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Veran, Cindy D

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EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARD COSTING IN A CENTRAL HOSPITAL IN GAUTENG

Cindy D. Veran

A research report submitted to

the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg

in partial fulfilment of the requirements for the degree

of

Master of Science in Nursing

Johannesburg, 2019

DECLARATION

I, Cindy D. Veran, hereby declare that this research report is as a result of my own work. It is being submitted for the degree of Master of Science (Nursing) at the University of the Witwatersrand, Johannesburg. It has not been submitted anywhere else for candidature for any degree programme or examination at the university.

Signature……

Date…….

Protocol Number M170861

DEDICATION

Om Nama Sivaya,

To my late parents, for teaching me the importance of education and perseverance. To my children, for their patience, love and support.

To all the earth bound Angels that provided the encouragement and positive reinforcement when I needed it.

ACKNOWLEDGEMENTS

I would like to Thank the following people for all their support:-

To Ms. Viv Herbert, my heart-felt appreciation, for picking me up when I was down.

To Prof. Shelley Schmollgruber for all the support and guidance.

To all the nurses who volunteered their time and effort to be interviewed.

To all my friends and colleagues that supported me during my studies.

ABSTRACT

Background: The cost of healthcare is rising worldwide and placing a heavy financial burden on health systems and populations globally, nationally and locally. In 2007, the Gauteng Health Department introduced the "Uniformed Patient Fee Scheduled Charge Sheet" (UPFS) for tertiary, regional and district hospitals, whereby every health-service activity rendered to the patient is costed daily by the nursing personnel. However, since the introduction of the UPFS in the government sector hospitals, no studies have been done in South Africa, on the opinion of Intensive Care Unit (ICU) nurses in public hospitals with regard to costing for the healthcare rendered.

Aim: The purpose of this study was to explore the opinion of ICU nurses and the barriers experienced towards costing in a Central Hospital in Gauteng.

Design: An exploratory qualitative design.

Methods: Professional nursing staff was chosen from the nursing staff working in ICUs. A purposive sample was selected as determined by data saturation. Semi-structured interviews were conducted on twelve (N=12) participants, over four months. Data analysis was done using Clarke and Braun's (2013) thematic analysis. Lincoln and Guba's (1985) method of trustworthiness was applied.

Findings: The study demonstrated that ICU nurses focus is quality, safe patient care. ICU nurses have negative and positive feelings associated with costing whilst understanding the reasons for costing. Despite being overloaded with work, ICU nurses are prepared to assist with the costing but felt that the multidisciplinary team should be responsible for costing for activity-based costing and not just the ICU nurse. Factors that influenced costing negatively were identified as ethical dilemmas, workload issues, continuity of care, lack of consultation, lack of support and inappropriate use of resources. Facilitators of costing were identified to be role clarity and responsibility, the costing process, review of the costing document and system review.

Recommendations: Role clarification and responsibility is vital. Review and standardization of the costing document, costing process and system needs to be done. Management support is vital for changing attitudes towards costing and setting up and implementing evidenced-based accurate costing using a resource specialist in the ward. The multidisciplinary team's responsibility and accountability to resource costing will lighten the work load for ICU nurses with. Further research would be beneficial in developing a source document, testing its applicability in the broader population with further testing of its efficacy.

Conclusion: ICU nurses feel that the successful control of activity-based costing at the patient's bedside is vital as this affects the budget and resource allocation. This is, however, dependent on multidisciplinary teamwork and management support.

K***ey words***: hospital costing, intensive care units, nurses, South Africa

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LIST OF ABBREVIATIONS

ABC	**Activity Based Costing**
CCN	**Critical care nurse**
CNS	**Clinical nurse specialist**
DRG	**Diagnostic related grouping**
ICN	**Intensive care nursing**
ICU	**Intensive Care Unit**
NHI	**National Health Insurance**
PFMA	**Public Finance Management Act**
SANC	**South African Nursing Council**
TCA	**Traditional cost accounting**
UPFS	**Uniform Patient Fee Structure**
WHO	**World Health Organisation**

CHAPTER ONE

OVERVIEW OF STUDY

1.0 INTRODUCTION

This chapter will provide an overview of the importance of this study by looking at the background, problem statement, purpose, objectives, significance, researcher assumptions, and overview of methodology, trustworthiness and ethical considerations.

1.1 BACKGROUND OF THE STUDY

Clinicians should be aware of how, the costs relate to therapeutic activity, case mix and clinical outcomes, as the Intensive Care Unit (ICU) is a costly resource (Seidel, Whiting and Edbrooke, 2006)**.** In 2004, an attempt was made, to examine the South African nurse manager's perceptions about the success or failure of cost containment and measurement efforts in public hospitals. This study found that Nurse Managers required better preparation for their cost control responsibilities and insights into issues affecting cost containment efforts, besides staffing issues and security checks (Ntlabezo, Ehlers and Booyens, 2004).

A literature review of activity-based costing in the public sector in South Africa by Oseifuah (2014) shows that the heightened awareness of activities and costs created, improved decision-making, provided better cost control and cost management leading to a better understanding to cost reduction opportunities. Popesko (2013) reinforced that the effective use of limited resources and saving on increasing costs of healthcare services, requires a deeper level of knowledge.

Due to the rising burden of disease and the scarce resources (human resource and ICU beds) available in South Africa, issues with regard to cost, cost-effectiveness and availability of critical care to all who need it, are highlighted (Naidoo, Singh and Lalloo, 2013). South Africa's high health expenditure, supportive policies together with persistently poor health outcomes, and the

scarcity of resources in the public sector could undermine quality care (Schellack, Meyer and Gous, 2011). Many South Africans are still at risk of catastrophic health expenditure as a result of severe illness and injuries that involve high costs for hospitals, doctors and medicines, leading to impoverishment or total financial collapse of the household (Department of Health, RSA, 2017).

According to the policy, National Health Insurance for South Africa, Towards Universal Health Cover, (Department of Health, 2017) "certain categories of users of the health system are required to pay a facility-based fee at the hospital level that is based on the economic classification of the patient determined by income levels. The fee is in accordance with the Uniform Patient Fee Schedule (UPFS) and approximately R451 million annually is derived from user fees" (Department of Health, RSA, 2017, p17). In order to allocate and utilise resources responsibly, accurate costing information is vital (Seidel et al., 2006). National Health Insurance (NHI) strategic purchasing and alternative re-imbursement models design is dependent on monitoring of utilisation and that sustainability requires that both supply and demand side measures be in place (Department of Health, RSA, 2017).

Dasta, McLaughlin, Mody and Piech, (2005) estimates that in the United States of America, daily ICU care costs three to five times more than care provided in a general medical/surgical ward, and that a great proportion of this cost can be attributed to interventions, such as mechanical ventilation. Dasta et al. (2005) concluded that ICU care costs are highest in the initial days of admission and that any intervention that results in a decrease in the length of time spent in the ICU would contribute significantly to reducing the hospitalisation costs.

According to De Beer, Brysiewicz and Bhengu (2011), the public sector remains historically challenged due to the limited number of ICU beds available to the population. The shortage of educated ICU nurses and general nurses in South Africa, are compounded challenges to this specialised care. As the recommended ratio between nurse and patient in an ICU should be one to one, these nurses are further challenged. To circumvent this challenge, other categories of nurses are employed and the trained ICU nurses have to oversee the other nurses' care of

ICU patients. Staffing issues, shortage of beds, and application of admission/exclusion guidelines to patients is stressful to the ICU nurses.

De Beer et al. (2011, p6) explains, that the ICU nurse, part of a multidisciplinary team, cares for patients with life-threatening diseases or injuries. She / he works in a high mortality rate environment that "is highly technological, requiring a broad knowledge base and a high level of decision-making skills as they care for patients and their families who are in vulnerable circumstances."

Ntlabezo et al (2004, p41) found that nurse managers "perceived their preparation to cost containment in provincial hospitals to be inadequate" and recommended that the training and orientation of nurse managers about cost containment issues could be improved. No specific studies have been done, yet, in South Africa about the practice and perceptions of ICU nurses regarding the process of daily costing of healthcare services activity/treatment rendered. The need to explore ICU nurses' opinions to completing the UPFS form and exploring their perceptions with regard to the barriers experienced during the task of daily health-service activity-based costing in a central hospital in Gauteng becomes important.

1.2 PROBLEM STATEMENT

Studies suggest that nurse managers require better preparation for their cost control responsibilities (Ntlabezo et al, 2004) and recommend that perceptions of general principles of cost containment in the hospital requires further attention.
Ntlabezo et al (2004) further explains that the nurse manager, as a team leader, must be aware of the hospitals resources within the constraints and her perceptions could influence the success or failure of implementation of cost containment efforts. Nurses are at the forefront of patient care and are best suited to assist with costing of health-service activity based costing. The development of actual cost of services rendered is vital for decision-making and proper pricing, therefore, the true cost of services is required (Oseifuah, 2014; Javid, Hadian, Ghaderi, Ghaffari and Salehi, 2016). A Gauteng Department of Health policy (Addendum 3 of Circular Minute no. 81 of 2007) imposed that all personnel (Administrative officials, Nurses and Healthcare professionals) who

come into contact with a patient should fill in the Uniform Patient Fee Schedule (see definitions) charge sheet.

A review of current practices at four hospitals, within the Gauteng area, found ,that the case managers and/or billing clerks do the activity-based costing retrospectively, spending large amounts of time reading the patients files trying to account for resources. Most of the time it is a non-clinical billing clerk reviewing the notes, and one has to enquire about the accuracy of the costing too. The global shortage of nurses implies there are not enough nurses in the ICUs. Any increase in demand will increase the nurse-to-patient ratio and risk patient safety (Matlakala and Botha, 2016). Despite all these issues, no studies have been done to explore the opinion of the nursing staff regarding the daily costing of procedure.

Matlakala and Botha (2016) explain that nursing shortages continue to be linked to increased patient workload, increased risk of error, compromised patient safety, and high nurse turn-over leading to greater costs for the employer and healthcare system. Nurses remain the highest users of resources simply due to the fact they are the highest number of healthcare professionals and spend the most amount of time with patients (Ntlabezo et al, 2004). The opinions regarding the daily health-service activity costing of treating a patient in an ICU should be explored amongst the ICU nursing staff of South Africa. However, the rising costs of healthcare in South Africa, as a result of the burden of disease, the requirement for expensive intensive care, the shortage of ICU units, shortage of ICU nurses in the country, as well as the establishment of the National Health Insurance Funds' Universal Care to all patients, reinforces this need.

This study attempted to answer the following research questions:

- What are the opinions of Intensive Care Unit nurses regarding the implemented daily activity-based costing procedure?
- What are the barriers to costing and completing the Uniform Patient Fee Schedule charge sheet in a Central Hospital in Gauteng?

1.3 PURPOSE OF THE STUDY

The purpose of this study was to explore what the opinion of ICU nurses are regarding the current daily costing of healthcare for patients in ICU and to explore the barriers experienced.

1.4 OBJECTIVES

The objectives of the study were:

- To explore what the opinions are of Intensive Care Unit nurses regarding the existing implemented daily activity-based costing procedure.
- To explore / describe if there are any barriers in costing and completing the Uniform Patient Fee Schedule charge sheet in a central hospital in Gauteng.

1.5 SIGNIFICANCE OF THE STUDY

Since the inception of the Uniform Patient Fee Schedule in the Northern Province in 2002 (Board of Healthcare Funders, 2007), no studies have been done to explore the opinions of the nursing staff regarding the daily costing of activity-based care rendered. The findings of this study will benefit South Africans, as it will contribute to nurses understanding the cost of care rendered in an ICU, which in turn will benefit hospitals by instituting operational changes to determine costs of patient care. For the researcher, the insights gained will assist with implementing corrective measures and facilitate faster billing. The insights will assist with providing and training of all stakeholders involved in the costing process.

1.6 RESEARCHER'S ASSUMPTIONS

Cresswell and Poth (2018) state that assumptions are often applied using theories or interpretive frameworks.

1.6.1 Meta-theoretical Assumptions

The focus in nursing is always on person, environment, health and wellness, and nursing.

Person in this study refers to the Professional nurse. De Beer et al. (2011) describe ICU nurses as those nurses with ICU qualifications or experience, who are responsible for providing care to patients who are critically ill or at risk of experiencing life-threatening conditions. These nurses have a high level of expertise.

Environment in this study refers to the technological Intensive Care setting, as per De Beer et al. (2011), which demands nurses to have a broad knowledge base and a high level of decision-making skills as they care for patients and their families who are in vulnerable circumstances. De Beer et al. (2011) further suggest that the quality of care delivered to critically ill patients are adversely impacted when inexperienced staff are exposed to busy units, lack of supervision and staff shortages, as the tendency for errors increases.

Health and wellness herein refers to the overall system within health in which ICU nursing operates. De Beer et al. (2011) highlight the challenges that have an impact on the health and wellness of the ICU system as limited resources, challenging patient and disease profiles and staff shortages. Due to the great need for Intensive Care nursing in South Africa, proper planning and more resources should be allocated to this unit and care. The question then arises, do ICU nurses have the capacity and time to fill in the UPFs forms and additional administrative work, as the priority in an ICU should be patient outcomes.

1.6.2 Theoretical Assumptions

Burns and Grove (2009) define a theory as consisting of an integrated set of defined concepts, existence statements, and relational statements that present a view of a phenomenon, and can be used to describe, explain, predict and/or

control that phenomenon. The following defined concepts / models will be reviewed in relation to this study.

The South African Nursing Council (SANC, 2014) competencies for critical nurse specialists are divided into 5 domains. Domain 1 describes professional, ethical and legal practice; Domain 2 describes clinical practice (care, provision and management); Domain 3 describes the quality of practice; Domain 4 describes management and leadership and Domain 5 covers research. The competencies as listed are clearly defined and self-explanatory providing guidelines for practice for critical care nurses to provide care to patients with life threatening illness or injuries across the clinical continuum whilst being actively involved in resource management in a resource deprived environment.

The World Health Organization (WHO, 2009) advises that team work is essential for patient centered quality care and patient safety. The TeamSTEPPS program as developed in the USA (WHO, 2009) identifies a number of different but interrelated teams. Each defined team has a specific function and description designed to achieve quality, safe patient-centric care. The World Health Organization's (2009) information on Team work and being an effective team player can be related to allocation of work in a scare resource environment to achieve patient care that concentrates on safety and quality. Duplication of services as well as reinforcement of responsibility and accountability within the multidisciplinary team can be achieved.

