improvement. Deming discouraged the culture of blame and supported the culture of looking for ways of improvement where he thought that leadership can play a great role in minimising errors that occur in healthcare system. When Deming was admitted to a hospital he detected that the healthcare system had errors where there were inequalities in healthcare service delivery, but he never blamed the people working there; instead he emphasised the importance of leadership, which was lacking, to minimise undesirable differences in care (Best, 2005:11). Further, Deming believed that 80–85 per cent of quality errors in care were due to lack of commitment by management. Nevertheless quality improvement needs to encompass a variety of activities carried out in health institutions to improve procedures, and instead of blaming workers they need to be given guidance on what do be done in rendering quality (Ababaneh, 2010:247).

In nursing practice, improving the quality of care began when Florence Nightingale affirmed that unhealthy situations were the principal source of death of military people in army health facilities (Chassin and Loeb, 2011:559; Montalvo, 2007). Nightingale then established the practices of hand washing, frequent cleaning of surgical equipment, frequent changing of bed linen and ensuring that all wards were clean (Chassin and O'Kane, n.d:3). She encouraged good nutrition and fresh air. These practices reduced the mortality rate from 60 per cent to one per cent among injured soldiers during the Crimean war in 1854. American Sentinel

University – Healthcare (2011) argues that Nightingale enhanced hospital environments and evaluated patient outcomes. Booyens (2011:251) uses the term quality improvement to indicate the level of quality of healthcare service delivery, as it is not possible all the time to guarantee exact levels of the quality of healthcare service delivery. On the other hand Donabedian (2005:692) states that quality of care is not an easy concept to describe and uses three standards (structure, process and outcome) to describe and measure the quality of healthcare. Literature reveals that quality improvement is a continuous approach and part of daily business and emphasises that every person at work must be accountable for quality improvement; if employees are not empowered the outcome cannot be satisfactory (Health Foundation, 2013:17). The quality of care should be seen as an asset of the system rather than of a specific healthcare worker (Izumi, 2012:261).

Quality improvement after the Second World War spread in different parts of the world. In the United States enhancing quality extended to every aspect of healthcare in the 1990s, when the Institute for Healthcare Improvement (a principal innovator in healthcare improvement globally) took the lead in promoting and translating industrial quality improvement approaches for healthcare professionals (Scoville and Little, 2014:5). The Institute of Medicine contributed to improving the quality of healthcare delivery through studies which revealed that a number of healthcare services in America were inadequate, and the findings of these studies helped the healthcare finance administration to introduce several quality improvement initiatives during the early 1990s (Chassin and O'Kane, n.d:5). The two reports of the Institute of Medicine published in 1999 and 2001finally focused national attention on the need to critically improve the quality of healthcare, and from that time both healthcare institutions and providers began adopting ways to improve their practices.

In the United Kingdom various governments have followed policies to improve the quality of healthcare in the National Health System (NHS). In some cases these policies came about in answer to published evidence of failure in patient care in some parts of the country due to performance gaps relating particularly to waiting times, and which indicated that the United Kingdom had fallen behind compared to other countries despite the fact that the national system could do much to enhance the quality of care and safety of patients (Ham, Berwick and Dixon, 2016:5). In the period from 1997 to 2000, the focus in improvement in the quality of care and patient safety in the United Kingdom led to measures which included the following: creation of the National Institute for Healthcare (NICE) to formulate guidelines and standards of care and promote their execution; establishment of a series of supervisors and appraisers to visit

healthcare professionals and report on their performance; introduction of systems of clinical governance supported by acceptable obligation of quality to make the leaders of NHS organisations responsible for the quality of care they offer; utilisation of performance assessment frameworks to monitor performance of the chosen aspects of quality; utilisation of financial incentives to motivate quality of care and outcomes, and reinforcement of professional rules, including the formation of a council for healthcare regulatory excellence (Ham et al.).

The concept of quality improvement also extended beyond America and Europe to other parts of the world. In Africa this included countries in the East Africa Community such as the Republic of Uganda. As of 2005, there was a fundamental switch to quality improvement as a recognisable process for sustainability of performance improvement as well as effective and efficient use of resources at service-delivery level (Uganda Mininstry of Health, 2011:5). Quality improvement initiatives in Uganda were given added momentum from lessons learnt in a quality of care assessment study in 2009, a quality improvement situational analysis in 2010, and a quality improvement stakeholders conference which took place in Kampala in 2011; in addition, quality improvement has been developed in connection with the Second National Health Policy and Health Sector Strategic Plan and Investment Plan 2010/11 (Uganda Mininstry of Health, 2011:iv). These initiatives were adopted to make sure that there is delivery of high-quality healthcare services and to support the achievement of good quality of life and welfare at all levels of healthcare.

The literature reveals that quality improvement in health institutions plays an important role in minimising mistakes and preventing harm to patients, raising awareness of the need for healthcare institutions to introduce quality programmes (Da Costa, Greco, Bohomo, Arreguy-Sena and Andrade, 2014:211). Quality improvement is a continuous process that may lead to excellence (Da Costa et al., 2014:211).

2.3 The concept of quality care in health institutions

Without a good understanding of what constitutes quality of healthcare it will not be easy to plan activities and measures to improve outcomes (World Health Organization, 2006:9). It has been suggested that serious mistakes may occur when institutions try to achieve quality without adequate knowledge of the needs and expectations of clients (Atinga, Abekah-Nkrumah and Kwame, 2011:549). According to Donabedian (2005:692), quality of care is not an easy

concept to describe and can be almost whatever anyone requires it to be; it can also be a normal consideration of values and goals present in medical care system. Furthermore, Donabedian argues that no assurances or promise scan be given for quality care other than seeking to enhance the likelihood that the healthcare provided will be appropriate or improved (Brock, 2006:10). For quality to be successfully achieved, individuals and groups in an institution must perfectly comprehend how their roles and accountabilities are associated with quality improvement (U.S. Department of Health and Human Services, 2011:8).

Every employee has a role to play in ensuring that quality improvement objectives established by the institution are achieved, and each individual's contribution is equally significant in quality improvement (U.S. Department of Health and Human Services, 2011:8). Padma et al. (2009:81) make the point that quality implies satisfying clients' needs and that it is important for healthcare institutions to recognise the clients' requirements as this can indicate the starting point for initiating quality by the healthcare professionals. It is a prerequisite that healthcare institutions understand the clients' needs in order to meet them; this in turn can lead clients to convey the good news concerning the quality of service delivery, which would encourage their families and friends to seek healthcare service from that specific health institution. Such recommendations play a crucial role in clients' acquisition choice, and the satisfied clients also continue to be reliable and keen to pay for other improved services (Padma, Rajendran and Sai, 2009:81).

Quality of care which considers clients' expectations are crucial, since services of inadequate quality may cause clients to stop seeking services and make the health institution less competitive (Atinga et al., 2011:550). It is also crucial for a healthcare facility to consider an accreditation process after reaching a necessary level of excellence and safety as guarantee for clients, stakeholders, and managers of incentive and capability on the part of healthcare professionals to progressively improve performance (Whittaker et al., 2011:65). Quality of care should be seen as an asset of the system rather than of a specific healthcare worker (Izumi, 2012:261). A crucial measure of quality is the degree to which clients' needs and expectations are recognised (U.S. Department of Health and Human Services, 2011:3). Good quality care enhances clients' satisfaction and their use of services, as well as increasing job satisfaction and motivation of healthcare professionals; this leads in turn to effective and efficient utilisation of resources (Uganda Mininstry of Health, 2011:iv).

2.4 Components/dimensions of quality of healthcare services

It is important for a healthcare institution to consider the dimensions of quality in order to deliver quality healthcare services. These dimensions include accessibility, continuity, equity, safety, effectiveness, efficiency, timeliness and patient-centredness. It is crucial to deliver care without omitting any of these dimensions because quality occurs in entirety, not as fragmented portions (Beattie, Shepherd and Howieson, 2012:14). Therefore, it is necessary to make sure that all dimensions of quality are considered when care is being provided to clients so as to make sure the whole is complete (Beattie et al., 2012:14). Leaders need to actively contemplate the dimensions of quality when establishing preferences for improvement because these dimensions are mutually interdependent and they function jointly (Health Foundation, 2013:8). The World Health Organization (2006:9) lists six components of quality that health systems in which should strive for improvement, as detailed below.

2.4.1 Accessibility

Accessibility in quality improvement signifies that care provided to clients should be provided in time and easily attainable in terms of distance, and suitable resources and skills should be available and appropriate to medical requirements in a healthcare facility (Health Quality Ontario, 2012:1; World Health Organization, 2006:9). To say that care is accessible implies that it can be introduced without any difficulty and should be sustainable, thus accessibility relies on the capacity of the healthcare professionals and on whether the organisation or its people make it easy to acquire and use (Donabedian, 1980:22). In addition, Donabedian (1980:22) states that accessibility of care relies on the capacity of a potential customer to find a solution to potential financial, social, and psychological problems that interfere with the delivery of care. Accessibility implies that a patient or a client can easily get healthcare services in terms of distance from the source of care, the days and hours when sources of care are available to patients/clients and the ability to pay for healthcare services (Brock, 2006:17; Donabedian, 2003:18). Moreover, accessibility and care are closely linked, and better accessibility is frequently associated with better quality (Donabedian, 1980:22). The Ghana Health Service (2004:4) argues that all clients should have access to quality care; problems which it notes that affect access to healthcare service are difficulty in getting transport, distance to health facility, inability of clients to pay for services rendered, and services rendered that are not congruent with the culture, opinions and values of some individuals.

2.4.2 Continuity

Continuity of care signifies that a patient seeking healthcare services in a healthcare institution is able to consult the same doctor on different occasions, which can help to create a healing relationship (Freeman and Hughes, 2010:4). Continuity of care implies that there is no interference in the requisite care, with the assumption that continuity and coordination of care generates enhanced comprehension of the patient's medical care issues, his or her conditions at large, and his or her beliefs and expectations (Donabedian, 1980:23). These considerations, plus availability of more suitable clinical decisions, raise the likelihood the patient will contribute efficiently in care and be satisfied with care hence preventing replication and minimising expenses (Donabedian, 1980:23). Nonetheless, the mentioned consequences when exists there is likelihood of improving quality of care (Donabedian, 1980:23). Freeman and Hughes (2010:4) note that continuity of care can contribute to satisfaction of clients and healthcare providers, diminution of expenses plus enhanced outcomes. A study byAl-Azri (2008:147) has shown that continuity of care has a key effect on the subsequent quality of care, contributing to trust and confidence, better connection, harmony and helping clients to follow advice given. This can later help to augment clients' and doctors' satisfaction regarding services provided and contribute to sustainability continuity of care by the administration (Al-Azri, 2008:147). When healthcare providers and policy makers put emphasis on quality of care, it helps to safeguard continuity of care for clients plus healthcare providers; when continuity of care is not maintained it may reduce effectiveness and efficiency and compromise the quality of interpersonal relationships (Al-Azri, 2008:147). Therefore where possible healthcare systems should ensure that clients can be seen by their usual doctors (Al-Azri, 2008:147).

2.4.3 Equity

Equity signifies rendering services which do not differ in quality as a result of individual gender, ethnicity, socio-economic status or topographical issues (Cleary and O'Kane, n.d:4; Health Quality Ontario, 2012:1; World Health Organization, 2006:10; Ghana Health Service, 2004:4; Donabedian, 2003:24; Institute of Medicine, 2001:3). Similarly, the Health Foundation (2013:8) notes that equity signifies offering care which does not differ in quality as result of an individual's characteristics. According to the South African National Department of Health (2007:10), equity means that the entire population should have access to quality healthcare, including disadvantaged and vulnerable individuals like women, children, the elderly and those with disabilities. According to Donabedian (2003:24), equity signifies agreeing with norms

which indicate what is fair and reasonable in the delivery of healthcare and benefits to the members of the community.

2.4.4 Safety

Safety in healthcare delivery involves prevention of injuries to clients from the care planned to assist them (Health Foundation, 2013:8; Health Quality Ontario, 2012:1; Institute of Medicine, 2001:3). Patient safety is crucial as it enhances the quality of life and it is important to establish the culture of safety in order to maintain it (Yaneva–Deliverska, 2011:121). Although healthcare facilities are supposed to protect patients from any harm which may lead to morbidity and mortality, a number of patients have been affected by hospital-acquired infections. These infections are a problem for hospitals, increasing the length of hospital stay by eight days on average per infected patient. Furthermore, it has been shown that nosocomial infections have been the main cause of illness and death, with one in ten admitted patients in Europe becoming affected by hospital-acquired infections. More than 150 people die in Europe every day as a result of hospital-acquired infection (Yaneva–Deliverska, 2011:121). Clean hands, clean practices, clean products, clean environment and equipment can prevent these infections in a hospital environment.

Apart from hospital-enquired infections, medication errors have also proven to impede patient safety. Injuries from adverse drug events occur throughout the globe and it has been reported that in the United States, Australia and France adverse drug errors, including deaths, occur in around four per cent of hospital admission (World Health Organization, 2008a:14). In the United Kingdom, over 100 people died from drug events in 2001 alone. It has also been shown that 75 per cent of these errors can be prevented.

2.4.5 Effectiveness

Effectiveness involves providing healthcare which is evidence-based and which leads to improved health outcomes for persons and societies, and which needs to be grounded on the needs (World Health Organization, 2006:9). The Institute of Medicine (2001:3) and Cleary and O'Kane (n.d:4) make the point that effectiveness signifies rendering services centred on scientific knowledge to people who may possibly gain from those services, while avoiding rendering services to individuals that cannot gain anything from those services. According to the Health Foundation (2013:8), effectiveness means providing healthcare services that are evidence-based and generate explicit benefits.

2.4.6 Efficiency

Efficiency in quality of healthcare delivery implies providing care in a way that resources are not misused and the services provided are of quality (Health Quality Ontario, 2012:1; World Health Organization, 2006:9; Institute of Medicine, 2001:3). Similarly, the Ghana Health Service (2004:4) notes that efficiency means offering high-quality care at the cheapest probable price, and economising resources to prevent waste of limited resources. The Health Foundation (2013:8) notes that efficiency signifies preventing waste.

2.4.7 Timeliness

Timeliness in quality of care signifies minimising waiting times and harmful delays for both those who receive care and those that provide care (Cleary and O'Kane, n.d:4; Institute of Medicine, 2001:3). Similarly, the Health Foundation (2013:8) notes that timeliness signifies minimising of waiting times and unsafe delays. A study by Atinga et al. (2011:558) found that patients encountered delays in accessing healthcare services as a result of using manuscript procedures on shared health insurance schemes in which patients had to go through along managerial process before gaining access to healthcare services. Furthermore, Atinga, et al., (2011:558) indicated that waiting times received the highest number of undesirable comments especially in outpatient services where the clients complained of spending a great deal of time for usual check-up, laboratory test and buying of medications. Clients wished that it would be better for more persons to be trained to deal with clinical duties (Atinga et al., 2011:558). In addition clients complained that even ordinary dressing of wounds, which does not need the services of high-level professionals, tended to be time-consuming (Atinga et al., 2011:558).

2.4.8 Patient-centred care

According to Robison, Callister, Berry and Dearing (2008:600), patient-centred care is recognised as a measure of the quality of healthcare. It is a fundamental aspect in improving the quality of healthcare, increasing patient adherence and ultimately decreasing healthcare expenses, while efforts to increase its practice will assist customers, health professionals and the health system in achieving quality care (Robison et al., 2008:606). Patient-centred care signifies that clients should given consideration and should participate in the planning of care delivery, taking into account their inclinations and desires, and modifying the care of each individual in relation to the practices and cultures of their societies (World Health Organization, 2006:9).

The literature further indicates that patient-centred care is a type of care whereby healthcare providers appreciate and handles specific clients' inclinations, needs and beliefs in such a way that the client's principles shape all clinical decisions, which means that healthcare providers and clients have to act in harmony to achieve better results (Health Foundation, 2013:8; Barry and Edgman-Levitan, 2012:780; Health Quality Ontario, 2012:1). Patient-centred care is delivery of health services which respect clients and consider their desires and beliefs (Australian Commission on Safety and Quality in Health Care, 2011:1; Australian Commission on Safety and Quality in Health Care, 2010:7). This definition emphasises the significance of healthcare providers and clients working in partnership to achieve optimum consequences (Barry and Edgman-Levitan, 2012:780). The most commonly cited dimensions of patient-centred care include respect, emotional support, physical comfort, information and communication, continuity, care coordination, involvement of family and carers, and accessibility of care (Australian Commission on Safety and Quality in Health Care, 2011:1; Australian Commission on Safety and Quality in Health Care, 2010:7). A healthcare system which has the above-mentioned dimensions of quality would be enhanced in achieving clients' needs, and clients would get care that is secure, genuine, and sensitive to their needs (Institute of Medicine, 2001:3).

2.5 Standards of quality in health profession

Standards of quality in healthcare include structure, process and outcome, which are interconnected as key elements in evaluating the quality of care (Donabedian, 1980:83). Comprehending the structure and the process calls for innovative nursing service which lays the foundation for safe, effective and patient-centred clinical care (Gardner et al., 2013:145). According to Donabedian (1966), quality can be measured by evaluating structures, processes, and outcomes of care. Donabedian also suggests that evaluating whether high-quality care has been delivered requires checking the structure of the location where care is delivered, assessing the real ways of care delivery, plus evaluating the consequences of care (Cleary and O'Kane, n.d:6).

2.5.1 Structure standards

Structure standards include the technology, the human resources, and the physical and financial assets which a practice owns in order to carry out its activities (National Learning Consortium, 2013:4). According to Donabedian (1980:81), structure includes stable characteristics of the

providers of care, the tools and resources they have at their disposal, the physical and organisation setting in which they work, human, physical and financial resources which are needed to provide medical care, equipment and geographical disposition of the hospital and other facilities. In addition, he states that structure includes the cooperation of medical or nursing personnel plus the presence or absence of a quality evaluation power, including their features, in all their particulars. Kelly (2012:35) states that structure standards include both human and physical resources, buildings, medical records and drugs. Structure is obviously connected to quality either by escalating or reducing the possibility of better performance (Donabedian, 1980:82). According to Cleary and O'Kane (n.d:6), structure standards may extend beyond the technique according to which healthcare institutions function and are structured, involving also the available policies which impact on the quality of care. These may involve activities like observation and fostering motivation to increase quality of care which may impact the effectiveness of care provision. Enhanced quality of care can be anticipated in cases where all healthcare providers are aware of their duties and tasks (Cleary and O'Kane, n.d:6). Donabedian (1980:82) makes the point that better structure, with adequate resources and suitable system plans, is likely to safe guardand enhance the quality of care. Donabedian (1980:84) argues that the structural features of the locations where the care is provided are likely to impact the process of care either negatively or positively. Haj, Lamrini and Rais (2013:26) emphasise the importance of structure standards in rendering quality of care and make the point that high quality of care can be offered effectively when sufficient human and material resources are assigned together with sufficient infrastructure and work environment.

2.5.1.1 Infrastructure

Organisational infrastructure is an important element in quality improvement (Jannot and Perneger, 2014:278). Infrastructure, or the setting where the care is provided, is very important in improving the quality of care. According to Donabedian (2005:694 - 695), infrastructure, equipment, and associated administrative methods that underpin and guide the delivery of care, need to be taken into account to assess the quality of care. Further, Donabedian (2005:695) states that when there is suitable infrastructure plus equipment it is obvious that medical care will be provided. A study by Alexander (2006:19) indicates that institutional infrastructure and monetary funding significantly influence the range and strength of quality implementation.

2.5.1.2 Legislation

Executives in health services management are required to perform their tasks in accordance with legislation at both national and provincial level, and following the provisions laid down by their local authorities (Booyens, 2010:7). In the context of Rwanda, in offering safe and quality nursing care to clients, nurses and midwives are required to comply with national laws and regulations and specifically with those that are applicable to their profession (Rwanda Ministry of Health, 2011a:29). It is important to note that clients are nationals who are entitled to particular rights, and health service managers are therefore expected to make sure that the best healthcare service is provided within legislative parameters (Booyens, 2010:7). When healthcare services fail to comply with the necessary standards, medico-legal risks will occur and can be harmful to clients, employees and the institution at large (Booyens, 2010:7).

2.5.1.3 Equipment

It is very important for any healthcare institution to have adequate equipment and supplies so that healthcare professionals can work effectively. Sufficient equipment and supplies should be accessible so that professional nurses can deliver complete quality nursing care in their department without exposing themselves to dangers (Meyer, Naude, Shangase and Niekerk, 2009:253). Furthermore, it is not necessary for the equipment in the nursing department to have new and the best equipment; what is important is that all equipment are properly preserved and damaged equipment is restored (Meyer et al., 2009:253). Brady and Cummings (2010:435) in their study found that when nurses are provided with proper required equipment they are capable to design, perform and deliver care effectively. Booyens (2010:161) argues that quality care can only be provided when there is equipment of sufficient quality to cope with the needs of clients and enhance the productivity of the healthcare professionals.

2.5.1.4 Safe working environment

A safe working environment is essential for health professionals to perform their duties effectively. An environment which is not safe can compromise the quality of service delivery and the productivity and retention of healthcare providers (Deussom, Jaskiewicz, Adams and Tulenko, 2012). Unsafe working environment circumstances have been recognised as the main cause of public employee attrition in Uganda (Deussom et al., 2012). On the other hand, a safe working environment can lead to employees satisfaction and retention, and to enhanced patients outcomes and institutional achievements (Sherman and Pross, 2010). In addition,

whatever is important for healthcare professionals is also important for patient health because the well-being of healthcare providers can influence the quality of care; it is therefore crucial for healthcare institutions to cater for the well-being of healthcare providers, and occupational safety health problems need to be incorporated in human resources management (Deussom et al., 2012). In nursing practice, a safe working environment requires strong nursing leadership in all stages of the organisation, and more specifically where the majority of employees are directly involved in delivery of patient care (Sherman and Pross, 2010). A safe and healthy working milieu is the responsibility of every person (Alberta Government, 2012:1). It is crucial for nurses be able to practice nursing in a safe and favourable working environment, with hygiene maintained for equipment and the surroundings (Meyer et al., 2009:253). It is also important that nurses participate fully in the design and execution of departmental nursing policies and procedures (Meyer et al., 2009:254). This gives nurses ownership of their environment and improves the quality of their work life. A safe working environment is also crucial for clients' recovery in that it impacts clients' satisfaction with quality of care; this is because clients are impressed by the physical appearance of a healthcare facility such that their moods, satisfaction and awareness of healthcare knowledge are increased (Atinga et al., 2011:553). Atinga et al. (2011:558) found that the cleanliness of a healthcare facility milieu appeared to be a powerful aspect in determining clients' satisfaction with quality of care. Moreover, healthcare institutions have a responsibility for therapeutic action, and a neat milieu is essential to prevent occurrences of illnesses and to alleviate clients' psychological situations (Atinga et al., 2011:558). In resource-poor countries, Although there has begun to be more emphasis on international safety standards for maintaining a safe working environment, problems nonetheless continue in putting them into practice (Deussom et al., 2012).

2.5.1.5 Human resource

Staffing

Nurse staffing is the process of allocating a group of nurses in a ward or in a unit who are capable of fulfilling the nursing requirements and the needs of clients (Meyer et al., 2009:216). Huber (2010:624) describes staffing as a human resource plan to fill the positions in organisation with qualified personnel. Staffing is the nurse-to-patient ratio which indicates the number of patients cared for by one nurse. Staffing is a systematic process in which a sound rationale is applied to determine the number and the kind of nursing personnel required to provide nursing care of a predetermined standard to a group of patients in particular setting

(Huber, 2010:623). Safe staffing ratio is essential to make sure that clients and nurses are safe, and suitable nursing staffing is a vital both for client care and for nurse retention; insufficient staffing can put clients in danger and drives nurses from their profession (Department of Professional Employees, 2014:1).

A study by Nantsupawat, Srisuphan, Kunaviktikul, Wichaikhum, Aungsuroch and Aiken (2011:431) showed a relationship between more favourable nurse staffing and and improved quality of care. A study by Hudelson et al. (2008:34) on nurses and doctors found that insufficient staffing and increased administrative tasks interfered with their work, causing frustrations to the extent that they would no longer be able to deliver the expected quality of care. The participants suggested that the administration should solve the problem of under staffing and reduce administrative responsibilities to allow them to focus on client care (Hudelson et al., 2008:34). Needleman, Buerhaus, Pankratz, Leibson, Stevens and Harris (2011a:1037) found that staffing of nurses below the required standards was related to heightened death rate, which highlights the importance of matching staffing with clients' needs for nursing care. Deaths, illness and incidence of adverse events are likely to increase where there are insufficient nurses to provide safe quality care (Armstrong, 2009:6). Studies have shown association between increased risk of adverse events and high workload among registered nurses that compromises their supervision of clients (Needleman et al., 2011a:1038). Employees are the most costly resource in a nursing unit; therefore it is important to make optimal use their knowledge, skills and experiences to improve the quality of working life for each member of the unit (Meyer et al., 2009:216).

Skill mix

In terms of nursing care, skill mix relates to the quantity of direct care by registered nurses in overall care by nursing staff (Huber, 2010:624). It has been shown that an adequate skill mix of nurses who are knowledgeable and skilled is imperative for safety and delivery of quality care to clients (Izumi, 2012:263). Furthermore, studies have shown that there is significant relationship between nursing education, nurse staffing, workload, skill mix, environment and patient outcomes (Armstrong, 2009:6).

2.5.1.6 Organisational leadership

Organisational leadership is crucial in implementation of quality improvement activities to increase productivity of the institution and enhance quality of care. This is because leaders use

their abilities to guide others to work to their full capacity and direct the behaviour of staff towards achievement of a shared goal (Booyens, 2011:417). Effective leadership is vital in nursing because it influences the quality of nurses' working life and helps to drive continuous amendment in nurses productivity and the quality of care (Huber, 2010:4). Leadership has significant consequences for empowerment of employees, recognition of results in the nursing department, and the efficiency of employees (Meyer et al., 2009:207). It has been shown that a helpful institutional leadership is strongly involved in activities like meeting expectations for all employees (since quality is a collective obligation), emphasising the personal accountability of each employee, and offering continuous positive feedback to reinforce the involvement of employees (Draper et al., 2008:3). Leadership is vital as there is proof that innovative quality strategies do not succeed without powerful and stable leadership support at all levels for performance throughout the health organisation (World Health Organization, 2006:22).

2.5.1.7 Nursing leadership

Nursing leadership is critical in the delivery of high-quality nursing care delivery hence leading to patient and nurse satisfaction. Leadership is a method of helping others to enhance customer care and services by supporting professional practice; appropriate leadership can be established through a participative approach in taking decisions, considering the viewpoint of the institution as well as the style of a specific person in the institution (College of Nurses of Ontario, 2014:12). It is important for every healthcare institution to aim for quality of client care, and it has been shown that nursing leadership plays a vital part in inspiring healthcare providers to seek a better understanding of patients' needs and values (Brady and Cummings, 2010:438).

Studies have shown that the style of nursing leadership has an effect on the performance of nurses, and from the nurses' perspective, independent practice, working relationships, resource availability and leadership practices can encourage nurses to do their work effectively (Brady and Cummings, 2010:438). Comprehending these factors and the ways in which nursing leaders might inspire professional nurses is an essential stage in enhancing quality of nursing care for positive client and institutional effect (Brady and Cummings, 2010:438). Moreover, healthcare institutions that dedicate themselves to discovering workforce incentives will be rewarded with high-performing, dedicated healthcare providers (Brady and Cummings, 2010:438). Further, nurses who are empowered may become enthusiastic about applying evidence-based approaches to enhance the quality of care (Brady and Cummings, 2010:438).

2.5.1.8 Policies

Policies are formal guidelines that direct activities for reasoning and resolving repeated issues associated with the objectives of the institution (Huber, 2010:394**).** Policies guide and direct ongoing decision making, and it is important for nurses to be knowledgeable about the policies and procedures that regulate practice in an institution (Huber, 2010:394-395). Policies in health care institutions are required to maintain standards in service delivery and control performance, and provide basic guidance to all health providers and policies; as guidelines they also provide managers with an idea of the activities of every unit, ward, and clinic where each health provider practices (Booyens, 2010:42). It is crucial to have policies in an organisation since policies decrease unreliable sentiments and inequity, moreover, policies should be written, comprehensible, complete in scope and constant (Booyens, 2011:200). Therefore it is imperative for all professional nurses to know and exercise policies that exist in the institution in their tasks since policies function as standards of performance, thus, leading to improved quality of nursing care delivery hence clients' satisfaction.

2.5.1.9 Quality improvement committee

Quality improvement committees are a prerequisite in executing quality improvement programmes in nursing (Booyens, 2011:630). A registered nurse needs be allocated power to execute and coordinate quality improvement actions in nursing care delivery (Booyens, 2011:630). It is important to involve all stakeholders in the quality improvement committee, considering both clinical and non-clinical professionals at different levels of nursing practice, all nursing units need to be represented in planning processes, and bigger departments need to have more representatives than smaller ones (Booyens, 2011). The composition of the committee is crucial if the quality improvement programme is to be fruitful, especially in its early stages (Booyens, 2011:630).

2.5.1.10 Availability of drugs

Availability of drugs in a health facility plays a crucial role in provision of quality care and in the recovery of patients; when drugs are missing both healthcare providers and patients are negatively affected, to the detriment of quality care, leading to dissatisfaction because patients' needs are not met and healthcare providers are not able to perform their duties effectively. In a study by Mkoka, Goicolea, Kiwara, Mwangu and Hurtig (2014:6) on availability of drugs and medical supplies for emergency obstetric care in Tanzania, participants revealed that they

encountered problems when they failed to get prescribed medications in the healthcare institution. This created a difficult working milieu for both the clients and healthcare providers, and healthcare professionals realised that they were delivering inadequate care. The findings from a study by Ahmed and Islam (2012:102) showed that none of healthcare facilities had all twenty essential medications for common diseases.

2.5.2 Process standards

In the nursing profession process standards can be evaluated by examining nursing processes and management processes to assess the quality of nursing care delivery. Process standards also include actions, rate of progress, and responsibilities carried out to attain an effect (National Learning Consortium, 2013:4). Evaluating the process of care can also show whether the outcomes are of requisite quality (Donabedian, 2005:694). Kelly (2012:35) states that process standards for health institutions include quality of actions and procedures such as hospital admissions, surgical operations, nursing, and medical care delivery in conformity with standards and guidelines.

2.5.2.1 Nursing process

Nursing process consists of assessment, nursing diagnosis, planning, implementation of action and evaluating the care given. The phases of the nursing process are connected, establishing a constant sphere of thought plus activities (Doenges and Moorhouse, 2013:10). Nursing process is a scientific method to thoroughly assess the clients' needs, design comprehensive nursing care, direct the nursing actions and evaluate the quality of care (Meyer et al., 2009:76). It provides organised, rational, problem-solving methods for client care, incorporating a collaborative/interpersonal technique to resolve issues and make decisions (Doenges and Moorhouse, 2013:8). In Nigeria, a study by Afolayan, Donald, Baldwin, Onasoga and Babafemi (2013:34) found that qualified nurses did not use nursing process in delivering nursing care to their clients, despite the fact that they possessed good knowledge in theory. This was due to shortage of nurses, lack of capabilities, increased workload and management incompetence in providing the required supplies (Afolayan et al., 2013:34). Applying nursing process requires continuous recording of information which provides justification for activities performed by the nursing team in settling clients' issues (Afolayan et al., 2013:34).

Nursing assessment

Nursing assessment is the first phase in nursing process. It refers to organised collecting, validating and recording of information concerning clients and is interactive, encompassing the nurse, the clients, their family members or some other person who can help to explain the client'shealth needs (Meyer et al., 2009:49). Davis Company (2013:11) affirm that assessment is an organised gathering of information concerning the clients.

Nursing diagnosis

Nursing diagnosis is the second phase in nursing process that takes place after the assessment of the patient's condition. Nursing diagnosis concerns the design of clinical decision concerning the reactions of a person, family, or society toreal or possible health issues plus life practices (Bittencourt and Crossetti, 2013:338). It is the review of the gathered information to detect the customer' needs or issues (Doenges and Moorhouse, 2013:12). Nursing diagnosis being the subsequent stage to patient assessment in nursing process, it deals with analysis of the gathered information that is linked to patients' health which can be utilised to decide the health problems of a customer together with assessment of the causative elements to the root cause of the issue (Bittencourt and Crossetti, 2013:338). Nursing diagnosis also as a type of clinical decision making that encompass the identification of evidence stated by the client and recognised from data concerning the health issues or life practices (Bittencourt and Crossetti, 2013:338).

Nursing diagnosis includes identification of the signs which the clients present and requires gathering of recognisable, appropriate information; once this has been done the data must be explained and categorised in order to form diagnostic assumptions associated with the signs and symptoms which the client has presented (Bittencourt and Crossetti, 2013:337). It is through nursing diagnosis that the clients' problems can be identified, together with the causative factors, which can later direct the nurses to arrive at the real diagnosis, hence permitting them to deliver quality nursing care and meet the needs of the client, leading to a quick recovery. Critical thinking skills were identified as crucial in order to articulate the end result of the nursing diagnosis approach (Kelley et al., 2011:342). Diagnosis of the health needs of a client may include medical together with nursing actions which can enhance delivery of specific care to a person; real diagnosis relies on precise assessment and approving the information (Meyer et al., 2009:57).

Planning

Nursing care plans are interventions that are prearranged in helping the client in moving from his/her present condition of sickness to a status of a better health (Meyer et al., 2009:61). Planning encompasses recognising the objectives as well as the preferred result while choosing suitable nursing actions (Doenges and Moorhouse, 2013:13). Nursing care plans entail involvement of all the healthcare providers who are required to participate in taking decisions (Meyer et al., 2009:62). Moreover, planning nursing activities should be patient-centred and nursing care plans must be adapted to each patient's requirements; including the client is very important to guarantee that nursing care plans will accomplish their objectives (Meyer et al., 2009:59)**.**

Implementation of action

Implementation is the fourth phase in the nursing process and involves putting the designed care into action (Doenges and Moorhouse, 2013:14). In the implementation phase a nurse uses various approaches to nursing care adapted to the clients'needs (Meyer et al., 2009:68). Nursing care is adapted according to client assessment, diagnosis, and planning conducted earlier; these three mentioned nursing processes offer a scientific foundation for nursing actions grounded on knowledge and nursing know-how (Meyer et al., 2009:67). The nurse must use skills of perception, observation, interpretation of information and constant assessment of changes in the client's condition (Meyer et al., 2009:67).

Evaluation of nursing care

Evaluation, which is the last part of nursing process, is organised, continuous purposive action whereby the nurse in collaboration with the client and the family together with other healthcare providers decide how to reach organised objectives for the client and the efficacy of the healthcare strategy. Evaluation of nursing care must to include other measurements of quality while focusing on the ways in which care is offered and appropriate nursing standards pertaining to the practice (Izumi, 2012:4). Evaluation detects the customer's progress and monitors the customer's reaction (Doenges and Moorhouse, 2013:15). The effectiveness of the evaluation process relies on assessment of the client plus diagnosis plus the quality of nursing care design (Meyer et al., 2009:73).

2.5.2.2 Management process

Management process is coherent, orderly method grounded on problem-solving values (Huber, 2014:23). Management process is crucial in attaining institutional goals and it includes four steps: planning, organising, directing and controlling (Huber, 2014:23; Huber, 2010:33). According to Kelly (2012:24), management process encompasses planning, coordinating, organising and controlling. The above-mentioned functions of the management process constitute the scope of managers' core efforts (Huber, 2014:23).

Planning

Planning is important for effective management of the institution, and when planning is done the institution is capable of establishing goals and directions, and initiating and allocating resources to advance and attain objectives (Finkler, Jones and Kovner, 2013). Planning includes determination of both long-tem and short-term institutional objectives and identifying related activities which are needed (Huber, 2014:23; Huber, 2010:33). Planning identifies in advance what activity is to be accomplished, the time and the person to perform the activity, goals and objectives, techniques to be used, resources, liable parties, and the time frame (Huber, 2014:23; Huber, 2010:34).

Planning should be an active managerial instrument which includes evaluation of the health requirements that the service must respond to, the milieu where the activity will take place, and he staff who are accountable to provide services that are required before the real planning commences (Booyens, 2010:27). There are two types of planning: strategic or corporate planning, which is done for the whole organisation and which should be attained in a specific period of time – usually long-term planning that ranges from one year to five years and above (Booyens, 2010:29) –and tactical planning, which is short-term planning that may involve project planning, staff planning and marketing planning (Huber, 2010:34).

Organising

Organising implies mobilising human and material resources to achieve whatever is required (Huber, 2014:23; Kelly and Tazbir, 2013:15; Huber, 2010:33). Organising as a management activity is concerned first with arranging work, followed by organising individuals and the setting (Huber, 2010:35). Organising and planning go hand in hand and organising includes actions planned to bring together a group of several resources comprising personnel, money and equipment in an effective manner to attain institutional objectives (Huber, 2010:36).

Further, Kelly and Tazbir (2013:15) note that organising involves both allocating tasks to appropriate individuals as well as confirming that the person that has the ability to handle particular responsibilities.

2.5.2.3 Directing

Directing refers to an approach of inspiring, guiding and leading individuals by means of work practices, hence influencing them to follow that direction (Huber, 2010:33, 36). Huber (2014:23) notes that directing involves a process of inspiring, guiding and leading individuals in work practices.

2.5.2.4 Controlling

Controlling is comparable to monitoring and evaluation activities (Huber, 2014:23; Huber, 2010:33). Control or evaluation implies safeguarding the course and processes of work as well as objective achievement and progress as designed (Huber, 2010:37). Enhanced health consequences cannot be achieved in healthcare organisations without controlling or monitoring/evaluation (World Health Organization, 2011a:31). Control is a crucial managerial obligation in that after planning has been introduced control is necessary to make sure that there is assessment of progress, associated income and expenditures and on deciding what to do if improvement is not seen (Finkler et al., 2013).

2.5.3 Outcome standards

Outcome standards include quality of care, patient-centred care, patient satisfaction, satisfaction of nurses, productivity increase, cost diminution, better performance of institution and trust of healthcare system. According to Kelly (2012:35), outcome standard denotes the effects of good care delivery through the use of quality structure and quality processes which lead to outcomes such as client satisfaction, good health and prevention of hospital-acquired infections. According to Donabedian (2005:692-693), outcome of therapeutic care in terms of recovery, restoration of function and survival is used as an indicator of the quality of therapeutic care. Outcomes need to meet critical approval of effectiveness and quality of healing.

2.5.3.1 Quality of care

Quality of care is an indirect way of assessing quality services in terms of changes in patient's healthcare status (Donabedian, 1980:84). Quality of healthcare should result in the satisfaction

of both clients and healthcare providers (Hudelson et al., 2008:33). Nevertheless, it is imperative for healthcare organisations to fulfil the needs and requests of clients like any other institution which provides services, and this underlines the importance of assessing and executing appraisal systems (Haj et al., 2013:17).

2.5.3.2 Patient-centred care

Patient-centred care involves rendering services by valuing individual respect, considering clients' inclinations, desires, beliefs, and safeguarding the clients' values, and should direct all clinical decisions and guide all clinical resolutions (Institute of Medicine, 2001:3). Studies have shown that patient-centred care heightens patient understanding and generates community values for services: when health workers, managers, clients, families and carers work in partnership, the quality and safety of healthcare rises, cost diminishes, provider satisfaction increases and patient care experience improves (Australian Commission on Safety and Quality in Health Care, 2011:1; Australian Commission on Safety and Quality in Health Care, 2010:7). Involving clients in delivering care is of utmost importance in improving the quality of care since they perform various roles in the health institution either indirectly or directly (World Health Organization, 2006:23). Moreover, clients collaborate with healthcare professionals in managing their own care, paying for the services provided as well as being the final judge of what is suitable and what is not available among everything required in the dimensions of quality (World Health Organization, 2006:23).

2.5.3.3 Patient satisfaction

Patient/client satisfaction permits nurses or other healthcare professionals to know whether or not they are rendering quality services, thus allowing them to make amendments where necessary. Client/patient satisfaction is an essential measure of quality of care as it provides data on the healthcare professionals' achievement in regard to attaining patients' values and expectations in issues that involve the patient (Donabedian, 1980:25). Patient satisfaction has been accepted as a vital quality outcome indicator to quantify achievement of the system service delivery (Al-Abri and Al-Balushi, 2014:3). Booyens (2010:269) argues that client satisfaction with healthcare is a vital element and outcome indicator, while Jennings, Heiner, Loan, Hemman and Swanson (2005:173) affirm that satisfaction is in the eye of the beholder, and that healthcare institutions need to put emphasis on client's needs, opinions and feelings.

Al-Abri and Al-Balushi (2014:3) point out that politeness, respect, attentive listening by nurses, plus easy access of care, were the toughest factors in overall patient satisfaction in a study that was carried out in four different tertiary hospitals. Donabedian (1980:25) argues that patient satisfaction can be considered as a patient's evaluation of the quality or integrity of care and denotes customers' evaluation of quality in way that it is associated with the healthcare providers' evaluation. Nevertheless a satisfied patient is expected to collaborate efficiently with health professionals, and to accept and follow recommendations. Satisfaction also affects access, as satisfied patients expected to obtain care in the future (Donabedian, 1980:25). According to Cowing, Davino-Ramaya, Ramaya and Szmerekovsky (2009:73), when clients are satisfied with the collaboration of healthcare providers like doctors and nurses, the clients are better able to follow medication plans, comprehending their task in recovery process as well as following the suggested therapy, hence enhancing health consequences.

2.5.3.4 Satisfaction of nurses

Patients are not the only ones that benefit from patient-centred care; healthcare providers also gain through improved satisfaction of their clients when they perform their tasks well. In addition, enhanced healthcare leads to increased life span, minimal distress, less pain and improved individual efficiency among the clients that get the care (Institute of Medicine, 2001:3). Healthcare providers' satisfaction, including that of nurses, is grounded on factors such as clinicians' subjective insight of their capacity to provide quality care and also when there is sufficient institutional support and funding for them to effectively perform their work (Cowing et al., 2009:74).

2.5.3.5 Productivity increase

Productivity is the degree to which resources are successfully used to deliver needed services and it is augmented through generating extra services, with either equal or fewer resources (Dalotă, n.d:13). Meyer et al. (2009:249) state that productivity signifies the amount and excellence of nursing care delivered to clients in a nursing ward. Quality of healthcare enhances productivity in that it increases life span due to the fact that quality care reduces mortality and morbidity rate and length of stay in the hospital, such that people will have more time to work due to enhanced good health. Good health is a prerequisite for increased productivity in that it assists in reducing absenteeism at both school and workplace hence offering a basis for growth and poverty reduction (Rwanda Ministry of Health, 2012:21).

2.5.3.6 Cost reduction

Quality of healthcare has a big role to play in reducing costs of healthcare service delivery because through enhancement of processes and outcomes the institution is able to reduce waste and cost related with system failures (U.S. Department of Health and Human Services, 2011:6). Positive practices that identify and resolve issues before they happen can guarantee a system of care which is consistent and expected, and at the same time a culture of improvement often advances the organisation which is dedicated to quality since mistakes are stated and addressed hence reducing costs (U.S. Department of Health and Human Services, 2011:6).

2.5.3.7 Better performance of institution

A healthcare institution that introduces quality improvement activities has various opportunities, for example enhanced client well-being, decreased illness and death (U.S. Department of Health and Human Services, 2011:6). This is an indicator of better performance of the health institution, hence improved quality of healthcare delivery that leads to both increased patient and healthcare provider satisfaction.