Kurt Lewin's three-stage model of Change (Werner, 2012) is a model aimed at improving the effectiveness of an organization and people through a series of designed, systematic interventions. This model can be applied to the process of costing and ensuring that everybody understands why they have to cost and how to cost. The Three-stages are unfreezing, movement and refreezing. Unfreezing is preparing the organization for change and involves consultation and discussion with staff as to why the change is required. Moving to the desired aim / solution involves training and learning of new behaviors and attitudes by managers and staff. Refreezing refers to the "cementing and reinforcing"(Werner, 2012 p386) of

the changes. Positive reinforcement and any issues are readily" identified and corrected" (Werner, 2012, p386) and can be related to the following examples:-

- ICU nurses are costing for activity-based healthcare as it is rendered.
- ICU nurses understand the importance and financial implications to not costing for activity-based healthcare rendered in an ICU.
- ICU nurses received inadequate/adequate training and preparation with regard to resource utilisation and cost containment.
- The ICU is too busy for ICU nurses and therefore costing becomes secondary to patient care and documentation thereof.

1.6.2.1 Operational Definitions

Definitions for the purpose of the study are as follows:

- **Uniform Patient Fee schedule tariff guide (UPFS)**

"Developed, to provide a simpler charging mechanism, for the public sector hospital. Replaces the itemised billing approach, with a grouped fee approach. Linked to the Reference price list (RPL) and based on health service activities (activity-based costing). "For the purposes of service fee determination, the UPFS applies to full paying patients, fully/partially subsidised groups of patients (Department of Health, RSA, 2007, p2).

- **Intensive Care Unit (ICU)**

According to the South African Nursing Council (2014), Intensive Care consists of several units within a hospital, staffed with specialised nurses and equipped with high technology for the monitoring, care and treatment of patients with life-threatening conditions. Classified according to disciplines, they serve for example: Multidisciplinary (General) ICUs, Trauma Unit, Cardiothoracic ICUs, Neurosurgical ICUs, Burns Unit, etc., or can be classified according the populations served, e.g. Neonatal ICU, Child and Adolescent ICU, Adult ICU, and Obstetric ICU for the

pregnant mother with critical complications. The staff employed in such high dependency units is experienced in Critical Care Nursing.

Schmollgruber (2015) states ICUs are categorised into Level 1 to Level 3, and that the public sector academic units are Level 3 ICUs. For the purpose of this study the definition, as per Herbert (2011), is a specifically designated area, with combined specialised technology and skilled specialist personnel, where patients with unstable and life-threatening conditions are managed, monitored and cared for.

- **Central Hospital**

The National Health Act, 2003, Government notice no. R185 of 2 March 2012 (Department of Health, RSA, 2012), defines a central hospital as having a maximum of 1200 beds, providing tertiary hospital services and central referral services (super-specialised units representing extremely specialised and expensive services, e.g. heart and lung transplant, bone marrow transplant, liver transplant, cochlear implants); provide training of healthcare providers; conduct research; receives referrals from more than one province and be attached to a medical school as the main teaching platform. Central referral services are provided in highly specialised, unique units, requiring highly skilled and scarce personnel and at a small number of sites nationwide.

- **Subsidised patients**

All patients classified by income, as per the hospital classification into categories (Department of Health, RSA, 2014).

- **Opinion**

The Merriam-Webster online dictionary defines opinion as “a view, judgment, or appraisal formed in the mind about a particular matter”

- **Barriers**

The Merriam-Webster online dictionary defines barriers as “something immaterial that impedes or separates”

- **Intensive Care (ICU) Nurse / Critical Care nurse**

The South African Nursing Council (2014) defines Critical Care Nursing as encompassing a field of nursing where the focus is on the care of adult patients who are critically ill or unstable, in collaboration with members of the healthcare team. Care takes place in a continuum as set above, from the scene of the accident or initial sickness to the Critical Care Unit, where the nurse functions within a complex technological environment and displays a high level of knowledge, skill and competence in caring for the patient and family/support system to discharge to a safe place. Due to the complexity of adult illness, Critical Care Nurses can be found working in a variety of settings/contexts, such as Multidisciplinary Units, Trauma Units, Neurosurgical Units, Cardiothoracic Units, Burns Unit, etc., providing optimum holistic care.

For the purpose of this study, the definition, as per Schmollgruber (2015), will be used. A Critical/Intensive Care nurse is a clinical nurse who functions at an advanced level of patient care in a multidisciplinary nursing environment. According to the South African Nursing Council (SANC, 2014), a critically educated nurse is a registered nurse who obtains an additional qualification in medical-surgical nursing, Advanced Medical and Surgical Nursing: Critical Care (R212 of 1985, as amended: 119:2), or equivalent alternative Intensive Care Nursing.

- **Perceptions**

The Merriam-Webster online Dictionary defines perception as “a capacity for comprehension.” For the purpose of this study, perception will refer to the understanding of the nurses, and the same definition shall apply.

1.6.3 Methodological Assumptions

The Merriam-Webster online Dictionary defines Methodology as “a body of methods, rules, and postulates employed by a discipline.” Holloway and Wheeler (2010, p. 337) define an assumption as being “a belief or assertion, which is taken for granted by a researcher but has not been verified.” Thomas (2013) distinguishes between the two types of research by paradigm, and advises that positivism can lead to quantification (Quantitative Research), while interpretivism leads to words, thoughts and images and thus qualitative research. Creswell and Poth (2018) advise that qualitative researches use an emerging qualitative approach to inquiry, data collection in a natural setting sensitive to the people under study, inductive and deductive data analysis to establish themes or patterns. Based on the research question, the researcher has to make an assumption on the best possible methodology to answer the question and according to Creswell and Poth (2018), capture the voice of the participants, reflexivity of the researcher, a complex description and interpretation of the problem and its contribution to the literature.

1.7 OVERVIEW OF THE RESEARCH METHODS

“Methodology refers to the principles and ideas on which researchers base their procedures and strategies (methods)” (Holloway and Wheeler, 2010, p21). The research methods refer to the blueprint that guides the study to have control over factors that could interfere with the desired outcome. A qualitative exploratory design was used to achieve the objectives of the study. The study participants were ICU professional nurses affiliated to ICUs, which admit approximately 296 patients a month to a university affiliated public sector central hospital in Gauteng.

Ethical clearance and permission to conduct the study was obtained from the relevant University Research Committees and the hospital. Participation in this study was voluntary and participants were free to withdraw at any point in time.

After permission was granted by the hospital and ICU nurse unit managers, consent was obtained from the ICU nurses who agreed to participate in the study. Data was collected using a semi-structured question guide through in-depth semi-structured interviews. Qualitative thematic analysis was used to analyse the results of the study. Concepts of credibility, reliability, dependability and confirmability were used to maintain trustworthiness of the study. Accuracy of the study was enhanced by ensuing the researcher was the sole collector of the data, with an enquiry audit conducted by the supervisor. The sample size was achieved purposively and data was verified by participants through member checking. An audit trail was done by experienced researchers to ensure truth of findings.

1.8 OUTLINE OF THE STUDY

The study will be presented as follows:

Chapter One: Overview of the study

Chapter Two: Literature review

Chapter Three: Research design and methods

Chapter Four: Findings

Chapter Five: Discussion of findings, conclusion and recommendations.

1.9 SUMMARY

This chapter gave an overview of the study. Firstly, the background was described followed by the problem statement, the research questions, purpose of the study, the objectives, and operational definitions and a discussion of the researchers' assumptions. An overview of the methodology, measures of trustworthiness and ethical considerations and finally layout of the study was described.

The next chapter will present an in-depth discussion of the literature reviewed for the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The cost of healthcare is rising worldwide and placing a heavy financial burden on health systems and populations globally. South Africa is no exception, with 84% (Department of Health, RSA, 2017) of the population dependent on the public health sector. The daily costs of patients admitted to ICU are three to five times more than those patients who are admitted to a general medical or surgical ward (Dasta et al, 2005). ICU costs can have a serious impact on the expenses of a hospital (Seidel et al., 2006; Karabatsou, Tsironi, Tsigou, Boutzouka, Katsoulas and Baltopoulos, 2016). As nurses are the single largest profession in the healthcare sector, which make daily decisions regarding patient's treatment and care, they are in a position to drive cost effective healthcare. ICU nurses providing bedside nursing care need to have knowledge about financing and need to be involved in making cost effective decisions regarding patient's treatment. In 2007, the Gauteng Health Department introduced the "Uniformed Patient Fee Scheduled Charge Sheet" (UPFS) for central /tertiary, regional and district hospitals, the nursing personnel cost whereby every health-service activity (activity-based costing) rendered to the patient daily (National department of Health, 2007). Since the introduction of the UPFS in the government sector hospitals, no studies have been done in South Africa, as of yet, on the opinion of ICU nurses in public hospitals with regard to nurses costing for the healthcare rendered. Data regarding the South African Healthcare professionals' knowledge about costing is minimal (Nethathe, Tshukutsoane and Denny, 2017).

2.2 COSTING AND RELATED CONCEPTS

2.2.1 Costing

The Oxford Dictionary (2006) defines costing as an estimate for producing something. The Business Dictionary (2019) defines it as "a system of computing

cost of production or of running a business by allocating expenditure to various stages of production or to different operations of a firm."

2.2.2 Activity Based Costing (ABC)

ABC is a management accounting tool that assumes that activities consumes resources (Aldogan, Austill and Kocakülâh, 2014). The ABC model is made up of "resources, activities, and cost objects which are connected to each other by cost drivers". See figure 2.1 as per Oseifuah (2014, p584). Manufacturing or overhead costs are assigned to cost objects. "ABC has successfully been implemented in hospitals in first world countries" (Aldogan et al, 2014, p4). Oseifuah (2014) found that in South Africa, ABC provides an alternative to the traditional cost accounting used and that the benefits are linked to improved decision making due to an awareness of activities and the costs that they create. The results are effective financial management and efficient service delivery in the public sector (Oseifuah, 2014).

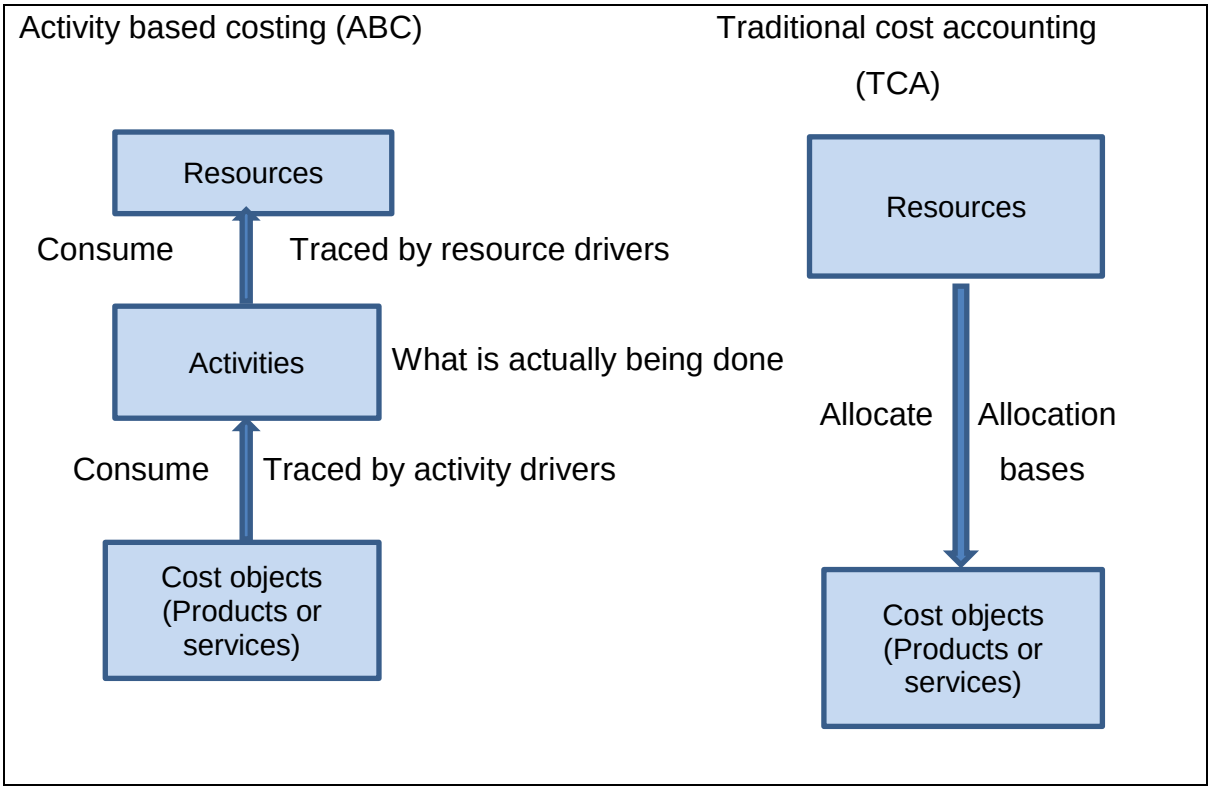


Figure 2.1: Activity based costing (ABC) versus traditional cost accounting (TCA) systems (Oseifuah, 2014, p 584)

2.2.3 Application of ABC in ICU

The Intensive Care Unit is a costly resource (Dasta et al, 2005; Naidoo et al, 2013; McLaughlin, Hardt, Canavan and Donnelly, 2009; Seidel et al., 2006) due to expensive treatment and is highly labour intensive (Seidel et al., 2006). Karabatsou et al (2016) states that the high ICU cost can be related to the need for highly trained staff, high-technological equipment, diagnostic tests, medication and supplies. The demand for successful clinical outcomes requires trained specialists (Doctors and Nurses) and equipment to manage this resource. Nurses are the main users of resources due to their direct link to the patient and due to the fact that nurses are the largest group of healthcare professionals that interact with the patient (Ntlabezo et al, 2004). Thungjaroenkul, Cummings and Embleton (2007, p261) states that critical care nurses have "the ability to promote the quality of clinical practice procedures, decrease length of stay and ICU costs".