2.5.3.8 Trust of healthcare system

When the healthcare institution provides quality services, clients become satisfied and this leads them to trust the healthcare system which in turn can persuade the user of healthcare services to recommend other clients to use the services. A study byLee, Khong and Ghista (2006:565) found that clients are likely to seek healthcare services where they recognise that the healthcare professionals deliver quality services. On the other hand when clients do not get quality services they will not only be dissatisfied but later will decide not to use the healthcare institution again, as well as discouraging either friends or their family members from using the healthcare institution in seeking healthcare service (Lee et al., 2006:565). It crucial for a healthcare institution to deliver quality services and to be trusted so that client may continue using their services and recommend other clients. Client satisfaction is a key aim of almost every current institution, and the more satisfied the clients become the more keen their message regarding the organisation (Peer and Mpinganjira, 2012:297). In this regard satisfied clients may assist an organisation through recommending new clients while unsatisfied clients may give the organisation a bad reputation (Peer and Mpinganjira, 2012:297).

2.6 Quality improvement activities

Quality improvement events should be arranged in the most appropriate way and create delivery for risk management, infection control, clinical improvement, monitoring, measurement and evaluation of quality health care in the institution (Booyens, 2011:625). Once quality improvement is introduced there is a likelihood of enhancing the utility and reducing the misuse of scarce resources, presenting a worldwide opportunity to improve health, reduce poverty and realise social equality (Leatherman et al., 2010:240). Quality improvement fills the gap between actual and attainable practice, increases personal satisfaction in the activities and maintenance of employees, drives progress and adjustment of information systems, increases the applicable evidence-based use of scarce wealth, and improves and reinforces measurement capacity, responsibility and openness (Leatherman et al., 2010:239). Quality improvement fundamentals can reinforce equity and improve health and social results for a given degree of investment in a specific clinical field (Leatherman et al., 2010:241). Quality improvement can support health systems and it is a crucial prerequisite to achieve universal health as laid out in the Millennium Development Goals, together with additional high-profile endeavour to develop universal health (Leatherman et al., 2010:241). Evidence reveals that leadership support, clinician management, customer involvement, training and education play a major role in successful quality improvement (Health Foundation, 2013:30).

Quality improvement activities cover clinical quality improvement activities (clinical auditing, clinical risk management**;** health promotion and disease prevention), quality improvement activities (infection prevention and control), and administrative quality improvement activities (performance measurement, incident monitoring).

2.6.1 Clinical quality improvement activities

2.6.1.1 Clinical auditing

In terms of nursing care, auditing is an assessment process for evaluating the quality of nursing care provided as seen in healthcare institutional documents (Booyens, 2011:610). It is important to note that routine auditing of clinical care is nowadays a benchmark indicator of client protection and of quality in the majority of healthcare institutions (Gardner et al., 2013:146). The quality of nursing care delivery can be assessed through auditing the tasks performed by nurses to check whether all the nursing care activities have been accurately documented (Booyens, 2011:610). Auditing has been considered as an instrument which

enhances the quality, effectiveness and efficiency of care offered to patients or clients by evaluating the current standards and altering perspectives against them once it is necessary (Tsaloglidou, 2009:66). A study by Gardner et al. (2013:146) has shown that routine audit of clinical care is currently a standard indicator of patient safety and quality in common health care institutions. Furthermore, studies have shown that when nurse practitioners use clinical audits of practice using related indicators and guidelines as measure of standard, the outcome of these audits enhances the quality and safety of care given by the nurse practitioners (Gardner et al., 2013:146). Moreover, the consequences of the audits carried out by professional nurses reinforce the quality and safety of care provided (Gardner et al., 2013:146). Therefore auditing of nursing care activities is required in order to make sure that care is delivered according to the set standards and policies, hence ensuring safety and quality of healthcare delivery.

2.6.1.2 Clinical risk management

Clinical risk management is essential in the provision of safe, timely and quality healthcare to clients/patients. Risk management is an organised process of detecting, appraising and reacting to real risks through a planned programme which prevents, controls, and minimises risk exposure (South African Association of Hospital and Institutional Pharmacists, 2008:17). The aim of risk management is to introduce a programme to detect, predict and correct defects which may occur while providing services to clients; through this measure poor performance claims may be avoided (Booyens, 2011:582). There should be a procedure of risk dissemination organised by the risk management team in order to inform other staff members about the risks which are likely to occur; this can help the team to learn from adverse events which may lessen reoccurrence (Chandraharan and Arulkumaran, 2007:223). Risk management is a vital element of an institution's quality improvement and healthcare safety programme; it deals with detecting risks, regulating events and avoiding damage, and in this case the risks of the healthcare organisation are assessed and regulated (Huber, 2010:556). Meyer et al. (2009:327) state that it is important for every nursing unit to introduce risk management programme in order to be able to manage risks through periodic reports to all healthcare providers; assessing the result of the programme; teaching healthcare providers, clients as well as visitors; revising monitoring systems as well as recognising possible risks. The healthcare facility and the staff should have a culture which is open and welcoming critique as well able to learn from errors which can minimise the risks as well as preventing recurrence of errors and this should be underpinned by policies (Harris and Taylor, 2009:30). It is important to elude a culture of

unsuitable blame and poor performance should be recognised as a failure in systems and should be an opportunity for learning as well as improvement (Harris and Taylor, 2009:31). Nonetheless, risk management encompasses minimising, controlling and addressing risks which may affect patients, employees and the healthcare institutions at large (South African Association of Hospital and Institutional Pharmacists, 2008:17). Patient risks can be mitigated by making sure that measures and practices are frequently revised by conducting clinical audits and learning from complaints while risks for staff can be minimised by making sure that they are immunised against contagious illnesses and working in a safe milieu as well as encouraging them to be updated through continuous education (South African Association of Hospital and Institutional Pharmacists, 2008:17). Risks for the healthcare institutions can be mitigated by ensuring that high-quality care is delivered and the performance of healthcare providers is evaluated, making sure that a safe working environment is maintained and well-designed policies are in place and community participation is considered (South African Association of Hospital and Institutional Pharmacists, 2008:17).

2.6.2 Health promotion and disease prevention quality improvement activities

2.6.2.1 Infection prevention and control

Regarding infection prevention and control, hand washing and hand hygiene have played a significant role in decreasing transmission of micro-organism despite the fact that compliance has been an issue. Booyens (2010:273) emphasises the importance of high standards of hygiene in clinical practice through maintaining hand washing and other infection control precautions. A study by the Ministry of Public Health and Sanitation and the Ministry of Medical Services (2010:17) indicates that hand washing and hand hygiene are the sole best safety measure to prevent transmission of micro-organism related with service delivery in a healthcare institution. The same authors further state that for many years hand washing and hand hygiene have been seen as minimising transmission of micro-organism in healthcare institutions. Gichuhi, Kamau, Nyangena and Otieno-Ayayo (2015:39) revealed that infection prevention and control are crucial in enhancing the quality of healthcare services. The same authors also noted that insufficiency of infection prevention and control in a healthcare institution has been shown to cause medication resistance by micro-organisms, with prolonged hospital stay leading to augmented bed occupancy and misuse of limited hospital resources. Controlling infection is the responsibility of everybody working in the hospital and the hospital should have an infection control committee with an infection control team: an annual programme with clear

objectives and priorities for the surveillance and monitoring of infection should be considered (Booyens, 2010:272-273). Therefore, it is crucial for every healthcare professional in a healthcare institution to be responsible and accountable for prevention and control of infection to improve quality of care.

2.6.3 Administrative quality improvement activities

2.6.3.1 Performance measurement

It is important for an institution to review whether it is performing well because this can help the institution to detect where there is weakness or strength which can later help the institution to establish guidelines for planned actions (Anon, n.d:1). Performance measurement is crucial since it gives a guarantee that clients' needs are met, and assists in establishing objectives and fulfilling them; it also assists in establishing standards, detecting quality issues and assessing areas for priority action, and in giving feedback for effort rendered to improve the quality of care (Anon, n.d:1). Organisations that want to improve business performance need to set up systems to measure their efficiency. If you are aiming to achieve excellence, performance measurement plays an important role. If you are measuring performance, you are measuring quality (Department of Trade and Industry, n.d:1).

2.6.3.2 Incident monitoring

It is important to monitor and report incidents which may be dangerous to the patients so that they are identified when it is not too late to take remedial action, thus avoiding anything that may affect the quality of nursing care delivery (Booyens, 2011:611). Dangerous incidents for the patient may include giving wrong treatment to patients or incorrect identification of a patient; these should be evaluated depending on developed policy, and documentation of harmful incidents should be done in writing and assessed by one person or as group (Booyens, 2011:11). Further, it is important to report an incident immediately when it has just taken place, and the person who is reporting should give correct information (Booyens, 2010:145). In addition, it is very important to monitor and report incidents since the information may be used for research and in-service education purposes; extension of risk management programmes can be centred on the information attained from analysis of incident reports (Booyens, 2010:146).

2.7 Factors facilitating the quality of nursing care delivery

2.7.1 Effective communication

Communication helps healthcare providers to collaborate with one another efficiently on what can be done and how, sharing patient information, discussing any difficulties encountered and sharing ways of getting solutions thus leading to quality healthcare delivery (Hudelson et al., 2008:33). Communication among healthcare providers is also important in improving the quality of care delivery (Atinga et al., 2011:551). In a study by Hudelson et al. (2008:33) conducted in a university hospital in Geneva, both doctors and nurses reported that communication was a vital factor in quality of therapeutic care since it permits healthcare providers to collaborate with clients, detect and answer patients' expectations. Nevertheless, clients and healthcare providers have diverse notions and expectations and both subjective and objective measures are necessary to evaluate the quality of care (Hudelson et al., 2008:33). According to Markham and Carney (2008:1346), communication was seen as a vital component of quality, especially in the multidisciplinary team, while areas of improvement were identified in feedback which was highlighted as an important element of the communication process. Respondents in a study by Markham and Carney (2008:1346), reported poor communication especially among multidisciplinary teams which negatively affected the clients by not delivering the appropriate care and preventing healthcare workers from working in harmony with one another. The respondents saw poor communication practice as a cause of frustration, whereas effective communication was seen as the basis for efficient and effective services, and a contributing factor in effective planning and delivery of quality service (Markham and Carney, 2008:1346). On the other hand, Brady and Cummings (2010:434) found that nurses regarded a positive working relationship as a sign of their capacity to deliver excellent care.

Brady and Cummings (2010:434) affirm that powerful communication between nurse leaders and their subordinates is supportive in constructing trusting links, which is imperative since client care can been enhanced by working together as a team. Strong communication may enhance constructive participatory commitment among nurse administrators and staff nurses (Brady and Cummings, 2010:434). Communication between nurse administrators and nursing staff creates a relationship whereby nurses get the chance to raise questions and nurse administrators are able to attend to questions, views and opinions which nurses have regarding their work, thus building connections between the nursing administrators and nursing staff

(Brady and Cummings, 2010:434). Brady and Cummings (2010:434) note also that working relationships among co-workers are an indicator of nurses' opinions on supporting elements in their work; hence nurses see progressive working relationships as a sign of their capacity to deliver excellent care.

Al-Qahtani and Messahel (2013:79) note thathealthcare providers, clients, and their family members should communicate well in order to guarantee safe and excellent care, and they encourage nursing managers to create a milieu of open communication and motivate nurses to give information where they encounter problems. Various studies on quality of care in relation to customer satisfaction have highlighted communication as a crucial instrument in assessing quality of care (Atinga et al., 2011:553)**.** According to Pathak, Holzmueller, Haller and Pronovost (2010:1), there is increasing proof that effective cooperation among health professionals of various fields is linked with enhanced client outcome. Meyer et al. (2009:274) affirm that communication is the foundation for other management tasks, and nursing unit managers should make timely communications and train other nurses on essential communication principles as communication can either hinder or enhance the quality of nursing care (Meyer et al., 2009:274).

2.7.2 Leadership support

Leaders have an obligation to constantly support the performance of tasks in the correct manner, as well as finding equipment and resources to support activities to answer associated problems (Bakerjian and Zisberg, 2013:408). The World Health Organization (2006:22) affirms that leadership support is crucial to the delivery of quality healthcare as there is proof that quality actions fail to achieve their anticipated results if there is no powerful and reliable leadership support at every stage for the activities undertaken. Involving leaders is a crucial element in safeguarding success, especially in maintaining accomplishments and creating a supportive milieu, thus supporting ideal practice and performance (Bakerjian and Zisberg, 2013:405-408). When there is no powerful and reliable leadership in the health structure even innovative strategic activities can easily fail (World Health Organization, 2006:22). McIntosh (2009:13) argues that nurse managers are crucial in delivering high-quality care and being accountable for provision of nursing staff plus materials and supplies. A study by Brady and Cummings (2010:438) has shown that nurse leadership plays an important part in inspiring staff to gain better understanding of customers' needs and beliefs; empowered nurses are keen to apply evidence-based practice to guarantee quality of care. Nurses stated that autonomous

practice, working relationships, availability of resources, individual nurse characteristics and leadership practices are aspects which encourage nurses to act well, thus it is crucial for healthcare institutions and nurse administrators to comprehend the aspects which motivate nurses to perform the work effectively (Brady and Cummings, 2010:438). Appreciating what factors enable nurses to act effectively and how nurse administrator scan guide them is essential in promoting quality nursing care and the related customer and institution outcomes (Brady and Cummings, 2010:438). Encouraging liberty among nurses in nursing practice is very influential for both nurses and the health institution in which they work, in that the nurses become confident and gain the momentum to deliver quality care as a result of the trust which their leaders have in them in regard to their knowledge and skills (Brady and Cummings, 2010:434). This indicates that once nurses are given freedom to work on their own they experience a sense of ownership in the institutional team, and are hence able to accomplish their work in the institution (Brady and Cummings, 2010:434).

Nurse administrators must be able to guide their subordinates and encourage opinions and activities which can lead to success of the institution's objectives such as favourable customer outcomes (Brady and Cummings, 2010:426). Deming emphasises the role which leadership plays in quality improvement and states that when administrative behaviours are not significantly improved in the organisation it leads to poor performance and vice versa when the upper level management behaviours are enhanced obviously leads to managerial behaviour lower down the hierarchy such that the staff are put in a greater situation to improve the quality of services they provide (Booyens, 2011:602). Leadership as well as the institutional philosophy are usually expected to be important components of a successful programme (Shaw, Kutryba, Crisp, Vallejo and Sunˇ, 2009:51).

2.7.3 Supportive culture

A supportive culture is crucial in quality improvement because it creates a conducive environment whereby employees become open, rational and straight forward, hence improving quality of care (Ababaneh, 2010:245)**.** The study by Ababaneh (2010:256) indicated a relationship between supportive culture and improved quality of practice. Chassin and Loeb (2011:564) state that in institutions with supportive culture, workers tend to gain trust, but when there is no trust among workers they do not report risky situations while it is still possible to amend them. When institution does not get such information no improvement can be achieved

hence worsening of the problems. In the study by Draper et al. (2008:3), participants pointed out that a supportive culture is crucial in attaining a significant progresses in quality.

2.7.4 Team work

A team is a small number of associated individuals that have related skills and common determination, needing shared effort, particular performance aims and collective action, and who commit themselves equally to the results (Huber, 2010:17). It is vital for nurses to work in a team and act as change agents to improve the quality of care (Izumi, 2012:265). It is important for healthcare professionals to work as a team because quality client care can be realised when healthcare professionals of different departments work together as a team and collaborate to form a dynamic mechanism constantly improving procedures and outcomes (U.S. Department of Health and Human Services, 2011:9).

2.7.5 Individual ownership and responsibility

Individual ownership and responsibility is important in improving the quality of healthcare delivery. Once the employees become accountable and responsible for whatever they do they gain ownership such that there is sustainability of the programme, hence improved quality of service delivery. This is line with the findings by Draper et al. (2008:4), where the director of quality improvement in a certain hospital reported that when the nurses of that hospital took ownership of quality of care in service delivery, they identified problem by collecting information such that they were able to recognise the problems, hence getting solutions. This was achieved through motivating nurses by sending them to national quality improvement meetings, acknowledging them in public, official award recognition ceremonies and sending them letters of recognition (Draper et al., 2008:6).

2.7.6 Performance appraisal

Performance appraisal helps an organisation to guarantee that the quality of care has been achieved and to maintain a reasonable human resource management process. Appraisal may provide feedback which can indicate whether the employees are achieving their objectives or whether they are improving the performance to the required level (Huber, 2010:716). In this regard, the employees' work is measured against various standards to determine the quality level of work performance (Huber, 2010:717). Booyens (2011:551) describes performance appraisal as an organised method in which a worker's strengths and advancement needs can be

assessed and where different approaches can be used to improve the worker's output. Performance appraisal can also be used as a tool to identify whether institutional goals were attained and at the same time find out if standards in the institution have been followed; errors also in work performance can also be identified (Booyens, 2011:552). Issues in work performance can be identified and eradicated and performance appraisal for a particular person can also reduce expensive turnover and absenteeism when staff have a sense of obligation to the institution (Booyens, 2011:552).

2.7.7 Mentoring

The aim of mentoring is usually to improve the quality of client care and the mentor does it by helping the learner or less experienced nurse to aquire the needed skills by demonstrating the skill to the junior nurse in actual practice, showing the correct techniques in catering for patients and how to take care of a particular patient care situation (Meyer et al., 2009:161). It is important for nurse leaders to guide, mentor and coach junior nurses so that they can to deliver quality nursing care, and all healthcare institutions need to include mentoring to enhance the quality of client care (Brady and Cummings, 2010:436). In nursing, professional mentoring involves the mentor or experienced nurse who directs and assists a nursing student or junior staff nurse (mentee) so that they may be successful in the profession; it is usually done through empowerment and career advancement (Meyer et al., 2009:160). The mentor helps the mentee or less experienced nurse through role modelling, such that the mentee gains intellectual development and confidence in entering the work partnership (Meyer et al., 2009:406).

2.7.8 Continuous development of staff

Continuous development and training of staff is necessary and an organisation needs to include ongoing training opportunities for staff and teams in its quality improvement plan to sustain and advance quality improvement efforts (U.S. Department of Health and Human Services, 2011:9). Meyer et al. (2009:254) state that in-service and continuing education should be enhanced in the nursing department, and that it is important to empower all employees and help them with profession advancement. According to Booyens (2011:391), the quality of employees' work life is improved once they able to advance in their career, thus career development of employees reduces the institution's turnover rate. Moreover, individual job fulfilment improves when staff members' capabilities are developed (Booyens, 2011:391). Batalden and Stoltz (1993:425) affirm that improvement in healthcare institutions relies on

professional knowledge, which may include particular domains of knowledge such as knowledge in the discipline of nursing. The same authors further state that continuous knowledge development is required in order for a healthcare institution to change, leading to continuous improvement. Continuous development of staff should be part of the institutional training and development programmes, as in most cases what is acquired in educational programmes easily becomes outdated and it is important for healthcare providers to keep on updating themselves to gain current knowledge in order to provide continuous safe and suitable care to clients (South African Association of Hospital and Institutional Pharmacists, 2008:16; Chandraharan and Arulkumaran, 2007:223). Healthcare professionals may perform well once they are trained in the tasks and services which they are accountable to and understand well (Australian Commission on Safety and Quality in Health Care, 2012:6).

Healthcare professionals need to be trained in different skills so that they can achieve better outcomes, which can help in creating a culture of patient safety (Hope - European Hospital and Healthcare Federation, 2013:28). The capability of healthcare professionals directly effects the quality of care and the degree of trust which patients and their families put in healthcare providers (National Department of Health, 2007:16). Therefore, healthcare professionals need to continue their education after completing their courses, and it is the responsibility of the healthcare institution to motivate healthcare professionals to embark on continuous education (South African Association of Hospital and Institutional Pharmacists, 2008:16). Continuous training and professional development produces healthcare providers who are capable and skilled (National Department of Health, 2007:17). Studies have shown that training healthcare providers in quality improvement enhances knowledge, skills, and attitudes, which may in turn enhance the quality of care delivery (Health Foundation, 2012:4). Therefore it is very important for healthcare institutions to introduce and support continuous development and in-service training of the employees so that the employees may gain knowledge, skill and skills and be updated with current knowledge which enables them to deliver high-quality services to their clients.

2.7.9 Ongoing feedback

Giving feedback to employees is very important as this may help them to know their weakness and strengths, thus leading to identification of strategies to improve their performance. Draper et al. (2008:6) state that ongoing feedback to employees from hospital leadership provides timely and useful feedback which is expected to assist in the quality improvement; this does

not happen when employees who do not receive feedback. McIntosh (2009:12) emphasises that assessing nursing practice requires that nurses providing direct care, and their direct supervisors together with the administrative management, are given feedback on the reviewed data in a manner which encourages corrective accomplishment (Mclntosh, 2009:12). Booyens (2011:275) is of the opinion that adequate feedback to workers from managers is crucial in that it helps to improve productivity and performance. This type of feedback should help a person to prepare particular objectives for progress and set quantifiable objectives, which is essential and should be attained according to particular deadlines and defined (Booyens, 2011:275).

2.7.10 Involvement of patients/clients in quality improvement activities

Optimal healthcare requires healthcare professionals to involve clients/patients and their families in treatment plan decisions which affect their adherence to treatment, since they have a crucial role to play in offering safe and quality healthcare (Australian Commission on Safety and Quality in Health Care, 2012:6). Involving patients and their families in the care offered enhances not only the patient's experiences but also the effectiveness of the plan, institutional practices, safety systems, quality initiatives and training (Australian Commission on Safety and Quality in Health Care, 2012:6). Involving patients in the care offered may enhance the efficiency of the care and the patient's satisfaction, because when patients are respected, have enough information and play a role in treatment choice they will more readily adhere to treatment strategies (National Department of Health, 2007:4).

HOPE-European Hospital and Healthcare Federation (2013:38) emphasises that communication is important in enhancing safety and quality of patient care, since involving patients and their families in care they receive can prevent misunderstandings. Patients should be involved in decision making concerning their health and they should know their rights, exercise them and partake in treatment decisions; patients together with their families need to be informed on agreed treatment plans (Australian Commission on Safety and Quality in Health Care, 2012:4). Healthcare service delivery can be enhanced when patients, their families and healthcare professionals share problems that may affect their ability to adhere to treatment plans (Australian Commission on Safety and Quality in Health Care, 2012:4).

It is also important to include clients and the community in decision making concerning their care; their contribution in delivering services is crucial, and healthcare providers need to consider different management alternatives in respecting clients' choices and providing assistance (Chandraharan and Arulkumaran, 2007:222). It has been shown that involving

patients and other employees in decision making can create ownership and decentralised management of patient safety (Hope - European Hospital and Healthcare Federation, 2013:20). Using feedback and reports from patients in identifying patient satisfaction level serves as another form of patient involvement and can be used to arrange in-service training of healthcare professionals (Hope - European Hospital and Healthcare Federation, 2013:22). Sharing feedback and reports from patients has helped healthcare professionals to enhance the job quality as well as their skills (Hope - European Hospital and Healthcare Federation, 2013:24).

It is important to encourage patients to be involved in the care they receive and to support their knowledge, treatment choices and self-management. It is also important for healthcare providers to make sure that patient-centred care is maintained and that treatment is offered in partnership with the patients and their families, respecting their varied needs, preferences and choices (Harris and Taylor, 2009:23). It is also important for patients to have sufficient information regarding the services they receive; patients need both health education and empowerment in regard to self-management of health, diseases and conditions (World Health Organization, 2002:7). There need to be sound local approaches to deliver quality healthcare for best possible results from innovative investment, especially in unindustrialised nations, to maximise resource use and increase population coverage (World Health Organization, 2006:3). Enhanced quality results are provided not just by health professionals but also by groups of people plus service users, and they have important roles and tasks in recognising their own needs and inclinations and handling their own health with suitable assistance from health professionals (World Health Organization, 2006:10). Healthcare professionals need to work within a suitable policy environment and comprehend the needs and expectations of people they serve to render quality outcomes (World Health Organization, 2006:11)..

2.7.11 Documentation and record keeping

Record keeping is the last phase in client evaluation and plays an important role in establishing continuity of care (Meyer et al., 2009:69). The quality of healthcare relies on precise and regular documentation of the care rendered, and recording can also prevent repetition of medication or forgetting to provide medication hence preventing medico-regal risks which may be expensive for client and the service providers (Booyens, 2010:132). All the information collected from the client should be documented, whether within normal limits all not, providing a standard to evaluate changes in the clients' situation and avoiding failure in future care delivery (Meyer et al., 2009:69). A study by McIntosh (2009:14) indicated that outcomes that

are not documented are considered not to be done, and neglecting to document information leads to shortfalls in reliable quality care provided to clients. Despite the significance of precise record keeping with the intention to improve quality of client care, records can also serve as legal documents and every nurse has a professional obligation to keep records (Meyer et al., 2009:69). Records should be kept so that every healthcare provider can use the records in rendering complete quality of healthcare (Meyer et al., 2009:69). Furthermore, documenting should be done immediately any activity is completed, and whoever does the documentation must make sure that the data is correct so that the client can make knowledgeable decisions (Booyens, 2010:135).

Precise documentation is frequently ignored on the grounds that nurses are overworked, but it is crucial for transmission of information among those concerned with providing health services where the nurses have a key role (Booyens, 2010:133). Statistics obtained from clients' documentation are also important for future healthcare planning (Booyens, 2010:133). Documentation provides a basis for designing, determining and appraising diagnostic techniques, therapy and care (Mclntosh, 2009:14). Documentation directs the regular administration of clients' issues and works as means of coordinating, offering a foundation for consistence of care delivery, proof of modifications in the client's situation, and evidence that care has been given (Mclntosh, 2009:14). McIntosh (2008:20) emphasise that appropriate recording shows quality care.

2.7.12 Auditing, monitoring and evaluation of quality improvement

The necessity for quality and safety improvement initiatives permeates health care (Hughes, 2008b:1). Clinical audit is a part of the continuous quality improvement process. It consists in measuring a clinical outcome or a process against well-defined standards, established using the principles of evidence based medicine. The comparison between clinical practice and standards leads to the formulation of strategies, in order to improve daily care quality (Esposito and Dal Canton, 2014:249). Evaluation is an integral component of quality improvement (Harvey and Wensing, 2003:210). This type of evaluation is useful for a number of different reasons including monitoring the impact of quality improvements programs, identifying and dealing with issues, comparing, and collecting more detailed information as part of a bigger evaluation project. Focused audits and developmental studies can be used for evaluation within quality improvements initiatives, while methods such as multiple case studies and process evaluations can be used to draw generalised lessons from local experiences and to provide examples of

successful programs (Harvey and Wensing, 2003:210). It is vital to make sure that monitoring and evaluation are rigorously done so that the planned effects are accomplished and unplanned adverse effects are excluded (Oxman, Schünemann and Fretheim, 2006d:83).

Evaluation and improvement of quality of care provided to the patients are of crucial importance in the daily clinical practice and in the health policy planning and financing. Different tools have been developed, including incident analysis, health technology assessment and clinical audit. Efforts to improve quality need to be measured to demonstrate whether improvement efforts lead to change in the primary end point in the desired direction, contribute to unintended results in different parts of the system, and require additional efforts to bring a process back into acceptable ranges (Hughes, 2008b:1).

2.7.13 Supervision

Supervision is dynamic method of leading, directing and persuading the end results of person's performance (Meyer et al., 2009:244). It is a process of providing advice for assigned nursing duties (Huber, 2010:242). Supervision is vital in improving quality of healthcare delivery and plays a crucial role in achieving institutional goals and objectives for improved nursing care delivery. In a study conducted in a university hospital in Geneva, respondents indicated that the role of supervision in improving the quality of care was fundamental, and indicated that technical competence attained through supervision and training, together with individual enthusiasm and good will, were recognised as vital in providing quality nursing care (Hudelson et al., 2008:33). According to Cummins (2009:218), clinical supervision offers significant support to novice employees and at the same time fosters recruitment and retention of nurses. Supervision in nursing care delivery is essential in that it fosters quality improvement in client care and plays a significant role in the advancement of healthcare providers, in guidance, in assessing nursing care and in proposing change where required (Meyer et al., 2009:228). However, nurses may have problems participating in clinical supervision due to increased workload in the healthcare institution that gives them insufficient time for prepare for the supervision (Buus, Angel, Traynor and Gonge, 2011:100).

2.7.14 Handover

Because healthcare providers, including nurses, perform their duties in different shifts, handover is important for continuity of care delivery for each client**.** Handover may happen when healthcare providers are rotating their duty, for example during break time or going off-

duty, or in transfer of clients within or between health institutions at time of admission, referral or discharge (Manser and Foster, 2011:181). According to Manias, Geddes, Watson, Jones and Della (2015:81), handover entails the transfer of accountability and responsibility for clinical information from one healthcare provider to another. According to Randell, Wilson and Woodward (2011:803), handover shows healthcare providers the points they need to understand, where more explanation is required, and assists in teaching and team cohesion. Handover may also offer an opportunity in the change of shift for discussion with the clients and their families (Randell, Wilson and Woodward, 2011:803).

A study by the Australian Commission on Safety and Quality in Healthcare (2011:3) indicates that actual clinical handover may reduce errors among healthcare providers, hence enhancing client care provision and safety. Absence of clinical handover may have severe consequences for clients, causing delays in the delivery of medicine or making diagnosis, and other problems in investigation, repetition of work and provision of incorrect therapy (Austrarian Commision on Safety and Quality in Healthcare, 2011:3). Manser and Foster (2011:181) also affirm that deficiency in training or systems for client handover can hinder practice required to sustain a high standard of clinical care. Furthermore, Manser and Foster (2011:181) argue that actual client handover is vital for client well-being in making sure that suitable coordination is achieved between health professionals and in continuity of care. In a study by Chaboyer, Mcmurray, Johnson, Hardy, Wallis and Sylvia (2009:140) nurse respondents confirmed that bedside handover could enhance nursing care as it brings the nursing group together. Likewise, clients supported bedside handover saying that it was the only way they could find out what was going on (Chaboyer et al., 2009:139). Novice nurses were happy with bedside handover, while the usual staff reported that handover procedure helped to confirm correct delivery of information (Chaboyer et al., 2009:139). Bedside handover also provides clients with opportunities to become aware of the care that has been organised for them and having this awareness gives them assurance that the care is suitable and secure (Chaboyer et al., 2009:139).

2.7.15 In-service training

In-service training, or in-service education, denotes consistent learning periods focusing on the continuous improvement of healthcare providers when they are on duty doing their allocated nursing tasks (Booyens, 2011:384; Booyens, 2010:216). In-service training usually includes introduction by institutional managers of new policies and techniques and presentation of scientific issues relating to clinical problems (Booyens, 2010:217). Moreover, in-service

training provides a chance of sharing appropriate current diagnostic and treatment procedures, use and maintenance of current equipment, best use of supplies, current institutional policy resolutions, and evaluating employees capabilities to keep them updated (Booyens, 2011:384; Booyens, 2010:217). Because hospital duties are fluid and subject to rapid changes, there is a need for constant in-service training for healthcare providers (Booyens, 2011:384). This helps to produce competent healthcare providers and improved quality of healthcare service delivery with enhanced patient satisfaction, enhanced reputation of the healthcare institution and trust in the healthcare system.

2.7.16 Staffing and staff management

Staffing is a human resource strategy to fill the posts in a healthcare institution with qualified individuals. Staff management deals with predicting workload, developing healthcare patterns, position control, duty allocation, demand management, staffing allocation and caregiver tasks (Huber, 2010:624). Staff management is also concerned with recognising patients' needs, hence providing human resources efficiently and effectively as required (Huber, 2010:632). In terms of nursing care delivery, the ways in which nurse leaders perform staff management affects the safety and quality of patient care (Huber, 2010:624). Nurse managers should have a plan in place which recognises the patients' needs and allocate nursing staff efficiently according to the workload, keeping in mind recommended standards of nursing care (Huber, 2010:632). It is important for nurse leaders and nurse managers to manage nursing staff efficiently in order to avoid compromising patient outcomes. A healthcare institution must have sufficient healthcare providers and manage them efficiently in order to consistently enrich the quality of patient care and enhance the satisfaction of healthcare providers. A healthcare institution cannot perform well when there is a lack of sufficient and suitable staffing (Cercone and O'Brien, 2010:17). Insufficient staffing and increased workloads may hinder quality service delivery and compromise patient outcomes. A report released by the Joint Commission on Accreditation of Healthcare Organisations indicated that inadequate nurse staffing in the United States has contributed to 24 per cent of death, and injury or persistent loss of function (International Council of Nurses, 2015b:6). Therefore, it is crucial to have adequate healthcare professionals working in suitable conditions and to manage them efficiently in order to enhance retention, hence improving quality of healthcare delivery and staff satisfaction. This can be achieved by designing appropriate human resource activities, linked to education and training,

and intended to maximise staff recruitment, staff satisfaction and advancement, and retention of healthcare providers (Rural Health Advocacy Project, 2014).

2.8 Factors that hinder quality of nursing care delivery

2.8.1 Shortage of nurses

Shortage of nurses is a major issue for health care institutions as it effects both daily nursing care activities and quality improvement (Al-Qahtani and Messahel, 2013; Draper et al., 2008:6). Shortage of nurses can require nurses to work for long hours in an unfavourable environment which can lead to tiredness, injury and job dissatisfaction (International Council of Nurses, 2015b:6). Nurses are the first to be directly involved in patient care; they spend much of their time with each patient when they are being admitted and the patient's recovery depends on them (Tang, Soong and Lim, 2013:51)**.** When there are not enough nurses the workload of each nurse escalates which also means that some of the work will be left undone (e.g. observations, hygiene, patient education, etc.) (Australian Nursing Federation, 2009:18). It is very important to consider the nursing care that nurses fail to provide when staffing shortage forces them to hurry in an attempt to serve all patients, reducing the quality of care (Australian Nursing Federation, 2009:18). Shortage of nurses and increased workload not only reduces the nurses' ability to provide all the required care but may also heighten exhaustion and risk of error (Australian Nursing Federation, 2009:18).

Shortage of nurses limits the amount of extra work that nurses can take on, including quality improvement activities, which may be significantly restricted (Al-Qahtani and Messahel, 2013:104), compromising the overall quality of nursing care and leading to patient dissatisfaction. A study by Coetzee, Klopper, Ellis and Aiken (2013:170) found that increased nurse-to-patient workload was linked to poor quality of nursing care and patient safety. On the other hand, enhancing the working milieu in a healthcare institution and improving nurse staffing can help in retaining qualified and dedicated nursing staff (Coetzee et al., 2013:171). Further, it has been found that the patient-to-nurse staffing ratio and the educational status of nurses appeared to play part in patient outcomes (Aiken, Sloane, Bruyneel, Van den Heede, Griffiths, Busse et al., 2014:6).

Inadequate nurse staffing can have adverse effects on patient outcomes. A study by Needleman, Buerhaus, Pankratz, Leibson, Stevens and Harris (2011b:1038) on registered nurses indicated that when nurses have an increased workload patient surveillance is reduced with adverse

effect. Similarly, Cimiotti, Aiken, Sloane and Wu (2012:4-5) confirmed the association of inadequate nurse staffing with urinary tract infection, where it was found that in health institutions where nurses cared for fewer patients there was less infection whereas where nurses cared for many patients infection rate was high. Various hospitals have recounted being critically affected by shortage of nurses and as anticipating further deterioration because ageing nurses were leaving the workforce and required nurses exceeded the supply (Al-Qahtani and Messahel, 2013:104). Benner, Sutphen and Leonard (2010) argue that nurses need to be both inventive and effective to offer quality care in the face of nursing shortage. Shortage of nurses will lead to stress and create an over burdened workload (International Council of Nurses, 2015b:6).

2.8.2 High administrative burden

High administrative burden can reduce the quality of nursing care delivery. In a study by Hudelson et al. (2008:31), respondents reported that administration in the healthcare system was a major issue impeding provision of quality of healthcare delivery by nurses through addition of administrative tasks to their workload. The administrative burden associated with quality improvement is reportedly so high that is often precludes nurses from having a more substitute role. With all the time spent on data collection analysis, it is hard to find the time to develop and implement changes. However, enhanced information technology systems and more automated processes could relieve much of the labour-intensive work such as annual chart reviews that are often required for data collection and reporting, freeing nurses to do more engaging and rewarding quality improvement work (Al-Qahtani and Messahel, 2013:106).

2.8.3 Growing demands

Health institutions encounter increasing need for extra quality improvement activities which may double the workload (Al-Qahtani and Messahel, 2013:106). Striving to attain quality benchmarks, with increased reporting of tasks by nurses, creates extra duties as does coordination of the numerous tasks that are involved (Al-Qahtani and Messahel, 2013:106).

2.8.4 Nursing turnover

Nursing turnover remains a critical challenge at all levels of a health institution (Hayes et al., 2012:887). Collaboration and interdependency between communities as a result of globalisation has led to increased movement of skilled workers, including healthcare

professionals, which has negative effects in some countries (Pillay, 2009:39). Movement of healthcare professional from one country to another or from one continent to another has not spared nurses. As nurses leave their place of work for well paid jobs either in private institutions or for opportunities overseas, the remaining nurses become fatigued as a result of increased workload (International Council of Nurses, 2015b:6). This leads to work discontent which can impede patients' recovery.

2.9 Guideline formulation/development process

The Institute of Medicine defines clinical practice guidelines as steadily established documents that assist healthcare professionals and clients in making judgement concerning suitable health care for precise clinical situations (Schünemann, Fretheim and Oxman, 2006a:2). Guidelines are thoroughly formulated statements that help workforce teams, beneficiaries and other stakeholders to generate knowledge regarding suitable health actions (World Health Organization, 2003:2). Guidelines are initially used to guide healthcare professionals on the type of intervention to carry out when they are collaborating with specific people or clients (World Health Organization, 2003:4).

Literature has shown that correctly formulated guidelines that are grounded on accessible evidence should help healthcare workers and the beneficiaries of health care, together with other stakeholders, to arrive at informed solutions (Yang, Chen, Li, Schünemann and Members of the Lanzhou International Guideline Symposium, 2013:2). Issues that should be included in guideline development include priority setting, group composition and consultation, declaration and avoidance of conflicts of interest, group processes, identification of important outcomes, explicit definition of questions and eligibility criteria, type of study design for different questions, identification of evidence, synthesis and presentation of evidence, specification and integration of values, marking judgement about desirable and undesirable effects, taking account of equity, grading evidence and recommendations, taking account of costs adaptation, applicability, transferability of guidelines, structure reports, methods of peer review, and planned methods of dissemination, implementation and evaluation (Schünemann et al., 2006a:1).

2.9.1 Priority setting

Although there is minimal proof to guide the selection of criteria and methods for initiating priorities, comprehensive similarities are available in the criteria that are utilised by several

institutions as well as practical arguments for choosing priorities, despite the fact that there are scarce resources and capability to develop guidelines (Oxman, Schünemann and Fretheim, 2006a:13). These resources should be utilised where there is maximum opportunity of enhancing health, equity and effective use of healthcare resources, taking into account issues of high burden of illness or new development of diseases affecting low- and middle-income countries (Oxman et al., 2006a:13). Oxman et al. (2006a:14) suggest other processes which can be used to decide on priorities including allocation of resources for formulation of guidelines as part of the routine budgeting process rather than being a distinct exercise. Furthermore, criteria for creating priorities should be implemented using organised and clear processes, and because data to inform judgements are often missing, unmeasured factors ought to be considered explicitly and transparently. Moreover, process ought involve consultation with potential end users and other stakeholders as well as the public, utilising well-consulted questions, and possibly using Delphi-like technique; group processes must guarantee complete involvement of all members of the group and the process used to select topic should be documented and open to scrutiny (Oxman et al., 2006a:14).

2.9.2 Group composition and consultation

There is realistic proof indicating the importance of group composition in the content of guidelines which are being formulated, and the group which formulates guidelines should be mostly comprised of essential stakeholders like consumers, healthcare providers inappropriate areas, as well as managers and policy makers (Fretheim, Schünemann and Oxman, 2006a:20). A group must consist of individuals with the essential technical skills, comprising information retrieval, systemic review, health economics, group facilitation, project management and writing and editing (Fretheim et al., 2006a:20). To perform effectively a leader must be able to advise the group in regard to tasks and process as well as facilitating equal participation of group members, and training should also be conducted, since some members may not be conversant with the techniques and procedures of formulating guidelines (Fretheim et al., 2006a:20).

2.9.3 Declaration and avoidance of conflicts of interest

A conflict of interest takes place if an individual's secondary interests (e.g. financial) interfere with decisions concerning specific primary interests like clients' welfare (Boyd and Bero, 2006:27). Even though there is little genuine evidence to direct the development of disclosure

forms, specific detailed structured forms should be formulated to obtain sufficient information regarding the nature and extent of competing interests from group members (Boyd and Bero, 2006:26). Proper management is best determined in specific approaches to answers that reveal conflict of interest (Boyd and Bero, 2006:26).

2.9.4 Group processes

Some approaches can facilitate consensus in formulating guidelines and making sure that input from different individuals are equally considered (Fretheim, Schünemann and Oxman, 2006b:31); these include nominal group technique, Delphi method and consensus conference (Fretheim et al., 2006b:33). A competent leader who is accountable should be chosen to facilitate the proper group process (Fretheim et al., 2006b:31).

2.9.5 Determine which outcomes are important

Determining which outcomes are significant should be transparent and clear, and consultation processes should commence with identification of all appropriate outcomes related with intervention while including all consumers in choosing outcomes (Schünemann, Oxman and Fretheim, 2006e:36). Research values and preferences should be utilised to guide the ranking of outcomes whenever possible, and, because outcomes differ across cultures, ranking should obviously be done by individuals in the particular setting who are able to take account of local values and preferences (Schünemann et al., 2006e:40). Priority should be given to important outcomes such as mortality, morbidity and quality of life (Schünemann et al., 2006e:39). Furthermore, ethical considerations should be considered when choosing outcomes, and when there is no proof concerning significant outcomes this must be acknowledged rather than disregarding the outcomes (Schünemann et al., 2006e:39-40). If there is inadequate proof to update decisions regarding grading outcomes, use of systematic and transparent methods becomes crucial, as does inclusion of significant stakeholders, consumers and individuals from different cultures, to make sure that all essential outcomes are taken into account in local adaptation of guidelines (Schünemann et al., 2006e:40).

2.9.6 Evidence to include in guidelines

Although guidelines need to incorporate evidence of the effects of interventions or actions which are reflected in the recommendations, such evidence does not in itself indicate what must be done (Oxman, Schünemann and Fretheim, 2006b:42). Other categories of needed evidence

are mainly context-specific while the study design to be involved is devoted to the interventions and outcomes which are examined (Oxman et al., 2006b:42). Oxman et al. (2006b:42) recommend that choice regarding the extensive range of possible study design should be formulated in relation to the characteristic of the interventions being considered and the evidence, time and resources that are available. Decisions about what study design to include in guideline formulation should be made explicitly and with careful distinction being made between absence of evidence, evidence of no effect, and recognition of doubt (Oxman et al., 2006b:42). Expert opinion is not a type of study design and must not be used as evidence, but it should be recognised and evaluated systematically and transparently (Oxman et al., 2006b:42).

2.9.7 Synthesis and presentation of evidence

Because organising a systematic review can take a long time and requires ability and resources, it is important to use an existing review if possible, which should be updated when required. Standard criteria such as AMSTAR ("a measurement tool to access review") should be used to critically evaluate the present systematic review (Oxman, Schünemann and Fretheim, 2006c:49). Oxman et al. (2006c:49) suggest that when time or resources are scarce it may be necessary, in assigning a new review, to begin with a quick evaluation. The technique used to perform the assessment should be reported, including important limitations and uncertainties and clear consideration of the necessity and urgency of undertaking a full systematic review. In considering the need for systematic review to inform recommendations, the first step is to critically assess existing reviews to determine if they offer sufficient summary of the appropriate evidence that is required, such as evidence of the effects of the different interventions which are considered (Oxman et al., 2006c:49). When an adequate summary of the evidence is available, consideration must be given to how best to present the information to the group of people who will consider that evidence, together with other evidence and judgements to develop guidelines; there must also be due consideration of additional information that is needed and how it can be summarised and presented (Oxman et al., 2006c:50).