2.2.4 Application of ABC in healthcare

A literature review of activity-based costing in the public sector, in South Africa shows that the heightened awareness of activities and costs created, improved decision-making, providing better cost control and cost management leading to a better understanding to cost reduction opportunities (Oseifuah, 2014). Popesko (2013) reinforces that effective use of limited resources and saving on increasing costs of healthcare services, requires a deeper level of knowledge. An attempt to examine the nurse manager's perceptions about the success or failure of cost containment and measurement efforts in public hospitals in South Africa found that Nurse Managers required better preparation for their cost control responsibilities and insight into issues affecting cost containment efforts besides staffing issues and security checks (Ntlabezo et al, 2004). The advantages in healthcare supporting improved management decisions in a resource-limited sector spans over many years, as well as in developing and developed countries (Javid et al., 2016; Aldogan et al, 2014).

Due to the rising burden of disease in South Africa and the scarce resources available, issues are raised with regard to cost, cost-effectiveness and availability of critical care to all who need it (Naidoo et al., 2013). Seidel et al (2006, p160) validate that besides resource allocation, cost analysis improves “quality and quantity of ICU provision.” South Africa’s high health expenditure, supportive policies together with persistently poor health outcomes, and the scarcity of resources in the public sector could undermine quality care (Schellack et al., 2011). Many South Africans are still at risk for catastrophic health expenditure as a result of severe illness and injuries that involve high costs for hospitals, doctors and medicines, leading to impoverishment or total financial collapse of the household (Department of Health, RSA, 2017).

2.3 LEGISLATION, POLICY AND STANDARDS

The National Health Act, 2003, Government notice no. R185 of 2 March 2012 (Department of Health, 2012) defines a central hospital and it provides for clear guidelines on the number of beds and services to be provided as well as to whom. Central referral services provided in highly specialised units require unique, highly skilled and scarce personnel and are available at a limited number of sites nationwide.

The National Health Act no. 61 of 2003, subsection 41 (1C) (Republic of South Africa, 2004), makes provision for the prescription of a schedule of fees for a central hospital. The UPFS tariff rates are gazetted annually and in accordance with this is the Uniform Patient Fee Schedule (UPFS) charge sheet. Policy Addendum 3 of circular minute No. 8 of 2007 (Gauteng Department of Health, 2007) sets a standard and advises that the form should be used by all categories of personnel who encounter the patient to facilitate accurate and comprehensive billing of healthcare services provided. According to the National Health Insurance for South Africa, Towards Universal Health Cover (Department Of Health, 2017), “certain categories of users of the health system are required to pay a facility-based fee at the hospital level that is based on the economic classification of the patient determined by income levels. The fee is in accordance with the Uniform Patient Fee Schedule (UPFS) and approximately R451 million annually is derived

from user fees" (Department of Health, RSA, 2017). In order to allocate and utilise resources responsibly, accurate costing information is vital (Seidel et al., 2006). National Health Insurance strategic purchasing and alternative re-imbursement models design is dependent on monitoring of utilisation and that sustainability requires that both supply and demand side measures be put in place (Department of Health, RSA, 2017).

Nursing practice in South Africa is governed by the Nursing Act, no. 33 of 2005 (Republic of South Africa, 2005), and provides for full responsibility and accountability to provide nursing care. The South African Nursing Council (SANC, 2014) has a set of additional competencies for Critical Care nurses, which are divided into five domains. These competencies provide guidelines for practice for Critical Care nurses to provide care to patients with life-threatening illness or injuries across the clinical continuum. According to the SANC (2014, p1) "Critical Care Nursing supports the primary health approach in South Africa hence the adoption of the concept Critical Care Nursing(CCN) rather than Intensive Care Nursing, the latter being the component of the former". Considering the five domains, to provide clarity of this study, it is clear that ICU nurses are assisting with extra tasks that require knowledge about managing actual costing. Domain 3 relates to quality of practice and domain 4 relates to management and leadership, providing additional clarity for this study. Quality of practice requires that Critical Care nurses (CCN) be well versed with the complete healthcare system and economic development. CCNs provide leadership in quality improvement activities; collaborate, implement, evaluate and update policies, procedures or guidelines that affect quality; design and innovate to effect change on the healthcare system on evidence-based outcomes by collecting data, analysing and formulating the evidence; ensure that audits are done of all records and interventions; document adverse events and recognise staff efforts; be involved in continuing education. Domain 4 relates to management and leadership, which involves cost-effectiveness, safety, efficiency, cost benefit analysis and consideration of fiscal and budgetary implications in decision-making as related to CCN practice, equipment and adverse events.

The Public Finance Management Act, No. 1 of 1999 (PFMA, National Treasury, 2010), dictates transparency, accountability, and sound management of the revenue, expenditure, assets and liabilities of the institutions. As the costing exercise using the UPFS charge sheet contributes to the revenue of the hospital, the PFMA (National Treasury, 2010) controls this process. The PFMA (National Treasury, 2010, p7) defines “fruitless and wasteful expenditure as expenditure that was made in vain and would have been avoided had reasonable care been exercised”, hence the effort to align practice, costing, resource allocation and departmental budgets. Nethathe et al (2017) findings reinforce the need to create an awareness of cost amongst healthcare professionals to improve wasteful expenditure and efficacy.

2.4 REASONS FOR INTENSIVE CARE UNIT COSTS RESEARCH

In the United States of America, daily ICU care, costs three to five times more than care provided in a general medical/surgical ward and is attributed to interventions, such as mechanical ventilation, and care costs being highest in the initial days of admission. Any intervention that results in a decrease in the length of time spent in the ICU would contribute significantly in reducing the hospitalisation costs (Dasta et al., 2005). From the researcher’s experience, the same would apply in South Africa.

Another reason why costing should be examined in South Africa is that ICU nurses are highly qualified and a limited resource. Intensive Care training is a post-registration qualification available to Registered Nurses as a diploma level (1 year) or university at a degree level (2 years). Intensive Care Nursing (ICN) is registered with the South African Nursing Council (SANC) as Critical Care Nursing-General, an additional qualification making ICNs clinical nurse specialists (CNSs). Intensive Care training is regulated by the SANC (Regulation 212), which prescribes the legal, ethical and professional responsibilities of postgraduate qualifications (De Beer et al, 2011).

An Intensive Care Unit is a specialist unit catering for critically ill patients and requires nurses with a high skill level in technology, varied knowledge base and

ability to make high-level decisions. These units are staffed by ICU trained and ICU experienced staff. Staffing of the ICU not only involves balancing the nurse to patient ratio, but also matching the patient's severity of illness with the competence of the nurse despite the prevalent shortage of ICU trained nurses in South Africa. (Matlakala and Botha, 2016).

Nethathe et al. (2017) advise that an awareness of costs in a resource limited environment would improve resource allocation and reduce wastage in terms of unnecessary tests being ordered or repeated.

Costing for services rendered on ICU patients adds to the challenges faced by ICU nurses. The shortage of trained ICU nurses can be attributed to the brain drain, inadequate salaries, limited career opportunities, poor nursing leadership, the poor public image of nursing, the huge workload due to insufficient staff, poor working conditions and lack of safety and security in the workplace (De Beer et al, 2011).

Ntlabezo et al (2004, p41) found that nurse managers "perceived their preparation to cost containment in provincial hospitals to be inadequate" and recommended that the training and orientation of nurse managers about cost containment issues could be improved. No specific studies have been done, yet in South Africa, about the practice and opinions of ICU nurses regarding the process of daily costing of healthcare services activity/treatment rendered. Hence, the need to explore the ICU nurses opinions to filling in the UPFS form, and identifying the barriers to the task of daily health-service activity-based costing in a central hospital in Gauteng.

2.5 FACTORS IMPEDING COST CONTAINMENT

2.5.1 Workload Issues

In an effort to decrease costs, hospitals are forced to find solutions. One such effort is to decrease the number of registered nurses and change staffing patterns. Vassar and Holzmann (2013) reports that this has a negative effect and increases the adverse events, such as nosocomial infections, pressure sores, medical errors and falls, and increases the length of stay in hospital ultimately increasing the

costs, resulting in further negative effects specifically on the health of the nurse and ability to provide quality care. This study also mentions that nurses' qualifications and years of experience are an efficiency indicator, adding to the notion that these skilled nurses full potential will be used resulting in higher quality care and positive outcomes being provided, thus influencing adverse events. Kisorio and Schmollgruber (2009) however advise that 25.6% of all nurses working in South African ICU's are ICU trained and are required to supervise nurses without the ICU qualification. Threats to quality patient outcomes include the lack of additional ICU qualification and increased supervision by the ICU qualified nurses to the unqualified nurses, which carries a risk that nurses are involved in activities not within their competency and that workload had to be quantified. Mercier and Naro (2014, p6) legitimise the fact that "Accurate patient-level costing is critical to improve efficiency and transparency in the hospital setting."

2.5.2 ICU Cost Drivers

Karabatsou et al. (2016) found that in Greece, during the economic recession, antibiotic and cardiovascular drug use, blood products, biochemistry and arterial blood gas costs were amongst the cost drivers in the study. However, total ICU cost was affected by length of stay, admission diagnosis, illness severity, mechanical ventilation and continuous haemodialysis. Karabatsou et al. (2016), also highlights that knowledge of the cost of what is prescribed is the only way to control expenses without limiting quality. McLaughlin et al (2009) study focuses on ICU cost and severity of illness scores and deduces that whilst individual patients data will be reliable and provide for comprehensive understanding of cost-drivers, prospective review of resource utilisation combined with medical notes, prescriptions and bedside checklists are labour-intensive, and costs increased due to expensive interventions.

2.5.3 Ethical Dilemmas

Gibson (2004) reflects that rationalising resources, due to 80% of the population being dependent on the state, can be demoralising because the outcome for the patient can be bad as a result of staff shortages, old equipment and permissions

needed for expensive tests. This was further complicated by decisions doctors and nurses had to make with regard to care rendered to specific patients, level of care and services that can be provided. Gibson (2004) also draws attention to the equality of healthcare versus the policies in place, and how the lack of availability of resources can affect decision-making. De Beer et al. (2011) also mention that standards of practice determining admission or exclusion criteria due to the shortage of ICU beds, increases the stress levels for nurses.

2.6 FACTORS FACILITATING COST CONTAINMENT

2.6.1 Teamwork

Nethathe et al. (2017) affirm that an awareness of healthcare costs amongst healthcare professionals may improve efficacy and reduce wasteful expenditure. This study also highlights that healthcare professionals are ideally situated to manage efficient use of resources and decrease health expenditure. The respondents for this study included house officers, registrars, specialists, clinical nurses and nursing assistants. According to the World Health Organization (WHO, 2009), teamwork is especially important for the positive effect on outcomes and patient safety, as the patient is looked after by many different professionals and that there is a correlation between the non-technical skill of teamwork and adverse events. The WHO (2009) reminds us that all hospital staff who is involved with patient care, whether directly or indirectly, forms part of the team. Wheelan, Burchill and Tilin (2003) reinforces the link between patient outcomes and teamwork and states that teamwork and collaboration between staff in an ICU are not only beneficial for the patient but would improve the work life quality of staff.

2.6.2 Process of Change

Hussain, Lei, Akram, Haider, Hussain and Ali (2016) highlight the importance of management knowledge and knowledge sharing to facilitate change within an organisation as a change agent. In order to move an organisation from one phase to another, and impact employee satisfaction and performance, the leadership style used by management should coordinate employees and allow decision-

making opportunities for employees whilst sharing knowledge. This study therefore emphasises the link between leadership style, leadership behaviour and employee involvement.

2.7 STRENGTHS AND WEAKNESSES OF LITERATURE REVIEWED ABOUT COSTING

The professional nurse, being a limited resource, spends the majority of their time with the patient compared to all the other healthcare professionals involved in the care, it therefore goes without saying that the professional nurse has to cost the majority of activities performed on the patient.

Is it wise, in the short term, to increase the workload of professional nurses when a cheaper category of staff could be introduced to support the professional nurse with admin duties, such as costing and stock replenishment, so that more effort could be directed to the patient without the distraction of timeout for these activities? No instruments for costing were found. With the imminent implementation of the NHI and the move of reimbursement methods from activity-based costing (ABC) to diagnostic-related grouping (DRG's), a costing system at this point is rather complicated.

None of the articles declared or examined who should actually be identifying the activities required for costing of services rendered in a hospital. Oseifuah (2014) states that inadequate human capacity, as a root cause for poor results, was identified in the 2010-11 Auditor General's report, but did not elaborate on training, which category of staff is responsible for identifying the cost driver activity, or when or how the costing should take place. Seidel et al (2006) identifies that clinicians need to allocate and utilise resources responsibly. It is however not a given that clinicians would actually cost the activity so that it may be billed to either the patient or an external funder of the patients care.

All articles refer to resource allocation and quality of care and the importance of costing for various reasons (Popesko, 2013). Oseifuah (2014) highlights the benefits of activity-based costing in the public sector. Naidoo et al (2013) advises

on the use of scientifically validated guidelines and protocols to control the use of the ICU environment and thus limit resource utilisation. Ntlabezo et al (2004) states the nurse manager's responsibility extends beyond budget allocation, staffing allocations, procurement and monitoring of financial resources in units. Unit costs are vital to efficiency and transparency in hospitals (Javid et al 2016); Nethathe et al (2017) agrees with this and further states that all healthcare professionals should be aware of costs.

2.8 SUMMARY

This chapter provided an overview of the need for costing and why costing should be done. Over 80% of the South African population is being serviced by the Public Sector. Due to escalating healthcare costs in the country, resources are limited and budgets have to be used properly. In order to plan and strategize, one needs to know exactly what is being used. The UPFS cost sheet allows the hospital to keep track of activity-based procedures so that usage per patient can be adequately tracked and the relevant patients billed according to whether they are subsided or not. Concept clarification was done on workload, ICU cost-drivers, ethical dilemmas, teamwork and process of change. Legislation was reviewed concerning nursing practice, public sector financial management. Data regarding healthcare workers knowledge about costing is minimal, and literature reveals that all healthcare professionals should be aware of costs to encourage appropriate use of resources. As to whose responsibility is it to actually cost on the UPFS charge sheet, nothing has been found in the reviewed literature. All researchers agree that costing and cost awareness is important, but literature on how to manage this exercise on a ward level at the bedside, in the Public sector, has not been found.

The next chapter outlines the research methods used in the study.

CHAPTER THREE

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

This chapter will provide an overview of the methodology by discussion of the research design, research methods, ethical considerations and measure of trustworthiness. An interpretivist paradigm (Thomas, 2013) will be utilised to discuss the methodology used and why it is being used to answer the research question.

3.2 RESEARCH DESIGN

According to Thomas (2013), the research design is the plan for the research and takes into consideration one's expectation and context. Consideration of what it is that one is trying to achieve, resource availability, participant accessibility, supportive expertise required, one's strengths and skills as a researcher and regulations that one has to follow, have to be examined. According to Cresswell and Poth (2018), research design is the entire process from conceptualisation to writing the narrative, inclusive of data collection, analysis and writing the report.

Cresswell and Poth (2018, p 18) define qualitative research as an "inquiry process that explores a social or human problem." The inquiry process is done by analysing words and building a total picture in the natural setting. Holloway and Wheeler (2010, p 3) state that the "basis of qualitative research lies in the interpretive approach to social reality and in the description of the lived experience of human beings."

An exploratory qualitative design was used to determine the opinions of the ICU nurses and in exploring any barriers to costing and completing the Uniform Patient Fee Schedule charge sheet. The researcher ensured that the common characteristic of qualitative research, as espoused by Cresswell and Poth (2018), was present. This included data that was collected in the natural setting, whilst

observing behaviour during the interview session and interviewing using open-ended questions, observation and interview data was made sense of and organised into categories or themes using inductive and deductive logic, themes developed reflect multiple perspectives of the participants in the study and was context/setting dependent. The themes included an emergent design, reflexivity and that the report was a holistic account. As descriptive studies, exploratory research also focuses on phenomenon of interest, but answers the question of what factors are influencing the phenomenon. This design was chosen so that the researcher could develop a deeper understanding of the phenomena that affected ICU nurses opinions and the barriers perceived to costing of care rendered.

3.3 RESEARCH METHODS

Thomas (2013) advises that a method is a systematic, considered way of doing something .Holloway and Wheeler (2010) advise that research interviews are set up by the interviewer to elicit information from the participants and that the purpose is the discovery of the informants feelings, perceptions and thoughts. According to Creswell and Poth (2018), these questions are open-ended, general and focused on understanding the central phenomenon. Thomas (2013) advises that semi-structured interviews combine the structure of a list of issues to be covered as well as the freedom to follow up points. See Appendix E for the semi-structured interview process. This process requires an interview schedule, which is an aid for remembering the important points to cover and, as Thomas (2013) reinforces, it is not a formal format to be followed in order during the interview process, just a reminder. The interview schedule is a “framework of issues leading to possible questions, leading to possible follow-up questions and leading to probes” (Thomas, 2013, p 198). The interview schedule is a guide from which you can deviate as appropriate.

The research questions stemmed from a wish to understand the opinions and barriers towards costing for healthcare by nurses in an ICU setting. Semi-structured interviews, with the aid of an interview schedule, were used to explore the opinions of the ICU nurses and in determining the barriers to costing and completing the UPFS charge sheet. Once all other formalities of the interview

process had been dealt with, including obtaining the demographic information and a rapport established with the participant, the opening question was as follows:

”Explain what you understand by “costing for the services” that the patient receives?”

See appendix F for the semi-structured interview guide and probes for follow up questions in order to elicit additional information with regards to nurses costing for services, barriers experienced with regards to costing and completion of UPFS cost sheets as well as what could be done to ease the process for nursing staff.

3.3.1 Population

According to Holloway and Wheeler (2010), the target population is the accessible population that has the appropriate knowledge and experience of the phenomenon that the researcher is seeking to explore and from which the sample will be chosen.

The population was chosen from five Intensive Care Units in a Central hospital in Gauteng. For the purpose of this research project, the population (ranging 96-105 registered nurses) was chosen from the ICU trained and ICU experienced nurses working within the multidisciplinary, trauma, cardio-thoracic, neurology and coronary care Intensive Care Units.

3.3.2 Sample and Sampling

Holloway and Wheeler (2010) define data saturation as sampling to informational redundancy and indicate that everything of importance to the agenda of the research project will emerge in the data and concepts obtained. Cresswell and Poth (2018) explain that it is the point at which the categories are saturated and the researcher no longer finds new information that adds to the understanding of the category. It is expected that the sample size will be a minimum of 15 to 20 interviews, although Cresswell and Poth (2018) recommends 20 to 60 interviews to fully develop or saturate the model.

Saturation was achieved in this project by using the constant comparative approach (Cresswell and Poth, 2018) where data received was compared with all other data received for “similarities and differences and to check for their fit with existing categories” (Holloway and Wheeler, 2010, p182). Cresswell and Poth (2018, p 316) simplifies the approach with “the researcher identifying incidents, events, and activities and constantly comparing them to an emerging category to develop and saturate the category”. A purposive sample of professional nursing staff was selected and interviewed, as determined by data saturation. Thus, as per Holloway and Wheeler (2010), saturation was reached when the process of coding and categorising stopped when no new information on a category could be found, the category has been described with all its properties, variations and processes and the links between categories firmly established. This was achieved after conducting twelve (n=12) interviews.

The inclusion criteria were:

- All Professional nurses registered with the South African Nursing Council.
- The professional nurses were trained (additional ICU qualification) or Experienced (minimum of 6 months working experience in an ICU).

Nurses working in other areas in the hospital were excluded. The exclusion criteria emanated from the fact that the costs in ICU units are highest and are the most expensive area for any hospital to maintain.

3.3.3 Data Collection

Data collection encompasses a “series of interrelated activities aimed at gathering good information to answer emerging research questions” (Cresswell and Poth, 2014, p148). The researcher was aware of possible ethical issues during the data collection stage and particular consideration was given to three principles guiding ethical research, “respect for persons, concern for welfare and justice” (Cresswell and Poth, 2018, p 151).

3.3.3.1 Instrument

Semi-structured interviews were the data collection instrument. The interview guide (appendix F), covering important discussion points, were developed by the researcher. The researcher, on an experienced researcher, did pre-testing prior to the interview. The guide aims to elicit and explore the ICU nurses opinion and to ensure that “similar types of data” (Holloway and Wheeler, 2010, p90) from all participants is collected. “An interview schedule would be used as a framework of issues, leading to possible questions, leading to possible follow-up questions, leading to probes” (Thomas, 2013, p198). Holloway and Wheeler (2010) advise that the question sequencing vary per interview depending on the responses given.

3.3.3.2 Procedure

The inclusion criteria was used to source a purposive sample of Registered nurses from the various ICU’s who would “best inform the researcher about the research problem under examination” (Cresswell and Poth, 2018, p148). The individuals were approached and informed about the study. The information letter (annexure A) and consent form to participate in study (annexure B) and consent form for recording of interview (annexure C) were given to the individuals. After an arranged period, the signed consent forms were collected from the positive responses. Contact numbers were collected to arrange a convenient time for the interview. Once permission was obtained, each participant was contacted to set up an interview in the unit at a convenient time. At the beginning of the interview, each participant was requested to fill in the demographic data sheet prior to the researcher conducting the in-depth semi-structured interviews. Consent was confirmed verbally for the interview and the recording. The semi-structured interview process (Annexure E) was recorded and transcribed. The data collection occurred between July and October 2018 and then again between and August October 2019.

3.3.4 Data Analysis

Analysis of data was done using the Six Phases of Thematic Analysis as a recursive process to identify patterns in the data, as suggested by Clarke and Braun (2013). Once the interview was transcribed, the process began. **Figure 3.1** provides a graphical presentation of this process.

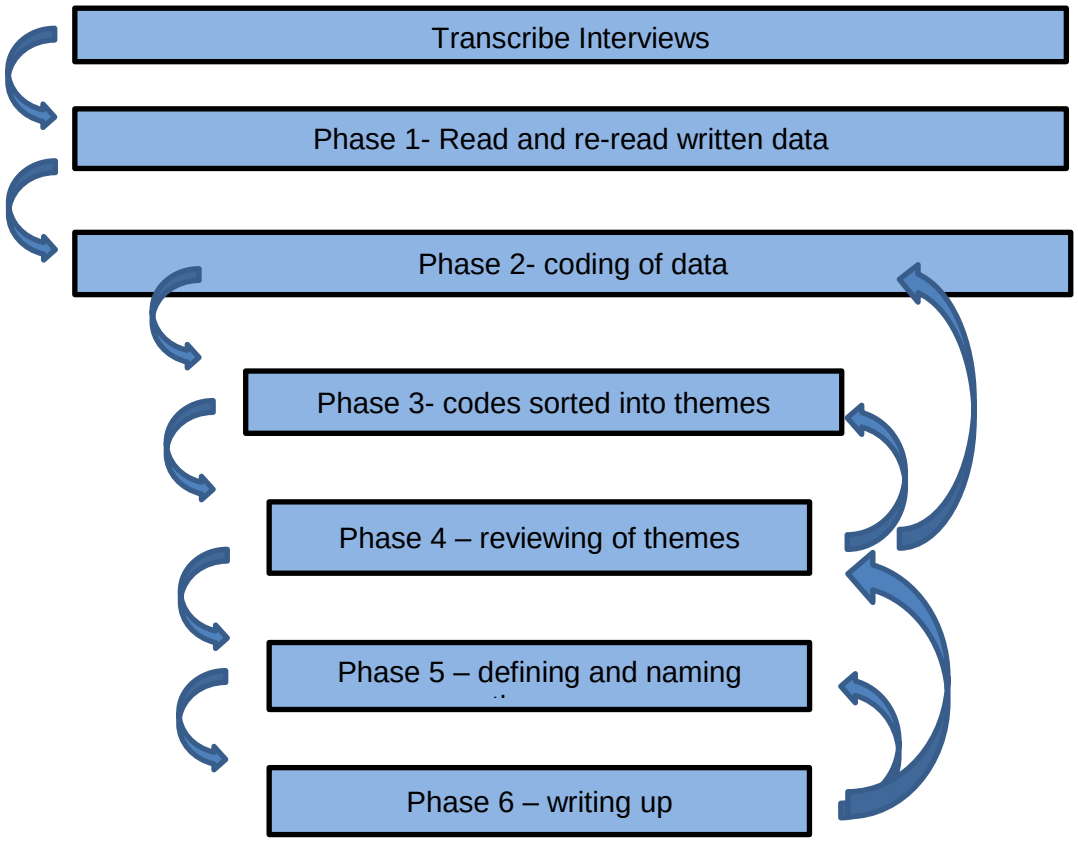


Figure 3.1: Six Phases of Thematic Analysis as per Clarke and Braun (2013).

Phase 1 – Familiarisation with data – read and re-read the written data including listening to the recorded data at least once.

After every interview that was conducted, the researcher transcribed the interview verbatim and became familiar with the data, ensuring an attempt to exclude the researcher's personal experiences and focus was given to the participant (Cresswell and Poth, 2018).

Phase 2 - Coding of the data in the transcripts systematically using labels. The codes will be continually refined.

The constant comparative method (Thomas, 2013) was used with each interview. The researcher read the transcript, and important, significant data was highlighted and listed using the interview questions as a guideline (Clarke and Braun, 2013).

Phase 3 – Searching for themes - The codes were sorted into themes and the common themes identified. A theme being defined, as a “coherent and meaningful pattern” (Clarke and Braun, 2013, pp 120-123) in the data.

Once the significant data was compiled, the researcher sifted through the information, following Clark and Braun’s phases, “Searching for themes is a bit like coding your codes to identify similarity in the data,” and the active process of searching for grouping and themes began, thus removing repetition from the data (Cresswell and Poth, 2018, p 201).

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Phase 4 – Reviewing themes – checking that the themes work in relation to the data extract, as well as the full data set. Continuous interaction and referring back to transcripts was done until the researcher was satisfied that the themes and codes are a full reflection of the interviews.

The researcher reviewed the themes to assess whether they were a true reflection of what was communicated in the interviews, referring back to the data extract and the transcripts. The themes were defined in terms of the nature of the theme and the relationship, and then refined. A description of “what” the participants experienced was captured with verbatim quotations (Cresswell and Poth, 2018).

Phase 5 – Defining and naming themes – In this phase the researcher has to write a detailed analysis of each theme whilst identifying the core of the theme and naming it.

The researcher wrote a detailed analysis of each theme whilst reviewing the core of the theme and “how” it occurred and then named it. The horizontal and vertical analysis was important in this phase.

Phase 6 – Writing up - providing a written representation of the interview using the analysis of themes and coded data to answer the research questions.

In this phase, the researcher, using the themes, composed a description of the phenomenon (Cresswell and Poth, 2018) whilst contextualising it in the literature.

3.4 ETHICAL CONSIDERATIONS

According to Burns and Grove (2009), ethics is the branch of philosophy that deals with morality, and research conduct is guided by principles based on ethical theories. The Singapore Declaration of 22 September 2010, as related to integrity in research globally, is underpinned by four principles, i.e. honesty in all aspects of research, accountability in the conduct of research, professional courtesy and fairness in working with others and good stewardship of research on behalf of others (Burns and Grove, 2009).

Ethical considerations are discussed under the following headings.

3.4.1 Permission to conduct the study

The University of the Witwatersrand’s ethical considerations have to be followed and adhered to as per the Singapore Declaration (22 September 2010). Ethical clearance was obtained from the University of the Witwatersrand. Permission was obtained from the University of the Witwatersrand Post-graduate Committee, from the National Department of Health, the Gauteng Department of Health and the Charlotte Maxeke Johannesburg Academic Hospital.

3.4.2 Informed Consent

According to Thomas (2013), consent is the agreement of people to take part in the study. To prevent harm to people during research, informed consent is required and revolves around the participants understanding what they are agreeing to. This is a requirement of the Helsinki Declaration (1989), as developed from the Nuremberg Code, and Burns and Grove (2009) outline four elements that constitute informed consent, i.e. disclosure of essential information, comprehension, competency and voluntarism. In this study, an information sheet was drafted and consents to record the semi-structured interview and voluntary participation in the study was given to participants to read and sign.

3.4.3 Confidentiality

Burns and Grove (2009) advise that prospective participants must be given a statement advising about the extent of the confidentiality. Participants were reassured and aware that their identification with regard to responses and information shared within the study would not be divulged. In this study, this statement was declared in the information sheet that was given to the prospective participants as well as in the participation consent form.

3.4.4 Anonymity

Anonymity is vital and can be achieved by changing participant's names as well the institution names, and is key to storage of data, daily conversations and reporting (Thomas, 2013). In this study, all participants' received a coded identification and the facility at which the study was conducted was not identified.

3.4.5 Storage of data

As per the University of the Witwatersrand policy, the data will be stored for 5 years following the close of the study. Data transcripts will be kept safe, and, according to Thomas (2013), passwords are required on files with pre-anonymised names on computers with data information. There will be no sharing of any data.