2.9.8 Grading evidence and recommendations

The users of guidelines need to have confidence in the core evidence and the recommendations; clear, systematic perception of the quality of the evidence and the strength of the

recommendations may help to avoid errors, enable critical judgement and enhance the information provided (Schünemann, Fretheim and Oxman, 2006b:59). The quality of evidence and the strength of recommendations should be graded and the criteria used to grade the strength of the recommendation should include the quality of underlying evidence but should not be limited to that. The grading should be done using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) method which is internationally recommended (Schünemann et al., 2006b:59).

2.9.9 Integrating values and consumer involvement

The effect of a decision, ethical considerations, and the ideas that determine what is correct crucially affect the recommendations provided (Schünemann, Fretheim and Oxman, 2006c:66). The values used in formulating guidelines should consider the individuals who will use the guidelines, the conclusions should be clear, and the contribution of the users should be taken into account (Schünemann et al., 2006c:66). Schünemann et al. (2006c:66) recommend the use of local values once there is doubt regarding values in decision making, so that individuals from different backgrounds do not end up having different options about interventions.

2.9.10 Incorporating considerations of equity

The World Health Organization supports the eradication of health inequities as an imperative aim and encourages twofold aims of equity and efficiency for healthcare services (Oxman et al., 2006d:81). Since the evidence for actions to minimise inequalities is not strong it is crucial to make sure that monitoring and evaluation are strictly done so that the planned effects are accomplished and unplanned adverse effects are excluded (Oxman et al., 2006d:83). Furthermore, it is important to consider associated ethical and legal standards in particular locations, bearing in mind the availability of resources to solve the inequities, since disadvantaged people have poorer access to care and usually get poor quality of care, in which case institutional modifications may be required to overcome inequities (Oxman et al., 2006d:83).

2.9.11 Applicability, transferability and adaptation

Because optimal recommendations can require scarce resources, internationally formulated recommendations may enable better access to resources and minimise unnecessary repetition

(Schünemann, Fretheim and Oxman, 2006d:86). Schünemann et al. (2006:86) state that priority should be given to global health issues and issues that are significant in low- and middle-income nations where the expected benefits are paramount. Furthermore, Schünemann et al. (2006:86) emphasise that factors which effect transferability of recommendation across various locations should be systematically recognised and acknowledged, bearing in mind modifying factors and essential variations in needs, values, costs and accessibility of resources. Indigenous adaptation of universal recommendations method should be orderly and transparent, with participation by stakeholders, key factors which affect decisions should be reported, plus those highlighted in universal guidelines, and the aim should be specified for changes that may occur (Schünemann et al., 2006d:87). Adaptation and application of universal recommendations should be done through developing tools, building capacity, gaining knowledge from internal experience and comprehensive guidance (Schünemann et al., 2006d:87).

2.9.12 Reporting guidelines

There should be a standard plan for reporting guidelines, and the reports should use standard headings similar to those of the Conference on Guideline Standardization (Oxman, Schünemann and Fretheim, 2006e:96). The quality of proof and the strength of recommendations should be reported clearly using a standard method and the means by which recommendations are developed should be adjusted to particular characteristics of precise guidelines (Oxman et al., 2006e:96). Oxman et al. (2006:99) list the following points for inclusion in reporting guidelines: the approach used to search for literature should be explained together with the sequence of dates and databases searched plus the criteria considered to identify the retrieved proof; the criteria used to measure the quality of the proof that underpins the recommendations should be specified, along with the approach for explaining the strength of the recommendations; explanations of how the developers reviewed the guidelines should be included along with updating of the guidelines plan, including the expiry date for the guidelines; unfamiliar terms should be defining; the recommendations and the rationale need to be precisely stated, specifying the particular conditions in which they apply. Expected potential benefits and risks related to execution of guidelines must be explained; explanation of the customer's inclinations is required if the recommendations include a considerable component of individual choice and values; explanation included of steps and decisions in clinical care in the guideline; explanations should be considered of expected obstacles to implementation of recommendations; references must be given for any supporting documents

for providers/patients which are intended to facilitate implementation; and review criteria must be introduced for assessing changes in care during guidelines implementation (Oxman et al., 2006e:99).

2.9.13 Disseminating and implementing guidelines

Fretheim, Schünemann and Oxman (2006c:102) advise that organisations should encourage strict appraisal of implementation approaches and adaptation. The authors add that implementation of guidelines should be done locally and at the national level. In addition, organisational head offices and provincial offices must sustain the development and there must be assessment of execution approaches by local experts.

2.9.14 Evaluation of guidelines

Oxman, Schünemann and Fretheim (2006f:106) advise that AGREE tool should be used to appraise guidelines, adapted and tested to make sure they are appropriate to the comprehensive variety of recommendations, and including of issues of equity and other subjects that are specific to the guidelines. In addition, practices must be introduced to make sure that guidelines are monitored regularly to check whether there is a need for update (Oxman et al., 2006f:106). Furthermore, periodic review of guidelines by experts who were not involved in formulating guidelines should also be considered, and attention should be given to forming a guidelines group who will facilitate regular updating, with rotating membership in which each member serves for a specific time (Oxman et al., 2006f:107). Guideline group members should regularly identify significant uncertainties and research priorities; the basis of possible priorities for research should be used to notify priority-setting processes for global research (Oxman et al., 2006f:107).

2.10 Conclusion

This chapter reviewed literature on healthcare quality improvement. The literature review was presented under different subheadings: the concept of healthcare, theories on quality improvement, components/dimensions of quality of healthcare services, standards of quality in healthcare profession, quality improvement activities, factors facilitating quality of nursing care delivery, factors that hinder quality of nursing care delivery, studies on quality healthcare in Rwanda, and guideline formulation. The next chapter describes the research methodology that was used in this study.

Chapter 3
Research Methodology

3.1 Introduction

This chapter focuses on the research design, research setting, the population, the sample size and sampling, the research instrument, and validity and trustworthiness of data. This chapter also explains how data was collected and the research methods which was used for data analysis. The research also explained the ethical considerations and the data management which was involved in this study.

3.2 The research paradigm

A paradigm is a set of views and practices that is shared by a team of investigators and which controls investigations in different domains (Weaver and Olson, 2006:459; Plack, 2005:223). Clark and Creswell (2008:35) state that paradigms are accepted views confined to a group of researchers with the same understanding in regard to which questions are more significant and what ways are suitable for answering those questions. According to Morgan (2007:49), a paradigm is a system of beliefs and practices that influences the way investigators choose inquiries and the approaches that they can use to study those questions. According to Plack (2005:223), a paradigm determines the category of research inquiry, the methodological technique of the inquiry and the criteria for evaluating credibility of the investigation. Paradigms also guide the ways in which an inquiry is conducted: how the inquirer gets to know the facts and the reality, and gets to understand the reality (Plack, 2005:223).

This study is governed by a pragmatist paradigm according to which the research questions should guide the inquiry and which involves both induction and deduction (Polit and Beck, 2012:604). In this study pragmatist paradigm was used, as it provided opportunities to use different methods of data collection, analysis, and to develop quality improvement guidelines for nurses at a selected tertiary hospital in Rwanda. This was because pragmatism aims at solving practical problems in the real situation rather than relying on assumptions about the nature of knowledge (Feilzer, 2010:8). In addition, a pragmatist paradigm was considered because it is a practical method for solving problems and has strong links with mixed methods research (Cameron, 2011:101) which this study has used as its research approach. Pragmatism

is a significant element in mixed methods research which permits various forms of data collection and analysis (Creswell, 2014:11). This can give more comprehensive strength to the study than is possible using a single approach (Creswell, 2014:4).

Selection of a research paradigm depends on the type of questions which will enable the investigator to examine the issues which they expect to be of interest (Tuli, 2010:103). The paradigm which is chosen reflects the researcher's beliefs about what reality is (ontology), what counts as knowledge (epistemology), how the knowledge can be gained (methodology), and last but not least the values held (axiology) (Andrew and Halcomb, 2009:120). Paradigmatic speculations and opinions direct the researcher not only in the choice of methodology and the nature of the researcher–researched relationship, but also in the means in which the validity of the research is evaluated and warranted (Andrew and Halcomb, 2009:121).

3.3 Research approach

In this study a mixed methods approach (quantitative and qualitative) was used. A mixed methods approach is an approach in which investigation includes collection of both quantitative and qualitative information (Creswell, 2014:4; Andrew and Halcomb, 2009:xv). It incorporates two approaches, using different methods that comprise both philosophical assumptions and theoretical framework (Creswell, 2014:4). Using both quantitative and qualitative approaches offers a more comprehensive understanding of the study problem than using a single technique (Creswell, 2014:4). A quantitative approach was adopted to conduct an audit of quality improvement activities by nurses using a check list, and a qualitative approach was adopted using interview guides to analyse the factors associated with quality improvement by nurses coupled with patient satisfaction with the quality of care received. The study thus involved two methods of data collection, each with its own distinct design. Mixed method was chosen because this combination of both quantitative and qualitative approaches provides a more complete understanding of the research problem than a single approach, as outlined by Creswell (2014:4). Mixed methods are necessary to give the study a more comprehensive strength than is possible using qualitative or quantitative research separately (Creswell, 2014:4).

3.4 Research design

Research design determines how particular actions in the investigation, either qualitative, quantitative or mixed methods, will be guided (Creswell, 2014:12). In this case the study design

helps the researcher to organise all the elements of the study in a manner that is most likely to achieve an effective outcome on raised questions (Burns and Grove, 2009:41). For the purpose of this study, exploratory and descriptive study designs were used to explore and describe quality improvement by nurses at a selected tertiary healthcare facility in Rwanda. According to Sim and Wrights (2002:50), exploratory research design enables the research to gather detailed information from research participants, generating knowledge and comprehension through interaction of the researcher with the participants; this is what took place in in the data collection phase of this research study. In descriptive study design the researcher used different methods (e.g. a checklist and observations) to collect information in the areas of interest (Sim and Wright, 2002:71-72). The above-mentioned study designs guided the researcher in selecting two research approaches to collect data, leading to a more comprehensive understanding of the study problem than using a single technique, as recommended by Cresswell (2014:4).

3.5 Research setting

A research setting is an environment, either natural or controlled, in which a study is carried out (Burns and Grove, 2011:40). For the purpose of this study, the study was conducted at a selected healthcare facility in the Republic of Rwanda (see Figure 2 below: map of Rwanda).

Figure 3.1 Map of Rwanda

Rwanda is a land-locked country which lies 1,200 kilometres from the Indian Ocean and 2,000 kilometres from the Atlantic Ocean (National Institute of Statistics of Rwanda, 2012: 1). It borders Uganda in the north, Tanzania in the east, Burundi in the south and the Democratic Republic of Congo in the west. Rwanda is in the great lakes region of East Africa and is divided into provinces, sectors, cells and villages. Rwanda is a mountainous country with rolling hills, hence the name, country of a thousand hills". The country has a surface area of 26,340 square kilometres with an average density of 368 inhabitants per square kilometres and an estimated population of 11,274,221 in 2015, which is the concluding year for the Millennium Development Goals (National Institute of Statistics of Rwanda, 2014:20). The study was conducted at a selected tertiary healthcare facility in Rwanda which had a total of 250 nurses: 1with a master's degree, 34 with bachelor's degree, 121 with advanced diploma and 94 enrolled nurses. Of the 250 nurses total, 200 worked at the hospital itself and the remainder were engaged in community service outreach activities or pursuing their studies within and outside the country. The selected healthcare facility had 71 doctors of which 37 were general doctors

and 34 were specialists, with an average of 3,375 patients attending outpatient, 525 inpatients per month, and bed capacity of 250 beds.

3.6 Study population

Burns and Groove (2011:290) and Polit and Beck (2012: 273) define population as a specific group of people who are the interest of the researcher. Population is the entire group of elements that meet the study criteria (Schmidt and Brown, 2012b:248). Target population is the entire set of individuals or elements who meet the sampling criteria (Burns and Grove, 2011:290). The target population in this study were the registered nurses at the selected healthcare facility in Rwanda and patients who had come to the selected healthcare facility seeking healthcare services at the time of data collection.

3.7 Sampling and sample size

Sampling is a process of choosing a group of individuals, events, behaviour, or other elements in order to carry out a study (Burns and Grove, 2011:290). In this study purposive sampling (or judgemental sampling) was used, which is a process of selection by the researcher of participants, elements, events, or incidents to participate in the study (Burns and Grove, 2011:313). Purposive sampling was used in the qualitative research to select participants (registered nurses and patients) who would provide rich and in-depth information in the area of study, and this process was facilitated by the administration of the selected hospital. In the quantitative research, the researcher purposively selected 13 quality improvement documents in 11 units/departments to cross-check whether nurses had quality improvement documents to support them to improve the quality of care (Annexure 4). The process of selecting the participants was facilitated by the hospital management who acted as gate keeper. The researcher stopped collecting quantitative data when all relevant documents had been accessed and all relevant information had been obtained.

Schmidt and Brown (2012b: 489) state that a sample is a selected group of elements that is representative of the eligible element. In this study, the qualitative data sample size depended on redundancy and saturation of the information, and redundancy was achieved when the same information was repeated and no new information was generated from different participants in the study, while saturation was achieved when there was no more relevant information emerging from participants. Regarding the sample size for registered nurses, the saturation was

achieved at 15 nurse participants, while with client participants the saturation was achieved at 17 client participants.

3.8. Eligibility Criteria or Inclusion Criteria

Inclusion criteria are characteristics that each element must possess in order to be included in the study (Schmidt and Brown, 2012b:250; Burns and Grove, 2009:345). Eligibility criteria or inclusion criteria sometimes also referred to sampling criteria are those characteristics that a subject or element must possess to be part of the target population (Burns and Grove, 2009:345). The inclusion criteria for patients who were interviewed were those who had been in the hospital for healthcare services more than three times, as there were expected to be experienced with healthcare services rendered at the selected hospital and were present and willing to participate in the study at the time of data collection. While exclusion criteria were those who had been to the hospital less often as they were not expected to have relevant experience with the healthcare service delivery as well as those who were not willing to participate in the study. For nurse participants, the inclusion criteria were registered nurses of the selected hospital who were present and willing to participate at the time of data collection and exclusion criteria were nurses who were not registered nurses and those who were not willing to participate in the study.

3.9 Research instrument

In this study the research instrument used to collect quantitative data was a checklist of areas in quality improvement, comprising the following four main sections: Section A – quality improvement documents; Section B – process control based on standards; Section C –human resource management; Section D – process improvement based on quality of improvement procedures. The checklist was adapted from Duckers, Makai, Vos, Groenewegen and Wagner (2009:15-16); Wagner, Coppen and Poortvliet (2006a:2-5) and Dinny, Bakker and Wegen (1999:123-124), and was modified by the researcher to suit the Rwandan context (Annexure 4).

In the qualitative phase, interview guides were used to collect data from nurses at the selected hospital and patients/clients who had attended the hospital for healthcare services more than three times and were thus expected to have had experience of the care provided (as distinguished from patients who had attended less often). The nurses' interview guide covered the following topics: perception of quality improvement, quality improvement activities carried

at the selected hospital, experiences of nurses regarding quality improvement, perceived patient satisfaction, challenges encountered in quality improvement, and strategies used to improve the quality of care (Annexure 5).

Topics included in the patients' interview guide were the following: experience regarding quality of care, accessibility of healthcare services, and satisfaction with the quality of care – adapted from Ministry of Health, Sri Lanka (2010:21) and Javed (2005:69-72), and modified by the researcher to suit the Rwandan context (Annexure 6). The interview guide for patient participants was translated into Kinyarwanda (the local language) so as to allow even those who could not speak English a chance of participating in the study.

3.10 Validity and trustworthiness

To achieve quality of data, measures for validity and trustworthiness were incorporated in this study.

3.10.1 Validity

Validity is the degree to which a research instrument measures what it is supposed to measure (Polit and Beck, 2012:336; Schmidt and Brown, 2012a:228; Andrew and Halcomb, 2009:Xvii; Newell and Burnard, 2006:51).Validity in this study was determined through cross-validation between content validity and face validity.

Face validity

According to Polit and Beck (2012:336), face validity indicates whether an instrument seems to be assessing the target construct. The questions that were posed focused on the quality improvement activities at a selected tertiary healthcare facility in Rwanda and were chosen in relation to the research objectives and conceptual framework. The checklist used in this study to obtain quantitative data was specific to the state of hospital quality improvement and depended on comceptual framework and research objectives, and was sent to supervisor and the statistician for validation.

Content validity

Content validity focuses on evaluating whether distinct items are applicable and are suitable in terms of construct and whether the items taken together measure all the magnitudes of the construct (Polit and Beck, 2012:337). Content validity looks at the degree to which an

instrument has a suitable sample for the construct being measured. For the purpose of this study, content validity was ensured by assessing items in data collection instrument against the research objectives and conceptional framework to verify whether they measured all the components to be examined. This type of validity was used to develop a questionnaire which is in form of checklist.

Table 3.1 Content validity focus: quantitative data only (Summary of content validity: objective and measurement).

Research objectives	Research questions	Conceptual framework	Questions
To conduct an audit of quality improvement activities by nurses at a selected tertiary healthcare facility in Rwanda.	What quality improvement activities are carried out by nurses at a selected tertiary healthcare facility in Rwanda?	Structure standards	Checklist tool of state of hospital quality improvement (Questions on sections A, B, C and D).

3.10.2 Trustworthiness

To achieve quality of information in the qualitative data the researcher incorporated measures for trustworthiness. Trustworthiness is a process of establishing strictness in qualitative data in order to achieve quality information. Trustworthiness is the degree of confidence which the qualitative researchers have in their data and it is evaluated by applying the following criteria: credibility, transferability, dependability and conformability (Polit and Beck, 2012:745). Lincoln and Guba (1985) state that trustworthiness of a study is crucial in assessment of its worth and includes establishment of credibility, transferability, dependability and conformability. Similarly, Andrew and Halcomb (2009:xvii) state that trustworthiness is the extent of certainty which the researchers have that their qualitative information and outcome are credible, transferable and dependable.

Credibility denotes confidence in the truth and interpretation of the data and involves conducting a study in a way that enhances the believability of the findings and taking a step further to demonstrate credibility in the report of the study (Polit and Beck, 2012:585). For Lincoln and Guba (1985), credibility means confidence in the truth of findings of a research study and is also the most crucial factor in establishing trustworthiness. The researcher maintained credibility of qualitative enquiry by maintaining a conducive environment for the participants through listening attentively and understanding well the information generated

from the participants as well using probing techniques in order to elicit respondents to generate more information and make appropriate interpretation.

The researcher also achieved credibility by reading and re-reading transcribed information to gain deeper understanding and become better acquainted with the data (Newell and Burnard, 2006:100). In addition the researcher maintained the credibility of data by collecting data until there was redundancy and saturation of the data. Peer debriefing was also done to help the researcher attain data credibility. This was done by getting advice from colleagues who were not involved in the study but had knowledge about the study, and who assisted in examining the transcripts and recorded interviews, the type of methodology used and the analysis of the information (Lincoln and Guba, 1985). The researcher also maintained credibility with the help of the research supervisor and by auditing the verbatim transcriptions against the audio-recorded interviews so that the data could be analysed and interpreted exactly according to what the respondents had said (Tucket, 2005:32).

Credibility of data was maintained by applying a member-checking process which entailed the researcher contacting participants again to cross-check on the themes created so as to confirm credibility of the data. The identification, and contacting the participants was assisted by the hospital management, and this was done at different occasions: during data collection, coding and data analysis by using telephone, through email and face to face at the time of data collection. In this case, the participants were able to identify errors or items where the researcher had not interpreted the data well, thereby also allowing participants to give more information or improve on the original information, enhancing adequacy of the data (Creswell, 2009:191; Patton, 2002:561). This helped the researcher to make amendments where necessary, since the participants were the ones with genuine knowledge of the issues being studied and would have thorough information concerning the environment in which the experiences took place (Creswell, 2009:191; Patton, 2002:561). The above-mentioned processes helped the researcher to get reliable feedback that was useful in checking for instances where the researcher might have overemphasised or underemphasised ideas, and for general errors, or biases introduced by the researcher; this permitted the researcher to write up a reliable report (Lincoln and Guba, 1985).

Dependability implies that if a study was to be repeated in a similar environment overtime, using the same technique with the same participants, the same results would be achieved (Shenton, 2004:71; Lincoln and Guba, 1985). Credibility cannot be achieved in the absence of

dependability (Polit and Beck, 2012:585; Lincoln and Guba, 1985), and dependability indicates that the outcomes of the study are consistent and can be repeated (Lincoln and Guba, 1985). To maintain dependability the researcher gave a detailed report on research design and how it was performed –including sampling methods, data-collection approaches, full, detailed information on whatever took place in the field, and all plans that were carried out to implement the study –and a reflective assessment of the study was made to allow other future researchers to replicate the same study wherever necessary (Shenton, 2004:72).

Transferability implies the extent to which qualitative findings can be transferred to other settings or groups, and can be another method of generalisation in qualitative research approach (Polit and Beck, 2012:745). In a qualitative approach the findings cannot be generalised to other people or to another environment since there is a small sample size (Morrow, 2005:252; Shenton, 2004:69). Lincoln and Guba (1985) argue that transferability is the extent to which the outcomes of the study can be applied in another setting or to other participants, and it involves thick description of data and the method of sampling. In this study, a thick description was conducted which involved a detailed description of research methodology (research approaches, setting, sampling, data collection and analysis) and descriptions of the collected data in the context of quality improvement. This enabled them to be reported with sufficient detail and precision to allow the reader to make decisions about transferability, as recommended by Lincoln and Guba (1985).

Conformability refers to the potential for congruence among independent persons concerning the accuracy, relevance, or meaning of the data. In this case the established data should represent information which the participants have presented and not merely the inclination of the investigator (Shenton, 2004:63). Lincoln and Guba (1985) state that "conformability is the degree of neutrality or extent to which the findings of a study are shaped by the participants and not the researchers bias, motivation, or interest. The findings must reflect the participants' opinion and the conditions of the investigation and must represent the information the participants delivered, and the interpretation of the information should not be created by the researcher (Polit and Beck, 2012:585).

In this study, the researcher achieved conformability by using an audio recorder so that no information was missed, and attentive listening was applied so that the researcher could hear and understand well the information provided by the respondents. Furthermore, the researcher used observations to obtain data from different sources in order to get in-depth understanding

of the information. In addition, the researcher used a self-reflection approach in order to achieve quality data; this entailed the researcher re-examining her experience, values and personal preconceptions about research study which might affect the outcomes of the study (Andrew and Halcomb, 2009:128). The researcher also kept all the information transcribed from the interview and from the audio recorder, and all communications obtained from different persons and events encountered in the research study, as recommended by Andrew (2009:128). To achieve conformability the researcher also used probing and encouraged participants to express opinions of their experiences so that the researcher could obtain rich and detailed information, thus avoiding misinterpretation of occurrences as experienced by the participants (Jootun, McGhee and Marland, 2009:42). With conformability, it is crucial for the researcher to understand his/her own beliefs and opinions and get immersed in the study so that he/she is able to be part of the study, as this assists in maintaining quality information and avoids misconception of the phenomenon (Jootun et al., 2009:42).

3.11 Data collection method

Data collection is the process of gathering information to address a research problem (Polit and Beck, 2012:725). Before collection of data, ethical clearance was sought from the University of KwaZulu-Natal Humanities and Social Sciences Ethics Committee. Permission to collect data also was sought from Ministry of Health and from the selected tertiary health care facility in the Republic of Rwanda. After obtaining the ethical clearance, time was arranged to meet the participants at the selected tertiary healthcare facility. The researcher contacted the administration of the tertiary healthcare facility to acquire participants for interview; the interviewees comprised registered nurses of the selected tertiary healthcare facility and patients who had been to the hospital for healthcare services more than three times, as those who had been to the hospital less often would not have relevant experience with the healthcare service delivery.

In collaboration with the nurse managers a convenient room was arranged by the researcher to meet the participants for interview. The researcher made sure that the environment was safe for the participants in terms of confidentiality by making sure that the room where interviews took place was quiet and safe and that nobody would be able to identify those who were being interviewed, so that it would be not possible to link the information obtained with the participants interviewed. The researcher explained to the participants that participation was voluntary and that whoever wished to withdraw from the study could do so without any risk or

prejudicial treatment. Those who were willing to participate in the study signed a consent form first before participation. Furthermore, participants were assured of confidentiality and anonymity. This was maintained by making sure that the names of participants were not used, with code numbers being used instead. The researcher also informed the participants that no identifiable information was indicated on check list or on the interview guide form and that only those who signed a consent form were interviewed. Furthermore, the researcher kept safe the audio recorder and the transcribed data. It is the responsibility of the researcher to verify the typed transcript against the original recorded information since the person typing may mishear words that were spoken (Newell and Burnard, 2006:98).

Data collection in the quantitative phase was done using a checklist to describe the quality improvement activities at a selected healthcare facility in Rwanda. The researcher used the checklist tool to cross-check quality improvement documents in 11 units/departments to access whether nurses had quality improvement documents to support them to improve the quality of care, hence enhancing quality improvement activities. The process involved ticking whatever document was available and in use. For example assessing whether the hospital had quality improvement documents and whether these documents were available to the users, and whether they had standards serving as guidelines for service delivery and whether they were available to the users. If an item was not available, or available but not accessible to the user, the researcher indicated this on the check list.

Table 3.2 summary of data collection

Data collection approach	**Population**	**Sampling**	**Sample size**	**Data collection methods**
Quantitative	Documents from 11 departments quality improvement documents, and process control based standards.	Purposive sampling	13 documents from 11 departments	Checklist
Qualitative	Registered nurses at the selected healthcare facility in Rwanda and patients who had come to the selected healthcare facility seeking healthcare services at the time of data collection	Purposive sampling	15 registered nurses; and 17 patients for the qualitative data collection	Interview guide
Nominal group	Nursing managers of the selected tertiary healthcare facility in Rwanda and experts in nursing management and guideline development from South Africa	Purposive sampling	12 nurse managers and experts in guideline development	Generating ideas, recording ideas, discussion and voting priority ideas through group discussion

For translation of the patients' interview guide from English to Kinyarwanda, the researcher used the services of a certified translator who knew both English and Kinyarwanda well. This enabled the leader to understand whether what had been asked in the local language was the same that was asked in English. Furthermore, the translator transcribed what participants had said from Kinyarwanda (local language), to English and back to Kinyarwanda and to English again to make sure that what participants had really said was exactly what had been written and also to enable the leader to understand the information obtained from participants. Furthermore, proofreading was done to make sure that what had been written was what the participants said.

3.12 Data analysis

Data analysis is the systematic organisation and synthesis of data; in quantitative studies this may involve testing hypothesises using that information (Polit and Beck, 2012:725). For the purpose of this study, the researcher consulted the supervisor and statistician for assistance and guidance in analysing the data so that the credibility and validity of the research study could be maintained.

Quantitative data were analysed using SPSS (Statistical Package for the Social Sciences), version 23. Descriptive statistics were used to describe the research phenomena and frequency, and bar diagrams and percentages were used and compiled to communicate the data (Burns and Grove, 2009:471). Data was also interpreted to render it more meaningful, explaining the results and comparing them to the literature reviewed. In addition, the checklist was numbered and coded to enable data capturing and auditing of the captured data. Qualitative data analysis was done using a coding system and thematic content analysis was used to analyse raw data, at the same time helping the researcher to organise the information that was gathered from interviews (Newell and Burnard, 2006:99). "Thematic content analysis is a descriptive presentation of qualitative data" (Anderson, 2007:1). The researcher cross-checked the typed transcript against the tape recorded data to verify whether there was any mishearing of the information (Newell and Burnard, 2006:98). Furthermore, the researcher first identified the themes by creating a template from the information the participants had given and after identifying the topics or themes the researcher examined the information for examples of words under each theme and then pasted them to the corresponding themes (Newell and Burnard, 2006:99). In addition, after identifying the themes, the researcher identified subthemes and categories, and the information that corresponded with the subthemes and categories was put

under each corresponding subthemes or category until the researcher had captured everything that had been said by the participants (Newell and Burnard, 2006:99). In the analysis of data, the transcribed and audio-recorded data were reviewed frequently to make sure that no items were under- or overemphasised. After arranging all the information narrated by the participants, the researcher wrote up the report.

Table 3.3 Summary of data analysis

Data analysis Methods	**Technique**	**Interventions**
Quantitative	SPSS version 23	Checklist numbered and coded, data captured and audited. Data analysed and interpreted, using frequency, bar diagrams and percentages. Results explained and compared them to the literature reviewed.
Qualitative	Cording system thematic content analysis of raw data	Organising information gathered, Checking typed transcript. Identifying the themes and creating a template. Examined the information under each theme. Pasted the information to the corresponding themes. Identified subthemes and categories. Pasted corresponding information under each subthemes and categories. Captured all spoken information. Reviewed transcribed and audio-recorded data frequently to make sure that there was no items that were under- or overemphasised.

3.13 Guideline development

In this study, the objective in developing the guidelines was to improve the quality of care at the selected tertiary healthcare facility in Rwanda. The development of guidelines was based on the findings in this study. The World Health Organization advises that well-formulated guidelines based on accessible evidence should help workers and beneficiaries of health care as well as other stakeholders to introduce informed resolution (Yang et al., 2013:2). Furthermore, WHO recommends inclusion in the guidelines development process of the following element: priority setting; group composition and consultation; declaration and avoidance of conflicts of interest; group processes; identification of important outcomes; identification of evidence; synthesis and presentation of evidence; grading evidence and recommendations; integrating values and consumer involvement; incorporating consideration of equity, applicability, transferability and adaptation of the guidelines; reporting the guidelines; disseminating and implementing the guidelines; and evaluating the guidelines (Schünemann et al., 2006a:1). In this study the process of formulating/developing guidelines

covered the following elements: priority setting; group composition and consultation; group processes; determining which outcomes are important; evidence to include in guidelines; synthesis and presentation of evidence; grading evidence and recommendations; integrating values and consumer involvement; incorporating consideration of equity; and reporting guidelines.

3.13.1 Research design

In this study consensus method using nominal group technique was used in developing quality improvement guidelines for nurses to improve the quality of care at the selected tertiary healthcare facility in Rwanda (See section 3.14). The purpose of consensus method is to decide the extent to which experts or unprofessional individuals come to a compromise on a given problem (Jones and Hunter, 1995:376). It helps to overcome some of the disadvantages usually established with decision making in group or committee that are frequently dominated by a single person or coalitions on the behalf of vested interest. In addition consensus method provides another way of combining ideas and offers ways of connecting the insights of suitable experts in order to allow decision making. In this study nominal group technique was preferred to reach consensus. Nominal group technique is a method of reaching consensus whereby a group of people generate a variety of ideas by making sure that each person equally participates in generating ideas (Abdullah and Islam, 2011:82). In this study members of the nominal group were involved in developing the quality improvement guidelines and to reach consensus about the guidelines

Nominal group technique was chosen to determine how the researcher and the stakeholders (nurse managers of the selected hospital) reached consensus and to get opinions from experts in guideline development. In this study nominal group technique was preferred to Delphi method and consensus conferences because in nominal group technique all group members participate equally to reach consensus (Abdullah and Islam, 2011:97). Delphi method, on the other hand, uses sequential rounds to reach consensus, which takes longer, whereas the researcher has limited time. Nworie (2011: 28) notes that using Delphi method requires several responses from experts, which takes time and can lead to attrition of members. Cherie and Gebrekidan (2005: 193) also note that Delphi technique takes a lot of time. Likewise consensus conference needs resources which the researcher could not afford, preferring therefore to use nominal group technique (Jones and Hunter, 1995:377).

3.13.2 Sampling

Purposive sampling was used in this study in developing guidelines. The researcher purposively selected nurse managers of the selected hospital who had not participated in the study and experts in guideline development. The inclusion of participants depended on whether someone was a nurse manager or expert in guideline development and was willing to participate in the study (See Table 3.2. pg 80).

3.13.3 Sample size

In this study the sample size totalled 12 participants, as recommended by Jones and Hunter (1995:377). Of these participants, six were nurse managers who had not participated in the study at the selected hospital and six were experts in guidelines development and in nursing management. The sample of participants included a good mixture of categories of participants of which: one professor, three participants with PhD, two participants with master's degrees in nursing management, and six nurse managers with bachelor's degrees (See Table 3.2. pg 80).

3.13.4 Collecting and synthesis of evidence to include in the guidelines

To collect evidence for inclusion in the guidelines the researcher conducted an audit of quality improvement activities by nurses, using interview guides, observations and field notes.

The researcher did a member checking of participants and presented the draft guidelines to nominal group during consultation. In order to reach consensus, the nominal group technique was organised in small group discussion where each group member equally contributed ideas or suggestions from which a set of prioritised solutions which represented the group preferences were presented. It was ensured that the discussions were not influenced by a minority of dominant members as suggested by (Cherie and Gebrekidan, 2005: 192).

The researcher submitted the first draft guidelines developed by the researcher together with the stakeholders (nurse managers of the selected tertiary healthcare facility) to the experts for review. After the experts reviewed the first draft guidelines and submitted their inputs and opinions they sent them back to the researcher to make corrections where applicable. The researcher made collections and sent the collected documents to the experts to show them how their inputs and opinions were used. The comments and recommendations from experts were valuable for developing quality improvement guidelines.

3.13.5 Reporting

The researcher submitted the final report to be examined, and the approved final report was submitted to UKZN, the Rwanda Ministry of Education and the selected tertiary healthcare facility.

3.14 Ethical considerations

Ethical consideration in relation to protection of human rights was adhered to in this study. Essential values such as respect for persons, beneficence and justice guided the researcher. An ethical framework for research in developing countries is a prerequisite for compliance with comprehensive principles and to avert the possibility of unfair treatment of any person (Emanuel, Wendler, Killen and Grady, 2004:930). Research ethics refers to a system of moral values concerned with the degree to which research procedures adhere to professional, legal and sociological obligation to the study participants (Polit and Beck, 2004:717). In this study, data collection began after ethical clearance had been obtained from the UKZN Research Committee (HSS/0765/015M), together with permission from the Rwanda Ministry of Education (2089/12.00/2015), permission from the selected hospital (EC/RMH/026/2015), and completed consent forms from the participants. Furthermore, this study respected ethical principles by adhering to the tenets and standards developed by Emmanuel et al. (2004), which include collaborative partnership, social values, scientific validity, fair selection of the study population, favourable risk–benefit ratio, independent review**,** informed consent, and respect for recruited participants and the study community (Emanuel et al., 2004:932).

3.14.1 Collaborative partnership

For the purpose of collaborative partnership in this study, the researcher involved all stakeholders in the study which included hospital administration, managers, registered nurses and patients who were selected to participate in the study. This was done in order to inform all the concerned stakeholders about the purpose of the study, the importance of the study and its applicability in the healthcare system and to gain their support in the planning and implementation of the study. The researcher included for participation in the study registered nurses who work at the selected tertiary health care institution and patients who had come to the hospital for healthcare services. Exploitation of stakeholders was minimised by involving every stakeholder in the planning and conducting of the study and in the dissemination of results, and ensuring that they were used to improve the quality of nursing care delivery

(Emanuel et al., 2004:932). The researcher shared information with the participants on the aim and importance of the study and on the need to conduct the study, as outlined by (Emanuel et al., 2004:932). The researcher highlighted the benefits of the study, noted that the outcome of this study would enable nurses to ensure that the care they provide is evidence-based and that the work process is consumer-centric, as indicated by Huber (2010:526).

3.14.2 Social values

It is important to identify the persons who should benefit from the research study being conducted and indicate whether it would involve selection of indigenous persons among the study participants (Emanuel et al., 2004:932). In this regard it is crucial to be able to communicate the findings to the study participants in a language which they can comprehend. In this study, participants were identified from nurses at the selected hospital and from patients who had been to the hospital for healthcare services more than three times, and these participants were informed about the benefits of the study to be conducted. The participants were told that information generated from this study would be used to improve the quality of healthcare delivery, which would in turn lead to increased satisfaction for both patients and nurses, increased productivity, reduced costs, better performance for the institution and improved trust in the healthcare system. Furthermore, the findings from this study would help to identify gaps that might exist between anticipated care and current care in practice and would enable policy makers and implementers to upgrade nursing curricula and include quality improvements concepts. The findings and recommendations from this study would help researchers to initiate further inquiries regarding quality improvement.

3.14.3 Scientific validity and integrity

Sustainability of the research outcome in a study of this nature will be influenced by the social, political and cultural environment and by the significance of the study in relation to the health of the community (Emanuel et al., 2004:932). A scientific plan that corresponds with the scientific objectives is needed to fill gaps that may exist in seeking to improve the quality of health care delivery to the community (Emanuel et al., 2004:932). The objectives that were attained in this study to fill identified gaps were as follows: (i) to conduct an audit of quality improvement activities by nurses at a selected tertiary healthcare facility in Rwanda; (ii) to analyse the factors associated with quality improvement by nurses at the selected tertiary healthcare facility in Rwanda; (iii) to analyse patient satisfaction with the quality of care

received at a selected tertiary healthcare facility in Rwanda**.** The findings generated from this study were used in turn to develop quality improvement guides for nurses on how to improve the quality of care at the selected hospital.

3.14.4 Fair selection of the study population

Choice of participants was based on selecting those who were able to maximise the information so that rich and deep data were obtained enhancing the benefits of the study, following Emanuel et al.,(2000:2704). In this study, the participants were purposively chosen and comprised registered nurses plus patients attending the selected tertiary healthcare facility for healthcare services. Purposive sampling was used to enable selection of participants who could provide rich and deep information for analysing the contribution to nurse and patient satisfaction of the quality improvement measures at the study setting.

3.14.5 Favourable constructive risk–benefit ratio

A favourable risk–benefit ratio requires that the public benefits should outweigh the risks and that the community should gain from the study through new information and quality of services, leading to improved health of the population (Emanuel et al., 2004:934). Similarly Polit and Beck (2012:156) argue that benefits should outweigh risks, and in cases where risks for the participants in the research outweigh the benefits the study then has to be restructured to minimise risks to level of risk that is usually encountered in daily life. In this study, the benefits for registered nurses included using information achieved from the study for evidence-based practice, and increasing the body of knowledge in nursing practice. Furthermore, patients would benefit from this study since identifying the existing gaps between care rendered and the anticipated care can show strengths and weaknesses of the institution to guide strategies for improved quality of care delivery. Other benefits for the Rwandan community lie in raising the level of quality nursing care and services through effective quality improvement programmes. In this study there were no risks that occurred among the participants.

3.14.6 Independent review

Independent entities need to evaluate the research and either recommend or make amendments (Emanuel et al., 2000:2701). In this study, independent ethical review was sought from the University of KwaZulu-Natal Research Ethical Committee**.** The researcher also sought permission from the Ministry of Health and from the ethical review committee of the selected

healthcare institution in the Republic of Rwanda. Letters from University of KwaZulu-Natal Research Ethical Committee, from Ministry of Education and from the selected healthcare facility in the Republic of Rwanda are attached in the annexures to this thesis.

3.14.7 Informed consent

The principle of informed consent was adhered to in this study to minimise exploitation of the respondents. According to Emanuel (2004:934-935), individual consent and disclosure of information should be done using a language which the participants can understand well, which requires a participative approach. Informed consent implies that participants have adequate information regarding the research; for example it should be fully explained that they are being researched and that they are entitled to knowledge about the nature of the study, why it is conducted, and the benefits of the study, and they should be also informed that they can withdraw at any time should they feel uncomfortable about continuing with the study, as outlined by Silverman (2011:418). In this study, an informed consent form in Kinyarwanda and English was provided to the participants, which was completed after the participants had been given detailed information about the purpose and process of the study. A Kinyarwanda version of the interview guide for patient/client participants was included so that all participants were well able to understand what was expected from them. Participants should understand the information and should have the right and power of choice either to consent or decline (Polit and Beck, 2008:176). In this study, the researcher ensured that the participants were autonomous, meaning that they were able to make their own decisions. The participants had freedom in choosing whether or not to participate in the study, without any risk of penalty. Participants had the right to ask questions for clarification, refuse to give information or withdraw from the study should they wish to do so.

3.14.8 Respect for recruited participants

In conducting a research study it is very important to respect participants from beginning to end of the study, and all participants should be respected regardless of whether they agree to participate in the study or not, or should they decide to withdrawal from the study (Emanuel et al., 2000:2707). In this study, the principle of respect for the recruited participants was adhered to by ensuring that they had full autonomy (able to make their own decisions), and could choose whether or not to participate in the study without any risk of penalty (Emanuel et al., 2000:2707). Participants had the right to ask questions for clarification, refuse to give

information, or withdraw from the study if they wished to do so. Furthermore, the privacy and confidentiality of participants was maintained by making sure that no identification of the participants could be linked with individual responses on the research instrument; instead, code numbers were used. Furthermore the audio recorder was kept securely until the study was completed. The privacy of the participants were maintained by avoiding the release of any information to anyone. The researcher explained to all participants that participating in the study implied informed consent which required a signature only without a name. New information was communicated to the participants when there were any changes or newly emerging issues.

It is the responsibility of the investigator to make sure that the participants should not be harmed by the study and he/she should make sure that harm is minimised and benefits are maximised (Polit and Beck, 2012:153). In this study, the researcher treated the participants in an ethical manner by respecting their views and decisions so that harm could be minimised and benefits maximised. The researcher sought to work quickly and efficiently to avoid any risk of exhaustion for participants which could have led to discomfort and harm.

3.15 Data management

Data collected were stored by the researcher under lock and key safeguard during the process of capturing and analysis. Analysed data were saved on a computer, protected by a password known to the researcher only, after which the office of the research supervisor at University of KwaZulu-Natal will safeguard the data for a period of five years. After five years the data on hard copies should be disposed of by means of a paper shredder at the University of KwaZulu-Natal, and qualitative data should be completely and permanently deleted from the computer hard drives, flash drives and cloud. The final data were communicated to the supervisor, the Head of Nursing Department, the selected tertiary healthcare facility and the Ministry of Education in the Republic of Rwanda. The study results will also be published in accredited journal.

3.16 Conclusion

Chapter 3 has explained in detail the research design, instrument construction, validity and trustworthiness of the instrument, data analysis approach, guidelines development, ethical consideration and data management. Chapter 4, which follows, presents the analysis of the data captured.

Chapter 4
Presentation of the Findings

4.1 Introduction

This chapter presents the results of this study. The findings in this chapter were obtained from nurses' and patients' interview guides, and from researcher's observations using a checklist. The purpose of this study was to analyse quality improvement by nurses in order to develop guidelines for nurses on effective quality practices at a selected tertiary healthcare facility in Rwanda. The findings are set out in line with the first three study objectives: (1) To conduct an audit of quality improvement activities by nurses at a selected tertiary healthcare facility in Rwanda. (2) To analyse the factors associated with quality improvement by nurses at the selected tertiary healthcare facility in Rwanda. (3) To analyse patient satisfaction with the quality of care received at a selected tertiary healthcare facility in Rwanda.

The study participants included registered nurses who were employees of the healthcare facility and patients who had attended the healthcare facility more than three times for healthcare services. For participant anonymity and confidentiality of information provided, no personal information was used that would link the participants to the collected information, and codes have been used for each participant: PN for a nursing participant and PC for a client participant. A total of 15 nurses, and 17 patients participated in this study. Eleven departments were also audited using a checklist. The qualitative collected data were analysed using thematic content analysis, and quantitatively collected data were analysed using SPSS version 23, and the triangulation of the collected data was done on the completion of data analysis. In this study, data triangulation was performed by using different sources and combining the information from the participants with the aim to increase the validity of a study, a to have sound data to assist in developing nurses' quality improvement guidelines.