3.5 MEASURES OF TRUSTWORTHINESS

The measures of trustworthiness, was established using Lincoln and Guba's (1985) series of techniques. This was supported by Shenton (2004), who advocated strategies for achieving this.

- **Credibility**

Defined as the confidence in the truth of the findings. This was established by ensuring triangulation, peer debriefing and member checking.

The researcher ensured that triangulation was achieved by corroborating information between the participants and that there was site triangulation between the units. Peer debriefing was ensured by frequent debriefing sessions between the researcher and supervisors, to look for ideas, interpretation and to identify researcher bias and preferences, and be able to deal with such immediately. This process was vital, as the researcher, the instrument of data collection and analysis, is a Professional Nurse working in Case Management. Feedback sessions after peer scrutiny were welcomed as this allowed methods to be refined and to achieve a deeper understanding and greater explanations to strengthen arguments and insights. An interview schedule was developed and followed. To ensure correct information from participants, the researcher made use of iterative questions by probing, rephrasing questions and seeking clarity. Participants were ensured of confidentiality and that they could withdraw from participation at any point. Accuracy of transcribing interviews was vital and checked by supervisors.

- **Transferability**

Refers to the findings having applicability in other contexts. A thick description can be established by providing recorded and written versions of the semi-structured interview.

The researcher ensured that adequate information about the fieldwork sites was available. Transcripts of the interviews were available and a balanced thick description of the interviews was provided. The researcher ensured that a comparison between the differences of a general ward and an Intensive Care location as well as that of a central hospital versus any other level of hospital was clear. As far as possible, variations identified were examined and explained.

- **Dependability**

This refers to consistency and repeatability. It can be established by preventing experimenter-expectancy effects by performing an inquiry audit.

The researcher ensured that this was achieved by providing the research design and its implementation steps as well as the operational detail of data gathering. A reflective appraisal of the project was done with the supervisor to ensure the effectiveness of the inquiry process.

- **Confirmability**

Refers to the degree to which the findings are determined by the respondents and not the researchers' bias, or interest. This can be established by providing an audit trial. Coding should also be conducted by one other person, and to ensure inter-coder reliability, a confirmability audit as well as triangulation should be established.

This was achieved by ensuring that an audit trail existed whereby the researcher recorded the interview, transcribed the interviews, analysed, coded and established themes. Copies of all data was kept safely, whether verbal or written, as part of the audit trail. Confirmability was also achieved by declaring the researcher's beliefs and assumptions.

3.6 SUMMARY

This chapter provided an overview of the methodology by discussion of the research design, research methods, ethical considerations and measures of trustworthiness. The next chapter presents the findings of the study.

CHAPTER FOUR

FINDINGS OF THE STUDY

4.1 INTRODUCTION

This study aimed to explore what the opinions of ICU nurses were regarding the current daily costing of healthcare for patients in ICU. This was to be answered by two research questions:

- What are the opinions of Intensive Care nurses regarding the implemented daily activity-based costing procedure?
- What are the barriers to costing and completing the Uniform Patient Fee Schedule charge sheet in a central hospital in Gauteng?

This chapter begins by describing the demographic profile of the participants, themes emerging from the interviews and a summary of the main findings.

4.2 RESEARCH PARTICIPANTS

Twelve semi-structured interviews were conducted. Seven interviews were on senior and highly experienced nurses and five interviews were conducted on lesser senior or junior staff in a central hospital in Gauteng. The participants were registered with the South African Nursing Council and were chosen from the Acute and Intensive Care areas. The professional nurses were either educated (additional ICU qualification) and / or experienced (minimum of 6 months working experience in an ICU) in intensive care nursing.

4.3 DEMOGRAPHIC PROFILE OF PARTICIPANTS

All participants (N=12) practiced in an ICU. Seven participants held senior positions comprising of shift leaders and unit managers and five participants were junior staff. The combined total work experience in an ICU, ranged between 32 to 120 years between the group. The majority (n= 5) of participants fell in the age category of 51 to 60 years. The eldest participant was between the ages of 61 to

65 and the youngest between 25 and 30 years. Four participants (n=4) had worked in an ICU for greater than 15 years and had a combined work experience of over 60 years. The majority of participants (n = 7) had either one or more additional qualifications registered with the South African Nursing Council (SANC).

Table 4.1 Qualifications and experience of ICU nurses

Qualification	Number of Participants	ICU Qualification	Additional Qualification	Number of years' experience in ICU				
				>15	11-15	6-10	1-5	No answer
Diploma in ICU	4	yes		2	1	1		
Critical care nursing	3	yes		1		1	1	
ICU Experienced only	5	No	0	1		1	2	1
Nephrology			1					
Education and Administration			2					
B.Cur			2					
Total	12		5	4	1	3	3	1

4.4 THEMES EMERGING FROM THE INTERVIEWS

The data collected was organised and emergent ideas were formulated through initial reading and coding to provide an audit trail. Patterns were identified and described in a story form (Cresswell and Poth, 2018). Themes emerged through a process of analysis using "the horizontal and vertical passes" (Holloway and Wheeler, 2010, p285) of the data. The horizontal pass involves reading and re-reading looking for evidence to support the theme. The vertical pass concentrates on insights (Holloway and Wheeler, 2010). Whilst the horizontal pass provides a much more in-depth analyses, both are useful strategies for analysing. Systematic and rigorous analysis was achieved through coding, grouping, as well as relating the information. This process was validated and checked by the supervisor.

The overarching three main themes that were identified was understanding of costing, factors that influence costing negatively and lastly facilitators of costing.

All participants had given quite a bit of thought to the costing process, whose responsibility it should be and its value, especially in an Intensive Care Unit. It was agreed that nurses should be costing, as it is an important activity in a hospital, and even more so in an Intensive Care Unit, for many reasons involving the expensive resources utilised, including human capital. Human capital, as an expensive resource, creates a dichotomy with the workload and value of the nurse in an ICU. Ethical dilemmas have been raised and the participants have found themselves challenged and frustrated with possible solutions.

With reference to the definition of an intensive care unit, everything that happens in this unit is related to critically ill patients. The expectation of a nurse in this unit is a nurse with high technology skills for monitoring, interpreting and rendering care and treatment to patients with life threatening conditions. The patient becomes the priority and should this priority care be compromised with additional administrative work? Participants, in senior positions, have strong opinions about work load, quality patient outcomes and costing, yet are prepared to compromise knowing full well the challenges that are being faced in healthcare and in Intensive Care nursing.

Costing process standardisation has featured quite prominently as one of the solutions. Achieving this entails change management to be applied to person (staff attitude), collection document (UPFS charge sheet), the total patient journey within the hospital (from admission to discharge) as well as the charge sheet journey to the billing department and giving the patient a bill as soon as possible.

Once this is achieved and implemented, the control and monitoring quality phase will commence. Sustainable actions, supporting corrective thinking, utilising training, resource utilisation monitoring, will result in quality patient outcomes and revenue generation.

Table 4.2 Themes and sub-themes from the semi-structured interviews with ICU nurses

Theme	Sub-theme
4.4.1 Understanding of costing	4.4.1.1 Reasons for costing
	4.4.1.2 Feelings associated with costing
	4.4.1.3 Teamwork
4.4.2 Factors that influence costing negatively	4.4.2.1 Ethical dilemma
	4.4.2.2 Workload issues
	4.4.2.3 Continuity of care
	4.4.2.4 Consultation
	4.4.2.5 Lack of support
	4.4.2.6 Appropriate use of resources
4.4.3 Facilitators of costing	4.4.3.1 Role clarity and responsibility
	4.4.3.2 Costing process
	4.4.3.3 Review of document
	4.4.3.4 System review

4.4.1 Theme 1: Understanding of Costing

Costing refers to the act of identifying a billable activity used on the patient and marking it on the “cost sheet.” This cost sheet will then go to the billing department, where the marked activities will be billed to the patients account. This two-step act is important for budget management as well as resource management and allocation in order to provide a service in the unit.

4.4.1.1 Sub-theme: Reasons for costing

All participants had a good understanding of what costing entailed and why costing should be done. The same thread of basic business knowledge principles was evident from all participants, providing credence to the senior roles and years of experience in Intensive Care nursing, as evidenced by the following comments.

"Costing is whatever we do to the patient, we charge them. …..As in any other business you cost so that you would know how much … you are spending one individual and how much should you charge for the ….service in the future."

Participant 2

"You need to be able to charge for everything that you use… disposables, your various consults that come through, … dietician, physio, OT,… They should all be charging for their services, … we are in a level three and get a lot of free patients…. but you still have to cost to see what the overall cost per patient per day would be regardless if they are pensioners or not."

Participant 6

"Costing is billing the patient for the services. Meaning that we charge the patient."

Participant 11

4.4.1.2 Sub theme: Feelings associated with costing

Feeling is defined by the Oxford Dictionary (2006, p325) as the "capacity to feel, a physical sensation and emotional reaction." Feelings associated with costing were described by many nurses quite easily and were either positive or negative in nature.

Positive feelings were verbalised in these comments.

"Feel that it is essential to cost"

Participant 1

"… nurses should be managing the costing because after all it is the nurse that is indirectly spending the money…."

Participant 5

Some nurses have embraced the process of costing and have demonstrated deeper knowledge or insight about nurses costing. Participants shared these comments:-

> *"…there are those that cannot afford to pay …there are those that can afford it but it is essential for us to cost."*
>
> Participant 1

However, negative feelings about costing were verbalised in these comments.

> *"… but it is a lot. Supervising and ensuring that patient care is taken care of plus costing and doing all of these things. Draining…"*
>
> Participant 4

> *"no time for that as we deal with unstable patients in ICU. Unit manager reinforces charges but….(shrugs shoulders). Too many papers to fill in. Dependent on condition of patient. "*
>
> Participant 9

Wastage/unaccounted resources, as commented on by this participant.

> *"You are not doing anybody a favour …, by not charging appropriately, management can't budget and if they can't budget or put in an appropriate budget they will never get the funds to pay for the stuff and that is partly why hospitals run in this huge deficit all the time because the company that you bought it from wants his money but we haven't accounted for what we have spent. …. Even if the money was coming from a charity somewhere, you still have to be able to say this is what we have consumed…."*
>
> Participant 5

Another participant commented on the amount of work that was overwhelming for the participants.

> *"So I know it will be too much work for us but unfortunately we need to ensure that the institution does not lose."*

Participant 3

"ICU much busier than the ward"

Participant 11

Some nurses were frustrated with the process of costing as they felt they were not consulted about anything, i.e. the process, who should be costing as well as the document used. This is evidenced by the fact that there was no consistency in the costing process and the following comment demonstrates this:-

"… we started that one, we were having issues, nurses, were not understanding how we charge for the blood that we take…. We saw that was not accurate because nurses would charge some things and not other things. So, they were missed. So, it was a frustrating exercise. "

Participant 2

"The forms are difficult to fill in. Don't always understand the forms. "

Participant 11

One participant criticised the costing process and this comment was in contrast to other insights and possibly vital for the National Health Insurance and Universal healthcare coverage:-

"We treat people mostly….who are not working, who are not employed. ….it's a useless, futile exercise to do on patients like that."

Participant 2

The costing sheet or collection document was also criticised. This is what was said:

"…form I don't think….we do it daily. It should be done with every resource that you use for this particular patient."

Participant 3

"If you look at the form, you have a part for the doctor, … for allied services, a part for the phlebotomist. But now, the nurse is running after the phlebotomist saying what bloods have been taken, running after the physio

to say what exactly did you do with the patient? It is time-wasting and does not give you the results that you are looking for"

Participant 7

"*The form is also not user-friendly."*

Participant 10

4.4.1.3 Sub-theme: Teamwork

Participants felt the process of costing should be shared amongst all the professionals who render a service to the patient in the hospital. It is everybody's responsibility to ensure the wellness of the patient, yet in contrast, it is only the nurse's responsibility to ensure that resource usage is accounted for. It is mandated, according to Addendum 3 of Circular minute no 81 of 2007 (Gauteng Department of Health, 2007) for Gauteng Province that all professionals cost on the UPFS cost sheet when providing an activity-based procedure to the patient, however it would appear that nurses are solely responsible for this.

The multidisciplinary team is responsible for ensuring quality patient outcomes yet the same team is not responsible or accountable for resource usage that ensures this outcome; the nurses are solely responsible for this. These comments were made:

"Although the doctor should take some of the responsibility as they are the ones that are doing things that we don't always see. They don't so we have to thumb suck. The dietician, physio and OT don't do anything, becomes the nurse's problem.

Participant 6

Some of the participants were content to take responsibility for their own portion of the resource usage workload.

"The nurse did it. Nurse to charge for it. Not everybody else's stuff."

Participant 6

4.4.2 Theme 2: Factors that Influence Costing Negatively

As already established nurses working in ICU are specialists and a high-costing resource. This skill is in short supply in the country. The equipment, technology, drugs, are all requiring this specialist skill, yet we have highly skilled nurses managing the costing, redirecting time and energy and focus away from the patient who requires intensive care and is admitted to the Intensive Care Unit for specific reasons and specialist care. The doctor who oversees the ICU is also a specialist.

Nurses costing for the services rendered in an ICU have yielded various opinions and feelings from additional work, quality patient care, loss of stock to accuracy of the costing, as well as the fact the units are dependent on the nurse's presence 24 hours a day and therefore costing should be managed by the nurses.

4.4.2.1 Sub-theme: Ethical dilemma

The act of "Costing" in the public sector generates a moral and ethical dilemma for some nurses, specifically relating to "Free healthcare" as a Right in the Public Sector, which services the majority of South Africans where affordability is an issue. Nurses feel torn between the costing and providing the care to the patient.

> *"…it's essential for us to cost, coz patients are not the same, there are those that cannot afford to pay for the service, though there are those that can afford it but it is essential for us to cost."*
>
> Participant 1
>
> *"The patient is the priority especially when we have more than one patient to look after. "*
>
> *Participant 12*

The next comments highlight the ethical and moral dilemmas that participants experience due to costing versus patient care. The Oxford Dictionary (2006) defines ethics as a set of moral principles and morals is defined as concerned with goodness or badness of human character or behaviour.