4.2 Socio-demographic characteristics of the participants

4.2.1 Nurse demographics

Demographic characteristics for nurse participants in this study were gender, level of education and age group of the participants; however marital status and working experience were intentionally ignored as the researcher thought this would make it too easy to trace participants'

information. Furthermore, demographic information was added in this section to permit the reader to know the sources of data of the study findings.

Table 4.1 Nurse Participants' demographic data

Demographic factors	Variable	Frequency	Percentage
Gender	Female	9	60%
	Male	6	40%
Level of education	Bachelor's degree	9	60%
	Advanced diploma	6	40%
Age Group	20-29	6	40%
	30-39	4	27%
	40-46	5	33%
Total		15	100%

In relation to gender, out of 15 nurse participants, 40% (n=6) were male and 60% (n=9), were female. In relation to level of education, 60% (n=9) had a Bachelor of Nursing degree and 40 % (n=6) had an advanced diploma. In relation to age group of nurse participants, 40% (n=6) were aged between 20 and 29 years, 27% (n=4) were aged between 30 and 39 years, and 33% (n=5) were aged between 40 and 46 years. The youngest participant was 24 years old and the oldest was 45 years old.

4.2.2 Client demographics

Demographic characteristics for client participants in this study were likewise gender, level of education and age group of the participants, marital status and working experience were intentionally omitted to maintain confidentiality of participants. Furthermore demographic information was added in this section to permit the reader to know the sources of data of the study findings.

Table 4.2 Client participants' demographic results

Demographic factors	Variable	Frequency	Percentage
Gender	Male	10	59%
	Female	7	41%
Level of education	Master degree	1	6%
	Bachelor degree	2	12%
	Secondary level of education	10	59%
	Primary level of education	4	23%
Age group	22-29	2	13%
	30-39	7	41%
	40-50	4	23%
	51 and above	4	23%
Total		17	100%

In relation to gender, out of 17 client participants, 59% (n=10) were male and 41% (n=7), were female. In relation to level of education, 6% (n=1) had a master's degree, 12 % (n=2) had a bachelor degree, 59% (n=10) had secondary level education, and 23% (n=4) had primary level education. In relation to age group, 13% (n=2) were aged between 22 and 29 years, 41% (n=7) were aged between 30 and 39 years, 23% (n=4) were aged between 40 and 50 years, and 23% (n=4) were aged 51 years and above. The youngest client participant was 23 years old and the oldest was 78 years old.

4.3 Quantitative findings

4.3.1 Audit of quality improvement by nurses at the selected hospital

Auditing of quality improvement by nurses included quality improvement documents, process control based on standards, human resource management, and process improvement based on quality of improvement procedures. For each of these factors, the findings obtained from audit are presented below.

4.3.1.1 Quality improvement documents

The fourteen quality improvement documents which were audited were: Quality action plan for the whole institution; Quality action plan for every department; Quality policy document; Quality profiles; Quality hand book (Manual); Annual quality report; Document for incident reporting; Suggestion box; Registration book for complaints; Nursing care plan documents; Clear job description documents; Staffing documents; Audit tool; Legislative document.

Table 4.3 Quality improvement documents

No.	Items	Available and accessible to users		Available but not accessible to users		Not available in the ward	
		Freq	%	Freq	%	Freq	%
1	Quality action plan for the whole institution	1	9.1	1	9.1	9	81.8
2	Quality action plan for every department	0	0	4	36.4	7	63.6
3	Quality policy document	0	0	4	36.4	7	63.6
4	Quality profiles	0	0	2	18.2	9	81.8
5	Quality handbook (Manual)	1	9.1	5	45.5	5	45.5
6	Annual quality report	0	0	0	0	11	100
7	Documents for incident report	10	90.9	1	9.1	0	0
8	Suggestion box	1	9.1	0	0	10	90.9
9	A registration book for complaints	0	0	2	18.2	9	81.8
10	Nursing care plan documents	8	72.7	1	9.1	2	18.2
11	Clear job description documents	1	9.1	5	45.5	5	45.5

12	Staffing documents	11	100	0	0	0	0
13	Audit tool	8	72.7	2	18.2	1	9.1
14	Legislative document	0	0	0	0	11	100

Quality action plan document for the whole institution: Out of 11 departments, 9.1% (n=1) had a quality action plan for the whole institution that was available and accessible to users; 11; 9.1 (n=1) had a quality action plan document that was not accessible to users, and the majority (81.8%, n=9) did not have a copy of a quality action plan.

Quality action plan document for every department: Out of 11 departments, less than half (36.4%, n=4) had a quality action plan document for every department but not accessible to users, and the majority (63.6%, n=7) did not have a copy of a quality action plan for every department.

Quality policy document: Out of 11 departments, 36.4% (n=4) had quality policy documents but not accessible to users, and a majority (63.6%, n=7) did not have a copy of a quality policy document.

Quality profile document: Out of 11 departments, a small number (18.2%, n=2) had quality profile documents but not accessible to users and the majority (81.8%, n=9) had no copy of a quality profile document.

Quality handbook (Manual): Out of 11 departments, 9.1% (n=1) had a quality handbook (manual) that was accessible to users, slightly less than half (45.5%, n=5) had a quality hand book (manual) but not accessible to users, and slightly less than half (45.5%, n=5) had no copy of the quality handbook (manual).

Annual quality report: Out of 11 departments, none (100 %, n=11) had a copy of the annual quality report.

Incident reporting document: Out of 11departments, the majority (90.9%, n=10) had incident reporting documents and these were accessible to the uses, and 9.1% (n=1) had incident reporting documents but not accessible to users.

Availability and accessibility of a suggestion boxes: Out of 11 departments, in an audit conducted, 9.1% (n=1) had a suggestion box that was accessible to users, and the majority (90.9%, n=10) did not have suggestion boxes.

Registration book for complaints: Out of 11 departments, a small number (18.2%, n=2) had complaints books but not accessible to users, and the majority (81.8%, n=9) did not have complaints books.

Nursing care plan documents: Out of 11 departments, the majority (72.7%, n=8) had nursing care plan documents and these were accessible to the user, 9.1% (n=1) had nursing care plan documents but not accessible to users, and a small number (18.2%, n=2) did not have nursing care plan documents.

Clear job description documents: Out of 11 departments, 9.1% (n=1), had clear job description documents for nurses, slightly less than half (45%, n=5) had job description documents but not in use, and slightly less than half (45%, n=5) did not have any job description document for nurses.

Staffing documents (e.g. duty rosters, annual leave policies): Out of 11 departments, all (100%, n=11) had staffing documents and these were available and accessible in all departments of the selected hospital.

Audit tool for measuring quality of care: Out of 11 departments, the majority (72.7%, n=8) had an audit tool for measuring the quality of care and these were accessible to users and in use, a small number (18.2%, n=2) had an audit tool for measuring the quality of care but not in use, and 9.1% (n=1) did not have any audit tool for measuring the quality of care.

Legislative documents: Out of 11departments, 100% (n=11) none had legislative documents.

4.3.1.2 Process control based on standards

Process control based on standards included standards for specific treatments/interventions, standards for utilisation of medical equipment, standards for patient education, standards for critical moments in service provision, standards for admission of patients, standards for patient routine discharge, and standards for documentation of patients records.

Table 4.4 Process control based on standards

No	Items	Available and accessible to users		Available but not accessible to users		Not available in the ward	
		Freq	%	Freq	%	Freq	%
1	Standards for specific treatments/interventions	10	90.9	0	0	1	9.1
2	Standards for utilisation of medical equipment	8	72.7	1	9.1	2	18.2
3	Standards for patient education	10	90.9	1	9.1	0	0
4	Standards for critical moments in service provision	3	27.3	2	18.2	6	54.5
5	Standards for admission of patients	10	90.9	0	0	1	9.1
6	Standards for patient routine discharge	11	100	0	0	0	0
7	Standards for documentation of patient records	10	90.9	1	9.1	0	0

Standards for specific treatments/interventions: Out of 11 departments, the majority (90.9%, n=10) had standards for specific treatment/interventions and these were accessible to users; 9.1% (n=1), of department had no standards for specific treatments/interventions.

Standards for utilisation of medical equipment: Out of 11 departments, the majority (72%, n=8) had standards for utilisation of medical equipment and these were accessible to users; 9.1% (n=1) had standards for utilisation of medical equipment but not accessible to users; a small number (18.2%, n=2) had no standards for utilisation of medical equipment.

Standards for patient education: Out of 11 departments the majority (90.9%, n=10) had standards for patient education and these were accessible to users; 9.1% (n=1) had standards for patient education but not accessible to users.

Standards for critical moments in service provision: Out of 11 departments, 27.3% (n=3) had standards for critical moments in service provision and these were accessible to users; 18.2% (n=2) had standards for critical moments in service provision but were not accessible to

users; slightly more than half (54.5%, n=6) had no standards for critical moments in service provision.

Standards for admission of patients: Out of 11 departments, the majority (90.9%, n=10) had standards for patient admission and these were accessible to users; 9.1% (n=1) had no standards for patient admission.

Standards for patient routine discharge: All departments (100%, n=11) had standards for patient discharge and these were accessible to users.

Standards for documentation of patient records: Out of 11 departments, the majority (90.9%, n=10) had standards for documentation of patient records and these were accessible to users; 9.1% (n=1) had standards for documentation of patients records but not accessible to users.

4.3.1.3 Human resource management

Human resource management included in-service training/education programme of nurses on quality improvement, supervision and monitoring plans for quality care services, handover procedure, and training/education programmes based on priorities in quality policy.

In regard to in-service training/education programme of nurses on quality improvement, out of 11 departments, slightly more than half (54.5%, n=6) agreed that in-service training/education programme of nurses on quality improvement occurred quarterly;18.2% (n=2) said in-service trainings occurred twice a year; 9.1% (n=1) said in-service training occurred once a month; 9.1% (n=1) said in-service training occurred once a year; 9.1% (n=1) mentioned that in-service training/education programmes of nurses on quality improvement had never taken place (see Figure 4.1).

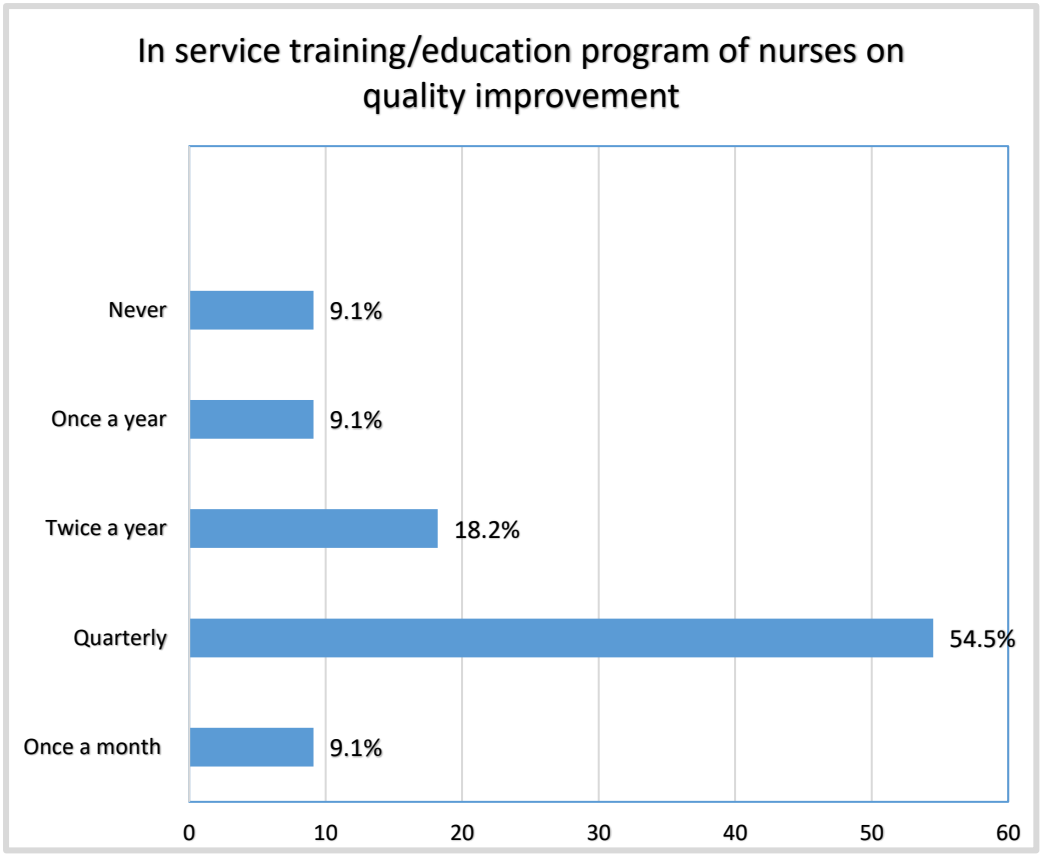

Figure 4.1 In-service training/education programme of nurses on quality improvement

In regard to supervision and monitoring for quality care services, out of 11 departments, in an audit carried out, slightly less than half (45.5%, n=5) said that supervision and monitoring occurs once a month; 27.3% (n=3) said that supervision/monitoring occurs quarterly, a small (18.2%, n=2) said occurs supervision/monitoring occur daily, and in 9.1% (n=1) of the departments, the supervision and monitoring has never taken place (see Figure 4.2).

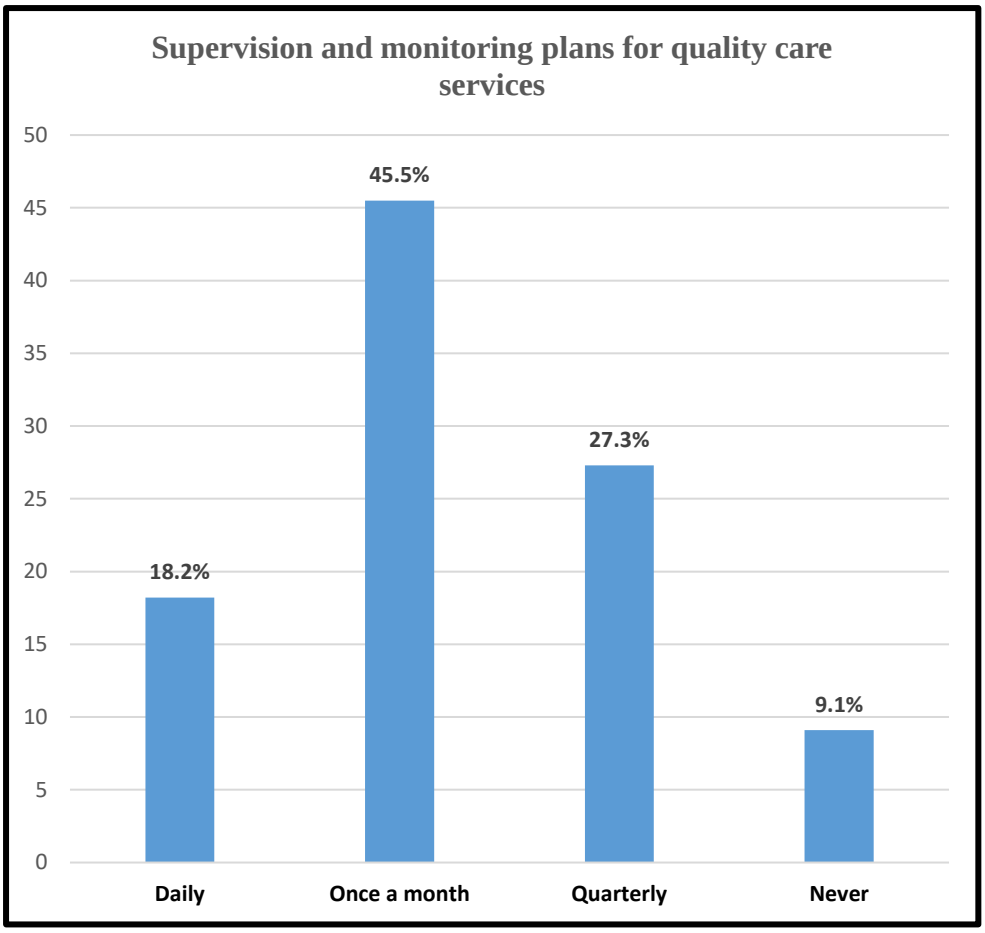

Figure 4.2 Supervision and monitoring plans for quality of care services

Handover procedures: The findings showed that handover procedures were in place and were done as follows: out of 11 departments, slightly more than half (54.5%, n=6) said that handover procedure occurred daily; 36.4% (n=4) said that handover occurred per shift;(9.1%, n=1) said that handover procedure did not take place (see Figure 4.3).

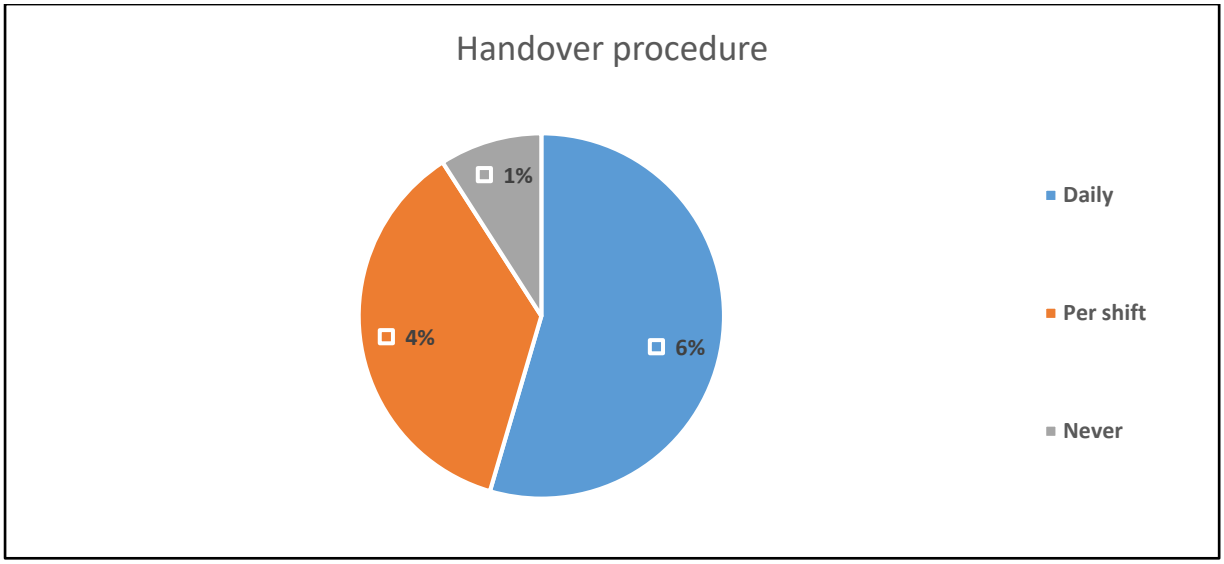

Figure 4.3 Handover procedures

In regard to training/education programmes based on priorities in quality policy, out of 11 departments, in an audit that was conducted, more than half (63, 6%, n=7) agreed that training/education programme were based on priorities in quality policy; 27.3% (n=3) said they did not know; 9.1% (n=1) reported that training/education programme were not based on priorities in quality policy (see Figure 4.4).

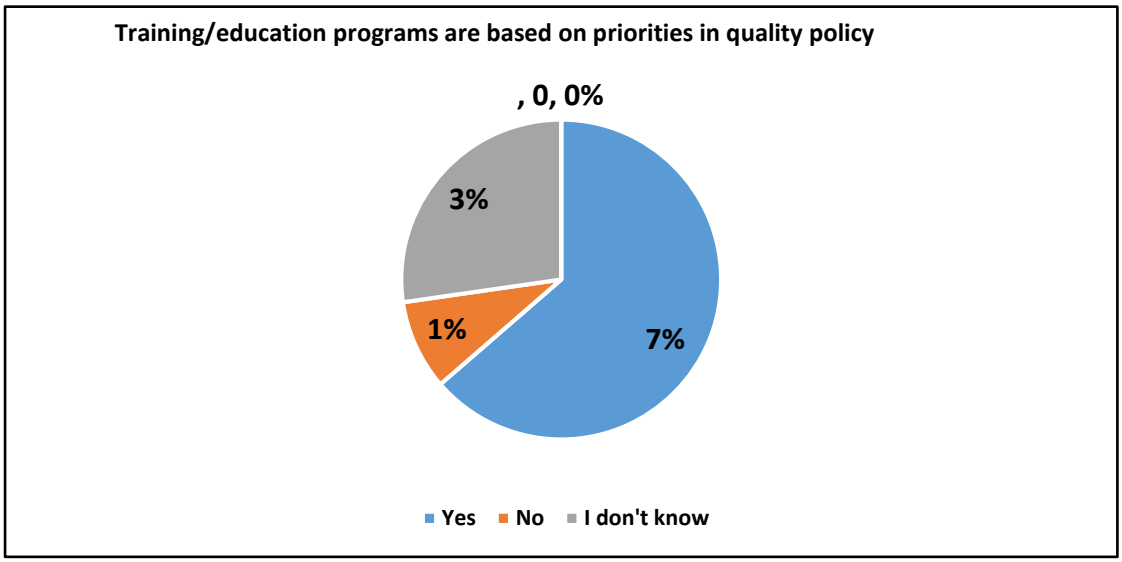

Figure 4.4 Training/education programmes based on priorities in quality policy

4.3.1.4. Process improvement based on quality improvement procedures

Process improvement based on quality improvement procedures included satisfaction among patients, individual care plan, satisfaction survey among employees, internal audit process, and infection control process.

Table 4.5 Process improvement based on quality improvement procedures

No	Items	Daily		Once a month		Quarterly		Twice year		Once year		Never		Per shift	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	Satisfaction assessment among patients	0	0	1	9.1	0	0	3	27.3	0	0	7	63.6	0	0
2	Individual care plans	10	90.9	0	0	0	0	0	0	0	0	0	0	1	9.1
3	Satisfaction survey among employees	0	0	0	0	1	9.1	1	9.1	0	0	9	81.8	0	0
4	Internal audit process	0	0	5	45.5	3	27.3	0	0	0	0	3	27.3	0	0
5	Infection control process	10	90.9	1	9.1	0	0	0	0	0	0	0	0	0	0

Satisfaction assessment among patients: Out of 11 departments, 9.1% (n=1) reported that satisfaction assessment among patients was done once a month; 27.3% (n=3) said that satisfaction assessment among patients was done twice a year; more than half (63.6%, n=7) said that satisfaction assessment was never done.

Individual care plans: Out of 11 departments, a majority (90.9%, n=10) reported that individual care plans were done daily; and in 9.1% (n=1) of the departments, the individual care plans were never done.

Satisfaction survey among employees: Out of 11 departments, 9.1% (n=1) said that satisfaction survey among employees was done quarterly; 9.1% (n=1) reported that satisfaction survey among employees was done twice a year; the majority (81.8%; n=9) said that satisfaction survey among employees was never done.

Internal audit process: Out of 11 departments, less than half (45.5%, n=5) reported that internal audit was done once a month; 27.3 %, (n=3) said that internal audit was done quarterly; 27.3% (n=3) revealed that internal audit was never done.

Infection control process: Out of 11 departments, the majority (90.9%, n=10) mentioned that infection control was done daily; 9.1% (n=1) stated that infection control was done once a month.

4.4 Qualitative findings

Qualitative data from registered nurses and client participants were analysed using thematic content analysis. Audio-recorded data obtained from registered nurses on factors associated with the quality improvement by nurses and from client participants on patient satisfaction with the quality of care received from the interviews were transcribed verbatim by the researcher. The transcripts were read and re-read line by line several times along with listening to the audio-recorded interview to see if there was mishearing or omitted information during the transcription. The researcher compared the transcribed information with audio-recorded information for clarity. The researcher recorded everything the participants had said; the transcribed data were first arranged manually with condensed data put on the right side of transcripts hard copy. Excel spreadsheets were made from condensed data obtained from transcripts to enable the researcher to establish the meaning and create themes and subthemes. The themes and subthemes were obtained from the words used by participants as well as from the knowledge attained by the researcher from her nursing experience; common themes and subthemes were indicated and quoted examples were highlighted in italics indicating the exact words used by participants. For purposes of confidentiality, participants were each given a code and a number, which also helped the researcher to retrieve the participant's information where necessary. The following codes were used to identify the participants: PN= Participant Nurse, PC=Participant Client. Numbers were assigned to each of the participants codes.

From the data reported by the participants on factors associated with the quality care the following categories emerged: (a) Organisational resources (material and human resources) ;(b) Managerial roles (performance improvement activities); (c) Improved customer care. The table below presents the summary of the categories, themes, and subthemes.

Table 4.6 Summary of the study findings

Category	Themes	Subthemes
Organisational resources	Upgrading hospital infrastructures	New buildings for hospital expansion
	Availability of health insurance	Reduced cost of services
	Insufficient material/ tools resources	Insufficient Continuous Positive Air way Pressure (CPAP) Insufficient drugs Insufficient suggestion boxes (1 box for the entire hospital) Insufficient beds/rooms Insufficient quality improvement documents Lack of quality improvement guidelines/Commitment to quality improvement
	Shortage of human resources	Shortage of nurses Shortage of doctors
Managerial role	Adherence to Technical norms of care	Proper documentation Multidisciplinary Collaboration Situational adaptation in resource constraints environment Evidence-based practice Proper disposal of wastes Health education to the patient/community about hygiene Perceived need for an inquiry on quality care Increased motivation
	Hindrances to performance improvement	Lack of supervision Resistance to change Inappropriate hand washing/Maintain hygiene Long waiting times Work overload
Customer care	Good orientation provided	Proper orientation of clients Enough explanations/information Better communication skills
	Coordinated service	Quick pharmacy turn around Well-scheduled working hours
	Good environmental hygiene	Clean infrastructure Pleasant place
	Effective care from hospital staff	Sufficient consultation rooms/enough chairs Quick services Feeling better after treatment Patients are taken good care of

4.4.1 Quality of care factors: Organisational resources

Data emerging from this study revealed the following themes under the category of organisational resources: (i) Upgrading hospital infrastructures; (ii) Availability of health insurance (iii) Insufficient materials/tools; (iii) Shortages in human resources.

4.4.1.1 Upgrading hospital infrastructures

New buildings for hospital expansion: Constructing new buildings emerged from the data as a means of improving the quality of healthcare delivery. Participants reported that constructing

new buildings was among the activities that helped them to improve the quality of healthcare delivery. Participants felt that constructing new buildings and renovating the old ones was another way of improving the quality of health since they were going to get a clean, conducive and sufficient space to admit their clients, and when they compared the nursing care they provided in the past, they believed that the current nursing care provided was better because new buildings that were being constructed would reduce overcrowding and provide a more conducive environment. Below are quotes in which the participants elaborated these points:

> *The institution has expanded the buildings and more departments have been initiated and old buildings are being renovated so that the patients can be admitted as there is enough clean space and this helps us to deliver quality health care as the environment is conducive [PN9].*

> *Overall the quality of nursing care at this institution compared in the past days we are doing better, as more buildings are being constructed it helps us to deliver quality of care[PN10].*

Although the new buildings had been constructed and others were still in the process of construction, participants said that they still faced challenges as buildings were not yet sufficient and that it affected the nursing care delivery due to overcrowding of patients that still existed. Furthermore client participants reported insufficient rooms and beds to the extent that they were sent back home without being hospitalised when waiting for elective surgery because of insufficient rooms and beds. Below are the extracts from nurse participants and client participants:

> *We have got challenges in delivering quality healthcare because of the insufficient buildings which leads to overcrowding despite the fact that hospital building were expanded but still they are not sufficient so this affects us in the nursing care delivery [PN12].*

> *Challenges encountered in the implementation of quality healthcare at my institution are insufficient buildings, this leads to overclouding which affects our nursing care delivery as you find there no enough space compared to patients we get[PN14].*

> *This hospital offers good medical services, but the rooms and beds are not enough to the extent that you are sent back home without being hospitalised when you have come for operation due to the lack of beds [PC15].*

4.4.1.2 Availability of health insurance

Availability of health insurance emerged from data as way of reducing the cost of healthcare service delivery which would give clients access to less costly healthcare services. Client

participants said that they no longer had to worry about the cost of health services because of having health insurance such as Mutuelle de santé, RAMA (La Rwandaise d'Assurance Maladie) and MMI (Military Medical Insurance) which enabled them to pay less for doctors' consultation, for the cost of treatment and for laboratory tests. Participants said that the cost of healthcare services was cheap except for hospitalisation, when it increased slightly, and it was also reported that health insurance played a great role. Participants said if they had not had health insurance they could not have managed to pay, with fatal consequences. Below are the statements made by participants:

> *These days we no longer have to worry about the cost of health services as we have health insurance, I paid less money and insurance helps us the laboratory test is not high as I have Mutuelle de santé[PC5].*
>
> *The cost of laboratory test is low as longer as you have a health insurance the cost reduces but when you don't have one it becomes expensive [PC10].*
>
> *The cost of doctors consultation is not high I have Mutuelle de santé, otherwise if I had no health insurance I would have died because I could not have managed the cost as I have been sick for a long time as I spent four months in coma [PC8].*
>
> *The cost of doctor's consultation is not high for a patient who has a health insurance, I only paid 600FRW which is equivalent to 15% of the fee only, and I think that was not too much because I have RAMA [PC7].*
>
> *Health services are no longer expensive because we have health insurances, the doctors consultation has become cheap we pay less money except when you are hospitalised that is when it increases slightly but not high as I have MMI [PC6].*

4.4.1.3 Insufficient materials/tools

Insufficient CPAP machines: Data that emerged showed insufficient CPAP equipment. Nurse participants reported that they had shortages of equipment and materials such as CPAP which prevented them from delivering quality nursing care. Nurse participants said that the hospital had only two CPAP machines, which are used to provide positive end expiratory pressure (PEEP), and once they had more than two patients who need CPAP it became a problem. Nurse participants said that this hindered them from delivering good nursing care, as elaborated below:

> *The quality of nursing care at my unit is not very good because of shortage of equipment and materials for example Continuous Positive Air way pressure (CPAP) machine which is used to provide positive end expiratory pressure (PEEP), to satisfy the patients' needs. The hospital has got only two CPAP so when we get more than two patients who need CPAP it becomes a problem [PN3].*

Insufficient drugs: Data that emerged showed insufficient drugs in the hospital pharmacy. Nurse participants reported insufficient drugs in the hospital pharmacy which affected the quality of healthcare delivery as patients were unable to get all drugs prescribed by doctors from the hospital pharmacy. Even client participants reported insufficient drugs in the hospital pharmacy, saying that drugs prescribed by a doctor are sometimes not available from the hospital pharmacy, obliging them to buy the drugs elsewhere, as highlighted in the quotes below:

> *The challenges we face are lack of sufficient drugs for the patients most of the drugs are not available in the hospital pharmacy such that patients have to buy drugs outside the hospital, this hinders the quality of care delivery [PN8].*
>
> *The challenges I have encountered in the implementation of quality of healthcare at this institution are lack of drugs which is also another issue that hinders the quality of nursing care delivery where patients have to buy drugs outside the hospital pharmacy since patient cannot get all the drugs prescribed by the doctor in the hospital pharmacy [PN6].*
>
> *Sometimes some of the drugs prescribed by a doctor are not available in the hospital pharmacy so in this case there is no any other option you need to buy them in a pharmacy outside the hospital [PC11].*
>
> *It is not possible to get all drugs prescribed by a doctor at the hospital pharmacy, they told me that the drugs are not available so, I need to buy them outside the hospital pharmacy [PC10].*
>
> *You cannot get all the drugs prescribed by the doctor in the hospital pharmacy they give you the drugs that are available and those which they don't have you are told to buy them outside the hospital pharmacy [PC13].*

Insufficient suggestion boxes: Data revealed insufficient suggestion boxes in the hospital. Nurse participants said that they lacked suggestion boxes in the hospital which hindered patients from submitting their views that would enable nurses to assess patient satisfaction with the care offered. Below are extracts from participant comments that explain this:

> *I can assess patient satisfaction towards the care offered by using suggestion box so that patients can put their views though we don't have them [PN4].*
>
> *I can assess patient satisfaction towards the care offered by using suggestion box despite that they are not available [PN6].*

According to the researcher's observations during the data collection the selected hospital lacked sufficient suggestion boxes; only one suggestion box was found in one ward in the whole hospital.

Insufficient beds/rooms: Data that emerged showed insufficient beds and rooms. Client participants said that there were insufficient beds/rooms to the extent that clients were sent back home without being admitted due to lack of beds, causing delay for patients waiting for elective surgery and increasing the seriousness of their condition. Below are statements from the client participants:

> *The hospital does not have enough beds and rooms to the extent that we are sent back home without being admitted due to lack of beds and this delays us to be operated and it makes the disease become serious [PC5].*

> *This hospital offers good healthcare services, but the rooms and beds are not enough to the extent that you can be sent back home due to the lack of beds without being hospitalised when you are coming from very far for operation [PC15].*

Lack of quality improvement guidelines; insufficient knowledge and skills on quality improvement; lack of accountability for quality improvement: Data emerging indicated a lack of quality improvement guidelines, insufficient knowledge and skills on quality improvement, and lack of accountability for quality improvement. Nurse participants reported a lack of quality improvement guidelines which they needed to guide them in improving the quality of care. Lack of knowledge and skills relating to quality improvement was also highlighted among the challenges encountered in providing services to patients. Other strategies suggested by participants to improve the quality of care at the hospital were to conduct departmental meetings with the quality improvement team and involve everyone in quality improvement. The following quotes demonstrate this:

> *The strategies I may suggest to improve the quality healthcare at this institution is to provide us with quality improvement guidelines so that we may be able to improve the quality of care [PN6].*

> *The challenges we encounter while in implementing quality healthcare at this institution is lack of knowledge concerning quality improvement [PN3].*

> *The challenges encountered in the implementation of quality of healthcare at this institution are insufficient knowledge and skills regarding quality improvement so that we can improve the quality of healthcare delivery [PN13].*

> *The strategies I would suggest to improve the quality of healthcare at my institution is, conducting departmental meetings with quality improvement team and involving everyone and everyone should be accountable for whatever we do [PN12].*

4.4.1.4 Shortages in human resources

Shortages in human resources: Data that emerged indicated that there were shortages in human resources in the hospital. Client participants said that there were too few doctors for the number of patients admitted, leading to work overload for doctors and preventing the patients from being treated in time. To overcome this, client participants suggested that the number of doctors should be increased. Nurse participants said on the other hand that they had a shortage of nurses and that the unfavourable ratio of nurses to patients led to work overload that hindered the quality of nursing care delivery. This was especially problematic in the critical care departments which required a ratio of one nurse to one patient. Nurse participants further stated that the nursing care was good but not up to standard due to unfavourable nurse/patients ratios which prevented them from delivering nursing care on time. Nurse participants said that the shortage of nurses was not limited to a single unit and affected the whole of the hospital, so that optimum care was not provided. Nurse participants reported having many tasks to do, so that they ended up prioritising some activities and leaving others undone. For example some nurses decided to give medications and omitted health education of patients. The quotes below show this:

> *In this hospital doctors treat us well but there is shortage of doctors compared to the patients who come to seek healthcare services here. They are over worked, patients are many it is better that they increase the number of doctors [PC13].*
>
> *Doctors are not sufficient compared to the number of patients received, so this delays us to get treated in time I suggest that they employee more doctors [PC10].*
>
> *Overall the quality of nursing care delivery at my institution is not perfect because there is shortage of nurses that leads to low nurse/patient ratio and this contributes to poor quality nursing care because patient out number nurses so this hinders the quality of nursing care delivery [PN11].*
>
> *According to standards we have got problems that hinder the quality of nursing care delivery for example we have shortage of nurses and this leads to low nurse–patient ratio and this affects nursing care delivery because I cannot deliver nursing care in time, I suggest they increase the number of nurses although they have increased but the ratio is still low [PN1].*
>
> *The Quality of nursing care delivered to my nursing unit is good but it's not on standard for example we have five bed capacity and we are only three so the care is not on standard because there is shortage of nurses which prevents us to deliver quality nursing care yet these critical departments require a ratio of one nurse to one patient so there is a gap [PN4].*

Impact of the shortage of nurses: Data emerging from this study indicated that shortage of nurses affected the quality of nursing care delivery. Nurse participants reported that shortage of nurses affected the quality of nursing care delivery in that some activities were omitted (e.g. health education for patients on admission and discharge). Further, it was said that the hospital was under construction and that new departments being added were not well staffed, negatively affecting the quality of care, as highlighted below:

> *The quality of nursing care delivered at my nursing unit is not good because of shortage of nurses and there are things which we do not do for example health educating patients on admission and at discharge [PN13].*
>
> *Over all the quality of nursing care in the whole institution is moderate according to the standards due to shortage of nurses as I mentioned what affects my unit it also affects other units in the whole hospital. Therefore care is not provided at optimum level. There are things which we don't do due to shortage of nurses we have to prioritise for example you may decide to give medication and you do not health educate the patients [PN2].*
>
> *The hospital has been under construction and new departments were added and they are not well staffed so there is shortage of nurses and this hinders the quality of nursing care delivery [PN4].*
>
> *Overall the quality of nursing care is good but we have some problems, the hospital is under construction and more department have been added on, they didn't make a plan to recruit more nurses so that nursing care can be done well so the shortage of nurses is affecting the nursing care delivery [PN7].*
>
> *The challenges I have encountered in the implementation of quality of healthcare at this institution is that the hospital is under construction more department are being added and planning is not easy [PN6].*
>
> *Overall the quality of nursing care at this institution is not good because of some challenges like shortage of nurses as mentioned the challenges we face in my unit are the some challenges faced by all nurses in the whole institution [PN13].*

Rwanda, like any other developing country, also encounters challenges regarding the shortage of healthcare providers such as nurses, doctors, paramedics and healthcare managers (RMH, 2012:14). In 2013 it was recognised that in Rwanda there was one doctor per 16,046 inhabitants; one midwife per 18, 790 inhabitants and one nurse per 1,227inhabintants which indicated a low ratio of healthcare professionals in relation to the population which they serve (Rwanda Ministry of Health, 2014: 9). Referral hospitals in Rwanda, including the selected hospital, face challenges of high demand where they have to receive clients from 42 district hospitals in the country yet do not have enough resources either in terms of human resources

or infrastructure to respond to those demands (Rwanda Ministry of Health, 2012:86). Although the participants highlighted the shortage of nursing staff as a major challenge in providing quality of care, they also came up with suggestions to overcome the shortage of nurses as indicated below.

Suggestions to overcome shortage of nurses: Nurse participants gave a variety of suggestions to overcome shortage of nurses. Almost all participants proposed to recruit more nurses so as to help them deliver quality nursing care. However, some nurse participants had other suggestions such as assigning non-nursing activities to support staff (e.g. taking samples to laboratories and handling materials and equipment for sterilisation) which are done by nurses and delay other nursing care activities. Below are extracted suggestions:

> *Challenges encountered while implementing quality healthcare delivery are shortage of nurses and work overload, there are things that can be done by support staff which I do carry out that delay other nursing care activities, for example taking samples to laboratory and taking materials and equipment for sterilisation [PN12].*

Contrary to the shortage of nurses mentioned by almost all nurse participants, a few participants said that they did not have a shortage of nurses; instead they said that they have adequate numbers of qualified nurses and midwives which helped them to deliver quality nursing care, as elaborated below:

> *Over all the quality of nursing care is of good quality because we have good number of qualified nurses and midwives and we deliver quality care [PN9].*

> *Overall the quality of nursing care at this institution is good because we have sufficient qualified staff for the work they have to do and they are doing well, so they deliver quality healthcare services [PN8].*

As mentioned earlier, according to researcher's observation and reflections the Department of Obstetrics and gynaecology and Neonatology had fewer patients/clients in relation to available nurses and midwives as a result of the transformation that took place at the selected hospital when it became a referral hospital. Fewer patients are referred to these departments by the district hospitals, being managed instead at the district hospital level, which has reduced the workload in these departments and enables nurses to provide the care which patient/clients need at the time it is needed.

Nurse staffing at the selected tertiary healthcare facility.

The hospital has 250 nurses, with 200 physically present at the hospital and the other 50 allocated to outreach activities or pursuing their studies within and outside the country. The hospital has a capacity of 250 beds with a monthly average of 525 inpatients and 3375 outpatients. The nurse/patient ratio can be calculated from productive direct patient care nursing hours: if every client day comprises 24 hours, then: Nurse = Productive nursing hour patients × 24 (Spetz, Donaldson, Aydin and Brown, 2008:1677). The selected hospital has two shifts: day shift and night shift. The day shift starts runs from 7.00am to 5.00 pm and the night shift from 5.00pm to 7.00am. Therefore a nurse works for 10 hours a day and 15 hours on night duty, and all hours are considered productive hours in the context of Rwanda. Therefore, one hour for lunch is not deducted. According to Kelly (2012:344), nurse/patient ratio can be obtained by considering nursing hours per patient per day (NHPPD) in 24 hours, based on the midnight census and considering only productive hours, which means that benefit hours (e.g. vacation, sick leave and education time) are deducted. However, in Rwanda lunch hours and these benefit hours are not deducted. Therefore, all hours are considered full-time hours.

The nurse/patient ratio can also be calculated by dividing the total number of **inpatients** per month by the total number of full-time nurses (Cho and Yun, 2009:1095). This is = 525 inpatients per month ÷ 200 number of productive nurses = 3 patients: 1 nurse.

Therefore 1 nurse cares for 3 patients. If 1nurse cares for 3 patients at the selected hospital, and if according to the WHO recommendations 1 nurse is supposed to care for 4 patients, 525 inpatients will therefore need 525 ÷ 4 = 131 nurses per day to care for 525 inpatients per month. Therefore in 24 hours 131÷ 2 = 65 nurses.

The nurses who are needed to care for the **outpatients** each month = number of outpatients per month ÷ the number of full-time nurses working at the outpatients department.

The hospital has an average of 3375 patients per month and there are 20 full-time nurses working at the outpatient department. To get the daily census of patients = Number of patients per months ÷ by the days in a month, as there are months which have 31 days and others have 30 days =30 + 35= 60 ÷ 2 =30.5. Then 3375 ÷ 22.5 =150 patients per day.

Outpatient works 5 days per week, therefore dividing by 22.5

150 patients per day ÷ 22.5 days = 7.5 patients. Therefore 1 nurse cares for 7.5 patients per day.

Follow-up/repeat visits: the norm is 4 per hour and new visits norm is 2 per hour. Given that there are 20 nurses allocated to OPD who work 10 hours per day =200 x 10 =2000 hours available per week of productive hours;

Number of patients per week that can be seen is 2000/4 =500; so 500/10 hours per day =50 patients per 10 hour shift; 50 patients / 20 nurses =2.5 patients. They are thus productive for 2 hours a day. Therefore, the rest of the day they should be redeployed to the wards, as OPD requires only 4 nurses; if only 2 patients are considered per hour then 150/20 =7.5 nurses.

Number of nurses needed in ICU and NICU

ICU has a capacity of 10 beds and there are 21 nurses allocated to work in ICU.

The required nurses to work in ICU = 10 patients ÷ 21 nurses = 1patient per 2 nurses in 24 hrs.

Recommended nurse/patient ratio in ICU =1:1, therefore, the ratio in ICU =1 nurse: 1patient

Therefore if 10 nurses are required to work in 24 hours and ICU has 21 nurses,

NICU has 5-bed capacity with 17 nurses; the required nurses = 5 patients ÷ 17nurses = 1 patient: 3 nurses. In 24 hours, NICU will require 2 nurses per patient: 1 nurse to work during day shift and another to work during night shift. As recommended in intensive care units, 1 nurse cares for 1 patient. This means that 10 nurses will be required to work in NICU for 24 hours.

Nurses required to work in OPD = 4; nurses required to work in ICU=10; nurses required to work in NICU=10 Total = 34 nurses required to work in the above-mentioned departments.