"*Busy ward. Patient's condition in ICU and the fact remains that the patient comes first. "*

Participant 10

Not all nurses are honest about costing correctly. This was the comment made:

"So most they just think, "O if I just tick people will be happy to see a form that is ticked." Not understanding the importance of why are you doing this. This can have an influence in the cost effective treatment. But if you don't have that knowledge, that information then you will just do it."

Participant 3

Participants are torn between patient care and costing, and the best time to cost so that nothing is missed and all resources are accounted for. This is what the participant said:

"What I can say, we do it daily… So somehow, I feel it is not a good costing sheet. It is not meeting the needs of the hospital because the aim is to save money but give quality care."

Participant 3

"I try to do it after the patient is settled. "

Participant 11

The participants, in senior roles within their respective units, have an additional responsibility of supervising the staff as well ensuring quality patient outcomes. The administrative work, done to support the ICU units by ensuring it is a well-functioning, well-stocked unit able to cater for any type of emergency, patient and staff safety as well as research, is a full time job. This highly skilled, senior person is now supervising and checking to see if the costing has been done.

"Supervising as well as seeing that the patient care is taken care of besides doing costing and doing all of these things"

Participant 4

"The unit manager is not always around to assist with costing issues. Sometimes especially when unit gets busy and then I forget to ask."

Participant 12

One participant was opposed to nurses feeling conflicted.

"*So some nurses are conflicted …billing for the services rendered versus the time and the care that they have to render to the patient. I think that there is possibly a sign of immaturity because we all know that whatever we have, whatever we get, somebody has paid for it."*

Participant 5

One participant verbalised the bizarre dichotomy of the entire situation in these words. Nurses feel that they should be costing because they are present 24/7 but at the same time feel overloaded with work.

"Nurses feel that it's not their duty."

Participant 3

4.4.2.2 Sub-theme: Workload issues

Workload in an Intensive Care Unit is not comparable with that of a general ward.

This is what this participant said:

"Time constraints are huge because of staff shortages when you are trying to do four peoples' jobs at once."

Participant 7

"Nurses are too busy. We do it because it is dumped on the nurses. We require assistance."

Participant 11

In direct contrast to costing being the nurse's responsibility, one participant firmly stated it is the responsibility of the multidisciplinary team.

"No, It is not the nurses' responsibility. ICU not. The nurses whatever they have used and whatever they are carrying out there, they must charge for that but they can't charge for their services because they get a salary. So, if

they are doing a dressing or intubate, or whatever, they must charge for what disposables they have used. Physio must charge for theirs, that one must charge for theirs."

Participant 6

Two participants comment on the rationale of nurses performing the costing function.

"…that it is another job for the nurse to do and she is already busy."

Participant 5

"They feel its extra job for them."

Participant 3

"Too much work. Unit is busy. We do it but not always. Depends on the patient's condition."

Participant 10

Workload, disinterest, forgetfulness, patient care, time, nurses' attitude, fraud, management interest and keeping the focus on costing, staff morale all prevent/stop ICU nurses from filling in the UPFS charge sheet.

"…because of the amount of work, it's not everything that is costed."

"… Though you cost but you don't cost everything then you remember when you are at home that this and that happened. And I didn't cost."

"you have to write that down. So it's a lot of work to do."

Participant 1

"We do it … Not always perfect."

Participant 12

Not all nurses were managing the costing in a similar manner due to the busyness of the units and hence the workload. ICU costing is much greater than that of general wards. The resources and technology required to manage a patient requiring intensive care must match the seriousness of the condition.

"…, because our patients are critical. You will find that they resuscitate the patient and one, two, three, then another one starts and they forget to fill up all those forms due to the busyness of the unit…. In ICUs, there are a lot of activities. …They are too busy to be concentrating on one form and doing all those things."

Participant 4

Low staff moral due to workload issues is ongoing. Staff is overwhelmed, as not all professionals have to do the costing. Participants have verbalised that they have to compromise with staff in order to ensure that some of the costing is done.

"…the nursing staff have been piled in with so many things that they have to do. …You have to do this and papers, papers, books, books and then somewhere we will chuck in a patient. … I said to them, you don't need to do more paperwork. We will check it … and we will go through it. … a lot of things are missed. The doctors refuse to do it. They say it's not their job. The clerk refuses to do it, it's not her job. Why make it the nursing staffs' job?"

Participant 6

The patient's condition and severity thereof drives the tempo of the day. The patient is the priority and other "unnecessary" work is left aside. This is what one participant had to say.

"Your patient can keep you busy and when you go back and you say let me just do the costing…..you will miss something on the case."
"Sometimes you become too busy. Busy that you will even forget how many of whatever you have used. Because the priority is the patient."

Participant 2

"We do observations on our patients every 15 minutes. Lots of procedures to do. Filling UPFS form on admission day is hectic. Not easy to do it especially depending on the patient's condition."

Participant 8

Role specificity is vital to patient wellness. Yet, participants have stated that they are kept busy with other tasks and not that for which they are employed. This is what was said:

> *"But I am not here to cost; I am here for my patient since I know exactly, exactly why I am here."*
>
> Participant 6

The workload is evidenced by the following comment:

> *"It is an additional job… there are too many activities, sometimes one ends up not being able to cost everything but I still feel it is important for us to do it."*
>
> Participant 1
>
> *"…workload is too great especially if you have a resus".*
>
> Participant 12

A conundrum is demonstrated by the fact that these highly skilled, in demand, specialist nurses are overloaded with patient-centred work yet the participants have verbalised that nurses should be responsible for the costing of resources merely because they are always present.

> *"Nurses should be costing because they are the ones using it. Nurses are there 24 hours next to the patient."*
>
> Participant 4

4.4.2.3 Sub-theme: Continuity of Care

Nurses are supposed to provide continuity in the ward by being present 24 hours a day, yet, according to one participant a lot of time is spent chasing after the multidisciplinary team to ensure that resources used are accurately captured. Lack of teamwork to ensure continuity of patient care.

> "*I don't think that it is very accurate. … the wrong people are costing. The costing sheets are being done by nursing staff … we cost for the*

dietician,… for the Doctor, … for the phlebotomist. We haven't done those procedures so we are not even sure that they were done. We are just taking it from the Doctor's notes. A waste of time. Do you understand our frustration when we having to run after Doctors and do it for them."

Participant 7

Nurses are tired of being overworked and are questioning the roles and responsibilities of the multidisciplinary team. Is this the emergence of Modern day nursing management?

"It is a multidisciplinary team approach to patient care that we are using, so why is the multidisciplinary team not doing their part?"

Participant 7

"Each part of the multidisciplinary team is unaware and… it's the nurse running after the person…. If it's somebody new, because they standing in. You start all over again."

Participant 7

Nurses were prepared to be an accountable member of the multidisciplinary team. This comment provides credence:

"They can oversee it and be there for teaching purposes because they are always in the unit. The doctors rotate through the unit, the physio rotate through the unit. They shouldn't be told, here is the form, and you do everything…. it's not done properly. So they can't charge properly either. Multidisciplinary team approach to costing and use of resources."

Participant 7

Nurses felt overwhelmed with the amount of work they have to do. The decrease in the professional pool, the volume of patients seen, in the Public sector, dwindling resources and the increase in litigation due to an increase in adverse events. This is what was said:

"I feel good but it's actually a lot for me to be honest because now I have to be on the bedside."

Participant 4

One participant felt certain areas within hospitals were more vulnerable than other areas and were contributing adversely to the costing and continuity of care issue; care was provided to the patients but no costing was done. One such area was casualty due to the trauma cases that are normally admitted.

"No referral system, we just take in everybody. The collecting of money especially when they come in through casualty. … the elective admissions are slightly different because we send them and then it's up to them to get the money. But casualty doesn't even try to collect."

Participant 6

Continuity of care should include all areas and this applies to costing. Services are provided in all areas from the time the patient walks in until discharge. So, should the costing happen? As you go through the billed activity-based procedures, one should be able to recount the patients' steps. This is what was said in ICU:

"…costing … it should be starting in theatre… for continuation, we check from the theatre staff, do you have your costing sheet."

Participant 3

"Not all patients' files have the form in it. Do we assume that nothing was costed and charge for everything that we can see or is in the notes? "

Participant 9

4.4.2.4. Sub-theme: Consultation

Opinions varied on why the responsibility currently lies with the nurses. The opinions ranged from not knowing, total patient care and rules being applied without consultation to the amount of time spent with the patient. The following comments were made:

"Because in ICU, we nurse one to one. One nurse, one patient."

Participant 1

One participant felt nurses were being taken for granted and abused compared to the other disciplines.

"It's unfortunate for nurses, because they are always doing the menial jobs that are … to be done by other personnel are dumped onto the nurses. I don't know, is it because the nurses are always there…. I don't know why they say a nurse should be the one that is costing?"

Participant 2

"Audits of costing under nursing practice forces the nurses to take responsibility for costing."

Participant 7

"Costing is thrown onto the nurses."

Participant 9

Another participant was concerned whether the hard work regarding costing was taken seriously or even appreciated.

"We cost on the UPFS form and leave it in the file. How do we know whether this is billed or not?"

Participant 8

"Are they safe in that file or somewhere when we take these files to records are they keeping them safe or what? So, it was just paper work, paper work. This one is full. Then we must get another one."

Participant 3

Due to lack of consultation, misperceptions are created, which in turn creates more problems downstream. This is what was said:

"To be honest, since I thought that we have abandoned, nobody has done follow-up to see why we are not doing it. I thought that maybe this was not serious. That it was just an exercise to see if they start this how it will work.

I saw as maybe the institution was just…experimenting …we are coming to the units. Why are you not doing this? You know how important it is."

Participant 2

No consultation or discussion, just an instruction and the perception everyone would obey. One can understand why the nurses were reluctant because they felt the costing was forced upon them. This is what was said:

"They haven't told the nurses why they are doing it… it is important because you cannot be three things…. They give you something, force on you, slowly until you get used to it. Unfortunate part of working in public….Reluctantly but will do it. We don't change the heart, they change whatever they want. They don't investigate why the reasons behind non-compliance. They want what they want. So they force it on the people. Unfortunately this is how it works in hospitals, force things force things."

Participant 2

Some nurses felt it should not be the responsibility of the nurses; quality patient outcomes should be the focus of the nurse. Nurses were not consulted. A decision was made just because the nurse is present and the perception is that she is available. This is what was said:

"It shouldn't be the nurse's responsibility. If we take a bone marrow needle or LP needle or something, we will record that we have taken that item …to make money, you have to spend money… had a form of a scanning system… Patient focus, patient outcomes, quality patient outcomes is the focus for the nurse."

Participant 6

This participant shared this sentiment:

"…it should not be the nurses responsibility…The nurse is not only dealing with the costing, the whole lot of things in ICU. Patients decide. It is an added task on the nurses who are already overwhelmed with so much to do."

Participant 2

The business dictionary (2019) defines a system as being specific activities designed to carry out methods, procedures and routines to perform a duty and solve a problem. This has to be reviewed. Some participants felt the barriers stemmed from an attitude towards the costing. These are the comments:

> *"The true reason I don't have, we were never told…., this is what we are supposed to do, you are going to do it. But I there is a whole lot of resistance …. very few people you find them costing."*
>
> Participant 2

> *"…Costing has been sold in a negative way, so there is already a barrier to wanting to do it. Nurses are of the opinion that their job is to care and not charge the patient. The accounts department, billing department should be doing it."*
>
> Participant 4

4.4.2.5. Sub-theme: Lack of support

An unjustified expectation is created of the nurse. She is not supported or trained, yet expected to do the costing efficiently.

> *"…Nurses are not trained in terms of costing and we get them onto the wards whether they are older nurses or newer nurses and we expect them to manage costing and to have the insight that is required."*
>
> Participant 7

Participants felt unsupported, whether from management or from the case managers. This is what was said.

> *"No support from case managers but we know that med aid patients must verify and get auth number. Patients don't declare their medical aid."*
>
> Participant 6

Nurses valued their contribution to healthcare, patient care and resource usage. This is evidence of modern day nursing management and a post-graduate qualification in Administration.

> *"People don't understand how important they are, especially us nurses because we are at the bedside. We are giving that high quality that goes together. It must be linked with cost and saving."*
>
> Participant 3

With a combined minimum experience of 72 years, all the interviewed participants had given some thought to this issue of costing. The participants had been battling with this challenge and had thought about the possible solutions. However, a sense of hopelessness was communicated and experienced from various participants during the interviews:

> *"So what you can do, as a nurse, if I am busy with something?"*
>
> Participant 3
>
> *"… everything is dumped on nurses. … patient fell outside on the streets …it's the nurses' fault. If the patient hits me in the face, it's my fault. …whatever goes wrong, within the health department, because nursing is the biggest compliment other than the administration. Other than management, we don't actually know what is happening on the floor. It must be the nurses did something wrong.* "
>
> Participant 6

> *"Treatment to the foreigners - South Africans can't get free treatment anywhere else in the world, yet we treat everyone even though they are supposed to pay. If they plead poverty, they get treated for free. Then central finance department cry poverty. Not my job to carry this out. Should be hospital admin and finance."*
>
> Participant 6

The same number of respondents had spoken to management as those who had not discussed their ideas or challenges with management. The perceived apathy appears to be drawn from management and the lack of support. These comments were forthcoming:

> *"So you are not going to have support from management. You can't keep nagging. Well put it in the file, it will be used sometime. I mean that's where it has got to and they won't listen to us asking can we please work as a team."*
>
> Participant 7

Participants also verbalised that additional support in terms of others roles in the hospital was required and vital to patient care. If these were not available, the nurse steps in, as she is concerned about the patient. This is what was said:

> *"We don't have a porter, so we have to push them where ever they going and the runner and the cleaner and the dish washer. That's what I say, if everybody does their part here then maybe we will be more effective."*
>
> Participant 7

Nurses also cited management related issues with regard to costing, including the lack of support from management. Other units did not follow processes and rules with any consequences being applied, as evidenced by these comments:

> *"Where does that costing sheet go when it leaves me? Is it actually followed up … because nobody has ever called to say that your costing sheet is blank. … it should be put to one side and somebody should be collecting them from … Finance in the hospital to cost them. What happens if these patients come, …some paying clients,…. We give them a bill and say to them you owe so much money and they pay it off and the next thing somebody is going to say you owe and they going to ask where it comes from. X-rays …, sonar is delayed. They are not doing their part to put it on the patient's name… the foreigners and the visitors from the other province."*

Participant 6

"… we wanted our interns to do the part with the blood results because they are the ones that are actually "phlebing" the patient and they went to Prof. … he said that you are not a statistician. You don't do stats so you will not fill in the form. Now that is your head doctor …, saying sorry, you are not going to do it. So it's coming from the top where the problems, which then causes problems at the base. It's management. We still are waiting for feedback from management. So you know you hit your head on the wall often enough, you stop hitting it and that's why people stop doing it because we are not getting anywhere."