Remaining with 200 nurses – 34 nurses = 166 nurses; 166 nurses care for the remaining inpatients: 525 – 5 patients in NIU – 10 patients in ICU=510 patients. According to WHO standards, 1 nurse cares for 4 patients. Therefore the required nurses to care for 510 patients =510/4 =128 nurses.

Total required nurses =128 +34 nurses =162 nurses; 200 nurses are physically at the hospital yet the required =182 in patient nurses + 4 outpatient nurses =186 nurses. OPD requires only 4 nurses since they do not have night shift and there is no duty on weekends. There are 11

nursing departments in the selected hospital, and every month one nurse in the department has to go for annual leave; this gives a total of 186 nurses +11 nurses who should go for annual leave=197 nurses required in the hospital.

4.4.2 Quality of care factors: Managerial role

Data revealed the following themes under the category of managerial role; (i) Adherence to technical norms of care (ii) Hindrances to performance improvement.

4.4.2.1 Adherence to technical norms of care

Proper documentation: Nurse participants said that they documented all nursing care activities performed. This included assessment of patients' condition (where the condition is documented) in making nursing care plans, in giving patients health education, and in performing administration, all of which were documented. This helped them to avoid medication errors and to deliver quality nursing care, and at the same time helped them to give a proper report to colleagues during handover. They stated that documentation was one of the activities they did that helped them to promote quality improvement at the hospital. Below are statements elaborated by participants:

> *Quality of nursing delivered at my nursing unit is of high quality because we do documentation, we document everything for example when we do patients assessment we do document the patient's condition as well making nursing care plan we document and this helps us to deliver quality nursing care [PN6].*

> *We deliver quality nursing care because we do document every activity that is performed for example when we are administering drugs to patient we document everything and this helps us to give a proper nursing care and giving a proper report to fellow nurses during our shifts when we are handover and this helps us to improve the quality of care [PN10].*

> *Documentation is one of the activities we do to promote quality improvement at my institution where we have to document everything we do for example health educating patients, when we are giving medication to patients and it helps us to prevent medication errors [PN11].*

Proper disposal of waste: Proper disposal of waste emerged as a theme from the data in this study. Nurse participants said that proper disposal of waste helped them to prevent nosocomial infections and improve the quality of nursing care delivery. They did this by disposing of infectious waste separately from non-infectious waste and disposing of sharp objects in the sharp disposal container (e.g. used needles) as elaborated below:

We carry out proper disposal of wastes for example disposing infectious wastes separately from non-infectious wastes and disposing sharp objects in the sharp disposal container for example used needles this helps us to prevent nosocomial infections and improving the quality of nursing care delivery [PN11].

Multidisciplinary collaboration. Collaborative work emerged as a theme from the data of this study. Nurse participants said that they worked with other healthcare professionals because they had the same aim of improving the quality of patients care and they said that they collaborated and discussed how their patients could be given services appropriately and promptly. They said that working as a multidisciplinary team helped them to put things in order when the work was not going well (e.g. in the laboratory or with x-ray or physiotherapy); they all sit and discuss how to deal with these problems and this helps them to render quality care. Furthermore, nurse participants said that working in a team helped them to get quick solutions (e.g. when staff in the laboratory found a low haemoglobin level during a patient's investigation they discussed what to do immediately and found a solution); this helped them to improve quality of care for patients. The same cooperation applied when they needed staff from physiotherapy. Below are points elaborated by the participants:

I work with other healthcare professionals as we work in a team for example when there is urgent action to be taken like the staff in the laboratory have found low haemoglobin level during patient's investigation we discuss on what to do so that we give care immediately same applies when we need staff from physiotherapy we cooperate [PN10].

I work with other healthcare professionals because we work as a team and we have the same aim to improve the quality of care to our patients [PN11].

I work with others we work as multidisciplinary team for example when things are not going on well either in laboratory or x-ray, or physiotherapy we seat and discuss how our patients can get services in a proper way and in time so it helps us to render quality care [PN7].

4.4.2.2 Situational adaptation in resource-constrained environment

Improvising: Improvising emerged as a theme from the data of this study. Although nurse participants said that they lack materials and equipment one nurse participant said that when there were shortages of materials and equipment in providing nursing care they improvised to meet the patients' needs. For example, when they had more than two patients who needed a CPAP machine for positive end expiratory pressure, they improvised CPAP, using a normal saline bottle. The bottle is emptied, two holes are created on the top of the bottle and marks are made on the bottle at 1 cm intervals showing 10 cm starting from the base of the bottle, using

a ruler. The pressure of distilled water in the bottle is first they measured, where 1cm = pressure of 1mm Hg. The nasal cannula is then inserted into the distilled water and a small intravenous tubing is placed in the second hole on the top of the distilled water bottle and then connected to the oxygen source; the nasal cannula is connected to the patient and secured to provide positive end expiratory pressure. This is explained in the extract below is extracted text and in Figures4.5, 4.6 and 4.7.

> *When we have more than two patients who need CPAP machine we do improvise by using normal saline bottle and a nasal cannula. First we have to use a ruler to measure the pressure of distilled water in the bottle of which 1cm =pressure of 1mmhg. The nasal cannula is then inserted into the distilled water and also a small intravenous tubing placed in the second hole on top of the distilled water bottle and then connected to the oxygen source and the nasal cannula is connected to patient and secured to provide positive end expiratory pressure [PN3].*

Figure 4.5 Bottle with distilled water

The end of a nasal cannula is placed in the first hole of bottle with distilled water starting at 5cm below the water and the nasal cannula. A small piece of intravenous fluid tubing is also placed in the second hole on top of the distilled water bottle. Below is a bottle filled with distilled water up to the last mark.

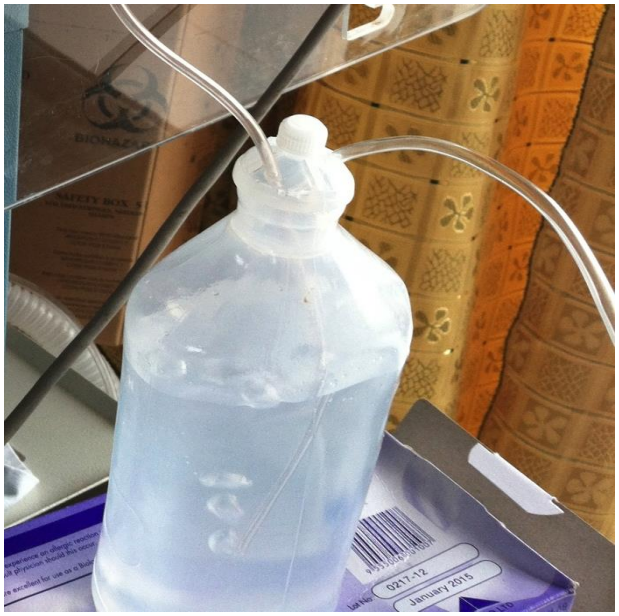

Figure 4:6 Improvised CPAP and connecting pressure devices

Figure 7 below shows improvised CPAP equipment from the selected healthcare facility in Rwanda. The nasal cannula is connected to the baby and secured. Then the oxygen flow rate is set at 3-6 litres to start with, which may go up to 10 litres when required. However, bubbles should be seen all the time and oxygen saturation should be monitored continuously while on bubble CPAP.

Figure 4.7 Improvised CPAP equipment

From document analysis, data reveals that a cheap bubble CPAP machine provides therapeutic pressure and flow which is equal to those of related systems used in developed countries, providing 0-10l/min of air flow and 0-8cm water pressure; this may be able to treat babies with a weight of up to 10 kg.

4.4.2.3 Evidence-based practice

Data emerging from this study indicated that participants had enhanced their knowledge through continuing education and departmental continuous professional development as a means to promote quality improvement at the selected hospital.

Continuing education: The theme of continuing education emerged from the data of this study as a major factor that assists in improving the quality of nursing care delivery. Various participants highlighted continuing education as a major factor that helped them to improve the quality of nursing care; it was recognised as a way of motivating staff and of enhancing skills and knowledge of nurses in order to deliver quality nursing care, despite some gaps that remain. Nurse participants said that they had improved compared to previous years because of inputs by nurses who had gone for further studies abroad. They now perform well, changes have been

made, and they are able to document what they do because of the acquired knowledge and skills. Below are comments made by participants:

> *The quality of nursing care delivered to my nursing unit has improved compared to previous years. Even though we still have some gaps the nursing care is good but not excellent. There are some improvement because of some inputs brought in by the nurses who had gone for further studies abroad and now they are back and performing well and making changes, we are now able to document whatever we do [PN6].*

> *Over all the quality of nursing care is of good quality, we deliver quality care because we have knowledge and skills as we were sent for further studies [PN9].*

Departmental continuous professional development: The theme of departmental continuous professional development emerged in this study as a factor that plays a role in quality improvement. Nurse participants reported that in departmental continuous professional development they taught one another by selecting topics (e.g. on conducting deliveries, on infection prevention and control to prevent nosocomial infections, on a disease or medication) and then searching for information and teaching one another. Nurse participants said that in their wards/units they are involved in teaching their colleagues through sharing information and ideas; this is done weekly and everyone has the opportunity to participate, thereby improving their knowledge and skills, which leads to improved quality of nursing care. Below are elaborations from participants:

> *Activities carried out that promote quality improvement at this institution are continuous professional development where every nurse at the ward selects atopic and looks for information and teaches fellow midwives on Wednesday for example on conducting deliveries we share knowledge and views which helps us to improve the quality of care [PN15].*

> *The activities carried out to promote quality improvement at this institution is departmental continuous professional development where every nurse is supposed to select a topic and teaches others, for example infection control to prevent nosocomial infection, and we discuss, and share knowledge and identify ways of improving [PN3].*

> *We carry out continuous profession development which are departmental where you get a topic and teach others for example on Safety and health environment activities which helps to prevent nosocomial infection it also helps us to deliver quality nursing care [PN4].*

> *Quality improvement activities carried out at this institution are weekly departmental continuous professional development, you identify a disease or medication or in management and you search for information and teach fellow*

nurses so that their knowledge can be improved and provide good services to patients [PN2].

Health education: Health education emerged in this study as way of helping the Rwandan community to adopt a healthy lifestyle. Nurse participants said that they give health education to Rwandan communities to encourage healthy practices; the instruction takes place by going out to find citizens in the communities where they live. They are taught about hygiene (encouraging them to wash hands before and after doing anything) and about proper disposal of waste. Nurse participants said that they health educate citizens on how to prevent diseases, such as teaching them about drinking clean, safe water, they are advised to visit health centres for check-ups, on nutrition in a balanced diet, as indicated in the extracts below:

I educate Rwandan community on hygiene for example hand washing in order to prevent infections, advise them to visit health centers for check-ups in order to improve their lifestyle [PN11].

Activities carried out that promote quality improvement at my institution include outreach activities to educate citizens on how diseases can be prevented for example educating them on nutrition, drinking safe clean water and treating those who are sick where doctors, nurses, dentists find citizens where they live and treat them without travelling for long distance to seek healthcare services [PN9].

The selected tertiary healthcare facility has powerful outreach programmes where consultants of different categories provide healthcare services to Rwandan communities, especially those who are poor and live in remote areas, and this allows them to access specialised healthcare services more easily (RMH, 2015:2). These outreach services have been effective for rural people as it would not otherwise be easy for them to get quality specialised services (RMH, 2015:2). Furthermore, clients are encouraged to visit health centres for check-ups to ensure that citizens are free of disease (RMH, 2015:2).

Perceived need for an inquiry on quality care: Perceived need for deeper inquiry on quality care emerged as a theme in this study. Nurse participants suggested that a deeper inquiry should be conducted to find out if nurses are motivated, because when they are not motivated they may not perform well, which can affect patients. They said that an inquiry is required to find out where the gaps lie so that they can make changes to improve the quality of healthcare. Below are suggestions made by the nurse participants;

The strategies I may suggest to improve the quality of healthcare at this institution is to conduct a deeper inquiry on nurses to see whether nurses are motivated and find the gaps so that changes can be made to satisfy them which can improve the quality of healthcare [PN6].

Deeper Inquiry should be done on nurses to see if they are motivated because if they are not motivated they will not perform well their work and this can affect patients [PN12].

4.4.2.4 Increased motivation

Despite the fact that some nurses wished for deeper inquiry to find out whether nurses are motivated, it emerged in this study that increased motivation played an important role in the delivery of quality care services. Nurse participants said that they delivered quality care because they were motivated in different ways; for example, they are provided with transport to and from the hospital that gets them to work on time and enables them to provide quality care to clients. In addition they reported that they were provided with meals, avoiding time spent on looking for something to eat and this also helped them to do their work well. Further, it was reported that nurses were motivated by being sent abroad for further studies abroad where the knowledge and skills they gained meant that there are now a good number of qualified midwives and nurses, benefiting the quality of care. Below is the related quote:

We provide quality care because we are motivated in different ways for example we are provided with transport from and back home and this helps us to reach hospital in time so that we may provide quality care to our client, we are also provided with meals so that we may not waste time going around looking for what to eat so we get time to do our work well. Furthermore, we were sent abroad for further studies so we have a good number of qualified nurses and midwives so we deliver quality nursing care because we have knowledge and skill [PN9].

4.4.2.5 Hindrances to performance improvement

Lack of supervision: Lack of supervision emerged in this study as a factor hindering quality improvement. Some of the nurse participants said that there was no supervision at the selected hospital and they suggested that supervision should be carried out in order to improve the quality of care, emphasising that the hospital needed to oversee activities that take place as well as making sure that everyone was accountable and responsible for whatever they do. Below are statements made by the participants:

I suggest that the hospital should oversee whatever has been done and making sure that everyone is accountable and responsible of what has been done in order to improve the quality of healthcare. There is no body that goes around to oversee what has been done [PN1].

The strategies I would suggest to improve the quality of healthcare at my institution (silent) is to carry out supervision of nursing care activities in order to improve the quality of care as there is no supervision that is being carried out [PN10].

Resistance to change: Resistance to change emerged in this study as hindering the delivery of quality nursing care. Nurse participants said that resistance to change was an obstacle to quality nursing care because some individuals failed to comply with standards or policies or protocols for routine procedures. For example in maternity care there was a continued belief that a mother must deliver in the lithotomy position only, whereas evidence-based practice indicates that a mother can deliver in any position which helps the baby to descend, thus quickening delivery. Nurse participants said that midwives did not want to adopt new methods of delaying cord clamping for about 1 to 3 minutes, or until the cord stops pulsating, although this can prevent neonatal anaemia; they prefer clamping the cord immediately. Nurse participants also reported that even some doctors were resistant to change and did not follow policies and standards. Some patients were admitted without a file and nurses had to run after doctors so that the patient's admission file can be created, as described below in the quotes:

> *The challenges that I have encountered in the implementation of quality of healthcare in the institution is resistance to change changing is difficult some midwives do not want to change, they are still using the routine, they do not want to adapt new method of delayed cord clamping for about 1-3 minutes or when the cord stops pulsating, yet this can prevent neonatal anaemia, they prefer cramping the cord immediately. More that some still deliver mothers when they are in lithotomy position only yet evidence-based practice indicate that a mother can deliver in any position which can assist a baby to descend hence quickening delivery but I think with time they will change once they continue to get more trainings they will change [PN4].*

> *The challenges I encountered in the implementation of quality healthcare at my institution is resistance to change some professionals do not follow the policies and standards for example you may find patient being admitted without a file where you have to run after a doctor so that a patient's admission file can be made [PN11].*

Inappropriate hand washing/maintenance of hygiene: Inappropriate hand washing emerged from the data as a hindrance in delivering quality of nursing care. Nurse participants reported that they could not adhere to hand washing procedures because there was no water for washing hands while performing procedures. Some of the nurse participants also reported that even when all the required materials were available for washing hands, nurses were not always able to wash hands before and after every procedure, in some cases due to shortage of nurses, since washing hands before and after every procedure takes too much time when there is a lot of work to do. For these reasons nurse participants said that the overall quality of nursing care

was not 100%, since not all nurses adhere to hand washing procedures. Below are the statements made by nurse participants:

> *The overall quality of nursing care at my institution is not on standard 100 per cent for example some nurses do not wash hands even when all the requirements are available [PN15].*

> *Overall the quality of nursing care at this institution is not excellent because there are some procedures for example hand washing before and after every procedure that are not done as required because we are few and washing hands after getting in contact every patient takes time [PN13].*

Long waiting times: The theme of long waiting times emerged from the data of this study as a factor that leads to patient dissatisfaction. Client participants reported long waiting times either to get an appointment to see a doctor or to undergo elective surgery, and also said that long waiting times were attributable to the shortage of doctors at the selected the hospital. Client participants said that they had to wait for as long as a month because there were too many patients for the available doctors, and that then resulting work overload caused long delays in getting appointments to see a doctor or to undergo surgery. Below are quotes from client participants;

> *In this hospital services are well provided all workers are good and they direct us well when you need directions but the only issue is that when you need a doctor they give appointment dates long into the future yet you are not feeling well [PC10].*

> *There is no issue with the services here once you manage to meet a doctor, but sometimes we are given appointment dates at least month in the future whereas we are sick and it makes us feel uncomfortable [PC11].*

> *The healthcare services in this hospital are not easily accessible because sometimes you are given appointment dates long into the future to see a doctor whereas you have come from very far [PC3].*

> *I appreciated health services in this hospital they have good orientation services and patients are well treated but the only problem in this hospital is giving long period of appointment when you want to see a doctor yet you are sick and this makes the illness become serious [PC13].*

Referral hospitals in Rwanda are facing high demand in referrals they need to accept from 42 district hospitals in the country, without sufficient resources in personnel or infrastructure to respond to the demand (Rwanda Ministry of Health, 2012:86). In response, the Rwanda Ministry of Health has a plan to promote all district hospitals in each province to provincial hospitals in order to reduce the high demand faced by current

referral hospitals (Rwanda Ministry of Health, 2014a:22). In addition, more emphasis will be placed on reinforcing hospital management, and on infrastructure, equipment, quality of services and customer care, training of healthcare providers, and focus on research (Rwanda Ministry of Health, 2014a:22).

4.4.3 Quality of care factors: Customer care

Data emerging from this study revealed the following themes under the category of customer care: (i) Good orientation (ii) Coordinated services (iii) Good environmental hygiene.

4.4.3.1 Good orientation

Proper orientation of clients: Proper orientation of clients emerged from the data as a means of improving the quality of care. Nurse participants said that they provide proper orientation to clients which plays a big role in satisfying patients' needs and enhancing customer care and they cite this as leading to improved quality of care. Nurse participants said that together with the customer care group they do provide proper orientation to the clients which helps them to access healthcare services in different departments of the hospital more easily. Likewise client participants stated that they received good orientation services from hospital nurses, registration staff and hospital officers, which made it easy for them to find different departments in the hospital for the healthcare services they needed. Below are statements from nurse participants and client participants elaborating on the good orientation provided:

> *We provide proper orientation to our clients when they are seeking healthcare services in different departments of the hospital and this plays a big role in satisfying their needs as well as enhancing good customer care and this leads to improved quality of care [NP9].*
>
> *Customer care team is doing a good job in orienting patients so that they may be able to get services from different departments of the hospital easily [NP3].*
>
> *There is no problem in getting services in different departments in the hospital because the hospital officers take good care of us and they help us a lot they welcome us when we approach them and any one in the hospital can guide you regardless who you are and despite his/her lank, I was well guided and satisfied with the orientation services in the hospital [PC16].*
>
> *It is not difficult to get services from different departments in this hospital, even the places which you do not know they guide you. I would say that all employees of this hospital offer good orientation services [PC17].*

Sufficient explanation or information: Sufficiency of explanation/information emerged from the data as a theme relating to explanation or information provided to client participants by the hospital staff. Client participants said that the hospital registration staff, nurses, hospital officers, pharmacists and doctors provided them with detailed explanations and information regarding different services offered in the hospital and the type of doctors they needed to consult, on how they should take their medicines, and also explanations about their illnesses which helped them psychologically even before they took the drugs. Below are quotes from client participants:

> *Receiving services from this hospital is easy for us as the registration staff give us detailed explanations when we want to go from one department to another and orient us on the type of doctor we want to see and they are perfect when they are giving explanation they do it perfectly and give us enough information [PC1].*
>
> *Nurses of this hospital, give us enough explanations on how we should take our drugs in words and they as well write on medicine envelope [PC14].*
>
> *The hospital pharmacists give us enough explanations concerning how we should take our medicines. Even if when the drugs are not available, they provide you with proper explanations in a polite way [PC16].*
>
> *The pharmacists have good attitudes and they are welcoming they also explain clearly how the prescribed drugs must be taken and write it on medicine envelope [PC15].*
>
> *Nurses are doing a pretty good job they give us detailed explanations on how we should swallow our drugs and making sure that we swallow them [PC2].*
>
> *I have appreciated the way the doctor explained to me about my illness I was given enough explanations regarding my illness, this helped me psychologically even before I took drugs and this helped me to improve [PC7].*

Better communication skills: Better communication skills emerged from the data as a theme relating to how well the hospital registration staff communicated with client participants. Client participants reported that hospital registration staff had good communication skills in the way they communicated with clients seeking healthcare services at the selected hospital. Client participants were happy and appreciated the communication skills of the hospital registration staff, commenting that they had good attitudes, welcoming them and responding well when patients were looking for their files for consultations with doctors. Below is one participant comment:

> *The hospital registration staff have good communication skills they communicate and respond to us well when we approach them looking for our files when we want to see doctors and they welcome us and direct us on services which need [PC16].*

4.4.3.2 Coordinated services

Quick pharmacy turnaround: Quick pharmacy turnaround emerged as a theme relating to speed of services provided to clients by the hospital pharmacy. Client participants said that in the hospital pharmacy there was quick service when they went to get drugs prescribed by doctors. Client participants said that drugs were supplied quickly in the hospital pharmacy even if some of the prescribed drugs might possibly not be available. Client participants said that whatever was available was provided without delay, commenting that when they reach the pharmacy they just hand in the doctor's prescription and are served immediately. Below are statements from client participants:

> *Getting drugs in the hospital pharmacy does not take long when you reach there you hand in the doctor's prescription and they quickly serve you [PC1].*
>
> *It does not take too much time to get drugs from the hospital pharmacy because once you arrive there they ask you to give them the doctor's prescriptions and they serve you immediately with the available drugs without any delay [PC4].*

From the researcher's observations and reflections, quick pharmacy turnaround was attributed to establishment by the hospital of small distribution pharmacies in different departments; for example, inpatients had their own distribution pharmacy as did the **outpatient** department, which minimised congestion that used to occur previously in 2013 when there was one distribution pharmacy in the whole hospital for both inpatients and outpatients. The single distribution pharmacy was observed by the researcher in 2013 while conducting an undergraduate research study in the same healthcare facility. However, in 2015 changes had been introduced as mentioned.

Well-scheduled working hours: Client participants said that the hospital working hours were well-scheduled and expressed satisfaction with the shift system. Client participants said that they did not have any problem with the hospital working hours according to which employees work in shifts and respected the arrangement by which some employees work during day time and others work at night so that patients may be admitted and treated whatever time they may arrive. Clients recognised that people cannot work without resting and said that there was no need to change the working hours, as highlighted in the quotes below:

> *Working hours here is not a problem for us as workers work in a shift system, some work during the day and others work during night time and I think it is fair because people cannot work without resting. They respect the hours so I do not have any complaint regarding hospital working hours [PC8].*

I think that working hours are well scheduled there is no need of changing them because they work in shifts some workers work during day time and before they go off they are replaced by those who come to work at night so at any time you come they receive you [PC6].

The hospital working hours are well arranged there is no issue with them because they work in shifts some workers come during day time and others come to work at night and any time you come you can be treated [PC10].

Effective care from hospital staff: The themes of effective care and good performance emerged from the data. Client participants said that they were satisfied with the quality of care provided by the healthcare professionals of the selected hospital, both from doctors and from nurses and hospital officers, as elaborated below:

I really appreciated therapeutic services from this hospital as I was told that they give good services it's a reality their performance is very good and the treatment I received from the doctor was effective and now I have improved yet when I came here before I was very sick [PC2].

I have appreciated the way this hospital offers healing services to patients, the doctor treated me well and the drugs I got have been effective and now I am improving. Sometimes people might have been treated at different hospitals and once you compare you find that this hospital is offering good services. I am not saying this because I am here, patients are taken good care of and well oriented and I got all the services I wanted [PC7].

Being treated by the doctor was very useful to me, I rose from dead, I was in critical condition when I came here, I was in comma for four months, I could neither pass urine nor stool, I was confined to bed but the doctor treated me with much care same applies to other healthcare professionals, now I am feeling better I can even walk. In general we appreciate how this hospital treats people [PC8].

What my friends told me who were treated here before me is a reality this hospital offers good services once you manage to meet a doctor you are sure of recovering as doctors here are competent and committed to their work and their services are good, I came here when I was very sick but now I have improved because of the way I was treated [PC14].

I was satisfied with the services I received from the doctors of this hospital as the treatment I was given has been beneficial to me, the treatment I got has cured me and even if I just get consulted by the doctor it psychologically helps you it gives me hope of recovering; even when I have not received any drug [PC15].

We appreciate how hospital nurses treats us they treat us well with respect and they are competent in whatever they do we get better once treated by nurses and they even make sure that we have taken our drugs [PC5].

Hospital nurses try their best they even make a follow-up of the patients' health conditions in order to assess their progress, they guide us and treat everyone with respect [PC16].

Hospital officers here do their jobs well whenever we approach them they try their best to assist us by all means when we need healthcare services in different departments and they are polite in whatever they do [PC6].

Participants also appreciated services they received from hospital pharmacists:

The hospital pharmacists have good attitudes they receive us well and they give us enough explanations concerning how the drugs should be taken. Even if when the drugs are not available, they provide you with proper explanations in a polite way [PC16].

The pharmacists have good attitudes and they are welcoming they also explain clearly how the prescribed drugs must be taken and write it on medicine envelope [PC15].

Quick service: Quick service emerged as a theme in relation to speedy delivery of healthcare services by healthcare providers of the selected hospital. Client participants appreciated the way healthcare providers delivered services quickly and one participant told a fellow patient, when they were waiting to see a doctor, that getting services in the hospital was not difficult because all the hospital employees were working fast as if were soldiers. Below is the comment from the client participant**:**

Getting services from this hospital is not difficult because healthcare providers here are so fast when they are delivering healthcare services, I think it is easy to get healthcare services, in fact when we were waiting to see a doctor I told fellow patients that you can think that every employee here is soldier because they perform their duties very quickly and they thought that I was joking [PC8].

4.4.3.3 Good environmental hygiene

Data that emerged in this study showed good environmental hygiene at the selected hospital. Client participants were happy and satisfied with the hospital environment in terms of cleanliness of hospital infrastructure, cleanliness of hospital toilets, sufficient lighting, and enough ventilation in the wards. Client participants said that the hospital maintained high standards of cleanliness, there was always a cleaner around, lighting and ventilation was good, and windows were large enough to let sufficient air in. Client participants said that the hospital was clean everywhere; compared to other hospitals where they had been, they said that it was hard to believe this was a hospital; there was no bad smells in the hospital building because

toilets were kept in good condition. One client participant who was from a neighbouring country were impressed by the cleanliness of the whole country commenting that it wasn't just the hospital that was clean, it was the whole country that had high standards of cleanliness; but the client did suggest they should plant trees to have more fresh air. Below are statements from patient participants:

> *The hospital infrastructure is clean, even the toilets are clean and they maintain high standards of cleanliness, and there is always a cleaner around, the lights are sufficient everywhere and the ventilation is enough because it is a large place with windows but I suggest they should plant trees for more flesh air around [PC2].*

> *It's not only the hospital which is clean but the whole country is very clean, I was impressed about how the whole country is clean, ventilation is enough in the hospital building because they are large rooms, the light inside the hospital is enough, consultations rooms are enough as every doctor can get where to consult his/her patients, toilets are in good working condition because there is enough hygiene [PC12].*

> *In terms of environment, in every place where I have been, the hospital is clean compared to other hospitals where I have been, it would be hard to believe that this is a hospital there is good smell in the hospital building, there is enough ventilation as well as lights, every room has lights and its clear, the toilets are in good condition, there is no bad smell [PC16].*

According to Arslanian (n.d),"not only is Kigali beautiful, it is also the cleanest and safest capital city in the continent; the fact that it is clean, is so green and hilly certainly adds to the aesthetic allure of the place". The cleanliness of Kigali city and Rwanda as a country in particular is attributed to the ownership of Rwandan community in keeping their environment clean, such that every person be it at their place of work or where he/she lives has to keep the environment clean as part of the Rwandan culture. Further, this is strengthened by community clean-up (Umuganda) day, carried out at the end of every month, where every person between the ages of 18-65 years old, participates in community work to clean the environment as well as other activities that boost economic development of the country. This creates ownership such that it becomes part of life resulting in a clean environment.

Umuganda means community work which originated from cultural tradition and the community could work together in order to help community members that desired to undertake a tough task which could not be completed by a single person (Uclga, Iclei and European Union, 2011:2). However it had been forsaken with the intention of modernising the country but in recent years it was restored in an effort to build the country (Uclga et al., 2011:2).

4.4.3.4 Sufficient consultation rooms and chairs

Sufficient consultation rooms and chairs emerged as a theme indicating satisfaction of client participants with consultation rooms and furniture in the hospital. Client participants said that the consultation rooms were sufficient and convenient and that every doctor has a room in which to consult patients. Further, client participants said that the chairs in the waiting room were sufficient and comfortable since they all could sit. Below are statements on these points by client participants:

> *There is no issue regarding the consultation rooms and chairs in the hospital, rooms for consultation are sufficient and convenient every doctor gets a room to consult patients and chairs are sufficient in the waiting room because every patient can get where to sit [PC2].*
>
> *In this hospital consultation rooms are enough as every doctor gets a room to use while consulting patients and chairs in waiting room are sufficient since we all get where to sit [PC16].*

4.5 Conclusion

This chapter presented data analysis and interpretation of the findings. The findings were organised in relation to the questions which arose from the study objectives: the state of the hospital quality improvement activities; factors associated with the quality of care; and patients' satisfaction with the quality of care received.

The next chapter presents discussion of the findings, study limitations, and recommendations and conclusion.

Chapter 5
Discussion of Findings, Study Limitations, Recommendations and Conclusion

5.1 Introduction

This chapter presents a discussion of the findings. The purpose of this study was to analyse quality improvement by nurses; in order to develop guidelines for nurses on effective quality practices at a selected tertiary healthcare facility in Rwanda. The study aimed to meet the following research objectives.

- To conduct an audit of quality improvement activities by nurses at a selected tertiary healthcare facility in Rwanda.
- To analyse the factors associated with quality improvement by nurses at the selected tertiary healthcare facility in Rwanda.
- To analyse patient satisfaction with the quality of care received at a selected tertiary healthcare facility in Rwanda.
- To develop quality improvement guidelines for nurses at the selected tertiary healthcare facility in Rwanda to improve the quality of care.

In this chapter, the findings from this study are discussed with the existing literature, from both developed and developing countries, and this helped to identify the gaps between these countries, and the existing best practices in the quality improvement in the provision of quality healthcare services.

5.2 Demographic characteristics of study participants

The demographic characteristics of the study participants showed a total of 15 nurse participants (PN) in the study and a total of 17 client participants (PC) in the study. To reiterate, to preserve anonymity, marital status and working experience of study participants were suppressed so that it would not be possible to trace participants.

The demographic characteristics of nurse participants comprised gender, level of education and age group**.** The findings in this study revealed that the majority (60%, n =9) of nurse participants were female while 40% (n=6) nurse participants were male. This is similar to a

study conducted in Saudi Arabia by Almalki, Fitzgerald and Clark (2012:4), where the majority (67.3%, n =342) were female against 32.7% (n=190) male. The findings of this study are also similar to a study conducted by Behdin (2013:80), where the majority (94.6%, n =111) of participants were female. The findings in this study are also similar to a study by Ayamolowo, Irinoye and Oladoyin (2013:534), where the majority (87.6%, n =161) were female nurses while a small number (12.4, n =20) of participants were male nurses. The finding of this study are consistent with a study by Klopper, Coetzee, Pretorius and Bester (2012:689) in which the majority (93.2%, n=836) of participants were female with a small number (6.8%, n=61) of males. The findings in this study are also similar to the findings from the study by Batunga and Pakkies (2014:38) on undergraduate nursing students at a selected university in KwaZulu-Natal where the majority (79.6%, n=90) of the nursing student participants were female, against 20.4% (n=24) male. According to Sridevy (2011) nursing being a female dominated carrier has its origin from Nightingale's philosophy of nursing, who considered it a suitable job for women because it was an extension of their domestic roles. Her image of the nurse as nurturing, domestic, humble, and self-sacrificing became prevalent (Sridevy, 2011). Qualities associated with women, like compassion and dependency, align with those often attributed to nurses (Evans, 1997). In modern times, the social construction of the role of a nurse has typically meant a caring, hardworking woman. Nursing, in the span of Nightingale's lifetime, became identified as a profession deeply embedded in the female gender (Sridevy, 2011; Meadus, 2000).

Concerning level of education in this study, the majority of nurse participants (60%, n=9) had a Bachelor of Nursing degree while 40 % (n=6) had an advanced nursing diploma. This is contrary to a study by Klopper, Coetzee, Pretorius and Bester (2012:689), where the majority (74.3%, n=642) of nurses had a diploma in nursing and a small number (25.7%, n=222) of nurses had a bachelor degree. The findings of this study in terms of education level are also contrary to a study by Ayamolowo et al. (2013:534), where a small number (9.4%, n =15) of participants had a Bachelor of Nursing degree and the majority (88.8%, n =143) had a diploma in nursing. In line with this study, a study by Farokhzadian, Nayeri and Borhani (2015:297) showed that in terms of level of education the majority (78%, n=156) of nurse participants had a bachelor degree.

Regarding the age group of nurse participants in this study, the majority (40%, n=6) of participants were aged between 20 and 29 years. Contrary to this study, a study done by

Farokhzadian et al. (2015:297) showed that the majority (31%, n=63) of nurse participants were in the age group 30 to 35 years.

The social demographic characteristics of client participants comprised gender, level of education and age group. The findings in this study revealed that in terms of gender, out of 17 client participants the majority (59%, n=10) were males while 41% (n=7) were females. Contrary to this study, a study by Muhondwa, Leshabari, Mwangu, Mbembati and Ezekiel (2008:69) the majority (64.7%) of the participants were male. Conversely in a study by Juma and Manongi (2009:198) the majority (90%, n=127) of the participants were female.

Regarding the level of education in this study the majority (59%, n=10) of client participants had secondary level of education. Contrary to this study a study by Juma and Manongi (2009:198), the majority (78.7%, n=127) of client participants had primary level of education.

Concerning the age group in this study, less than half (41%, n=7) client participants aged between 30-39 years old. Contrary to this study in a study by Juma and Manongi (2009:198) more than 50% (n=127) client participants were aged between 20-40 years.

5.3 Auditing of quality improvement by nurses

It was found in this study that a number of factors had a positive impact on the quality improvement in the selected hospital: (a) quality improvement documents; (b) process controls based on standards; (c) human resource management, and (d) process improvement based on quality of improvement procedures. For each factor mentioned above, the findings are presented and discussed below.

5.3.1 Quality improvement documents

A number of documents are required for healthcare institutions to improve the quality of care. These include quality action plans for the whole institution, quality policy documents, quality profile documents, quality handbooks (Manual), annual quality reports, incident reporting documents, suggestion boxes, registration book for complaints, nursing care plan documents, job description documents, staffing documents, audit tools for measuring quality of care, and legislative documents. The aforementioned documents were reviewed by the researcher to see whether they were available at the selected tertiary healthcare facility and the outcome showed the situation of the selected tertiary healthcare in terms of quality improvement activities by nurses.

Quality action plan document for the whole institution: In this study, out of 11 departments, 9.1% (n=1) had a quality action plan for the whole institution that was available and accessible to users; 11 (9.1%, n=1) had a quality action plan document but not accessible to users and the majority (81.8%, n=9) did not have a copy of the quality action plan. Contrary to the findings of this study, a study by Wagner, Gulácsi, Takacs and Outinen (2006b:6) showed that quality action plans were available at 41% of Dutch hospitals, 35% of Hungarian hospitals and 27%. of Finnish hospitals. According to Kane, Moran and Armbruster (2010:2), a quality action plan is a guidance document that updates everyone in the institution on what to do; it should be accessible to every employee so that they have a common purpose to reflect on achievements. For an organisation to perform well the institution leaders need to make a quality action plan and incorporate it in the institutional mission (U.S. Department of Health and Human Services, 2011:7).

A quality action plan is significant in improving the quality of healthcare delivery as it ensures that objectives are designed and attained in all conditions (World Health Organization, 1999:74). It also ensures that activities that form objectives and requirements for quality for applying basics of quality system are achieved (World Health Organization, 1999:107). Action plan highlights clear aims and states anticipated overall quality strength by using indicators to assess improvement through planning, execution and evaluation, hence focusing on main methods of attaining enhanced outcomes while targeting clients and other stakeholders (U.S. Department of Health and Human Services, 2011:7). For optimal performance an institution needs to formulate a quality action plan to achieve its mission, incorporating quality improvement in other activities of the institution, since a quality action plan offers guidance for providing safe and quality care (U.S. Department of Health and Human Services, 2011:7). It is crucial for health institutions to have a quality action plan and make it accessible to every employee so that they are aware of the institutional goals and what is expected from them, and relate to it in their daily work so that they meet clients' expectations in terms of quality of care delivery (Kane et al., 2010:1). Therefore it is crucial for healthcare institutions to have quality action plans in order to perform well, because the quality action plan provides guidance on offering safe and quality care, recognising explicit aims which state expected goals that focus on patients/clients and other stakeholders (U.S. Department of Health and Human Services, 2011:7).

Quality policy document: In this study, out of 11 departments, 36.4% (n=4) had quality policy document but were not accessible to users, and more than half (63.6%, n=7) did not have a

copy of quality policy document. Contrary to this study, a study by Wagner et al. (2006b:6) found that quality policy documents were available at 56% of Dutch hospitals,37% of Hungarian hospitals at and 56% of Finnish. It is important for a healthcare institution to have a quality policy document in order to improve the quality of service delivery because a quality policy document elaborates working principles and objectives and functions as a guide on activities concerned with offering quality services (World Health Organization, 1999:72). An institutional quality policy indicates the techniques that enhance the quality of care; it sets out aims of the institution to make sure that quality in healthcare being provided is constantly maintained and enhanced (National Department of Health, 2007:2). It is also crucial for the healthcare facility management to ensure that quality policy is comprehended, executed and sustained at all levels of the healthcare facility; it should correspond to the goals of the healthcare facility the expectations and needs of clients. The WHO (2008b:31) states that references are needed to sustain and enhance the quality of services and a healthcare institution may only be assessed once standards for services are introduced and defined.

Quality handbook (manual): In this study, out of 11 departments, 9.1% had a quality handbook (manual) that was accessible to users, slightly less than half (45.5%) had a quality handbook (manual) but not accessible to users, and slightly less than half (45.5%) had no copy of the quality handbook. Conversely, a WHO study (2008b:31) found that quality handbooks/manuals were available at Gorenjska hospital, at 60%, for use as well as making hospital reports for the forthcoming improvement, while at Ljubljana hospital quality handbook manuals were available and in use at 40%. Contrary to the findings of this study, a study by Wagner et al. (2006b:6) indicated that quality manual handbooks were available and in use in Dutch hospitals at 10%, in Hungarian hospitals at 47%, and in Finnish hospitals at 10 %. It is important for a healthcare facility to have quality handbooks or manuals as they may be used as a reference indicating the techniques which healthcare professionals can use to improve the quality of care delivery, and indicating the healthcare professionals who are accountable for carrying out quality improvement activities. A quality handbook/manual document contains the quality policy and describes the quality system of a healthcare facility (World Health Organization, 1999:107). Therefore, it imperative for a healthcare facility to have a quality manual document so that it can be used as a reference in providing quality of service delivery.

Annual quality report: In this study, out of 11 departments, none (0%) in the whole hospital had a copy of the annual quality report. In line with this study, a WHO study (2008b:32) at Gorenjska hospital found that there was no annual quality report in place. Similarly, Kringos,

Boerma and Pellny (2009:172), in their study, found that that the annual quality report was not available at Gorensjska health facility. Contrary to the findings of this study, a study by Wagner et al. (2006b:1475) showed that annual quality reports were available in the following hospitals: Dutch hospitals at 97%, Hungarian hospital at 43% and Finland hospitals at 25%. Conversely a WHO study (2008b:32) found that hospital annual quality reports were available at Ljubljana hospital at 33%. Contrary to this study, a study by Kringos et al. (2009:172) showed that annual quality reports were available at the following health facilities: Ljubljana at 33%, Fergana at 88%, Syrdarya at 78%, and Tashkent at 93%. It is crucial for a healthcare facility to formulate an annual quality report because it can show whether or not the healthcare facility is performing well. Furthermore, it can show whether quality objectives have been attained, which in turn can help in identifying gaps, hence leading to improved quality of care delivery.

Incident reporting document: In this study, out of 11departments, the majority (90.9%, n=10) had incident reporting documents that were accessible to users while 9.1% (n=1) had incident reporting document but not accessible to users. In line with this study, a study by Farokhzadian et al. (2015:298) found that incident reporting documents were available in the study setting (i.e. hospital A; hospital B and hospital C). Similarly, a study by Levinson (2012:10) indicated that 189 hospitals where the study took place admitted to having incident report documents for use in reporting either occurrences of harm to clients or conditions which may put clients to danger. Having and using incidence reports is imperative in a healthcare facility since actions reported using an incidence reporting system are likely to produce information which can update quality and safety improvement personnel on introducing changes in policy and practice (Levinson, 2012:ii). Incident reporting is crucial as it can also offer legal protection to employees to preserve their integrity, it serves as a control measure, and itis also used to introduce risk management plans (Booyens, 2010:146). A study by Levinson (2012:ii) found that 28 out of 40 incidents reported by nurses led to investigation, and 5 of out of 40 led to policy modifications. Therefore, it is important to report the incidents because it can assist in finding out whether other actions or resources are necessary to prevent incidences (Beard, Greenall, Hoffman, Nettleton, Popescu and Ste-Marie, 2012:30).

Registration book for complaints: In this study, out of 11 departments, a small number (18.2%, n=2) had registration books for complaints but not used on daily basis while the majority (81.8%, n=9) did not have registration books for complaints. Contrary to the findings of this study, Wagner et al. (2006b:6) reported that registration books for complaints were

available in the following hospitals: Dutch hospitals at 93%, Hungarian hospitals at 96%, Finnish hospitals at 78%. Contrary to this study, the WHO (2008b:42) found that the procedures for dealing with clients' complaints were available and in use in Goreniska hospitals at 80%and in Ljubljana hospitals at 100%. The literature indicates that it is important for every department in the healthcare facility to have a registration book for complaints and that this should be accessible to users and used on a daily basis so that the complaints can be indicated and analysed by healthcare professionals to identify the gaps, thus helping to accommodate patients'/clients' preferences for improved quality of care delivery. Handling complaints should be an obligation of every person in the healthcare service since it is another real way of communicating with customers and offering quality healthcare (Australian Commission on Safety and Quality in Health Care, 2005:20). Arrangement of time by healthcare providers and other employees to analyse customers' complaints and other incidents is crucial to support a culture of quality improvement in a health facility (Australian Commission on Safety and Quality in Health Care, 2005:52).