Participant 7

Staff morale is low when it comes to costing. This requires a lot of supervision and follow-up from the senior person in the ICU.

"Nurses reluctance to fill in the UPFS form – must follow them and check up on them. Before I knock off I do a check and correlation to see if resources used on patient is costed, i.e. CVP line."

Participant 4

"…ensure by the end before I knock off, make sure that those forms are completed ne, but then sometimes it does not work like that. With this and all the meetings that we attend …"

Participant 3

Other nurses believed the disinterest in the costing was due to poor training within the hospital, as evidenced by these comments:

"Is the lack of in-service and the way it was communicated. Sometimes it becomes too busy in ICU …, you even forget …, you are already exhausted and going back now when it is your time to go home, … it's another thing."

Participant 2

"…lack of knowledge. If you are not in-serviced enough, you can be taught …but you know with practice you become perfect and you able to share that information with others. But … we are changing staff."

Participant 3

Improvement within this area is vital for the success of this process. It appears the participants have personally analysed some of the processes. This is what participants said.

"File audits are done right throughout the hospital and it is said, "Is UPFS filled?" They are not asking what is and isn't? You have doctors side and nursing side. It is not filled so the nurse …gets marked a zero."

Participant 7

"It should be all the professionals that should be having in-put into the UPFS charge sheet. We should be looking at the redesign of the cost sheet and believe that policy and processes should be improved upon…."

Participant 6

4.4.2.6: Sub-theme: Appropriate use of resources

Other ideas on cost–effectiveness were demonstrated. This is what was said:

"…we have never been cost effective …I think that somebody need to come in and say sorry what is a biopsy what instruments do you use…"

Participant 6

ICU nurses varied in their opinions on when the best time was to fill in the UPFS form. This activity is dependent on the unit's activity and speciality. Two participants with 30 years' experience between them and both with Intensive Care qualifications record usage as the day progresses.

"We just keep it in the file, so whenever you use, then you record."

Participant 1

"I do it as I use it."

Participant 5

Three other participants also with 30 plus years of experience between them and post-graduate intensive care nursing qualifications prioritise the patients and then cost for usage. This is what was said:

"…the proper time would be when I have settled the patient."

Participant 2

"*During the course of the day. When it's quiet..."*

Participant 4

"When it is quieter and the patient is settled otherwise we try to make sure that the UPFS is filled in prior to transfer out of the unit."

Participant 8

Other participants also prioritise patient care over costing. This is what was said:

"In the morning, it doesn't take even five minutes to check…."

Participant 3

"…retrospective… the patient is discharged then we go through what bloods were pulled, if we spot a sonar or an X-ray."

Participant 6

"On a set weekday we sit. All the rest will get costed and we will try to catch up. I sit with …and they have to fix the files…."

Participant 7

The workload for nurses was an issue. The priority being the patient and keeping the nursing records up to date. The nurse acts as a data collector. This is what was said:

"…because of the amount of work, it's not everything that is costed. Sometimes we go home without costing some of the things …"

Participant 1

"…some were complaining that it takes time for them to be doing all that. Costing this side and then looking at patients care."

Participant 2

ICU is a very unpredictable environment. One participant explained:

"Your patient can keep you busy... Some other duties, you end up forgetting how many things you have used. It is an added task on the nurses who are already overwhelmed with so much to do."

Participant 2

Staffing issues in the ICU was another barrier that affected filling in the UPFS cost sheet. Shortage of nurses in the unit resulting in lack of one-on-one nursing due to absenteeism or just a lack of intensive care trained nursing staff. The nurse to patient ratio in the ICU then decreases resulting in one nurse looking after more than one critically ill patient. This scenario can also result from the use of agency staff or of students. The agency staff might not be ICU trained and might not know the layout of the hospital or of the unit. These are the comments made:

"Shortage of staff, yo it's a challenge… whereby you find the most junior nurses, ... students…Absenteeism, because people that knows how to complete the form, they are not there …the agency staff because they are new in the environment… . They are not familiar with the hospital settings and we expect that person because she is here to do overtime. . We expect that person to understand costing. "

Participant 3

Barriers experienced with regard to the chart were verbalised. The nurses also verbalised that the form itself was a barrier to costing and cited flaws within the document. This is what was said:

"…sometimes you end up using more of those items that are not in there. … now how do you cost for the consumables of the CVVHD? The fluids that you use… sometimes you might use 4 or 5 bags."

Participant 3

"Added paper work … gets missed. I have seen it because nurses in ICU concentrate on that chart and the patient… maybe if it was attached on the chart; maybe it would force them… to do it. "

Participant 2

"We have to fill in the medication used on the form - last page needs to be changed. If patients stay longer, we have a long list of medication to write and we continue at the back of the form to write down all the drugs used. Format of form should be changed to a tick sheet so that we can just tick the procedures done. Most times we continue using the theatre form and we have minimal procedures in the unit because all the lines etc. and inserted in theatre. Unless we change the lines if patient stays longer in unit."

Participant 8

One participant disagreed with having unit specific cost sheets.

"You can't …different things that you are doing… patient is coming with one thing… may have a multitude of problems… no such thing as one diagnosis. When they come in here, they have a multitude of diagnosis…. there is a lot missing out of the costing sheet …"ward specific cost sheet won't work."

Participant 6

Nurses were concerned about the accuracy and loss of resources not accounted for during the current process of costing. It was believed stock could be lost and not accounted for. Comments received:

"… is that costing objective or subjective? I attempt to put the drip up 6 times. Am I going to say one drip or am I going to say 1 x5 attempts? ...that's easy for nurses to say ok it's for the service… To say I have used so many jelcos …six….which is time consuming in ICU …It's not broken down. It's less work for them. …it's not a true reflection of ….how much we use for that service or how many items we use for that service. Sometimes

it can be unfair to the patient; you were not successful to putting the drip, so you abandoned that one."

Participant 2

These participants have given the entire process serious consideration, as per comments:

"*So who else is going to bill the patient if you don't make a note that you have used a syringe … unless you have other staff members shadowing the nurses to see what they are using, there is no other way around the nurse not… charging."*

Participant 5

One participant also disagreed with using nurses who were no longer able to perform their nursing duties for the role of costing. She cited under-utilisation of skill as well.

"Nurses that are on chronic illness or not able to carry out her duty…. No, that to me is under-utilising."

Participant 6

System issues are reiterated in this comment and highlights that the process does not start at the beginning of the patients' admission to the hospital and hence a gap in the system.

"The …costing does not start at the very beginning. The patient may come in via casualty and lay there for two to three days because of bed situations …We will only start costing here … Why make it my problem when they are not starting?"

Participant 6

"They …should be started at admissions. So the patient could go from casualty to ICU to ward. You starting your costing here. The other units are not aware of it."

Participant 7

One participant suggested other possible system failures.

> *"…many of us are not democratic. So it is an autocratic decision and that's the problem."*

Participant 5

Communication via all levels should be open and conducive to creating and sustaining change.

> *"We don't get feedback…. In theory we should have an idea of what we are using."*

Participant 7

4.4.3 Theme 3:- Facilitators of costing

Many of the nurses experienced barriers of different forms. Barriers, in this study refer to obstacles as experienced by the nurses that would hinder the completion of the UPFS form and thus the costing process. These barriers were recorded as being anything related from the people (students, agency staff, junior nurses, multidisciplinary team), attitudes, processes, form design, time, environment, unfair practices (foreigners, provinces, other departments) to technology.

4.4.3.1. Sub-theme: Role clarity and responsibility

Some nurses felt it was the responsibility of the nurses looking after the patient to manage the costing. The nurse is constantly present in an ICU setting and knows what is being used. Nurses are involved with the budget. The following comment was made:

> *"Because in ICU, we nurse one to one. One nurse, one patient…patient goes to scanner, you go with the patient. So you are the one who knows that the patient is gone for scanner."*

Participant 1

Under strained conditions of employment, nurses require assistance for the administrative work. This participant described a strained situation:

> *"Time constraints are huge because of staff shortages when you are trying to do four peoples' jobs at once.*
>
> Participant 7
>
> *"Get assistance with costing sheet - somebody else to do the costing."*
>
> Participant 11

Consequence management will enable change. This is what was said.

> *"… how many staff are on duty? When you have to work three staff members to 24 patients… we need a minimum of 6. And they also know that if they are moon-lighting in private and if they don't do it correctly, … am not going to be asked back."*
>
> Participant 6

> *"… we complain that we don't have finances but where does it start? It starts as soon as the patient comes in the hospital. We need manpower, equipment are not working, …consumables, there's no space …. That's why they say we are the beacon of the healthcare. …You cannot go off if your UPFS is not done."*
>
> Participant 3

Consequence management for not costing, should be done.

> *"Government is like sheltered employment for some staff. They can get away with anything. …"*
>
> Participant 2

In order to manage resource usage quickly and effectively, nurses are thinking out-of-the-box. This is what was said:

"…I believe with electronic, it's going to benefit the institution. … it will reduce also the workload on the nurses' side. Because too much papers, it ends up with people not doing the right things."

Participant 3

Although participants felt that costing was not their job, they were concerned about accuracy with regard to costing. In view of appropriate use of resources, which is clearly as a result of nursing knowledge, nurses felt obliged to take control of the costing activity, which is explained clearly by the following comments:

"The hospital admin clerk that does not have the hospital knowledge would not know if stuff has not been billed for and …that the nurse bills. Because the nurse knows,..".

Participant 5

Appropriate use of the correct level of care for the patient's condition as well as the length of stay demonstrates in-depth knowledge by nurses. The different levels of care in a hospital cost differently. This is what was said:

"If we don't ensure that our patients are nursed and discharged and go home, it means we will have or end up with patients staying long… It also costs the institution, so by doing the right thing at the right time, immediately, you are saving. So I think, definitely, if we can work on assisting the institution. We are here, 24 hours, we are changing shift but we here on the bedside."

Participant 3

Despite the challenging environment of an ICU, one participant mentioned the additional support provided to staff.

"…normally I liaise with the person who was nursing that patient. "Are you telling me there is nothing that you have used for the whole day?" Then she will explain to me what has happened. We will sort it out from there."

Participant 4

When asked for suggestions for types of alternative staff members to manage the costing, this is what was said:
Two participants suggested having a case manager to assist with the costing in an ICU.

> *"It will be better if we have a case manager in the wards, …you know that they can do the costing part for you. …at the moment it's us that are doing it… there is nothing that we can do."*
>
> Participant 1

Another suggestion was to take somebody who was not a nurse to take responsibility for the costing. This was the comment:

> *"…have somebody that should do the costing… somebody that is responsible who is not a nurse who won't be doing anything."*
>
> Participant 2
>
> *"…it would be lovely to have somebody to do the costing…. a care worker, … somebody who had a little medical knowledge or who is trained on what to look for to get it done"*
>
> Participant 7
>
> *"Have clerical staff to assist. Give UPFS sheet and then they capture onto computer."*
>
> Participant 8

This participant suggested that an administrative person with hospital experience and knowledge should be used. This would be beneficial, as the person would know the system already.

> *"Admin staff with hospital experience - being familiar with procedures, items, equipment …Nurses know what should be billed."*
>
> *Participant 4*

The same participant also suggested using retired nurses in half-day posts:

"Employing nurses for costing is an expensive option but retired nurses on half-day posts."

Participant 4

One of the highly experienced participants suggested that the medical interns be used to keep the UPFS cost up to date.

"Your interns in this hospital are booking clerks. … all they do is book procedures. So there is no reason why they shouldn't cost. When they become Senior they might order a U+E everyday unless it is necessary and not because they didn't bother to check it or the result."

Participant 7

One participant mentioned another important reason why role clarity for costing should be prioritised.

"A major domino effect! So if there is blame to be put on anywhere within the health establishment, it is always the nurses fault. I am not saying that some nurses are not at fault but we are talking about generalisation here. We are not all guilty."

Participant 6

"I think … in general, it must go to different … disciplines to tell them to cost for services for patients …they will refuse. They will say it's not my job."

Participant 3

Nurses need to be taught and given some insight from training days to be aware of resource usage and cost.

"…if we have schooled them from early on, to say that somebody got to pay for it, …then one can get around that feeling of why should I bill the patient? … most people who are against it, is because it is another job to do."

Participant 5

"I'll say we start with the Operational Managers, change how they think, how important costing is…"

Participant 3

One participant disagreed that it should be nurses taking responsibility for costing. The reason cited was a waste of skill.

"…the nurses' skills are wasted. As long as the skill that they have is not being utilised … and you can teach people of the streets. You can possibly teach somebody who can develop their skills, move on, and do other things. "

Participant 6

Management support should be harnessed in order for benefits to be reaped by all. This is what was said:

"Start with the big bosses and then it will just descent to the junior staff. … You see it must come from the management and then escalate."

Participant 4

"Your communication from wherever, does not filter down."

Participant 6

"Training and in-service ... They feel rightly or wrongly that it is an added job on their part. It will change the attitude. If they see it now as it is their sole responsibility, that's why there's some resistance."

Participant 2

A resource specialist, this person should be the one to control the entire stock in the ward efficiently. Accountability and responsibility lies with this person.

"…need to be trained on how efficiently one can do it."

Participant 5

"…let it be somebody else's responsibility for a change. We have got too much, too many things on our hands. Our hands are too full…. or even add it to the ward clerk. Give them extra responsibility."

Participant 2

The case manager and the multi-disciplinary team could assist.

> *"…have a case manager on each and every shift, …we will know … the costing is done perfectly. Costing by Multidisciplinary team… they just come once in the morning and they are gone..."*
>
> Participant 1

The two comments tie up with earlier suggestions by people with hospital experience to assist with costing.

> *"Maybe use non-nursing staff, like maybe those that are not going to demand a big amount of salary. Like care workers….."*
>
> Participant 4

> *"It doesn't have to be done by a nurse but it needs somebody with some insight to know that … you can match your patient's diagnosis with type of treatment..."*
>
> Participant 5

4.4.3.2 Sub-theme: Costing Process

Processes were suggested to ensure that accurate costing was happening. Accuracy should be evidenced-based:

> *"… we can have maybe twice a week, as nurses, we go on the patient's bedside, take one form …, listen to different views and compile a report and then …, we can ask for help."*
>
> *Participant 3*

Prior to sorting out the processes, attitudes have to be changed. This is the comment made.