Nursing care plan documents: In this study, out of 11 departments, the majority (72.7%, n=8) had a nursing care plan document that was accessible to the user; 9.1% (n=1) department had nursing care plan documents but not accessible to users and a small (18.2%, n=2) number did not have nursing care plan documents. Conversely, in a study by Mahmoud and Bayoumy (2014:310) the majority of participants (67.6%, n=148) said that nursing care plan documents were not available. In line with this study, a study by Mamseri (2012:91) showed that a small number of participants (27%, n=32) provided nursing care without using a nursing care plan, and7% (n=9) had never used a nursing care plan. Furthermore, the same author reported that the majority of participants (71%), highlighted time as limiting element in using nursing care plans. At the selected healthcare facility nurses who were not using a nursing care plan reported that at times this was because of increased workload. Habermann and Uys (2006:12) suggest that work overload can hinder the development of nursing care plans since even providing simple nursing care and treatment is not easy. Likewise, Nancy (2006) states that increased workload due to shortage of healthcare workers means that nurses do not have enough time to use a nursing care plans. The College of Registered Nurses of Nova Scotia (2015:2) highlights the importance of the nursing care plan as a guide for nursing care as it indicates the nurses' responsibilities in patient care. This author also makes the point that nursing care plans provide a long-lasting health record, enable continuous care, assist in attainment of patient-centred aims, and allowing cooperation with patients through involvement of nurses. Habermann and

Uys (2006:4) describe the nursing care plan as a tangible method which creates a clear process orientation in nursing. Registered nurses have a responsibility to make sure that every patient has a nursing care plan document in place which correctly categorises priority issues, goals and particular nursing targets (College of Registered Nurses of Nova Scotia, 2015:2).

Clear job description documents: In this study, out of 11 departments, one (9.1%, n=1) had clear job description documents for nurses, slightly less than half (45%, n=5) had job description documents but not in use and slightly less than half (45%, n=5) did not have any job description document for nurses. In line with this study, a study by Oshvandi et al. (2008:430) found that nurse participants did not have a clear job description at place of work. Conversely, a WHO study (2008b:24) at Ljubljana and Gorenjska hospitals found that all nurses and other employees of the hospitals from different disciplines had clear job descriptions. Contrary to the findings of this study, a study by Leshabari, Muhondwa, Mwangu and Mbembati (2008:35) found that almost all nurses (94%) had a job description when they started working.

The Ministry of Health in Rwanda (2014b:18) indicates that job description enhances safety by indicating activities and services that a healthcare provider is competent to offer. The WHO (2008b:24) states that job description may function as scope of practice for assessing the performance of healthcare providers and the requirements linked to continuing education. Clear job description can serve various purposes: for example, explaining the link between jobs, orientation of new staff to their jobs, and appointment and allocation of personnel. In addition clear job description can assist in predicting the training requirements for a specific job, functioning as base for human resource planning, showing proper channels of communication and helping staff to understand their jobs better (Booyens, 2011:232). The Ministry of Health in Rwanda (2014b:18) emphasises use of job descriptions in a healthcare institution because they are based on evidence of competence, such as completing academic programmes in a designed discipline as a healthcare provider, and at the same time show in-service training undertaken and work experience.

Audit tool for measuring quality of care: In this study, out of 11 departments, the majority (72.7%, n=8) had an audit tool for measuring the quality of care that was accessible to users and in use, a small number (18.2%, n=2) had an audit tool for measuring the quality of care, but not in use, and 9.1% (n=1) did not have any audit tool for measuring the quality of care. In line with this study, a study by Wagner et al. (2006b:6) showed that audit tools were available

and used in the Dutch hospitals at 44%, Hungarian hospitals 65%, and Finnish hospitals at 53%. Similarly, the WHO (2008b:39) reported that in Ljubljana (at 89%), and Gorenjska (at 60%) clinical audit tools were available and being used. In line with this study, a study by Kringos et al. (2009:173) showed that audits tool were available at the following health facilities: Ljubljana 33%; Gorensjska at 11%; Fergana at 83%; Syrdarya at 89%, and Tashkent at 67%. Audit tools are crucial in measuring the quality of nursing care delivery as they can be used to check whether all nursing activities done have been precisely recorded. Accurate recording of all nursing activities done is a professional and ethical obligation (Booyens, 2011:610).

Legislative documents: Out of 11departments at the selected hospital, none (100%, n=11) had legislative documents. In line with this study, a study by Wagner et al. (2006b:6) showed that hospitals in Finland did not possess legislative documents. It is important for a healthcare institution to have legislative documents because the law of healthcare as well the law of clinical services are very imperative to deliver quality healthcare. Furthermore, legislative documents are linked with quality systems in an organisation, licensing, working conditions, clinical auditing, and education of healthcare professionals (World Health Organization, 2008b:21). Patients' rights are described in legislation governing healthcare and the legislation for healthcare organisations also deals with patients' complaints and access to patients' files (World Health Organization, 2008b:21). In Rwanda, nurses and midwives have a responsibility to abide by the laws and regulations of the country, particularly those that are applicable to their career, in order to provide safe and quality nursing care to clients (Rwanda Ministry of Health, 2011a:29). Booyens (2010:7) makes the point that patients have certain rights and it is the responsibility of service managers to ensure that healthcare services are offered within legislative norms. Once healthcare services do not follow the necessary standards, medico-legal risks can occur which may be unsafe to patients, employees and the institution (Booyens, 2010:7).

5.3.2 Process control based on standards

Standards-based process control comprises standards for specific treatments/interventions, standards for utilisation of medical equipment, standards for patient education, standards for admission of patients, and standards for routine patient discharge.

Standards for specific treatments/interventions: In this study, out of 11 departments, the majority (90.9%, n=10) had standards for specific treatment/interventions and were accessible

to users while 9.1% (n=1) department had no standards for specific treatments/interventions. In line with this study, a study by Wagner et al. (2006b:6) found that the following hospitals had standards for medical treatment: Dutch hospitals at 96%, Hungarian hospitals at 87%, Finnish hospitals at 80%. Contrary to this study, a study by the Tanzanian Ministry of Health and Social Welfare (2011:18) found that the majority (60%, n=40) did not possess treatment guidelines. Protocols/standards or clinical guidelines are crucial in enhancing the quality of healthcare and they also contribute in minimising unwanted discrepancies in the delivery of healthcare services (World Health Organization, 2008b:42).

Standards for utilisation of medical equipment: In this study, out of 11 departments, the majority (72%, n=8) had standards for utilisation of medical equipment and were accessible to users, 9.1% (n=1) department had standards for utilisation of medical equipment but not accessible to users and a small number (18.2%, n=2) had no standards for utilisation of medical equipment. In line with this study, a study by the World Health Organization(2008b:42) found that 56% (n=9) of departments at Ljubljana hospital and 60% (n=5) at Gorenjska hospital had clinical guidelines/protocols on the use of medical equipment and were available and used at both hospitals. It is crucial for healthcare facilities to have standards for proper use of medical equipment as medical equipment can serve variety of purposes (e.g. in diagnosing patients' illnesses, treatment of illnesses as well as rehabilitation subsequent to sickness or injury) (World Health Organization, 2011b:6; World Health Organization, 2011a:4).

Standards for patient education: Out of 11 departments, the majority (90.9%, n=10), had standards for patient education and were accessible to users; 9.1% (n=1) had standards for patient education but not accessible to users. In line with this study a study by Farzianpour, Hosseini, Mortezagholi and Mehrbany (2014:186) found that standards for client education were available to guide nurses in carrying out patient education; 14% of nurses said that the standards for patients and family education were available and used them, while slightly more than half (56.2%) of nurses said that the standards of client education were partly applied. Even though the standards for patient education were available some of the nurse participants of the selected hospital said that they rarely offered health education to patients as a result of shortage of nurses. Some of the nurse participants reported having so many tasks to do because of understaffing that they ended up prioritising some activities and leaving others undone – for example give medication but omitted health education for patients. A study by the Australian Nursing Federation (2009:18) found that when there were not enough nurses this increases the amount of work which has to be done by a single nurse and means that some of the work will

be left undone, such as observations, hygiene and patient education to mention a few. Although some nurses omitted health education for patients and gave medication, health education nonetheless has an impact on drug adherence. This is shown in a study by Liu, Liu, Ding and Yang (2013:292), where parents of children stopped their medication because they were worried about the side effects that the children had developed; this happened because the parents had not been educated about the side effects of the administered drugs. Moyer and Ordelt (2011:4) argue that patient care and patient education cannot be separated.

Standards for admission and discharge of patients: In this study, out of 11 departments, the majority (90.9%, n=10) had standards for patient admission that accessible to users and 9.1% (n=1) had no standards for patient admission. Findings in this study also showed that all departments (100%, n=11) had standards for patient discharge that were accessible to users in all departments. Contrary to this study, a study by Ouko (2012:x) at Kenyatta National Hospital indicated that there were no effective standards and guidelines on admission and discharge of patients. Contrary to the findings of this study in terms of discharge standards, a study by Mfangavo (2012:32,41) showed that 85% of healthcare providers did not use standards for patients discharge, and all categories of healthcare providers did not follow standards while discharging patients. It is important for a healthcare institution to have admission and discharge standards as they are essential in maintaining safe, suitable and constant care throughout healthcare provision and effective use of resources (Australian Nursing and Midwifery Federation, 2012:1). Admission and discharge plans should be multidisciplinary teamwork, including clients and their families (Australian Nursing and Midwifery Federation, 2012:1). Managing standards of admission and discharge affects the efficiency and quality of clients' care; if discharge is not managed well this may negatively affect clients who are waiting for discharge and prevent admission of other clients (Accounts Commission for Scotland, 1998:1,13). Proper management of admission and discharge is crucial to make sure that clients receive care required during discharge and that beds are used effectively to minimise waiting times for new admissions (Accounts Commission for Scotland, 1998:13).

5.3.3 Human resource management

In this study, human resource management included handover procedures, as reported from different departments of the selected hospital.

Handover procedures: In this study the findings showed that handover procedures were in place and were done as follows: out of 11 departments, slightly more than half (54.5%, n=6)

said that handover procedures occurred daily; 36.4% (n=4) said that handover occurred per shift and 9.1% (n=1) department said that handover procedure did not take place. In line with this study, a study by Manias et al. (2015:82) on healthcare professionals indicated that handover procedures were in place and carried out: 40% said that handovers were efficiently carried out and 36% said that handovers were very successfully done; however, a small number (3%) said that handovers were not successfully conducted. Contrary to this study, in a study by Pezzolesi, Schifano, Pickles, Randell, Hussain, Muir et al. (2010:399), 29.3% of participants said that there were no handovers with admitted clients on the wards during shifts or even at the weekends, while 11% of participants said that there was also lack of handover with clients during discharge. Conversely a study of healthcare professionals in the United Kingdom found that 83% believed that handover procedures were poor (Australian Commission on Safety and Quality in Healthcare, 2010:3).

Handover is one of the most important aspects to take into consideration for guaranteeing continuity of care among patients (Australian Medical Association, 2006:5). Effective handover is crucial for the patients' well-being, since safe handover promotes the well-being of patients (British Medical Association, 2004:1) and the continuity of information is vital to the safety of the patients. Nonetheless, patients have experienced adverse effects when handover was not done effectively (British Medical Association, 2004:7). The Australian Commission on Safety and Quality in Health Care (2011:3) notes that lack of proper handover may lead to delays in the delivery of medicine or in diagnosis and investigation, and to repetition of work and provision of incorrect therapy (Austrarian Commision on Safety and Quality in Healthcare, 2011:3).

5.3.4 Process improvement based on quality of improvement procedures.

Process improvement based on quality improvement procedures included satisfaction survey among patients, satisfaction survey among employees, internal audit process and infection control process.

Satisfaction survey among patients/clients: It was found in this study that out of 11 departments, a majority (63.6%, n=7) said that satisfaction surveys were never done, a small number (27.3%, n=3) said that satisfaction survey were done once a month, and 9.1% (n=1) said that satisfaction surveys among patients/clients were done twice a year. Contrary to this study, a study by Wagner et al. (2006b:6) found that user satisfaction surveys were done in 82% of Dutch hospitals, in 95% (n=116) of Hungarian hospitals and in 100% (n=59) of Finnish

hospitals. It is important to conduct patient satisfaction surveys in order to find out their preferences, opinions, views, and experiences. User satisfaction survey is important in improving the quality of care. A study by Hizlinda, Teoh, Siti Nurbaiyah, Azrina, Mohamad Hafizzudin, Chamg (2012:13) showed that patient satisfaction has a role in guaranteeing use of healthcare services, continuity of care and adherence to medication. Likewise, a study by Khamis and Njau (2014:1) found that patients who are satisfied may show constructive interactive aims which are advantageous to health professionals' long-term achievements. Saiboon, Ho, Krishnan, Ali, Murad, Pathnathan et al. (2008:12) note that satisfied patients are expected to come back for a review in regard to the treatment they previous received.

Satisfaction survey among employees: It was found in this study that out of 11 almost majority (81.8%, n=9) of departments, the satisfaction survey among employees is never done; in 9.1% (n=1) of departments, the satisfaction survey was done quarterly and in 9.1% (n=1) of the departments, this was done twice a year. Contrary to this study, a study by Wagner et al. (2006b:6) indicated that satisfaction survey among employees were done at slightly more than half (54%) of Dutch hospitals; slightly less than half (49%) of Hungarian hospitals and the majority (92%) of Finnish hospitals.

Powell (2001:2) states that assessing employees satisfaction helps in detecting issues and getting ways to solve them so that they do not affect patients' care and medication. Satisfaction surveys among employees play a vital role in retaining competent healthcare providers as they help to show what healthcare providers think and to create a conducive milieu for provision of quality patient care (Powell, 2001:2). Comprehending issues related to job satisfaction is crucial in enhancing the job at the health institution (Radević, Mihailović, Kocić, Radovanović, Milosavljević, Živanović et al., 2015:8), because dissatisfaction of healthcare providers with their work may lead to reduced quality of care, hence minimising patient satisfaction (Mollahalġloğlu, Kosdak and Kaġkaya, 2010:44).

Internal audit process: In this study, out of 11 departments, slightly less than half (45.5%, n=5) reported that internal audit was done once a month, 27.3% (n=3) reported that internal audit was done quarterly and 27.3% (n=3) reported that internal audit was never done. A similar study by (Wagner et al., 2006b:6) indicated that the internal audit tool was available and the internal audit process was in place in the following hospitals: Dutch hospitals at 44%, Hungarian hospitals at 65%, and Finnish hospitals at 53%. Conducting healthcare audit can assist in monitoring the extent to which standards of healthcare actions are attained, and if not,

reasons are identified as to why they are not met so that remedies can be found (Daly, 2008:3). A study by Tsaloglidou (2009:66) showed that auditing plays a significant role in optimising the quality, effectiveness, and efficiency of care delivered to clients by evaluating the existing standards against expected ones.

Infection control process: It was found in this study that infection control processes were available in the hospital; out of 11 departments, the majority (90.9%, n=10) mentioned that infection control was done daily while a small number 9.1% (n=1) said infection control was done once a month. Similarly, in a study by Gichuhi, Kamau, Nyangena and Otieno-Ayayo (2015:41) the majority of respondents said that infection control process/guidelines were available in their departments/units. Although hand hygiene was practised by healthcare workers, not everyone washed hands after removing gloves and they stated that soap and running water were not always available, and that high workload, shortage of healthcare providers, low resources hindered them from washing hands frequently (Gichuhi et al., 2015:43). Likewise, in this study nurse participants mentioned that lack of water and work overload could prevent them from washing hands before and after every procedure. However, according to the researcher's observations at time of data collection, in every department/unit there was water and soap for washing hands.

5.4 Factors associated with the quality of care

In this study, factors identified as associated with the quality of care were categorised into organisational resources, managerial role, and customer care.

5.4.1 Organisational resources

Under the category of organisational resources, data emerging in this study revealed the following themes: (i) Upgrading hospital infrastructures; (ii) Availability of health insurance (iii) Insufficient material/ tools resources.

5.4.2 Upgrading hospital infrastructures

New buildings for hospital expansion: Construction of new buildings emerged from the data as a means of improving the quality of healthcare delivery. Nurse participants reported that construction of new buildings was among the factors that helped them to improve the quality of healthcare delivery. Nurse participants reported that construction of new buildings and renovation of old buildings improved the quality of healthcare since this would provide them

with clean, conducive and sufficient space in which to admit their clients. In comparison with previous conditions, they believed that the current provision of nursing care was better because the new buildings reduced overcrowding. Jannot and Perneger (2014:278) state that organisational infrastructure is an important cornerstone of quality improvement, while Donabedian (2005:695) affirms that the infrastructure or setting where the care is provided is important in improving the quality of care; when there is suitable infrastructure and equipment, medical care can more easily be provided. Alexander (2006:19) indicates that numerous institutional infrastructure and monetary funding influences are linked with better range and strength of quality implementation.

Availability of health insurance: Availability of health insurance emerged from data as a means of reducing the cost of healthcare services, giving clients access to less costly healthcare services. Client participants were happy to have healthcare insurance; they said that they no longer have to worry about the cost of healthcare services because they have health insurance such as Mutuelle de santé, RAMA and MMI that subsidise their doctor consultations. For someone with medical insurance, consultations now cost 600FRW, equivalent to 15 per cent of the fee, which was regarded as cheap. One participant emphasising the importance of medical insurance said that it would not have been possible to access healthcare services without medical insurance, leading to death of the patient. Likewise, client participants reported that laboratory tests and medicines were cheap because they had medical insurance. Similarly, Juma and Manongi (2009:201) showed that participants were happy with the introduction of a health insurance system, and one participant said that the insurance was important because you pay less (TShs 500) and the whole family gets treated. Contrary to this study, Iliyasu et al. (2010:374) found that participants were worried about hospital charges. Some participants said that when patients could not afford hospital bills they ended up selling their goats, land and their harvests so that they could to pay, or else vacated the hospital leaving out their properties. Contrary to this study, Nyongesa, Onyango and Kakai (2014:16) showed high costs of healthcare services in relation to the revenue of the participants.

5.4.3 Insufficient materials/tools

Insufficient CPAP machines: Data that emerged in this study showed insufficient CPAP machines. Nurse participants reported shortages of equipment and materials like CPAP machines which prevented them from delivering quality nursing care. Nurse participants said that the hospital had only two CPAP machines, which are used to provide positive end

expiratory pressure. When there were more than two patients needing CPAP it became a problem. Nurse participants said that this hinders them from delivering good nursing care. In line with this study, a study conducted in Kenyatta National Hospital in Kenya indicated inability to providing efficient service because of inadequate availability and categories of medical equipment (Ouko, 2012:Viii). Similarly Leshabari et al. (2008:32) indicated recurrent lack of required equipment and consumables for appropriate client care, which resulted in dissatisfaction of healthcare providers, including doctors and nurses. In line with this study, participants in a study by Seitio-Kgokgwe, Gauld, Hill and Barnett (2014:185) reported insufficient equipment in the hospital. Booyens (2010:161) states that quality care can only be provided when adequate equipment is available to meet the needs of the clients. Availability of equipment can sustain and increase the efficiency and effectiveness of customer services (College of Nurses of Ontario, 2014:13).

Insufficient drugs: Data that emerged in this study showed insufficiency of drugs in the hospital pharmacy which affected the quality of nursing care delivery. Nurse participants said that this was one of the challenges they face that hinder the delivery of quality nursing care, with patients not always able get all the drugs prescribed by doctors from the hospital pharmacy. This was also a problem reported by client participants, almost all of whom said that they were not able to get all the drugs prescribed by the doctor from the hospital pharmacy because they were out of stock, and that they were given the drugs that were available and told to buy elsewhere the drugs that the hospital pharmacy could not supply. These findings have not changed since 2013 (Batunga, Basinga, Kambibi and Kerr, 2013:52), when the researchers conducted a study in the same setting. In the 2013 study, in the hospital outpatient services 70.4% (n=266) of patient participants revealed that they were not expecting to get all the drugs prescribed by the doctor from the hospital pharmacy. In line with this study, 62.1% (n=159) of participants in a study by Muhondwa, Leshabari, Mwangu, Mbembati and Ezekiel (2008:70) revealed that patients did not get all the drugs prescribed by the doctor because the drugs were not available. Contrary to this study, the above-mentioned authors also found that in Muhimbiri hospital high costs meant that some patients could not afford to buy certain drugs that were in fact available, whereas in this study client participants were not worried about the cost of any service, including the cost of drugs in the hospital pharmacy, since they had health insurance. In line with this study, Juma and Manongi (2009:201) showed that patients were not able to get drugs in the hospital pharmacy and were told to buy them in shops. In line with this study, Iliyasu, Abubakar, Abubakar, Lawan and Gajida (2010:375) found that there was a lack of

certain drugs in the hospital pharmacy and that patients' family members had to buy the missing drugs elsewhere. Similarly, participants in the study by Seitio-Kgokgwe, Gauld, Hill and Barnett (2014:185) reported a lack of drugs in the hospital pharmacy and having to buy drugs elsewhere. Conversely, in the study by Harnagle, Sagar and Binu (2014:1175) the majority of clients reported that the drugs prescribed by the doctor were always obtainable in the hospital pharmacy. Availability of medicines in a health institution is an important aspect in client satisfaction (Manna, Pandit and Biswas, 2013:6).

Insufficient suggestion boxes: Data emerging in this study revealed insufficient suggestion boxes at the selected tertiary healthcare facility. Nurse participants said that they lacked suggestion boxes in the hospital which hindered patients from expressing their views. Nurse participants said that using suggestion boxes so that patients can express their views enables them to assess patient satisfaction with the care offered, but the suggestion boxes were not available. This is in line with the findings in the same study at the selected hospital by the researcher during the survey in which it was found that there were no suggestion boxes in the hospital with the exception of one ward/unit (9.1%, n=1) that had a suggestion box; 90.9% (n=10) departments did not have suggestion boxes. Contrary to this study, Inchauspe and Moura (2015:181) indicated that nurses used user satisfaction surveys as a way to assess nursing performance, with negative opinions used to enhance the quality of care. Conversely, Phaswana-Mafuya, Davids, Seneka and Munyaka (2011:93) indicated that the hospital had suggestions boxes and in addition patients said that when they were not happy with any service they put their views in the suggestion boxes. Suggestion boxes are crucial in improving the quality of care, since patients can use them to give their views, opinions and suggestions regarding the extent to which they appreciate the care received. This can be another way of involving patients/clients in the care they receive, hence providing patient-centred care, and it can also function as another way of assessing user satisfaction. A study carried out by Lobo, Duarte, Carvalho, Rodrigues, Monteiro and Alves (2013:1) indicated that assessment of user satisfaction and knowing which factors give rise to satisfaction are important for improving the quality of services rendered.

Insufficient beds and rooms: Data that emerged in this study showed insufficient beds and rooms at the selected tertiary healthcare facility. Client participants said that there were insufficient beds and rooms to the extent that clients were sent back home without being admitted because no beds were available, which caused delay for those awaiting elective surgery and increased the seriousness of their condition; others said that they had come long

distances to hospital only to be sent back home without being admitted. Although the hospital was expanding and renovating the buildings, there was still insufficient space or beds to admit all patients, particularly affecting patients awaiting elective surgery who then had to go back home without undergoing surgery. The findings of this study are in line with the report of the Rwanda Ministry of Health where it was indicated that referral hospitals in Rwanda, including the selected hospital, face challenges due to high demands in receiving all referrals from 42 district hospitals in the country without having adequate infrastructure and human resources (Rwanda Ministry of Health, 2012:86). Likewise, RMH (2012:14) indicated that there was inadequate hospital infrastructure to cater for the needs of clients. The findings of this study are similar to the findings from Kenyatta National Hospital in Kenya where the hospital did not have sufficient space to admit all patients in need; this also affected elective surgery, where they had to cancel surgeries as a result of shortages of space and beds (Ouko, 2012:ix, 18). Jannot and Perneger (2014:278) state that organisational infrastructure is an important cornerstone in quality improvement, while Donabedian (2005:695) affirms that the infrastructure or setting where the care is provided is important in improving the quality of care and that suitable infrastructure makes it easier to provide medical care. Alexander (2006:19) indicates that numerous institutional infrastructure influences are linked with better range and strength of quality implementation.

5.4.3.1 Lack of quality improvement guidelines/lack of knowledge and skills on quality improvement/accountability to quality improvement

Data emerging in this study indicated a lack of quality improvement guidelines to guide nurses at the selected tertiary healthcare facility. Nurse participants reported that they needed quality improvement guidelines to guide them, so that they can improve the quality of nursing care delivery. Lack of knowledge concerning quality improvement and accountability of all personnel was also highlighted by nurse participants as being among the challenges encountered in implementing quality healthcare at the institution. The findings of this study are in line with those by Kovner et al. (2010:29) in which new nurses reported that they never been informed about quality improvement and that their training had not given them good preparation for quality improvement. In this regard, lack of knowledge about quality improvement can negatively affect the quality of nursing care delivery (Kovner et al., 2010:29). Understanding an organisation's strengths and weaknesses around quality improvement is a good starting point to assess its readiness for change (U.S. Department of Health and Human

Services, 2011:9). Further, it is important for every person or group in the institution to have knowledge regarding the roles and responsibilities associated with quality improvement so that quality can be effectively sustained (U.S. Department of Health and Human Services, 2011:8). Moreover, every employee has a part to play in making sure that institutional quality objectives are achieved (U.S. Department of Health and Human Services, 2011:8).

5.5 Managerial roles

Data emerging in this study revealed the following themes under the category of managerial roles; (i) Adherence to technical norms of care; (ii) Hindrances to performance improvement.

5.5.1 Adherence to technical norms of care

Proper documentation: Data that emerged in this study revealed that there was proper documentation of all nursing care activities provided to patients/clients at the selected tertiary healthcare facility. Nurse participants said that they did document every nursing care activity performed; for example during assessment of patients condition, they said that they document the patient's condition when making nursing care plans, when giving health education to patients and when administering drugs. They said it helped them to avoid medication errors and deliver quality nursing care, and at the same time helped them to give a proper report to colleagues in handover of shifts. Contrary to this study, McIntosh (2009:16) found that documentation was not done properly; for example, information on patients discharge could not be found. In contrast to this study, Wisser and Mehta (2013:13) indicated that there was a lack of proper documentation of activities done which hampered the quality improvement team from getting proof that the work had been done. Conversely Jefferies, Johnson and Griffiths (2010:121) found that nursing documentation consisted merely of a list of activities completed by the nurses from which it was not possible to recognise the patient's situation or the reaction to the care offered. Contrary to this study, nurse participants in the study by Cheevakasemsook, Chapman, Francis and Davies (2006:371) reported that the increased amount of work they had to do prevented them from finishing the required documentation. Blair and Smith (2012:166) state that nurses encounter numerous obstacles in carrying out proper documentation due to limited time, problems concerned with the amount work they have to do, perspectives regarding documentation, and organisational policies related to documentation. Proper nursing documentation is crucial in coordinating observations, activities, and effects of nursing care in a timely and precise way, while poor nursing documentation may put clients, healthcare

professionals and the organisation at substantial risk of physical and legal harm (Blair and Smith, 2012:166). Wang, Hailey and Yu (2011:1858) argue that excellent nursing documentation enhances effective coordination of care among healthcare providers, which can enhance continuity and personal care. Okaisu, Kalikwani, Wanyana and Coetzee (2014:2) note that documentation has various functions, one of which is communication between healthcare providers for consistency of care.

5.5.2 Multidisciplinary collaboration

The theme of collaborative work emerged from the data of this study as a way of improving the quality of patients' care. Nurse participants said that they work with other healthcare professionals since they have the same aim of improving the quality of patient care. Furthermore, nurse participants reported that they collaborate and discuss with other healthcare professionals how their patients can be given timely and appropriate services. Nurse participants said that working as a multidisciplinary team helps them to put things in order when the work is not going well. For example, nurse participants said that when things are not going well in the laboratory, or in x-ray or physiotherapy, they all sit and discuss how their patients can be given timely and appropriate service, stating that it helps them to render quality care. In addition, nurse participants said that working as a team helps them to find a quick solution; for example when staff in the laboratory find a low haemoglobin level during a patient's investigation, they discuss what to do immediately and find a quick solution, which helps them to improve the quality of patient care. The same applies when they need staff from physiotherapy and cooperate. In line with this study, Havens, Vasey, Gittell and Lin (2010:933) found that collaboration between nurses and other healthcare professionals was associated with quality of care delivery. In line with this study, Lephalala et al. (2008:65) found that more than half of participants were satisfied with the multidisciplinary team members' communication.

For nurses to enhance the quality of care which they offer and play a part in quality improvement activities, they need to work in a team as change agents (Izumi, 2012:6). It is crucial for healthcare professionals to work as a team, because quality client care comes about when healthcare professionals of different departments work together as a team and collaborate to form a dynamic mechanism for constant improvement of procedures and outcomes (U.S. Department of Health and Human Services, 2011:9). When employees work in a team, they gain shared knowledge, skills and experiences, and this leads to continuous improvement since every person becomes accountable and everyone brings input on how things should be done.

They provide information on what happens when changes occur as well as sustaining improvement in work (U.S. Department of Health and Human Services, 2011:3). Each person brings a distinctive viewpoint, and the strength of each team member helps an institution to attain important and continuous improvement (U.S. Department of Health and Human Services, 2011:3).

The International Council of Nurses (2015b:18) argues that team work is the basis for person-centred healthcare and emphasises the significant role of nurses for effective health teams. When healthcare professionals work in teams they share their responsibilities and combine their knowledge to offer person-centred healthcare. When healthcare providers communicate well, it impacts on the quality of the work relationship, job satisfaction and patient safety (International Council of Nurses, 2015b:18). Team work is paramount in offering effective institutional healthcare, and a health institution with enhanced teamwork ratings achieves optimal client satisfaction and nurse retention (O'Leary, Sehgal, Terrell and Williams, 2011:1). Senge (2006e:7) affirms that when there is a genuine vision, people work better because they want to, and this involves the skills of finding a shared vision that enhances genuine ownership. It is essential to have an active team since the combined knowledge and skills in teamwork are likely to be better than those of just one individual (Lööf, 2004:4). It is also important for people to work together and learn together because the outcome for the organisation will be good and at the same time the members will develop quicker than when there no collective effort is made (Senge, 2006:7-8). It is vital for nurses to work as a team and act as change agents to improve the quality of care (Izumi, 2012:265).

Teamwork among healthcare providers enhances patient care (Brady and Cummings, 2010:434). Cooperation among healthcare workers has been recognised as a powerful support for nurses in providing quality care (Brady and Cummings, 2010:434). Quality improvement activities can be performed better when there is teamwork because every person contributes varied knowledge, experiences and skills, which in turn helps in comprehending problems or processes (International Finance Corporation, n.d:8). When there is team work in a health institution different ideas are brought forward for solutions and individuals become more dedicated to solutions approved which enhances accountability as well as ownership and hence improved quality of care (International Finance Corporation, n.d:8).

5.5.3 Situational adaptation in resource-constrained environments

Improvising: The theme of **i**mprovising emerged from the data of this study as a means used to satisfy patients' needs. Although nurse participants said that they lacked materials and equipment when offering nursing care, one nurse participant said that although there were shortages of materials and equipment they improvised to fulfil the patients' needs. For example, when there are more than two patients who need a CPAP machine to provide positive end expiratory pressure, they improvise by using an improvised CPAP machine to satisfy the patients' needs (Figures 4.5, 4.6 and 4.7). These cheap bubble CPAP machines do not have all the parts of normal CPAP machines used in advanced countries, but they have been used to treat more than 100 infants and children in low-resourced countries and there have been no unfavourable effects related them (Brown, Machen, Kawaza, Mwanza, Iniguez, Lang et al., 2013:5). Cheap bubble CPAP machines provide therapeutic pressure and flow which is equal to those of related systems used in advanced countries. The equipment offers 0–10 l/min of air flow and 0–8 cm water pressure, which enables treatment of babies with a weight of 10 kg (Brown et al., 2013:5). It is good practice for nurses to use accessible resources since they constitute the majority of healthcare professionals and need to offer quality care and best patient outcomes regardless of limited resources (International Council of Nurses, 2015b:1).

5.5.4 Evidence-based practice

Data emerging in this study indicated that participants had enhanced their knowledge through continuing education and departmental continuous professional development as means that promoted quality improvement at the selected hospital.

Continuing education: Continuing education emerged from the data as a major factor that assists nurses in improving the quality of nursing care delivery. Nurse participants said that continuing education was a major factor that helped them to improve the quality of nursing care, and they also recognised it as a motivating factor in improving the quality of nursing care delivery. Further, nurse participants reported that continuing education enhanced their skills and knowledge which helped them to deliver quality nursing care despite there still being some gaps. Nurse participants said that they had improved compared to previous years because of inputs by nurses who had gone for further studies abroad, as they now performed well, changes had been made and they were able to document what they did because of the acquired knowledge and skills. Contrary to this study, Aiken, Sloane, Bruyneel, Heede and Sermeus (2013:146) found in their study that the majority of nurse participants were unhappy because

they lacked opportunity to continue their education and advance in the profession. Booyens (2011:391) affirms that career development is important for the institution so that staff with suitable qualifications and experiences are accessible when the institution needs their services. Career development of staff reduces the institution's turnover rate and at the same time the quality of staff work life is enhanced. When staff have opportunity for advancement in the profession this enhances personal job satisfaction because their capabilities continue to evolve (Booyens, 2011:391). Booyens (2010:211) states that developing increased capability and confidence helps employees to become more devoted to the institution and reduces turnover rate.

Departmental continuous professional development: The theme of departmental continuous professional development emerged from the data of this study as a factor in quality improvement. Nurse participants reported that in departmental continuous professional development they teach one another by selecting topics such as conducting deliveries, infection prevention and control to prevent nosocomial infections, a disease, or medication, and then search for information and teach one another. Nurse participants said that in their wards/units they are involved in teaching their colleagues through sharing information and ideas which is done weekly; everyone has the opportunity to participate and through this, they improve their knowledge and skills that lead to improved quality of nursing care. In line with this study, Davids (2006:68) found that the knowledge and skills of nurse participants had increased because of the role they played in CPD (Continuous professional development). Similarly, Onyango (2012:130) found that nurse participants were involved in CPD to enhance their knowledge and skills, hence improving patients' quality of care.

Health education: The theme of health education emerged from the data of this study as a way of helping the Rwandan community to live a healthy life. Nurse participants said that they give health education to Rwandan communities to promote a healthy lifestyle. Nurse participants said that they teach Rwandan communities about hygiene by encouraging them to wash hands before and after doing anything and also teach proper disposal of waste. Further, nurse participants said that they educate citizens on how to prevent diseases; for example teaching them about drinking clean, safe water and about balanced nutrition. In line with this study, various sources indicate that the selected tertiary healthcare facility has strong outreach programmes, where consultants of different categories, provide healthcare services to Rwandan communities, especially those who are poor and live in remote areas, making easier for rural

people to access specialised healthcare services (RMH, 2015:2). Furthermore, clients/patients are encouraged to visit health centres for check-ups to.

Increased motivation: It emerged in this study that increased motivation played an important ensure that they are disease free (RMH, 2015:2) role in the delivery of quality nursing care at the selected tertiary healthcare facility. Nurse participants said that they deliver quality nursing care because they are motivated in different ways; for example they are provided with transport to and from home, helping them to get to work on time so that they may provide quality nursing care to clients. Furthermore, nurse participants said that provision of meals meant that they did not have to waste time going around looking for something to eat and this helped them to do their work well. Further, it was reported that nurses were motivated by sending them for further studies abroad where they gain knowledge and skills, increasing the number of qualified midwives and nurses and making it easier to deliver quality nursing care. Contrary to this study, Oshvandi et al. (2008:430) found that nurse participants were not motivated to perform their job, saying that they receive no support from the hospital administration either financially or psychologically. For nurses (unlike doctors), there was no motivation in the form of scholarships to go abroad to learn innovative techniques and new care approaches (Oshvandi et al., 2008:430). Contrary to this study, Negussie (2012:107) found that nurse participants were not well motivated by the rewards they got. A study by Alhassan, Spieker, Ostenberg, Ogink, Nketiah-Amponsah and Rinke de Wit (2013:4) found that more than half of the participants said that they reached work late because they either walked or used public transport or individual vehicles. A healthcare institution has responsibility for training, rewarding and motivating staff so that they can fulfil their responsibilities in the delivery of healthcare (Gesser, n.d:359). Rewards have a substantial supportive influence on nurse motivation (Negussie, 2012:107).

5.5.5 Hindrances to performance improvements

5.5.5.1 Lack of supervision:

Lack of supervision emerged from the data of this study as a factor hindering quality improvement. Some of the nurse participants said that there was no supervision at the selected hospital and they suggested that supervision should be carried out to improve the quality of care. They emphasised that the hospital needed to oversee what was happening and make sure that everyone was responsible and accountable for whatever they did. The findings of this study are similar to the findings of a study by Buus, Angel, Traynor and Gonge (2011:99) where

supervisors were unable to carry out clinical supervision as scheduled because priority was given to routine clinical duties. In line with this study, McIntosh (2009:16) found that no supervision was done by the professional registered nurses. Conversely, a study by Lephalala, Ehlers and Oosthuizen (2008:66) indicated that the majority of nurses were content with supervision, and the supervisors' responses were as high as 89.16% and their support 78.57%. Contrary to this study, Cross, Moore, Sampson, Kitch and Ockerby (2012:270) found that nurses appreciated the assistance they received from supervision which helped them to gain skills and benefits, become more independent, reduce stress, and increase their comprehension of issues which confronted them. Clinical supervision reduces tension among the employees and at the same time enhances professional responsibility and increases skills and development of knowledge (Koivu, Hyrkas and Saarinen, 2011:70). Similarly, Cummins (2009:18) stresses the importance of clinical supervision in that it contributes to possible benefits to clients and to nurses and the nursing profession. Cummins further recommends preparation of supervisors and supervisees so that clinical supervision can be effectively executed. Shortage of health professionals may be a possible justification for not conducting clinical supervision (Koivu et al., 2011:71).

5.5.5.2 Resistance to change

Resistance to change emerged from the data of this study as a hindrance to delivery of quality of nursing care. Nurse participants said that resistance to change hindered the quality of nursing care delivery because not all nurses could follow standards/policies/protocols in performing procedures. It was reported that some nurses and midwives continued performing procedures routinely instead of using evidence-based practice. For example, in the maternity ward they continued to believe that a mother must deliver in lithotomy position only, although evidence-based practice indicates that a mother can deliver in any position that helps the baby to descend, thus quickening delivery. It was also reported that midwives did not want to adapt a new method of delaying cord clamping for about 1-3 minutes, or until the cord stops pulsating, although this can prevent neonatal anaemia. They preferred to clamp the cord immediately. Nurse participants also reported that even some doctors were resistant to change and failed to follow policies and standards; for example, some patients were admitted without a file, requiring nurses to run after the doctors so that a patient's admission file could be created. The findings of this study are in line with Silow-Carroll, Alteras and Meyer (2007:14) who found that nurses and doctors had resistance to change, with doctors saying that quality guidelines

were preventing them from using their judgement and skills and nurses complaining that changes meant extra work. In line with this study, Sweis, Isa, Azzeh, Bahashtyh, Musa and Albtoush (2014:8) found that nurses resisted switching to use of information technology (IT) on the grounds that meant extra work and not seeing the potential benefits. Resistance signifies refusal to change, even though change is inevitable in healthcare just as it is in life (Huber, 2014:37-38). Change implies modification with the intention of creating something different (Huber, 2014:38; Huber, 2010:56). It has been shown that resistance to change can occur because doing the work routinely is simpler than doing things in an innovative way (Booyens, 2011:485). Kerridge (2012:23) states that change requires a well-designed plan with fixed objectives and schedule, together with strategies to deal with resistance to change so that individuals are able to deal with the change. Kerridge (2012:25) suggests that individuals may oppose change due to fear or excitement, which may occur automatically and be hard to control. Usually people fear that they may lose their job, or they are worried about how to do what is expected of them. Similarly, Fowler, Hardy and Howarth (2006:42) state that there can be a variety of reasons for refusal or acceptance of change, such as escalation of stress, rejection, personal interest, deficiency of knowledge, lack of confidence and ownership, doubt, incentives, and individual character. The Ghana Health Service (2004:54) notes that individuals may refuse to change in order to preserve personal interests, because of fear that they may lose their posts and benefits, lack of proper understanding or lack of trust, especially when the reasons, implications and benefits are not clarified. When change occurs, people may have to learn new skills and behaviours which may not be easy to do. Lewin states that it is important to introduce incentives so that individuals may be prepared to change. It is crucial to create awareness for those who are concerned with change and make sure that all individuals who should participate in change exercises comprehend and agree with the need to change (Huber, 2010:60).

5.5.5.3 Inappropriate hand washing in maintenance of hygiene

Inappropriate hand washing emerged from the data of this study as a hindrance in delivering quality of nursing care. Nurse participants reported that they could not adhere to hand washing procedures since they lacked water to wash hands while performing procedures. Some of the nurse participants also said that even when all the required materials were available to wash hands, some nurses did not wash hands before and after every procedure. Further, nurse participants said that they did not wash hands before and after every procedure because

shortage of nurses meant there was too much to do and not enough time for full compliance with hand washing, and that in this respect the overall quality of nursing care was not 100%. According to the researcher's observation during the data collection there was water and soap in every unit/ward for washing hands. In line with this study, Korniewicz and El-Masri (2010:88) reported low compliance with hand washing among nurse participants. Similarly, Abdella, Tefera, Eredie, Landers, Malefia and Alene (2014:6) showed low hand hygiene compliance among the healthcare professionals, including nurses. Contrary to this study, Helder, Brug, Looman, Goudoever and Kornelisse (2010:1250) found that participants adhered to hand hygiene procedures even when execution of education strategies was not yet carried out. Hand hygiene can play an important role in controlling infection, and since infection control is the responsibility of everybody working in the hospital the hospital should have an infection control committee with an infection control team, and an annual programme with clear objectives and priorities for surveillance and monitoring of infections should be considered (Booyens, 2010:272-273). It important also to consider high standards of hygiene in clinical practice in relation to hand washing and other infection control precautions (Booyens, 2010:273). Hand hygiene and hand washing continues to be the most important measure for prevention of nosocomial infections in a healthcare facility despite the fact frequently poor adherence (Cole, 2009:380). Florence Nightingale affirmed the importance of maintaining hygiene in improving the quality of care delivery when she discovered that an unhealthy environment was the major source of death of military personnel in army health facilities (Chassin and Loeb, 2011:559; Montalvo, 2007).

5.5.5.4 Long waiting times

Long waiting times emerged from the data of this study as a factor that leads to patient dissatisfaction. Client participants reported long waiting times either to get an appointment to see a doctor or to undergo surgery for awaiting elective surgery. Client participants said that long waiting times were attributable to shortage of doctors at the selected the hospital. They said that they had to wait for as long as a month because of the number of patients and increased workload for the available doctors. In line with this study, Iliyasu et al. (2010:375-376) indicated that participants complained about long waiting times for appointments to see doctors even when it was their first visit to the hospital, and the waiting times scored highest dissatisfaction among the participants. Similarly, Umar, Oche and Umar (2011:80) found that participants were dissatisfied with long waiting times to see doctors because there were not

enough doctors for the number of customers. In line with this study, Paterson, Barkun, Hopman, Leddin, Paré, Petrunia et al. (2011:28) found that participants were unhappy with long waiting times that extended to as much as three months before getting an appointment for gastroenterology consultations, which diminished their quality of life. In line with this study, Seitio-Kgokgwe et al. (2014:186) found that participants were dissatisfied with long waiting times, reporting that they had to go back home without seeing a doctor after three months of waiting for an appointment, while their illnesses progressed; they attributed this to insufficiency of doctors. It was reported that referral hospitals in Rwanda, including the selected hospital, face high demand in receiving all referrals from 42 district hospitals in the country, without sufficient human resources to accommodate the demand (Rwanda Ministry of Health, 2012:86). In response, the Rwanda Ministry of Health plans to promote all district hospital in each province to provincial hospitals in order to reduce the high demand faced by referral hospitals (Rwanda Ministry of Health, 2014a:22). In addition, there is a plan to reinforce hospital management, infrastructure and equipment, quality of services and customer care, training of healthcare providers and focus on research (Rwanda Ministry of Health, 2014a:22).

5.5.6 Customer care

Data emerging in this study revealed the following themes under the category of customer care: (i) Provision of good orientation (ii) Coordinated services (iii) Good hygiene environment (iv) Effective care from hospital staff.

5.5.6.1 Provision of good orientation

Sufficient explanation and information: Sufficient explanation and information emerged as an issue in this study, signifying satisfaction of client participants with explanation or information provided by the hospital staff. Client participants said that the hospital registration staff, nurses, hospital officers, pharmacists and doctors provided them with detailed explanation or information regarding different services offered in the hospital and the type of doctors they needed to consult when they were sick. Further, client participants said that hospital staff gave them proper explanations on how they should take their medicines and proper explanations concerning their illnesses which helped them psychologically to improve even before they took the drugs. In line with this study, Liyasu, Abubakar, Abubakar, Lawan and Gajida (2010:373) indicated that participants were happy with the services provided by

their doctors, saying that doctors were considerate, attended to them as required, and gave them enough explanation of everything they needed to know about their illnesses and provided them with advice on their medications. Similarly, a study by Lumadi and Buch (2011:26) found that participants appreciated good communication between them and the healthcare providers. Conversely, Juma and Manongi (2009:199) reported that participants were not happy with orientation services of healthcare providers and suggested that the healthcare providers should be trained in customer care so that they would be compassionate to clients. Al-Qahtani and Messahel (2013:79) suggest that healthcare providers, clients, and their family members need to communicate well in order to guarantee safe and excellent care. When patients cannot comprehend their diagnosis and the significance of their treatment plans, or cannot get healthcare services due to communication issues, there can be adverse consequences which cause harm and wastage. In view of the significance of effective communication in improving patients' safety and quality of care as well as job satisfaction of healthcare professionals, the need for communication skills among healthcare and professional nurses should be obviously given high institutional priority (International Council of Nurses, 2015b:18).

5.5.6.2 Coordinated services

Quick pharmacy turnaround: Quick pharmacy turnaround emerged in this study, signifying quick provision of services to clients in the hospital pharmacy. Client participants said that in the hospital pharmacy there was quick service when they went to get drugs prescribed by doctors, even though not all drugs prescribed might be available. Client participants said that whatever was available they managed to get quickly without delay: when they got to the pharmacy they just handed in the doctor's prescription and were served immediately. According to the researcher's observation and reflection, quick pharmacy turnaround was attributed to establishment by the hospital of small distribution pharmacies in different departments; for example **inpatients** had their own distribution pharmacy and so did **outpatient**s departments, reducing the congestion that previously took place in 2013 when there was only one distribution pharmacy in the hospital for both inpatients and outpatients. In 2015 changes were introduced, as previously mentioned, with the introduction of a number of distribution pharmacies. In line with this study, participants in the study by Phaswana-Mafuya, Davids, Seneka and Munyaka (2011:94) reported that they were served quickly when they went to get medicines from the hospital pharmacy. In contrast to the findings of this study, Atinga et al. (2011:558) found that participants complained about the long waiting times to get

medicines from the hospital pharmacy. Participants suggested training more staff to solve this problem. Contrary to the findings of this study, Muhondwa et al. (2008:70) found that some participants were unhappy with having to wait for an hour or more to get drugs in the hospital pharmacy; according to the participants, the pharmacy was an area of concern and they were not satisfied with the pharmacy services.

Well-scheduled working hours: Well-scheduled working hours emerged as a theme in this study. Client participants said that the hospital working hours were well scheduled and that they were satisfied with the shift system since employees working in shifts respected their hours. Because some employees worked during the day and others at night this meant that patients were received and treated whatever time they came. Client participants said that people cannot work without resting and said that there was not any need for changing the working hours. Contrary to this study, Juma and Manongi (2009:200) in their study found that participants were not happy with the hospital working hours, saying that duties were not well scheduled, such that any time they arrived at the hospital they could not be always get treatment on arrival at the hospital because healthcare providers were attending workshops or meetings or carrying out special units in the health institution. Huber (2010:636) notes that scheduling arrangements allocate employees to work on particular shifts, hours and days in their clinical section. Without appropriate scheduling, there will not be enough staff or an appropriate mix of staff to care for clients (Booyens, 2011:345). Enough workers ought be accessible to care for clients for the entire 24 hours and an equitable distribution of workers should be accessible throughout the working day (Booyens, 2010:183-184).

5.5.7 Good environment hygiene

Clean infrastructure: Data that emerged in this study showed good environmental hygiene at the selected hospital. Client participants were happy and satisfied with the hospital environment in terms of cleanliness of hospital infrastructure, toilets, and interior lighting and ventilation (with windows big enough to let in sufficient air). They said that the hospital maintained high standards of cleanliness and that there was always a cleaner around. Client participants said that the hospital was clean everywhere compared to other hospitals where they had been, and that it was hard to believe this was a hospital as there was no bad smells with toilets in good condition. One client participant who had come for treatment from a neighbouring country was impressed by the cleanness of the whole country that not just the hospital but the whole country was clean, and that there was a high standard of cleanliness, but suggesting also they should

plant trees for more fresh air. The cleanliness of the selected tertiary healthcare facility, Kigali city and Rwanda as a country is attributed in particular to the ownership of Rwandan community in keeping their environment clean, such that everyone, at place of work or where he/she lives, has to keep the environment clean as part of the Rwandan culture. Further, this is strengthened by community clean-up (Umuganda) day carried out at the end of every month where everyone between the ages of 18 and 65 years participates in community work to clean the environment and other activities that boost the economic development of the country. This creates ownership such that it becomes part of life; hence a clean environment. "Umuganda" means "community work" which originated from cultural tradition in which the community works together to help community members that wish to undertake a difficult task which could not be completed by a single person (Uclga et al., 2011:2). Although the tradition had been forsaken with the intention of modernising the country, in recent years it was restored in an effort to build the country (Uclga et al., 2011:2). Not only is Kigali city the cleanest and most beautiful, it is also the safest capital city in the continent; the fact that it is so clean and green "adds to the aesthetic allure of the place" (Arslanian, n.d). In line with this study, Iliyasu et al. (2010:377) found that a high number of participants were content with the neatness and hygiene of the health institution. Similarly, Lumadi and Buch (2011:26) found the participants were content with the general hygiene of the hospital. In line with this study Phaswana-Mafuya, Davids, Seneka and Munyaka (2011:95) found that participants acknowledged the cleanliness and good condition of the hospital toilets. Conversly, Nyongesa, Onyango and Kakai (2014:16; Harnagle et al., 2014:1175-1176) found that almost all the customers were unhappy with the level of hospital cleanliness, specifically in the toilets and bathrooms. Conversely also, participants in the study by Seitio-Kgokgwe et al. (2014:185) reported that the milieu in the hospital was unhygienic.

Atinga et al. (2011:558) found that the cleanliness of a healthcare facility appeared to be a powerful aspect in determining clients' satisfaction with quality of care. Moreover, healthcare institutions have a responsibility for therapeutic action and a neat environment is therefore essential as a measure to prevent occurrence of illnesses and to alleviate clients' psychological situations (Atinga et al., 2011:558). A safe working environment is crucial for clients' recovery in that it impacts clients' satisfaction with quality of care; this is because clients are impressed by the physical appearance of a healthcare facility such that their moods, satisfaction and awareness of healthcare knowledge are increased (Atinga et al., 2011:553).

5.5.8 Effective care from hospital staff

Effective care and good performance from doctors emerged as themes in this study. Client participants said that they were satisfied with the treatment and the quality of care provided by the doctors at the selected hospital and that even just meeting the doctors helped them psychologically because they were given sufficient explanation regarding their illness and led to hope for full recovery before even they took any medication. They said that doctors treated them with much care. One participant reported feeling better after being treated by the doctor, despite having arrived in a coma. Participants also appreciated care provided by other healthcare professionals. In line with this study, Muhondwa et al. (2008:67) found that the majority of participants were satisfied with the care they received from doctors. Contrary to this study, Juma and Manongi (2009:199) found that participants were dissatisfied with the services they received from doctors, commenting that doctors did not care since they prescribed drugs before patients had finish telling them about their ailment, which is even worse when it is a child who cannot express him/herself. The magnitude of clients' satisfaction may be used as a way of evaluating the quality of healthcare and of the employees and it reflects the capacity of a person delivering care to achieve the clients' needs. Clients satisfaction is one of the pillars of client-centred care (Sereenivas and Babu, 2012:102). According to Donabedian (1980:25), patient satisfaction is the prime measure of quality of care since it provides data on the supplier's achievement as well as meeting patients values and expectations, and is a crucial instrument for administration and planning.

Sufficient consultation rooms and chairs: It emerged from the data of this study that there were sufficient consultation rooms and chairs, regarded with satisfaction by client participants who also approved of the convenience of consultation rooms in that every doctor had a room in which to consult patients. Client participants said that the chairs in the waiting room were sufficient and comfortable since they all had a place to sit. According to the researcher's observation during the time of data collection, the hospital had enough comfortable chairs in the waiting room for clients/patients waiting for consultation with the healthcare professionals. In line with this study, participants in the study by Phaswana-Mafuya, Davids, Seneka and Munyaka (2011:95) agreed likewise that there were enough consultations rooms and adequate seating for clients waiting to consult healthcare providers. Conversely, Juma and Manongi (2009:202) found that participants were not happy with the way consultations rooms were designed, complaining that other patients could hear or see one another in nearby consultation rooms. Contrary to this study, Batunga et al. (2013:Vi) found in the same hospital that there

was insufficient chairs for clients/patients in the waiting rooms. According to the researcher's observation and reflection, there was a recognisable improvement, with enough consultation rooms and chairs in the hospital, unlike in 2013 in a study done by the same authors mentioned above.

5.6 Recommendations

Based on the findings of this study the following recommendation were made:

To the nursing staff of the selected hospital

- Nursing staff should play a role in giving health education to patients to increase their awareness about care received.
- Nursing staff should be responsible and accountable for their tasks and adhere to the technical norms of care even when they are not supervised.
- Nursing staff should put effort in knowing institutional objectives so that they may perform their tasks accordingly.

To the nursing division of the selected hospital

- Emphasis should be placed on proper staffing and staff management of employees to avoid work overload in some units and allocate nursing staff efficiently according to workload and should consider, with consideration given to internationally recommended standards of nursing care.
- Nursing care activities should be supervised so that nurses can be supported in maintaining standards and improving patient care.
- All nurses should have updated, clear job descriptions, taking into consideration all categories of nurses (RN (A0); RN (A1) and EN (A2).
- Nurse satisfaction surveys should be conducted to identify how nurses feel about their work and their personal relationships in the workplace in order to develop strategies to motivate them and improve their working life, thus improving the quality of nursing care delivery.

To the hospital management

- The healthcare facility should introduce ongoing in-service training to enhance the knowledge and skills of nurses, thus improving quality of care.
- All employees should participate in quality improvement activities, considering also clinical and non-clinical experts of all categories.
- Nurses should be well-represented in the quality improvement planning committee since they are the majority of personnel in the healthcare facility. It is recommended that larger units should have more representatives than smaller units.

- Waiting times for patients to see doctors should be reduced.
- Sufficient essential drugs should be available in the hospital pharmacy so that patients do not face the difficulty of having to buy drugs elsewhere.
- Lack of equipment and materials should be given attention so nurses can work in a suitable environment.
- Suggestion boxes and complaints books should be provided for patients to use.
- Patient satisfaction surveys should be done to get feedback on clients' experiences, needs, preferences and choices. This makes it possible to learn from patients' experiences and make changes and improvements in care delivery, and it also enables patients to participate in their care delivery.
- Patients should be educated by all healthcare providers in regard to their rights so that they can participate in their care delivery, and posters indicating patients' rights should be displayed where patients can easily read them, especially in the waiting rooms.

Nursing education

- Nursing curricula should be upgraded and should include quality improvement concepts in order to enhance nurses' knowledge, skills and attitudes and improve delivery of care.
- There should be appropriate integration of theory and practice through focus on evidence-based practices.

To the Ministry of Health

- The Ministry of Health should develop quality improvement guidelines for healthcare professionals in order to improve the quality of care.
- The Ministry of Health should develop and update quality improvement policies and standards for innovative care delivery.
- Emphasis should be put on creating awareness of clients/patient's rights and of community involvement in care delivery.
- Hospital infrastructures should be upgraded and extended to provide sufficient accommodation for patients.

Nursing research

- A qualitative study is required to analyse quality improvement by other healthcare professionals of the selected hospital. Inclusion of doctors, pharmacists, laboratory technicians, physiotherapists and clinical psychologists would provide valuable information to add to this study.
- More research studies are needed in different hospitals in Rwanda to enable transferability of the research findings in this study to additional settings.
- The quality improvement guidelines for nurses developed in this study need to be implemented, and their effectiveness needs to be evaluated.

- Nurses should carry out research, or be involved in research studies, to establish evidence-based practice in nursing care delivery.

5.7 Limitations of the study

According to Burns and Grove (2011:48), limitations of a study are constraints which can lessen the credibility of the findings and their generalisation to other settings. The limitations of this study are that its findings in qualitative data are applicable only in this study because qualitative findings cannot be generalised to other populations or environments when small sample sizes give only limited representation of the studied population. This therefore limits the use that can be made of these findings by other researchers in other settings or other populations. Thick description of data was given with sufficient detail and precision to allow decisions about transferability to be made by other researchers (Lincoln and Guba, 1985).

5.8 Conclusion

The quantitative findings in this study showed that admission and discharge policies and incident reporting documents were available and in use by all departments. It was also found that the majority of departments did not have quality improvement documents such as an annual quality action plan, a registration book for complaints or quality policy documents and no quality report was found in any of the departments.

The major findings from qualitative data in this study revealed a number of factors related to quality improvement. These factors were grouped into three categories: organisational resources, managerial roles, and customer care. Regarding organisation resources, subthemes that emerged in this study included lack of materials and equipment, shortages of nurses and doctors, and lack of guidelines to guide nurses in improving the quality of nursing care, in each case hindering improved quality of nursing care delivery. In addition, both nurses and patients reported insufficient drugs in the hospital pharmacy. Construction of new buildings and renovation of existing buildings is in progress which has reduced congestion of patients. In the managerial role, factors that hindered quality improvement were nurses' resistance to change, lack of knowledge concerning quality improvement, lack of supervision, and lack of health education for patients. Regarding customer care, patients were dissatisfied with lack of sufficient drugs, long waiting times, and lack of sufficient beds and rooms.

Although a number of challenges were reported that negatively affected quality of care, patients appreciated effective performance and care from their healthcare workers and this increased

their satisfaction with the quality of care provided. Proper explanations and orientation made it easy for patients to seek healthcare services in the different departments and quick pharmacy turnaround time has improved. It was also noted that nurses acknowledged career development and support which helped them improve the quality of care.

Institutional quality improvement is very important for providing effective quality care and ensuring patients' satisfaction. It is the responsibility of all healthcare providers to be active and contributing members of the team, in order to promote quality care in their respective working environments.

Chapter 6
Quality Improvement Guidelines Development/Formulation

6.1 Introduction

This chapter presents the quality improvement guidelines development. The fourth objective of this study was to develop guidelines on quality improvement for nurses at the selected tertiary healthcare facility in Rwanda. The guiding themes that emerged in this study and formed to basis for development of the guidelines were lack of quality improvement guidelines, lack of supervision, resistance to change, inappropriate hand washing, lack of health education for patients/clients, inappropriate staffing and staff management. The intention of these guidelines is provide guidance for nurse managers, as they have their responsibility to provide the necessary support to frontline nurses that will enable them to work effectively and thereby improve the quality of nursing care provided. These guidelines may be also useful for other healthcare professionals (e.g. doctors, students in clinical practice), who find them relevant to improving quality of care.

6.2 Guidelines development process

This section describes the process of developing guidelines for nurses that was used in this study. A range of documents from various authors, including Boyd and Bero (2006: 26); Fretheim, Schünemann and Oxman (2006: 33); Schünemann, Fretheim and Oxman (2006: 36, 66), and Oxman, Schünemann and Fretheim (2006: 42), were adapted for use in developing the guidelines.

The following sequence of steps was followed in developing the guidelines:

- priority setting
- group composition and consultation
- declaration and avoidance of conflicts of interest
- group processes
- determining which outcomes are important
- evidence to include in guidelines
- **s**ynthesis and presentation of evidence
- grading evidence and recommendations
- integrating values and consumer involvement
- incorporating consideration of equity, applicability, transferability and adaptation

- reporting guidelines
- disseminating and implementing guidelines
- evaluation of guidelines

A detailed description of the process of developing guidelines is given in Chapter 2, section 2.9. 8 pages 61-67. For the purpose of this study the following sections were covered: priority setting, group composition and consultation, group processes, determining which outcomes are important, evidence to include in guidelines, synthesis and presentation of evidence, grading evidence and recommendations, integrating values and consumer involvement, incorporating consideration of equity, and reporting guidelines.

6.2.1 Group members and expert selection

The researcher wrote a letter requesting the group members (the nursing managers of the selected tertiary healthcare facility in Rwanda) and experts in nursing management and guideline development from South Africa to make themselves available and participate in the developing of the guidelines. The researcher obtained their inputs, opinions and consensus, and requested that they comment on the suitability of the guidelines. These group members adopted a nominal group technique which was chosen in preference to the Delphi method and consensus conference, as the researcher found it to be convenient. To save time and to avoid the stakeholders (group members) having to leave their work, they were approached by e-mail to invite them to participate in the nominal group. The information which was obtained from them was analysed in order to reach consensus, which then led to the final guidelines.

Nominal group technique (NGT) is an organised small group discussion where each group member equally contributes ideas or suggestions from which a set of prioritised solutions which represent the group preferences is presented (Centre for Disease Control, 2006). A nominal group technique was preferred to the Delphi method and consensus conferences because in, all group members participate equally to reach consensus (Abdullah and Islam, 2011: 97; Cherie and Gebrekidan, 2005: 192). Further, nominal group technique also prevents group discussions from being influenced by a minority of dominant members (Cherie and Gebrekidan, 2005: 192). A healthcare institution has responsibility for training, rewarding and motivating staff so that they can fulfil their responsibilities in the delivery of healthcare (Gesser, n.d:359). Rewards have a substantial supportive influence on nurse motivation (Negussie, 2012:107). The alternative Delphi method involves sequential rounds to reach consensus, which takes more time than the researcher had available to complete the study. Cherie and Gebrekidan (2005:

193) note this disadvantage in the Delphi method, as does Nworie (2011: 28), who points out that the several responses required from experts can lead to attrition of group members.

6.2.2 Purpose of nominal groups

- To obtain input, affirmation of content or rejection/correction from experts to ensure that formulated guidelines meet international standards.
- To determine if the created guidelines can offer ways in which clients and their family members and community can fully participate in healthcare service delivery.
- To determine whether the guidelines can offer effective management and continuous improvement of nursing quality of care.
- To determine whether the guidelines can ensure nurse involvement in ongoing nursing audits and reviews of nursing services.

6.2.3 Contribution from group discussion

The nominal group discussion comprised 12 participants. In order for the researcher together with the stakeholder to be successful in guideline development and reach consensus inputs, opinions from experts were used to make amendments where it was indicated. Responses from experts participating in development of these guidelines included indications of satisfaction with the process, approval of the development and of the actual guidelines, and recommendation that the researcher should submit them for examination without any modification. One expert advised the researcher to drop the fourth objective of guidelines insisting that developing guidelines went beyond the scope of a Master's student and advised the researcher to give recommendations rather than developing guidelines and instead tackle the guidelines when doing PhD. Another expert advised the researcher to search for information from Booyens for guidelines development. Following written information from some experts of changes made in the guidelines development, usage of their inputs and opinions as confirmed.

6.3 Significance of developing/formulating guidelines

The objective in developing/formulating these guidelines was to organise appropriate information on quality improvement that nurse managers and nurses at the selected hospital could use to improve the quality of nursing care.

6.4 Scope of the guidelines

The stakeholders who are intended to use the guidelines are nurse managers, nursing staff and nursing students in clinical practice. The guidelines are relevant to the following domains: nursing management services, clinical governance services, and quality improvement services.

6.5 Performance indicators to achieve objectives

In this study, performance indicators include: ongoing monitoring and evaluation, patient satisfaction surveys, nurse satisfaction surveys, and clinical audits of patients' files.

1. Ongoing monitoring and evaluation of nursing care provided to assess the progress of the quality of nursing care delivery.

2. Patient satisfaction surveys to gain patients' views, inclinations and experiences on the quality of healthcare delivery.

3. Nurses' satisfaction surveys to improve the quality of work life thereby improving quality of service delivery.

4. Clinical audits of patients' files to assess improvement in patient care and outcomes.

6.6 Definition of operational terms

Guidelines

"Guidelines are scientifically based statements to help to decide about providing good care and they have the potential to reduce undesirable differences in clinical activities" (World Health Organization, 2008: 53).

Patient

In these guidelines, "patient refers" to an individual who receives healthcare services (World Health Organization, 2012: 3).

Client

In these guidelines, "client" refers to a person who is well and seeks healthcare services, advice, in health promotion, prevention, treatment and rehabilitation (World Health Organization, 2004: 14).

Nurse

The International Council of Nurses (2015a) defines "nurse" as "a person who has completed a programme of basic, generalised nursing education and is authorised by the appropriate regulatory authority to practice in his/her country. In this study, "nurse" refers to a person who has pursued and passed exams successfully completing educational courses prepared and organised by the relevant organ in collaboration with the National Council as defined by the Rwandan National Council for Nurses and Midwives (2008:9).

Categories of nurses in Rwanda (RN (A0); RN (A1) and EN (A2).

In the context of Rwanda, in terms of nursing professional A0 refers to a registered nurse with a bachelor's degree, A1 refers to a registered nurse with a diploma while EN refers to the first category of a nurse/enrolled nurse or an associate nurse.

Registered nurse with a bachelor's degree

> A registered nurse with bachelor's degree may carry out all activities like those of a registered nurse with a diploma but also actively involved among others, in nursing research. She/he shall take lead in planning for services basing on the nursing process, principles of management and the code and code of ethics, (Republic of Rwanda, 2012a:23).
>
> She/he is accountable for her/his professional responsibilities and actions and shall take lead role in updating her/his knowledge and professional competencies for effective leadership and management of the healthcare units, she shall supervise the staff and facilitate in creating a conducive working environment and ensure safety of patients/clients, their belongings and other resources in the healthcare facility (Republic of Rwanda, 2012a:27-28).

Registered nurse with a diploma (A1)

In the Rwandan context,

> a registered nurse with a diploma (A1) while executing his/her professional task assists individuals, families, and the community to achieve health and prevent diseases. She/he has to care for the sick and respond to the needs of the population, he/she shall do so in accordance with the professional code of conduct and according for the his/her training"(Republic of Rwanda, 2012a:17).
>
> She/he shall plan, lead, supervise and evaluate health promotional activities and shall remain accountable for her/his actions while executing her/his professional and managerial role (Republic of Rwanda, 2012a:21).

Enrolled nurse or associate nurse (A2)

In Rwanda "enrolled nurse or associate nurse" refers to the first category of nurses.

> Enrolled/associate (A2) shall take good care of patients basing on their physical and psychological needs. She/he shall provide basic patient care by maintaining patient hygiene, nutrition and comfort, monitor the patient's condition and report as necessary (Republic of Rwanda, 2012a:13-14).
>
> Under direct supervision or after a specialised training an associate nurse shall provide psychological assistance according to individual needs, provide family planning services that conform to national health standards including education and administration of oral and injectable contraceptives according to prescription and existing protocols (Republic of Rwanda, 2012a:13-14).

Healthcare facility

In this study a "healthcare facility" is an institution which is involved in direct patient/client care on site (World Health Organization, 2004: 28).

Performance indicator

In this study, "performance indicator" refers to a tool to assess the extent to which an individual practitioner or whole programme conform to practice standards of quality (World Health Organization, 2004: 44). Performance indicators should be monitored and reported in order to identify whether changes occur as expected.

Clinical audit

In this study, "clinical audit" refers to a quality improvement procedure which focuses on improving client care and outcomes through organised appraisal of care against set standards, and change is introduced where applicable (Potter, Fuller and Ferris, 2010: 21).

6.7 Presentation of the guidelines

6.7.1 Purpose

The purpose of these guidelines is to provide high-quality healthcare services at the selected tertiary healthcare facility in Rwanda.

6.7.2 Objectives of guidelines

1. To provide guidance on how to improve the quality of nursing care at a selected tertiary healthcare facility in Rwanda.

2. To ensure that patients/clients know their rights, safety and waiting times.
3. To ensure patients/clients are considered and are involved with and participate in nursing care service delivery.
4. To ensure that continuous improvement of services is maintained through ensuring that nursing staff are equitably and efficiently deployed in the nursing service.
5. To make sure that clients and nurse' satisfaction survey is ongoing in order to improve the quality of nursing care and the quality of working life thereby establishing a culture of ownership and sustainability.
6. To ensure that clients' needs and services are based on evidence assessed through research in order to offer effective clinical outcomes.

6.7.3 Target group

The target group are nurses of the selected tertiary healthcare facility in Rwanda

6.8 Content of the quality improvement guidelines for nurses

Content of the quality improvement guidelines for nurses include:

- Proper staffing and staff management
- In-service training on adherence to technical norms of care
- Participative management
- Supervision of nursing care activities
- Satisfaction survey for nurses
- Satisfaction survey for clients
- Auditing patients' files

6.9 Guidelines

Table 6.1 Quality improvement guidelines for nurses

Activity	Action	Forecast of needed workforce	Responsible needed person	Outcome
Proper staffing and staff management	Implement staffing plans, identify patients' needs, assess current nursing staffing level and forecast future required number of nurses, consider knowledge and skills and abilities required.	Determine first the forecasted workload and the recommended care standards, determine the number of nurses according to bed capacity and patients acuity	Nurse managers	Manageable workload, safety for patients and nurses. Retention of qualified and dedicated nurses. Safe working environment, increased quality of care, quality of healthcare delivery, patients' satisfaction.
	Allocate nursing staff efficiently according to workload. Should consider internationally recommended standards of nursing care, proper nurse/patient ratio with skill mix should be introduced to meet the assessed nursing care needs of the patients.		Nurse managers	Satisfaction of nursing staff, Manageable workload, safety and quality of nurses and patients/clients, conducive environment, patient/client satisfaction.

	Ensure that all nurses have updated clear job descriptions in a written format and considering all categories of nurses (RN (A0); RN (A1) and EN (A2). Identify clearly the nursing care activities and services which every category of a nurse is qualified to offer.	On the day of employment	Nurse managers	Nurses are able to understand their delegated activities as well as their responsibilities, assists in evaluating job performance, training needs for nurses are forecasted, and helps in planning for human resource, providing proper channels for communication, patients' care and safety are improved.
	Periodic reminders to different categories of nurses during staff development sessions should be done to update them on their responsibilities.	During development meeting sessions	Nurse managers &supervisors	Nurses are updated on current practices in regard to their tasks, peer support, nurses will be responsible and accountable for their tasks.

Activity	**Action**	**Timeframe**	**Responsible needed person**	**Outcome**
In-service training on adherence to technical norms of care	Emphasis should be put on proper hand washing measures; Provide poster format and in-service training on procedure and significance of correct hand washing.	Ongoing process	Supervisors & nurse managers	Nurses will be equipped with knowledge and skills required to bring about change. nurses will become change agent, This will also help them to understand the significance of hand washing, they will be able to adhere to standards and norms of hand washing, intentional changed activities and goal oriented behaviour towards organisation mission will maintain hygiene, infection prevention and control will be adhered too, Increased knowledge and skills hence delivery of quality of care.
	In-service trainings on importance of use of evidence-based practice should be conducted so that nurses can understand well the importance of delivering care based on evidence.	Quarterly	Nurse managers/experts in research	Gaining new knowledge, routine procedures will be avoided, nurses will be able to use evidence-based practice, and nurses will introduce decisions centred on the best existing evidence, high-quality care.

Activity	Action	Timeframe	Responsible needed person	Outcome
	Nurses should be encouraged and involved in conducting research so that they can generate new knowledge which can inspire them to carry out evidence-based practice.	Ongoing process	All nurses who are involved in patient's care.	Nurse will gain new knowledge and skills, there will be evidence-based environment to work in and to provide and receive care. Improved quality care, patients' satisfaction.
	In-service training on importance of health educating patients/clients/their families, in-service trainings on importance of health educating patients should conducted in order to help nurses to understand the importance of health educating patients/clients/their families.	Quarterly	Nurse manager's and other experienced experts	Nurses will gain new knowledge, patients/clients will be health educated on the care delivered to them, patients/clients will know their rights, patients/clients/their families will participate in care provided to them, provision of high-quality care, patients/ clients' satisfaction, better performance for the institution, trust in healthcare system.
Participative management	Nurses should be actively involved in planning, decision making and problem solving in order to create a harmonising relationship among nurses and managers.	Continuous process	Nurse managers	Shared vision which everyone agrees, gaining ownership towards institutional goals and objectives, increased responsibility and accountability, reduction of job burnt out and job dissatisfaction among nurses, nurses satisfaction, attraction and retention of nurses, increased productivity increased patients quality care, patients' satisfaction.

Activity	Action	Timeframe	Responsible needed person	Outcome
Clinical supervision of nursing care activities	Nursing care activities should be supervised so that nurses can be supported to maintain standards and improve patients' care. Nursing assessment and nursing care plans should be monitored to see if they are done in time, nurses should be provided with feedback on their performance.	On daily basis	Supervisors	The supervisors and nurses are capable of discussing patients' care in a safe supportive situation, there is an opportunity of discussing problems associated with patients care, and obtaining peer support which leads to professional growth, improved nurses job satisfaction and motivation, improved performance, supervisors are able to offer feedback as well as input to nurses with the aim of enhancing their comprehension in regard to problems confronting them in nursing care delivery, there is opportunity for supervisors to educate their fellow nurses, enhanced quality of healthcare delivery, peer support and stress relief for nurses and enhanced professional responsibility.
Nurse satisfaction survey	Nurse' satisfaction survey should be conducted to identify how they feel about their work and their personal relationship at work place in order to get strategies to motivate them and improve the work life.	Quarterly	Nurse managers	Nurses will be more productive, nurses will be committed to their work, Problems confronting nurses are detected; provision of conducive working environment. Retention of competent nurses; prevention of compromising patients' care. Patient satisfaction; success of the health institution.
	Analysis of nurse complaints should be done to identify problems confronting nurses in the nursing care delivery. Nurse satisfaction should be monitored.	Ongoing process	Nurse managers.	Job satisfaction; improved quality of work life; improved quality of care; patients' satisfaction.
	Accommodating suggestion from nurses.	Ongoing process	Nurse managers, supervisors	Nurses will gain a sense of value; job satisfaction and ownership; retention of nurses.

Activity	Action	Timeframe	Responsible needed person	Outcome
Taking into consideration the clients' needs in care delivery	Patient satisfaction survey should be done to gain their experiences, needs preferences and choices, it is important to get feedback and reports from patients. In order to be able to learn from their experiences and make changes and improvements where applicable.	On the day of discharge before going home	Nurse managers	Patients/clients centred care. Optimised healthcare services; adherence on treatment and advice given; patients empowered in regard to self-management of health, diseases and other conditions.
	Analysis of Clients/patients complaints.	On daily basis and monthly	Nurse managers and their team, Audit team	Patients/clients centred care, patient/client satisfaction.
	Suggestions from patients should be accommodated.	On daily basis	Nurse managers, nurses & other healthcare professionals taking role in patients' care	Patients will feel sense of respect, will seek more services and refer other clients/ patients to the health institution. Nurses and other healthcare professionals will learn from patients/clients experience, improved quality of care, increased productivity, trust in healthcare system.
	Patients should be educated in regard to their, illnesses, treatment, self-management, and their rights so that they may be able to participate in their care.	On admission and discharge	Nurses & managers plus other healthcare providers involved in patients' care	Patient-centred care, adherence to treatment given and advices, improved quality of care, patients satisfaction,

Activity	Action	Timeframe	Responsible needed person	Outcome
	Patients should consent for the care received and participate in their care delivery.	On admission and discharge	Nurses & managers and any other healthcare provider involved in patients' care	Patient-centred care, good quality care which enhances patients' satisfaction and their use of services, increase in job satisfaction and motivation among nurses leading to effective and efficient use of institutional resources.
	Nurses should be monitored to see whether they respect and protect the rights of patients/clients as well as their families' members.	On admission and discharge	Nurses, managers & other healthcare providers involved in patients care delivery	Sustainability of improved quality of care; patient satisfaction.
	Patients' satisfaction should be monitored to see whether they are satisfied with the care provided.	On daily basis	Nurse managers, all nurses & other healthcare professionals involved in patients' care.	Patient-centred care.
Auditing patients files	Clinical audit programme should be introduced so that risks and problems confronting patients can be identified.	Ongoing process	Nurse managers	Able to recognise risks and problems related to practice which assists in making continuous changes to improve the quality of nursing care.
	There should be a clinical audit committee to coordinate nursing audit activities.		Nurse managers	Coordinated services, improved quality of nursing care.
	Auditing of patients files to identify whether nursing care activities are correctly done and well documented.	On daily basis by the managers and their team. Monthly by clinical audit team.	Managers and their teams, Clinical audit team.	Improved quality of nursing care delivery; increased productivity; better performance for the institution; trust in healthcare system; cost reduction; patients/clients satisfaction.

Activity	Action	Timeframe	Responsible needed person	Outcome
	Analysis of critical incidents and complaints from patients should be done.	Daily/Once a month	Clinical audit team including all stake holders (nurses)	Clients/patients-centred care; improved quality of care; patient satisfaction.
	Improvement should be sustained.	Continuous process	Nurse managers and their team	Ownership, increased knowledge and skills, continuous delivery of quality healthcare.
	Outcomes from Clinical audit should be documented.	On completion of clinical audit	Clinical audit team	Improved quality of care.
	Dissemination of clinical audit outcomes	On completion of clinical audit	Clinical audit team.	Shared knowledge, Improved quality of care.
	Monitoring and evaluation of nursing care activities.	On daily basis	Monitoring and evaluation team	Coordinated services, improved quality of care, patient satisfaction.
	Goals and objectives for monitoring and evaluation should be set.		Monitoring & evaluation team plus nursing staff	Shared vision, attainment of objectives, gaining ownership, sustainability of implemented changes, improved quality of nursing care delivery, patients/clients satisfaction, and nurses' satisfaction.
	Timeframe for monitoring and evaluation should be set.		Monitoring & evaluation team	

Activity	Action	Timeframe	Responsible needed person	Outcome
	Monitoring and evaluation should be done to see whether changes in nursing care activities have been implemented as planned.	Continuous process	Monitoring & evaluation team.	Sustainability and improved quality of care, getting ensured of achieving objectives.
	Data obtained from monitoring and observation should be analysed and interpreted.		Monitoring & evaluation team	Strength and weakness in providing nursing care is identified, provision of suggestion to performance improvement.
	A report and recommendations should be made.		Monitoring and evaluation team	Shared knowledge, improved quality of nursing care.
	Patients' satisfaction should be monitored to see whether they satisfied with the care provided.	On daily basis	Nurse managers, all nurses & other healthcare professionals involved in patient care.	Patient-centred care, improved quality of care, patient satisfaction.

6.10 Potential benefits and barriers to implementation

The potential benefits which are anticipated from the implementation of guidelines is that:

- Patients/clients, and their family members and the community, will be able to participate in the care which they receive.
- This will be made possible by providing sufficient information on services received and creating an awareness of patient rights.
- Services provided will depend on evidence-based practice through research utilisation so that clients/patients can get effective services.
- Conducting patient/client satisfaction surveys to elicit their experiences can provide appropriate information for nurses to use.
- Conducting staff satisfaction surveys on staff needs, views and opinions can help in identifying gaps that affect relationships and in establishing proper communication channels that benefit quality of service delivery to clients.
- There will be provision of safe, timely and quality healthcare to clients/patients through regular and consistent clinical audits of patients' files and learning from complaints, and also in creation of a conducive work environment through appropriate staffing and efficient staff management, thereby consistently enriching patient care and enhancing the satisfaction of healthcare providers.

No potential barriers anticipated.

6.11 Legislative framework

Article 41 of the Rwandan Constitution, as amended, clearly declares that health is a Human Right:

All citizens have rights and duties relating to health and the State has the duty of mobilising the population for activities aimed at promoting good health and to assist in the implementation of these activities. All citizens have the right of equal access to the public service in accordance with their competence and abilities (Rwanda Ministry of Health, 2014: 13).

Even though there have been major accomplishments in the Health System in Rwanda, some challenges still exist, for example lack of community involvement in health services delivery due to lack of knowledge regarding their rights as well as a lack of knowledge concerning their contribution in the healthcare services they receive (Rwanda Ministry of Health, 2014: 5).

The Rwandan health institution seeks to constantly enhance the quality of healthcare services to the citizens of Rwanda by collaborating with all service users of all categories (Rwanda Ministry of Health, 2014: 12-13). Rwanda has also adhered to international policies.

Commitments guiding Rwandan health policy are the Abuja Declaration, the Africa Health Strategy (2007-2015), the Paris Declaration (2005), the Accra Agenda for Action (2008), and more recently the Rio Political Declaration on Social Determents of Health (October 2011) (Rwanda Ministry of Health, 2014: 3**).** In Rwanda more effort had been put on policies concerning dominant infectious diseases such as HIV/AIDS, malaria, TB and other infectious diseases. It is now the time to deal with changes in areas such as epidemiology, infrastructure, human resources for health, service delivery and new policy development (Rwanda Ministry of Health, 2014: iii).

Article No 5 of Ministerial Order nº 20/25 of 18/04/2012 determining the profession of nurses and midwives, Official Gazette of Republic of Rwanda nº 21 of 21 May 2012, states that "among other activities a nurse has to health educate client/patient, family, and the community, provide safe client/patient care and make a follow-up of patient/client" (Official Gazette of Republic of Rwanda, 2012: 11).

6.12 Guideline recommendations

The developed quality improvement guidelines for nurses makes recommendations for users including nursing staff, the nursing division and the hospital management.

To nursing staff

- Nursing staff should play a role in health education of patients to increase their awareness on care received.
- Nursing staff should be responsible and accountable for their tasks and adhere to the technical norms of care even when they are not supervised.
- Nursing staff should put their effort in knowing the institutional objectives so that they can perform their tasks accordingly.

To nursing division

- Nurse Managers and supervisors should involve the nursing staff in planning, decision making and problem solving so that they have a shared vision on which everyone agrees and so that they acquire a sense of ownership which can counter resistance to change, thereby improving quality of care.
- Nursing care activities should be monitored and evaluated in order to assess whether there is sustainability of improved quality of care.
- Nurse Managers should ensure that nurses are allocated in accordance with workload as it was found that some units were understaffed while others were overstaffed.
- Nurses should be monitored to see whether they respect and protect the rights of patients/clients and their family members.

To the hospital management

- Ensure that clients/patients and their family members and community are involved in the care which they receive.
- Patient satisfaction surveys should be done to get feedback and reports on their experiences, needs, preferences and choices.
- Suggestion boxes should be available so that patients can express their views.
- Suggestions from patients should be accommodated.
- Patients' satisfaction should be monitored to see whether they are satisfied with the care provided.
- There should be regular and consistent clinical audits of patients' files to see whether care is provided as indicated.
- Ongoing in-service training on quality improvement should be conducted to increase the nurses' knowledge and skills relating to quality improvement, thereby improving quality of care.

6.13 Conclusion

In this chapter the development of guidelines was presented as the outcome of this study. The process of developing the guidelines was described and the objectives in developing guidelines were highlighted. The scope of guidelines and the potential benefits of guidelines were all discussed. The process of selecting group members and experts to participate in guidelines development was also explained. Feedback obtained from experts was used to make amendments where these were indicated and the experts were given feedback on how their inputs were used in developing guidelines. Implementation of the developed guidelines was not part of this study, these guidelines will be a study on its implementation and thereafter they will be evaluated at the selected hospital to assess their effectiveness in improving quality of care. Furthermore, two tools were designed, one tool for hospital management and a second tool on patient satisfaction survey, to support the implementation of the developed guidelines (see Guidelines annexures 21 and 22).

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ANNEXURES

Annexure 1: Information Leaflet for the participants

INFORMED CONSENT LETTER

STUDY TOPIC: AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTHCARE FACILITY IN RWANDA.

Researcher: BATUNGA Antoinette

University of KwaZulu-Natal

Student number: 212540750

Tel. No. 0786409238, E-mail: antoinettebatunga@yahoo.com

Supervisor: Dr Jane Kerr, Lecturer (Nursing Management)

University of KwaZulu-Natal

Tel: 27312601432 - Work
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HUMAN SOCIAL SCIENCE RESEARCH ETHICS ADMINISTRATION

Contact person: Mr Premlall Mohun

HssrecHealthsciences@ukzn.ac.za

031 /2384

Tel: 27 31 260 4557 - Fax: 27 31 2602384

Dear Participant,

As per the requirements for completion of my Master's degree in Nursing Administration, I will be conducting a study on **quality improvement analysis at a selected tertiary healthcare facility in Rwanda** and I have identified you as experienced and potential participant in my study, and it is a request to kindly avail yourself by participating in the study if possible. You are being asked to take part in this study by responding to interview guide. Note that audio-recorder will be used to record your resonces. Participating in the interview will take

approximately twenty minutes of your time. The interview will be conducted upon to your voluntary agreement to participate in this study. Please be aware that participation is voluntary, you are not compelled to participate in this research and you may discontinue your participation at any time you may wish. There are no foreseen possible risks associated with participation in this study and there is no direct benefit linked to the participation in this study, but rather it will provide a better understanding on the current status of quality improvement at the selected tertiary healthcare facility in Rwanda, which may assist in formulating strategies that will improve the quality of care delivery.

The study data will be coded and your responses will be anonymous. Anonymity will be maintained by not writing your name anywhere on the responses instead codes will be used in recording the information and code numbers in the interview will not permit participants' responses be connected to any name of person. Information provided will be kept with utmost secrecy and your name will not be recorded to any documents and efforts will be made to keep personal information confidential.

If you experience any discomfort during the process of interview you may discontinue. In the event of refusal/withdrawal of participation the participant will not incur penalty or loss of benefits to which you entitled. Please be informed that there won't be any type of compensation (remuneration) for participation. The information that you will share will be confidential and you have the right to withdraw from the research anytime you wish to do so.

Should you wish to get more information regarding this study, you can contact the above given contacts.

Your positive response will be highly appreciated.

Sincerely

BATUNGA Antoinette

Annexure 2: Information Leaflet for expert reviewers of guideline development

Request to invite you to participate in guideline development

Antoinette BATUNGA
University of KwaZulu-Natal
Howard College Campus
School of Nursing and Public Health
Master Degree Program
P O BOX 4041
Durban, South Africa
Tel: +27786409238
E-mail: antoinettebatunga@yahoo.com

26th April 2016

To whom it may concern

RE: Request to participate as an expert reviewer of draft quality improvement/assurance guidelines and part of a Nominal group.

I, Antoinette BATUNGA, a student at the University of KwaZulu-Natal, currently doing Master of Nursing (Nursing Administration), Student No: 212540750, have developed draft guidelines as part of the objectives of a Master of Nursing Degree. I invite you to participate in the review of the draft guidelines as part of a consensus Nominal group of experts. The draft guidelines have been developed to improve the quality of nursing care at a selected tertiary healthcare facility in Rwanda. The guidelines are the outcomes of my Master of Nursing research study titled "**AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTHCARE FACILITY IN RWANDA**", under the supervision of Dr Jane KERR.

I wait in anticipation for your favourable inputs and opinions in order to reach consensus and affirmation or correction of the contents of the developed draft guidelines in their current state.

Annexure 3: Declaration Form (Participants/ Expert reviewers)

Declaration by participant

I…… (Signature only)

Hereby confirm that I understand the content of this document and the nature of the research, and I consent to participate in the research project. I understand that I have the right to withdraw at any time I feel like.

Signature of participant **Date**

…….. **……...**

Annexure 4: Checklist tool of state of hospital quality improvement

A. Quality improvement documents

No	Items	Available and accessible to the users in the ward (means the document exists and is in use)	Available but not accessible to the users in the ward (means the document exists but not availed to the users).	Not available in the ward.
1	Quality action plan for the whole institution			
2	Quality action plan for every department			
3	Quality policy document			
4	Quality profiles			
5	Quality handbook (Manual)			
6	Annual quality report			
7	Documents for incident report			
8	Suggestion box			
9	A registration book for complaints			
10	Nursing care plan documents			
11	Clear job description documents			
12	Staffing documents			
13	Audit tool			
13	Legislation document			

B. Process control based on standards

No	Items	Available and accessible to the users	Available but not accessible to the users	Not available in the ward
1	Standards for specific treatments/interventions			

2	Standards for utilization of medical equipment			
3	Standards for patient education			
4	Standards for critical moments in service provision			
5	Standards for admission of patients			
6	Standards for patient routine discharge			
6	Standards for documentation of patient records			

C. Human resource management

No	Activity	Once a month	Quarterly	Twice year	Once year	Never	Others (specify)
1	In-service training/education program of nurses on quality improvement						
2	Supervision and monitoring plan towards quality care services						
	Activity	Daily	Per shift	Never	Others specify		
3	Handover procedure						
	Activity	Yes	No	I don't know			
3	Training/education programs are based on priorities in quality policy						

D. Process improvement based on quality improvement procedures

No	Items	Daily	Once a month	Quarterly	Twice year	Once year	Never	Others (Specify)
1	Satisfaction assessment among patients							
2	Individual care plans							
3	Satisfaction survey among employees							
4	Internal audit process							
5	Infection control process							

Annexure 5: Interview guide for nurses

Code of Interviewee

Introduction

Recording starts…

Good morning! Thank you for agreeing to meet with me and share your views.

As you may know, the purpose of this interview is to help us understand your understanding and experiences in improving quality of care at your hospital

Before we begin, let me review some important considerations. I am recording this interview to ease the further analysis for qualitative data but will keep all responses highly confidential. I am just as interested in both negative and positive comments and often the more challenging and in-depth comments are the most helpful.

1. According to your understanding, describe what you understand by quality health care?
2. What activities are carried out that promote quality improvement at your institution?

   Probing:

   - Describe the quality care standards and policies at your institution?
3. How would you describe the quality of nursing care delivered to your nursing unit/ward?
4. Overall how would you describe the quality of nursing care at your institution?
5. How did your basic nursing program prepare you to improve the quality of care at your job?
6. Can you share with us your experiences in regard to implementation of quality care at your institution?

   Probing:

   - How did policies and standards of quality care from the hospital, shape your experiences?
7. How do you perceive the patient satisfaction in respect of the quality of care offered at the institution?

   Probing:

   - How can one recognize quality healthcare?
   - In which way are patients involved in quality improvement activities?

- How do you assess patient satisfaction towards the care offered?

8. How are you involved in the implementation of the quality improvement of healthcare at your institution?

Probing:

- Do you follow care protocol /standards while providing care to the clients? How?
- To what extent do you work with other health care professionals (How?)
- Are the patients involved (How?)

9. What challenges have you encountered in the implementation of quality of health care at your institution?

Probing:

- Are these challenges related to the use standards, policy document developed by the hospital?

10. What strategies would you suggest to improve the quality healthcare at your institution?

11. According to your understanding, how would quality of care promote nursing profession?

Probing:

- Are standards of nursing care developed by Rwandan nursing council used at your institution?

12. Any other information related to quality health care that you would like to share with us?

Thank you very much for participating in this study.

Annexure 6: Interview guide for patients

Code of interviewee

Good morning, thank you for agreeing to participate in this study. The purpose of this interview is to share with you, your experience in regard to quality of health care services offered in this hospital. Both positive and negative comments are very imperative in this study and your responses will be highly confidential.

A large part of the interview will focus on the quality of care offered, accessibility of health care services and the overall of your satisfaction of the quality of care offered.

Do you have any questions before we begin?

1. **What has been your experience regarding the quality of care offered at this institution?**

Probing:

- What is your experience in respect of doctors waiting times?
- What is your previous experience towards getting opportunity from doctors to ask questions about your illness?
- How is your experience in regard to the cost of doctor's consultation?
- What is your previous experience in the effectiveness of the treatment you received from the doctors?
- What is your experience in getting all the medicines prescribed by the doctors from the hospital pharmacy?
- What has been your experience of the waiting time for receiving medication from the hospital pharmacy?
- Describe your experience in respect of where you received your medication
- What is your experience in receiving interdepartmental services?
- What is your experience in relation to the cost of laboratory test?
- What is your previous experience in regard to nurse's skills in the hospital?
- How is your previous experience in relation to attentive listening by the hospital officers?
- What has been your experience regarding hospital working hours?

2. **Based on your experience, can you share with us, how accessible are health care services?**

   Probing:

   - What is your experience on waiting time?

- What is your experience regarding the information received?

- Were you able to receive enough information about this hospital?
- Where did you get to know the hospital?

3. Overall how were you satisfied with the quality of care offered to you?

Probing:

- What is your experience in respect to the cleanliness of hospital infrastructure?
- What is your experience about the ventilation inside the hospital?
- How are you satisfied with the light inside the hospital?
- What is your experience in respect to hospital environment?
- What is your experience concerning chairs in the waiting room?
- What is your experience about the hospital toilets?
- Are consultation rooms enough?
- What is your experience in respect to hospital medical examination equipment?
- Is medical equipment in a good working order?

- What is your experience in respect to physical examinations performed by doctors?
- What is your experience concerning the time doctors spend consulting patients?
- What is your experience towards the attitudes of hospital nurses?
- What is your experience to the explanations hospital nurses give to patients in respect to the treatment prescribed?
- What is your experience towards the attitudes of hospital pharmacists?
- What is your experience regarding the explanations hospital pharmacists give to patients in taking the medicines?
- What is your experience towards the attitudes of hospital registration staff?
- What is the experience in respect to the communications skills of hospital registration staff?

Thank you for your time and agreeing to participate in this study.

Annexure 7: Amended ethical clearance from UKZN ethical committee

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

28 September 2016

Ms Antoinette Batunga 212540750
School of Nursing and Public Health
Howard Campus

Dear Ms Batunga

Protocol reference number: HSS/0765/015M
New project title: "An Analysis of Quality Improvement by Nurses at a selected Tertiary Healthcare Facility in Rwanda"

Approval notification – Amendment Application

This letter serves to notify you that your application for an amendment dated **26** September 2016 has now been granted **Full Approval.**

- **Change in Title**
- **Change in Objectives**

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

Best wishes for the successful completion of your research protocol.

Yours faithfully

.....
Dr Shenuka Singh (Chair)
HumanitiesSocial Sciences Research Ethics

/pm

Supervisor: Dr Jane Kerr
Academic Leader Research: Professor B Sartorius
School Administrator: Ms Caroline Dhanraj

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
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Website: www.ukzn.ac.za

Annexure 8: Amended ethical clearance from UKZN ethical committee

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

28 April 2016

Ms Antoinette Batunga 212540750
School of Nursing and Public Health
Howard Campus

Dear Ms Batunga

Protocol reference number: HSS/0765/015M
New project title: "An Analysis of Nurses' Quality improvement at a selected Tertiary Healthcare Facility in Rwanda"

Approval notification – Amendment Application

This letter serves to notify you that your application for an amendment dated 15 April 2016 has now been granted **Full Approval**.

- **Change in Title**
- **Change in Objectives**

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

Best wishes for the successful completion of your research protocol.

Yours faithfully

.....
Dr Shenuka Singh (Chair)
HumanitiesSocial Sciences Research Ethics

/pm

Supervisor: Dr Jane Kerr
Academic Leader Research: Professor M Mars
School Administrator: Ms Caroline Dhanraj

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

Annexure 9: Ethical clearance from UKZN ethical committee

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

4 August 2015

Ms Antoinette Batunga 212540750
School of Nursing and Public Health
Howard Campus

Dear Ms Batunga

Protocol reference number: HSS/0765/015M
Project title: Quality improvement analysis at a selected tertiary healthcare facility in Rwanda

Full Approval – Expedited Application

In response to your application received on 24 June 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Dr Jane Kerr
Cc Academic Leader Research: Professor M Mars
Cc School Administrator: Ms Caroline Dhanraj

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

Annexure 10: Amended Ethical clearance from UKZN ethical committee

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

9 March 2017

Ms Antoinette Batunga 212540750
School of Nursing and Public Health
Howard Campus

Dear Ms Batunga

Protocol reference number: HSS/0765/015M
New project title: "An Analysis of Quality Improvement by Nurses at a selected Tertiary Healthcare Facility in Rwanda"

Approval notification – Amendment Application

This letter serves to notify you that your application for an amendment dated 7 March 2017 has now been granted **Full Approval**.

- **Change in Research Questions**
- **Change in Objectives**

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

Best wishes for the successful completion of your research protocol.

Yours faithfully

.....
Dr Shenuka Singh (Chair)
HumanitiesSocial Sciences Research Ethics

/pm

Supervisor: Dr Jane Kerr
Academic Leader Research: Professor B Sartorius
School Administrator: Ms Caroline Dhanraj

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 **Facsimile:** +27 (0) 31 260 4609 **Email:** ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

Annexure 11: Approval to conduct research from Rwanda Ministry of Education

REPUBLIC OF RWANDA

Kigali, 11/08/2015
N°...2088..../12.00/2015

MINISTRY OF EDUCATION
P.O.BOX 622 KIGALI

Ms. Antoinette BATUNGA
MSc Candidate
University of KwaZulu-Natal,
Durban-South Africa
E-mail: antoinettebatunga@yahoo.com

Dear Antoinette BATUNGA,

RE: Approval to Conduct Research in Rwanda under the Project Title: "Quality Improvement Analysis at a Selected Tertiary Health Facility in Rwanda"

I am pleased to attach a copy of research clearance, which has been granted to you to conduct research on the above title.

I wish to remind you that the research clearance number should be cited in your final research report. The research should be carried out under affiliation of the Rwanda Military hospital (RMH), under supervision of Dr. Pacifique MUGENZI, Division Manager of Research and Clinical Education.

You are requested to submit the progress report of your research after six months and the final report after completion of your research activities to the Ministry of Education of Rwanda.

I wish you success in your research.

Yours Sincerely,

Marie-Christine GASINGIRWA, Ph.D
Director General of Science, Technology and Research
Ministry of Education

Cc.

- Hon. Minister of Education
- Hon. Minister of State in Charge of TVET
- Hon. Minister of State in Charge of Primary and Secondary Education
- Permanent Secretary, Ministry of Education
- Dr. Pacifique MUGENZI, Division Manager of Research and Clinical Education, RMH

Annexure 12: Permission to carry out research from Rwanda Ministry of Education

REPUBLIC OF RWANDA

Kigali, ...12/08/2015
N°.....2089/12.00/2015

MINISTRY OF EDUCATION
P.O.BOX 622 KIGALI

Re: Permission to Carry out Research in Rwanda - No: MINEDUC/S&T/325/2015

The Permission is hereby granted to **Ms. Antoinette BATUNGA,** MSc Candidate from the University of KwaZulu-Natal, Durban-South Africa, to carry out research on: **"Quality Improvement Analysis at a Selected Tertiary Health Facility in Rwanda".**

The research will be carried out at Rwanda Military Hospital (RMH) and the researcher will need to interview registered nurses working at the hospital as well as patients who will come to seek healthcare services.

The period of research is from **12th August, 2015 to 12th August, 2016**. In case the research period is extended, a new permission will be sought by the researcher.

Please allow the **above mentioned researcher,** any help and support she might require to conduct this research.

Yours sincerely,

Marie-Christine GASINGIRWA, Ph.D
Director General of Science, Technology and Research
Ministry of Education

Annexure 13: Permission to conduct research from Rwanda Military Hospital

REPUBLIC OF RWANDA
RWANDA MILITARY HOSPITAL
Website: www.rwandamilitaryhospital.rw
P.O. Box: 3377 Kigali, Tel: (+250)252586420, Hotline: 4060
E-mail: info@rwandamilitaryhospital.rw

August 10, 2015 **Ref.: EC/RMH/026/2015**

REVIEW APPROVAL NOTICE

Dear **Antoinette BATUNGA,**
UNIVERSITY OF KWAZULU-NATAL
SCHOOL OF NURSING AND PUBLIC HEALTH

Your research project: **"Quality Improvement Analysis at a Selected Tertiary Healthcare Facility in Rwanda."**

With respect to your application for ethical approval to conduct the above stated study at Rwanda Military Hospital, I am pleased to confirm that RMH Ethics Committee has approved your study. This approval lasts for a period of 12 months from the date of this notice, and after which, you will be required to seek another approval if the study is not yet completed.

You are welcome to seek other support or report any other study related matter to the Research office at Rwanda Military Hospital during the period of approval.

PS: You are required to present the results of your study to RMH Ethics Committee before publication.

Sincerely,

MINADEF - RWANDA

Dr. Pacifique Mugenzi,
Co Chair: Rwanda Military Hospital Research Ethics Committee
E-mail: mpacific5@gmail.com

Annexure 14: Interview sample of individual nurse participant

Researcher: Good morning, thank you for agreeing to meet with me and share your views. As you may know the purpose of this interview is to help us understand your understanding and experiences in improving the quality of care at this hospital.

Before we begin, let me review some important considerations. I am recording this interview to ease the further analysis for qualitative data but will keep all responses highly confidential. I am just as interested in both negative and positive comments and often the more challenging and in-depth comments are the most helpful.

According to your understanding, describe what you understand by quality health care?

Participant: Quality healthcare basically it's about how to deliver care so effectively and efficiently and care that would match with the patients' needs. That means if the patient is receiving care in time and receive it effectively and efficiently that would be a quality care.

Researcher: ok, thank you, and what activities are carried out that promote quality improvement at your institution?

Participant: There are a variety of activities carried out here to promote quality improvement for example increasing the ratio of nurses to patients so that we may improve the quality of care even though we have not reached the desired ratio but compared in past it is much better. Optimizing customer care through proper orientation and explanations regarding care they received. Assessing patients' needs is also among the activities we do so that we may offer care corresponding to their needs. On discharge we health educate the patients and the family so that they may adhere to treatment ad advice on discharge.

Researcher: that's good, how would you describe the quality of nursing care delivered to your nursing unit/ward?

Participant: the quality of nursing care is not on standard because of shortage of nurses in the ward but patients are benefiting from it.

Researcher: Overall how would you describe the quality of nursing care at your institution?

Participant: Over all I would say that the quality of nursing care in the whole hospital is good because of the feedback we do get from patients majority of patients are appreciating services

we offer them despite that they are some who don't appreciate. But in my own view sincerely speaking there is a great improvement compared to where we have been we are ok, but according to the standards we still have a long way to go. For example nurse-patient ration is not sufficient this prevents us from providing quality nursing.

Researcher: ok, if you say that the ratio of nurse to patient ratio is not sufficient what does it imply?

Participant: I mean that there is shortage of nurses which hinders us to deliver care on time for example if you are giving medication and you have many patient some patients will not get medication on time therefore that cannot be quality nursing care because you are not giving medication on time, even though I know what to do due to shortage of nurses may hinder me to deliver quality care. Though the hospital has increased the number of nurses still they are not sufficient, I suggest that they should increase the number of nurses.

Researcher: ok, how did your basic nursing program prepare you to improve the quality of care at your job?

Participant: The basic nursing program did not prepare me adequately in regard to quality improvement we were just taught the basic nursing care there was no emphasis on quality improvement except on post basic nursing, but I am getting experience.

Researcher: ok, it's nice, can you share with me your experiences in regard to implementation of quality care at your institution?

Participant: My experiences is good because I participate in training fellow nurses especially in paediatric nursing to improve the quality of care and according to my experience we are on the right track and there is a significant change because we are providing patient-centred nursing care and the policies and standards are guiding me in every procedure I do this because I follow policies and procedures and this makes me become confident because I know I am doing the right thing such that I cannot be challenged by anybody.

Researcher: Oh, that's good, and how do you perceive the patient satisfaction in respect of the quality of care offered at this institution?

Participant: I perceive patient satisfaction through feedback we get from patients or from their family members when they came back after discharge to appreciate the care which we offered.

We also perceive patient satisfaction when patient recover without any sequel and their families appreciate whatever we have done to them. Even when a patient dies the relative appreciate and tell us that even though the patient has died you have done everything possible. Through following standards and policies I can also perceive patient satisfaction because I know that I have given quality nursing care. Auto-evaluation can show me whether I have done the right thing which can indicate that patients are satisfied with the care offered. We can also perceive patients satisfaction through offering family centred care is case of a child everything we do we have to consult the family and explain whatever is going to be done, making them part of the team and updating patients in whatever is to be done so that they can make decisions.

Also using suggestion boxes so that patients can put there their views.

Researcher: ok, that's good, do you have suggestion boxes?

Participant: I have been seeing one but I longer see it.

Researcher: ok, and how are you involved in the implementation of the quality improvement of healthcare at your institution?

Participant: As a bedside nurse, I am the one who is involved in implementing policies and standards and I make sure that I fulfil my duties, I am involved in documentation of all activities offered to patients and I carry out proper documentation which I think is fundamental in improving the quality of care I do documentation in whatever in everything for example during assessment of patients condition I do document the patient's condition as well the nursing care plan, while administering drugs I do document everything this helps me to avoid medication errors as well as assisting me to deliver quality nursing care and at the same time helps me to give a proper report to fellow nurses during their shifts when they are handover. I am also involved in supervising students and my fellow nurses and we share views regarding patients especially in morning reports. I as well involved in the implementation of quality improvement through working with other healthcare professionals, it's a multidisciplinary team in delivering care to patients we involve physiotherapist in case a patient needs physiotherapy and others healthcare professionals where we share views regarding patients.

Researcher: ok, that's good, and what challenges have you encountered in the implementation of quality of health care at your institution?

Participant: The challenges we meet in providing quality healthcare are lack of equal understanding regarding improving quality nursing care, implementing policies is quite challenging you might be following policies and standards and others may not follow policies and standards and as we work as team if some are not performing well it is a barrier it may affect the quality of care delivery. This can affect team split and team split goes hand in hand with equal understanding. Lack of ongoing training in quality improvement, as the world in which we are living is evolving, and medicine is ever changing ongoing trainings ongoing training on quality improvement should be conducted that we may be updated. There is also shortage of nurses which is hindering the provision of quality care. In addition there is lack of supervision, there is no body that goes around to oversee what has been done. Policies have been formulated that no body that goes around to see whether policies are being implemented.

Researcher: ok, what strategies would you suggest to improve the quality healthcare at your institution?

Participant: The strategies I would suggest are the following: the hospital should be overseeing whatever has been done and making sure that everyone is accountable and responsible of what has been done. Ongoing training on quality improvement should be done, increasing the ratio of nurses to patients.

Researcher: ok, do you have anything else related to quality healthcare that you would like to share with me before we end our conversation?

Participant: Most of the concerns I have mentioned them.

Researcher: thank you so much for agreeing to participate in my study, I am grateful for your input.

Participant: thank you also for selecting me interviewing me, let me know if there is any other time that you need information.

Researcher: oh, sure I will, thank you so much I have appreciated, I wish you the best in your work, have a pleasant day.

End of interview

Annexure 15: Interview sample of individual client participant

Researcher: Good morning, thank you for agreeing to participate in this study. The purpose of this interview is to share with you, your experience in regard to quality of health care services offered in this hospital. Both positive and negative comments are very imperative in this study and your responses will be highly confidential.

A large part of the interview will focus on the quality of care offered, accessibility of health care services and the overall your satisfaction of the quality of care offered. Note that this interview is being audio recorded for further qualitative data analysis.

Therefore, I request your assistance to participation in this study

Would you like to ask some questions before we start?

Participant: No questions, as you have explained before when you came to recruit me you introduced yourself and you told me that you are a student conducting a research, there is nothing else I can ask rather than giving you the information you need.

Researcher: Ok, thank you so much, what has been your experience regarding the quality of care offered at this institution?

Participant: I have appreciated the way this hospital offers medical services to patients. Sometimes people may have been treated at different hospitals and once you try to compare with other hospitals, I am not saying this because I am here, patients are taken good care of and kindly orientated where different services are offered in this hospital. In fact as I was coming here, when I reached the gate the first people I met welcomed me and directed me where I should go to seek health services, be at reception or where we pay money they receive us well. I was afraid that they will not treat me because I did not have any transfer, but I got all the services I wanted. The doctor welcomed me, treated me and gave me enough explanation regarding my illness. I can say that I was given more than what I required.

Researcher: Ok, that's wonderful, and what is your experience in respect of doctors waiting times and getting opportunity from doctors to ask questions about your illness?

Participant: Waiting time to see a doctor is long, patients arrive at 8:00 AM, but sometimes doctors are late, they arrive at 9:00 AM, I do not know if they have to see inpatient first like anywhere else before they come here. However patients are many compared to the number of

doctors, but once they get here, it only takes a few minute to be treated. The doctor gave me an opportunity to ask questions about my illness, I became comfortable with the doctor and I asked many questions I wanted and answered me, doctors gave me enough information, all the kind of information I needed about my illness I can say that I was given more than enough information even asked questions which were not related to my illness but the doctor explained to me well and I was happy with the doctor.

Researcher: Ok, that is good, what are your suggestions about the waiting time?

Participant: Doctors should also come as early as possible because patients arrive at this hospital early so doctors also should do the same and they should employ more doctors because patients are many compared to number of doctors available.

Researcher: Ok, how is your experience in regard to the cost of doctor's consultation and the effectiveness of the treatment you received from the doctors?

Participant: The cost of doctor's consultation is not high, for a patient who has a health insurance, I only paid 600 FRW which is equivalent to 15% of the fee only. I think that was not much because I have a health insurance. Once the doctor laid their hands on me, I automatically had hope for a full recovery. Whenever one sees a doctor, before you even before they prescribe the drugs, you already feel better, because you feel that you have got a qualified person in front you. Psychologically, it helped me. I felt better before the doctor even finished prescribing the drugs. I had hopes of recovering and sometimes the doctor associates your illness with the symptoms you have just as explained.

Researcher: Ok, that's good, what is your experience in getting all the medicines prescribed by the doctors from the hospital pharmacy?

Participant: I had to buy the drugs outside the hospital pharmacy because when I reached pharmacy I found many people around online so I decided to go and buy drugs from pharmacies outside the hospital. I did not get them from here as my health insurance would allow me to get them from any other place.

Researcher: Ok, what type of health insurance do you have?

Participant: I have RAMA (La Rwandaise d'Assurance Maladie).

Researcher Ok, that's nice, what is your experience in receiving interdepartmental services and attentive listening by the hospital officers?

Participant. The hospital officers listen to patients and give them explanations to all questions asked, those that I met gave me enough explanations and there were kind, what I have seen here there is good orientation Services offered at different departments inside the hospital are not easily accessible because you are asked to present a copy of each document in every service, yet it is necessary to take a copy with you everywhere you go. Apart from photocopying, other services are easily accessible.

Researcher: Ok, what is your experience in relation to the cost of laboratory test?

Participant. The cost of laboratory test depends on the kind of examination. I think that it is expensive, but I was tested for many things; diabetes, hepatitis, and so other tests. This might be the reason why it was expensive.

Researcher: Ok, what is your previous experience in regard to nurse's skills in the hospital?

Participant. To me, I think the nurses of this hospital do their job well, they are hardworking, competent and committed to their work.

Researcher: Ok, what has been your experience regarding hospital working hours

Working hours at this hospital are fair as they efficiently use their time, for example for me I arrived at 8.00am and I left at 12.00pm after getting all the services I needed so I don't have any complaint regarding working hours, because no body that goes back home with ought being treated though doctors are late in the morning I don't know whether they go to visit inpatients first before they came to treat us.

Researcher: probably, based on your experience, can you share with me how accessible are health care services?

Participant: I think healthcare services are easily accessible, the doctors are committed and they kindly welcome patients, in fact all the workers here do their work well, they receive us well and direct us where we should seek healthcare services.

Researcher: Ok, that's good, and what is your experience on waiting time?

Participant: The waiting time depends on the number of patient who are available sometimes it may take long especially when waiting for the doctor as number of patients outnumber the doctors but in other services it is quick. It would be better if doctors get to their offices before the patients come.

Researcher: Ok, what is your experience regarding the information received concerning services offered here, and how did you get to know the hospital?

Participant. I only found out about this hospital when I was transferred here for a liver test, I did not have enough information about this hospital, but I only knew that it is a military hospital and I did know that they even treat civilians not until when I was transferred here but I never sought further information.

Researcher: Did you manage to receive enough information about this hospital?

Participant: hum…Not very much… [Silence].

Researcher: ok, overall how were you satisfied with the quality of care offered to you?

Participant: In general, I was well treated I was offered good services, in terms of percentage, I would rate it at 98%. I got all the services I needed.

Researcher: Ok, that it's good, and what is your experience in respect to hospital environment, for instance in respect to the cleanliness of hospital infrastructure, the ventilation inside the hospital, the light inside the hospital and the cleanliness of the hospital toilets?

Participant: The hospital is very clean, but the construction sites and other old buildings are not as clean as the new buildings, new buildings have enough ventilation, there is enough light in the hospital and electric power is always available. It makes think that they never have power cuts. Besides that, there are also large windows that allow in enough daylight. As far as the environment is concerned, this hospital needs to plant more trees. Trees are not enough, though in the parking place and the hospital boundaries are surrounded by trees. They need to plant many trees for some a fresh air.

Researcher. Ok …I see…I will convey your message to the authority, and what about your experience concerning the consultation rooms and chairs in the waiting room?

Participant. Consultation rooms are enough as every doctor gets where to consult the patients and concerning the chairs in the waiting rooms, the new buildings have enough and comfortable chairs than the old buildings, but I think everything will be fine after the renovation of the hospital.

.**Researcher:** Ok, what is your experience in respect to physical examinations performed by doctors and the time doctors spend consulting patients?

Participant: The doctors examine the patients with care and provide explanations about their illness, the time spent by the doctor while examining patient depends on the patient's explanations. Sometimes it is long, other times it is quick and for me I cannot get annoyed because we don't have to spend the same time at times patients may not be able to express themselves such that the doctor often tries to get proper information when the patient has not provided proper explanations so this can take a long time, yet others can take short time.

Researcher: ok, what is your experience towards the attitudes of hospital nurses?

P**articipant**: to me I appreciate the attitudes of the hospital nurses they respect everyone and they do their work very well.

Researcher: Ok, what is your experience towards the attitudes and the communications skills of hospital registration staff…where you get patients file?

Participant. The hospital registration staff have good attitudes and welcoming…they are competent and explain kindly when you approach them.

Researcher: oh…ok that's good to hear, is there anything else you would like to ask or share with me before we end our conversation

Participant: No, I don't have any question.

Researcher: thank you so much to agree to participate in my study, I have appreciated for your input.

Participant: Thank you too for recruiting me it's good to conduct a research, I think I t is needed to see how people perform and find ways of improving.

Researcher: True, thank you so much I will give you the outcome of my study when I complete. God bless you for your time.

End of interview

Annexure 16: Application for ethical clearance

Antoinette BATUNGA

University of KwaZulu-Natal

Howard College Campus

School of Nursing and Public Health

Master Degree Program

Tel: 0786409238

E-mail: antoinettebatunga@yahoo.com

16 May 2015

To the Humanities and Social Science Ethics review Committee

University of KwaZulu-Natal

Durban

Mr. Premlall Mohun

HssrecHealthsciences@ukzn.ac.za

031 /2384

Tel: 27 31 260 4557 - Fax: 27 31 2602384

RE: APPLICATION FOR THE ETHICAL CLEARANCE

I, Antoinette BATUNGA a student at the University of KwaZulu-Natal, currently doing Master degree in Nursing Aministration-Full Research (SN: 212540750), have to conduct a research as a requirement for my degree and the research. The research study is "AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTHCARE FACILITY IN RWANDA"

I hereby apply for ethical clearance for my research that would allow me to collect data from a selected Tertiary Healthcare Setting in Rwanda. Expected timeframe of one month, will be required to collect data from registered nurses of the selected tertiary healthcare setting and patients who will have come to seek healthcare services and I tent to start in early July 2015.All study participants will be interviewed on the status of quality improvement of the selected tertiary healthcare setting. All results and names of participants will be confidential. Findings

will be communicated to the, UKZN School of Nursing and Public health and to the selected tertiary healthcare setting in Rwanda where the study will be conducted. Kindly note, that the participation in this study is Voluntary. Attached are copies of a copy of Research proposal, consent forms for study participants, a checklist for quantitative data collection, interview guides to collect data from registered nurses and patients, a letter of support for data collection from the director general of the selected tertiary healthcare setting in Rwanda and application letter for the permission.

May I kindly request the permission to begin the research study, and data collection, and I wait in anticipation for a favourable response to be allowed to conduct research and data collection at that selected tertiary healthcare setting. Any correspondence can be done through the contact details provided above.

Yours faithfully

Antoinette BATUNGA Signature 

C.I

Dr Jane Kerr

Lecturer Nursing Management

School of Nursing and Public Health

Howard College Campus

University of KwaZulu-Natal

E-mail: kerrj@ukzn.ac.za, Tel: +27312601432/Cell: +27836269423

ETHIC DEPARTMENT

Chairperson

Faculty of Humanities and social sciences

Research ethics review committee

Howard campus

4041 Durban / South Africa

Annexure 17: Application for ethical clearance

Antoinette BATUNGA

University of KwaZulu-Natal

Howard College Campus

School of Nursing and Public Health

Master Degree Program

P O BOX 4041

Durban, South Africa

Tel: +27786409238/+250788742380

E-mail: antoinettebatunga@yahoo.com

25 June 2015

To the Hon Minister of Education

Boulevard de l'Umuganda

Po Box: 622

Kigali, Rwanda

RE: APPLICATION FOR THE ETHICAL CLEARANCE

I, BATUNGA Antoinette, a student at the University of KwaZulu-Natal, currently doing Master degree in Nursing Administration (SN: 212540750), have to conduct a research as a requirement for my degree and the research. The research study is "**AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTH CARE FACILITY IN RWANDA**".

I hereby apply for ethical clearance for my research that would allow me to collect data from a selected Tertiary Healthcare facility in Rwanda. Expected timeframe of one month, will be required to collect data from registered nurses of the selected tertiary healthcare facility and patients who will have come to seek healthcare services and I tend to start in Mid July 2015.

All study participants will be interviewed on the status of quality improvement of the selected tertiary healthcare facility. All results and names of participants will be confidential. Findings will be communicated to the UKZN School of Nursing and Public health, and to the selected

tertiary healthcare facility in Rwanda where the study will be conducted. Kindly note that the participation in this study is Voluntary. Attached are; a copy of Research proposal, consent forms for study participants, a checklist for quantitative data collection, interview guides to collect data from registered nurses and patients, application for authority to conduct Research in Rwanda, confirmation of affiliation letter, a copy of passport and a copy of Curriculum Vitae.

May I kindly request the permission to begin the research study, and data collection, and I wait in anticipation for a favourable response to be allowed to conduct research and data collection at that selected tertiary healthcare facility. Any correspondence can be done through the contact details provided above.

Yours faithfully.

Antoinette BATUNGA Signature 

C.I

Dr Jane Kerr

Lecturer

Nursing Management

School of Nursing and Public Health

Howard College Campus

University of KwaZulu-Natal

E-mail: kerrj@ukzn.ac.za

Tel: +27312601432

Cell: +27836269423

Annexure 18: Request for permission to conduct a study

Antoinette BATUNGA

University of KwaZulu-Natal

Howard College Campus

School of Nursing and Public Health

Master Degree Program

Tel: +27786409238/ +250788742380

E-mail: antoinettebatunga@yahoo.com

16 June 2015

To the Director General Rwanda Military Hospital

P O BOX 3377

Kigali, Rwanda

E-mail: benkarenzi@yahoo.com

Tel: 250 788301802; +250738797389

RE: APPLICATION FOR THE ETHICAL CLEARANCE

I, Antoinette, BATUNGA a student at the University of KwaZulu-Natal, currently doing Master degree in Nursing Administration (SN: 212540750), have to conduct a research as a requirement for my degree and the research. The research study is "**AN ANALYSIS OF QUALITY IMPROVEMENT BY NURSES AT A SELECTED TERTIARY HEALTH CAREFACILITY IN RWANDA".**

I hereby apply for ethical clearance for my research that would allow me to collect data from a selected Tertiary Healthcare facility in Rwanda. Expected timeframe of one month, will be required to collect data from registered nurses of the selected tertiary healthcare facility and patients who will have come to seek healthcare services and I tent to start in Mid July 2015. All study participants will be interviewed on the status of quality improvement of the selected tertiary healthcare facility. All results and names of participants will be confidential. Findings

will be communicated to the, UKZN School of Nursing and Public health and to the selected tertiary healthcare facility in Rwanda where the study will be conducted. Kindly note that, the participation in this study is Voluntary. Attached are copies of a copy of Research proposal, consent forms for study participants, a checklist for quantitative data collection, interview guides to collect data from registered nurses and patients.

May I kindly request the permission to begin the research study, and data collection, and I wait in anticipation for a favourable response to be allowed to conduct research and data collection at that selected tertiary healthcare facility. Any correspondence can be done through the contact details provided above.

Yours faithfully.

Antoinette BATUNGA Signature 

C.I

Dr Jane Kerr

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Annexure 19: Certification of Translation

Language
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Translation: **Source Language: Kinyarwanda** **Target Language: English**

Certification of Translation

I, Donatien Nsengiyumva, in my capacity as the Senior Project Manager and Translation Quality Inspector at Language Computing International (LCI), do hereby declare that LCI translators have translated the document entitled **"Ibyavuye mu bushakashatsi bwakorewe ku barwayi mu bitaro byatoranyijwe mu Rwanda"**, a translation of **"Data obtained from Patients in a Research Study conducted at a selected Hospital in Rwanda"** into English as requested and approved by **Ms. Batunga Antoinette**. IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of LCI.

Name: DONATIEN NSENGIYUMVA **Signature:** _____ **Date:** OCTOBER 3, 2015

(Please print in BLOCK CAPITALS)

Company Name: LCI

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LCI Translators: ☐	**External Translators:** ☐

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Annexure 20: Letter from editor

grammarline
editing services

16 September 2016

This is to certify that I have performed a language edit of the Master's thesis "An analysis of quality improvement by nurses at a selected tertiary healthcare facility in Rwanda" by Antoinette Batunga.

Additional information can be provided on request.

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Annexure 21: Anticipated timeframe for implementation and evaluation of nurses' quality improvement guidelines

TIMELINE	ACTIVITY	PERSONS RESPONIBLE FOR THE ACTIVITY
Early August 2016	Presentation of guidelines to the management of the selected tertiary healthcare facility in Rwanda	Researcher
Mid-August 2016	Selection of members who will attend the training workshop	Researcher, nurse managers and Quality improvement committee
September 2016	Organizing finances to conduct training workshops for implementation of guidelines development	Hospital administration
Early October 2016	Conducting the training workshop	Researcher and Quality improvement committee
	Assessment of the training workshop conducted	Researcher, nurse managers, quality improvement committee, and the users (nurses)
Mid-October	Planning the implementation of guidelines	Researcher, nurse managers, nursing staff quality improvement committee
November/February2017	Implementation of guidelines	Researcher, nurse managers, quality improvement committee, and the users

November/March 2017	Monitoring and Evaluation of implemented guidelines	Researcher, nurse managers, quality improvement committee, and the users
April 2017	Submission of the report regarding implemented developed nurses quality improvement guidelines	

Annexure 22: A tool for hospital management of the selected hospital to support the use of developed guidelines

A	**Availability and use of quality policy and strategic documents**				B
Q.No	Item	Yes, (this document is available and in use).	Yes, (document is present in our hospital, but not in use).	No, (Not available).	Additional information
Q. 1	Quality and safety policy (Description of objectives in regard to quality and safety and the means to achieve them)				
Q. 2	Quality action plan at hospital level				
Q. 3	Quality and safety plans for improvement for all departments				
Q. 4	Quality and safety manual (containing all procedures related to quality management and persons required to put them into action)				
Q. 5	Quality and safety annual report (Explanations and outcomes of all activities carried out in the agreed time frame)				

No	Items	Yes	No	Additional information
B. Involvement of patients/clients, their families and the community				
Q.6	Does the hospital provide patients/clients with standard written information regarding their rights?			
Q.7	Do patients/clients and their families participate in the care received?			

No	Items	Yes	No	Additional information
Q.8	Are necessities, inclinations and needs of clients/patients considered?			
Q.9	Are patients' satisfaction surveys conducted?			
Q.10	Are patients complaints used to enhance the quality of service delivery?			
Q.11	Do clients/patients receive health education on healthcare services offered?			
Q.12	Do patients/clients have choices on services and treatment offered?			
C. Staffing and staff management				

Q.13	Do you have sufficient employees to manage the workload and work hours are suitable to deliver quality care to patients/clients?			
Q.14	Do you staff the hospital for patient needs or employee needs?			
Q.15	Do healthcare providers' know their tasks in regard to the provision of quality of care to clients/patients?			
Q.16	Are there clear job description for Nurses of all categories?			
	a.RN (A0)			
	b.RN (A1)			
	c.EN (A2)			
Q.17	Do employees speak freely if they see something that may negatively affect patients and feel free to question?			
Q.18	Does the hospital management provide a safe working environment to employees which enhances quality care and patients' safety?			

Q.19	Are Staff informed about errors that occur, provided with feedback about changes implemented and discuss ways to prevent errors?			
Q.20	Is there any procedure of detecting, assessing and handling poor performance?			

No	Items	Yes	No	Additional information
Q.21	Is there any process of dealing with absenteeism of healthcare providers?			
Q.22	Is there team work among employees?			
Q.23	Do employees fully participate in decision making?			
Q.24	Is employees' satisfaction survey carried out periodically?			
Q.25	What support systems are available for healthcare providers to work effectively?			
D	**Education, training and development of healthcare providers**			

Q.26	Does the hospital have in-service training/education programs of nurses on quality improvement in place?			
Q.27	Does the hospital have a process of evaluating in-service training is?			
Q.28	Are training/education programs based on priorities in quality policy?			
Q.29	Does the hospital have adequate and relevant opportunities for continuing education for employees while working?			
Q.30	Do staff who attend workshops prepare a written report to share their experiences with the colleagues?			
Q.31	Is there a process where staff members of unit/ward share clinical experiences?			
Q.32	Is performance appraisal for healthcare professionals done?			
Q.33	Are gaps identified after performance appraisal addressed?			
	What remedial action is in place to correct the gaps identified?			
F	**Clinical audit of patients files**			

Q.34	Is Patient's date and time of admission recorded?			
Q.35	Are patients' identifications available and recorded?			
No	Items	Yes	No	Additional information
Q.36	Is patient's diagnosis on admission recorded?			
Q.37	Is the date and time when the patient seen by the doctors and nurses recorded			
Q.38	Are all interventions carried out by the nurses and the doctors recorded?			
Q.39	Are drugs prescribed given at the right time and well recorded?			
Q.40	Is nursing care provided recorded?			
Q.41	Are investigations ordered done, recorded as well as the results?			
Q.42	Is patient given health education on admission as well as on discharge and the information is recorded?			
Q.43	Is patient's care supervised?			

Q.44	Is patient's progress evaluated?			
Q.45	Is patient's information correctly recorded?			
Q.46	Is the date of discharge indicated and health education on discharge given and recorded?			

Adapted from Wagner, Smits, Sorra and Huang (2013: 221); Australian Commission on Safety and Quality in Health Care (2012: 16- 21); Duckers, Makai, Vos, Groenewegen and Wagner (2009: 15-16), and Wagner, Coppen and Poortvliet (2006: 2-9) and were modified to suit into Rwandan context.

Annexure 23: A tool for patients' satisfaction survey part

A. DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

Please tick the appropriate response.

Q. 1 Gender

1	Male	
2	Female	

Q. 2 Age in years

Q. 3 Marital status

1	Single	
2	Married	
3	Divorced/Separated	
4	Widow/Widower	

Q. 4 Your main occupation

1	Not employed	
2	Government employed	
3	Self employed	

4	Others (Please specify)	

Q. 5 Your Annual income per year

1	Very satisfactory	
2	Satisfactory	
3	Fair	
4	Not satisfactory	
5	Others (Please specify	

PART B: EXPERIENCE CONCERNING THE QUALITY OF CARE OFFERED AT THIS INSTITUTION

Please answer the following questions by ticking the sign (X) in the box of your choice

NUMBER	EXPERIENCE ON QUALITY OF CARE	YES	NO
Q. 6	Do you feel from your past experience that the doctors waiting times was long?		
Q. 7	Do you from your past experience agree that the doctor gave you opportunity to ask about your illness?		
Q. 8	Do you from your past experience accept that the cost of doctor's consultation is affordable?		
Q. 9	Do you from your past experience agree that the treatment you received from doctors was effective?		
Q. 10	Do you from your past experience expect to get all the medicines prescribed by the doctors from the hospital pharmacy?		
Q. 11	Do you feel from your past experience that the waiting time to receive medicine from hospital pharmacy was long?		
Q. 12	Do you feel from your past experience that the place for receiving medication was convenient?		
Q. 13	Do you feel from your past experience that receiving interdepartmental services in the hospital is difficult?		
Q. 14	Do you from your previous experience accept that the cost of laboratory tests was not expensive?		
Q. 15	Do you from previous experience agree that the hospital nurses are skilled?		

Q. 16	Do you from your past experience accept that the hospital officers listened to you attentively?		
Q. 17	Do you feel from your past experience that the hospital working hours corresponds to your needs?		

PART C: ACCESSIBILITY OF HEALTHCARE SERVICES

A. WAITING TIME

Q. 18 How much time did you have to wait for doctors consultation?

Hours……..	Minutes…….

Q. 19 What was the total time you spent in OPD for getting all the services you needed?

Hours…….	Minutes…….

B. INFORMATION RECIEVED

Q.20 Were you able to receive enough information concerning this hospital?

1	Yes	
2	No	

Q. 21 Where did you get to know about this hospital? (Please specify only the main source).

1	**Television**	
2	**Radio**	
3	**From friends**	
4	**Referral from another hospital**	

5	**Others……(Please specify)**	

PART D: SATISFACTION WITH THE QUALITY OF CARE OFFERED

Please tick the level of your satisfaction against the following statements in the relevant box below.

Scale 5= strongly agree 4= agree 3= neutral 2= disagree 1= strongly disagree

Q.NO	**Level of your satisfaction**	**5**	**4**	**3**	**2**	**1**
Q. 22	Is the hospital infrastructure clean?					
Q. 23	Is the ventilation inside the hospital sufficient?					
Q. 24	Is the light inside the hospital enough?					
Q. 25	Is the hospital environment conducive?					
Q. 26	Are chairs in the waiting room enough?					
Q. 27	Are the hospital toilets clean?					
Q. 28	Are consultation rooms enough?					
Q. 29	Do doctors perform physical examinations with respect?					
Q. 30	Do doctors spend sufficient time while consulting patients?					
Q. 31	Do hospital nurses have good attitudes?					

Q. 32	Do hospital nurses explain clearly treatment given to patient?					
Q. 33	Do hospital pharmacists have good attitudes?					
Q. 35	Do hospital pharmacists explain clearly to patients how to take the medicines?					
Q. 36	Do hospital registration staff have good attitudes?					
Q. 37	Do hospital registration staff have good communications skills?					