> *"The main thing is to change our mentality, the way we think about this form and know that we tried to save costs more than anything."*
>
> *Participant 3*

Whether the costing process is done electronically or on paper, people should be trained and the attitude should be subjected to change management.

> *"…we need electronic because we having so many papers… People don't have time to read. People don't even have time to ask for clarity,…. …Even the very same electronic, our generation today, majority of them, they understand computers better."*
>
> Participant 3

> *"Somebody to go around in ICU's … teach nurses about the importance of costing and cost effectiveness and the cost of wastage and importance thereof. Coming from person that deals with costing, should make a difference….Regular in-service education. Currently done by clinical facilitators …Case managers are at the end product. Loop hole for costing as case managers are just reading the notes and costing."*
>
> Participant 4

Nurses should be subjected to early training about costing, and should be a part of undergraduate studies. These comments were made:

> *"We should be teaching student nurses much earlier. Greater awareness with regards to the cost of healthcare."*
>
> Participant 5

Older nurses in the employ should be sent on refresher courses or even introductory courses.

> *"Allow the older nurses …or as part or orientation to spend time in the billing, procurement and finance departments. Including HR department…Computers is ideal but not all nurses are computer literate but shouldn't be a problem in ICU as all ICU nurses like technology."*
>
> Participant 5

Evidenced-based processes that can be tested and assessed should be employed. This allows any measurable process to be improved upon.

"Threw everything in a bag and bill it after the patient has left - evidence of use - like in theatre…self-assessment and self-audit."

Participant 5

Costing processes should not stop upon discharge of the patient. It should be when the invoice is delivered to the patient within the service level agreement and the debt management process kicks in.

"Finance people in hospital should collect the info from the ward….scanning system…Go to the Foreign Embassies and claim money for the patients…need to have dedicated people per block per whatever to check billable items and cost….Follow set treatment protocol and follow set costing guidelines."

Participant 6

Other suggestions received were the design of unit specific cost sheets.

"…maybe a sheet specific to the unit…system not supporting costing and budgeting…Will be lovely if we had a little computer system and you just scan it in. Each patient has a barcode… , scan whatever you have used. …your stock take could be done … easier and more often."

Participant 7

"…. Because we have less computers….. all nurses coming to one computer, … to do their work…. getting away from the patient. The form is better, they are next to the patient. Unlike, I leave the patient and come to the computer … we have only one computer. It is going to be time-wasting."

Participant 4

Participants' verbalised frustration on many levels with regard to the costing. Participants even went out of their way to ensure the costing was done. This re-inforces the need for supportive administrative roles.

“Actually having the sheets because they not being issued by stationary any more….So you have to now find a photocopy machine that works …and make your own copies. “

Participant 7

4.4.3.3 Sub-theme: Review of document

Suggested alterations to the UPFS cost sheet were made:-

“… don’t know if it should be universal across the board or … individualised like ICU has its own costing ….”

Participant 2

“Format of form should be changed to a tick sheet so that we can just tick the procedures done. “

Participant 8

The participants, with a heightened awareness of the importance of costing in an ICU, verbalised the desperate need for a user-friendly tool to be able to comply.

“*We have to come up with a very user friendly tool…to make this electronic … and we want to comply more than anything… how often do they review this form”*

Participant 3

“Having a computer clerk - everything get relayed to the computer clerk so you have only one person on the computer. Have a tick list and the clerk would capture every hour of every day - real time billing…collection documents must be quick and user friendly.”

Participant 5

“… the form that comes through, it is very much targeted towards the ICU’s and the surgicals… It is not necessarily incorporating the general wards…The space to write things … when we can’t find them, to write them

down, is this much (indicating with fingers), so I write and hope that somebody will find it."

Participant 6

One participant was positive about the source document and mentioned:

" … , it is user friendly …."

Participant 4

The need for accurate costing to assist budget planning is coming to the forefront in modern nursing management.

" I don't think we are costing appropriately and the nurse is trying to go back through all the notes in the file and the charts just to see what was used and happening. So you can't say that it is an accurate costing system and you're doing your budget on something that is not accurate."

Participant 7

"If there can be somebody who does that costing, it minimises the degree and level of …errors. That person deals with them."

Participant 2

"… even if maybe, we have allocated somebody to do the costing, they won't be there 24 hours."

Participant 4

In-depth knowledge can assist with costing for standard predictable conditions.

"Every time you admit a patient in ICU, the nurse already knows what the patient uses."

Participant 5

The participants made many suggestions with regard to the collection document.

The collection document must be user-friendly and visible. See comments below:

> *"…the collection documents must be user friendly, is quick and easy to tick and fill it in."*
>
> *Participant 5*

> *"…maybe it was part of the ICU chart , where the nurses would see it every…"*
>
> Participant 3

All items must be accessible on the cost-sheet so that it becomes habit once you have gotten used to the document.

> *"…there is a lot missing out of the costing sheet and…*
>
> Participant 6

In-depth training must be provided so that nothing is left open for misinterpretation. See comment:

> *"People are interpreting it the way they they feel they want to. There is no consistency in the way they are filled out."*
>
> Participant 7

> *"We require training on the form. The training should be more than once."*
>
> Participant 10

Everybody must use a standardised form, i.e. one version of the form must be accessible. See comment from participants below:

> *"There are also two different forms. An older form and a newer form. So it depends on which one you have. And the first one was a lot more friendly. We are losing a lot..."*
>
> Participant 7

Electronic or paper-based debate will be ongoing.

"Computer not… Paper for now…. I really don't know how … but if maybe it was part of the ICU chart,..."

Participant 2

Attitudes have to undergo repair so we can be open to changes.

"…we discuss as a team… to change our mentality, the way we think about this form and know that we tried to save costs more than anything."

Participant 3

The senior participants were very innovative with their suggestions:

"… we can use lists that are stuck at the bedside and as you use it, so can you tick it off."

Participant 5

" In those units we had a big bag and every patient coming in got a bag of things and whatever we used on the patient came out of that bag. …the stuff that you didn't use on the patient, you would put in another bag and … the patient was credited for it. Now that crediting is not done by the nursing. So you move that billing process to somebody off site and the creditor doesn't have to know anything about anything."

Participant 5

"The form needs to be set so that medical personnel, nursing personnel and allied personnel. So each page is different. You know this is all pertaining to you. Obviously …So we will have some overlapping… And everyone needs to be made aware and accountable."

Participant 7

4.4.3.4 Sub-theme: System review

Irrespective of all the negative feelings associated with costing, participants still demonstrated knowledge and insight by making suggestions of how things could

be improved. ICU nurses are very busy, with quality patient outcomes and patient safety being priority. Nurses have stated that although they are not averse to costing for healthcare activities, they would appreciate assistance. Random audits to force compliance. You are doing all this work; you are working so hard. We are spending so much on paper and ink, but we do not know where it is going and what is happening to the cost sheets at the end?

Firstly, perceptions about costing and billing should be changed.

> *"I just think that one has to get across …the importance of billing. If you are not committed to something you are not going to see it as important and really going to be last on the list of tasks that you are going to do."*
>
> Participant 5

> "…*they are not so enthusiastic about it…. maybe at least once a month, come and give in service, instil that mentality, so that … there can be awareness and a consciousness of cost effectiveness… reinforce, retrain. The only way."*
>
> Participant 4

Early intervention about awareness with regard to costing and cost of healthcare should be introduced as suggested by this participant:

> *"We should already understand that health costs money …"*
>
> Participant 5

Human capital is vital for the execution of this task. One participant said:

> *"…You can't run a hospital on your own. You are totally dependent on the people you work with. Get their buy-in."*
>
> Participant 5

Similarly, participants were frustrated and encountering various challenges with regard to the costing. Teamwork was highlighted as one of the solutions.

Participants felt unsupported by healthcare teams in the units. Some participants have spoken to the multidisciplinary team and some have not.

> "*Every category of staff should make a note of servicing the patient and then whomever is billing can read from the notes."*
>
> Participant 5

> *"When we have new doctors we orientate them, we follow them, we teach them. All allied services too - but to get them to use it is near impossible."*
>
> Participant 7

The determination to improve the availability of resources within the healthcare system by ensuring the correct system is in place is inspiring. Test the system prior to introducing it. This is the comment from one participant.

> *"If they have verbalised that that would make it easier for them, then I would go with it even if you test it only in a few units to get people use to the idea."*
>
> Participant 5

> *"… if everybody came on board and was aware of it, and if there was accountability, and if they knew something was not done, something was going to be done about it. Not, "Ag the nurse will do It". You know like the nurse does everything and maybe we will get somewhere with it. "*
>
> Participant 7

Suggestions on possible solutions were forthcoming from the participants. It has to be considered whether the attitudes toward costing were due to system failure. This is what was said.

> *"…to make the system easier, doing that also would assist … or if you had a billing person who was not the nurse."*
>
> Participant 5

4.5 SUMMARY OF MAIN FINDINGS

The findings have described the opinions of ICU nurses towards the daily implemented activity-based costing procedure, as well as identifying the barriers encountered during the process. The findings have also highlighted suggested solutions.

All participants had a good understanding of what costing entailed and why costing should be done. The same thread of basic business knowledge principles was evident from all participants whether holding senior or junior roles in the units. Some nurses had embraced the process of costing and had demonstrated deeper knowledge or insight about nurses' costing. An ethical and moral dilemma due to costing was experienced. Participants felt that the process of costing should be a team effort by all specialists involved. Nurses costing for the services rendered in an ICU have yielded various opinions, which include additional work, quality patient care, loss of stock, accuracy of the costing as well as the fact that Intensive Care Units are dependent on the nurses' presence 24 hours a day. Nurses feel conflicted between costing, patient care and workload. Barriers were identified that prevented ICU nurses from filling in the UPFS charge sheet. Role specificity is vital to patient wellness, yet participants stated that they are kept busy with other tasks and not that for which they are employed, patient care. Continuity of care and costing should demonstrate services provided from the time the patient walks in until discharge. Opinions varied as to why the responsibility of costing lies with the nurses. Nurses were prepared to advocate for their patients by ensuring the resources were costed, available and appropriately used.

Participants cited attitudes, staffing issues, management-related issues, the ICU environment, processes and rules not followed with regard to costing, including the lack of support. The participants have identified the problem and have thought about alternatives or solutions to the issue of costing. Opinions varied on when was the best time to fill in the UPFS form. Suggestions for types of alternative staff members to manage the costing in the wards were forth coming. Other suggestions received were role clarification, the design of a cost sheet, training,

consequence management and oversight of the entire process with control and monitoring. Junior participants were less inclined to be forthcoming with opinions about costing and verbalised patient priority over costing.

4.6 SUMMARY

This chapter described the demographic profile of the participants, themes emerging from the interviews and a summary of the main findings. Three main themes emerged from the interviews: - Understanding of costing, factors that influence costing negatively as well as facilitators of costing.

The next chapter will provide a discussion of the findings, conclusion and recommendations arising from the study.

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter, a detailed discussion of the findings, limitations and recommendations can be found. The recommendations for further study and development will be discussed.

5.2 DISCUSSION OF FINDINGS

Ntlabezo et al. (2004) affirm that nurse managers, as leaders, need to contribute effectively to financial management and to cost containment efforts of healthcare institutions. In order to achieve this, better preparation for their cost control responsibilities is required and that perception of general principles of cost containment in the hospital requires further attention (Ntlabezo et al., 2004). Nurses are at the forefront of patient care and are best suited to assist with costing of health service activity-based costing. The findings of this study will be discussed in detail under each theme that emerged from the analysis and synthesis of the semi-structured interviews. The themes were understanding of costing, factors that influence costing negatively and facilitators of costing.

5.2.1 Understanding of costing

This theme emerged from the subthemes of reasons for costing, feelings associated with costing, and teamwork.

5.2.1.1 Reasons for costing

All participants understood what costing entailed and why costing should be done in the public sector. It was found that most of the participants were aware and

understood the “activity-based costing” idea in the public sector versus the itemised costing. However, criticism was received about the loss of resources in certain instances where more than one item was used on a patient to achieve a successful activity. A similar thread of basic business knowledge principles was evident from all participants, providing justification to the senior roles and years of experience in Intensive Care nursing. This was evidenced by comments such as savings, projection of costs, budget planning, resource wastage, recording of costs, cost of equipment, and payment to suppliers. Participants also mentioned knowledge related to the financial patient classification system, level of care, disposables, as well as different suppliers of services in the hospital.
A literature review of activity-based costing in the public sector in South Africa, (Oseifuah, 2014) shows that the heightened awareness of activities and costs created improved decision-making, provided better cost control and cost management resulting in improved cost reduction opportunities.

Some participants were not only aware of the impact on the taxpayer but also where the money for the budget would come from. Despite that, only two participants had additional qualifications in Nursing Administration; one had less than 10 years ICU experience and the other had over 15 years. The participants were knowledgeable about public sector funding which is reinforced by Popesko (2013), who highlights that costing in a limited resources environment, required deeper knowledge levels.

This affirms that Intensive Care nurses have a greater awareness of costs and the implications despite the training, which concentrates on the critically ill patient. .

5.2.1.2 Feelings associated with costing

Feelings is defined by the Oxford Dictionary (2006, p325) as “the capacity to feel”, this results in a physical sensation leading to an emotional reaction. Feelings were described by the participants quite easily and were either positive or negative in nature about the process of costing. Feelings associated with costing were examined as the ICU training and care rendered concentrates on the critically ill

patient and is patient-outcome driven. Cost of care is not emphasised in basic nursing training, or in the advanced Critical Care nursing course.

Positive feelings about costing being essential, good insights, nurses indirectly spending the money, as well as discouraging resource wastage by careful, considerate use including patient affordability issues were verbalised.

Other participants verbalised negative feelings towards costing due to increased workload, increased supervisory role, not having financial knowledge, primary role being patient care, sole responsibility of nurses as per the National Core Standards (NCS) audit. One participant verbalised that nursing staff knew that they were going to be marked negatively on the costing section of the NCS audit, so they do not bother to cost. Concerns were raised by participants, that not all nurses are honest about costing correctly and are unconcerned about wastage/unaccounted resources. This behaviour is in direct contrast to Schmollgruber (2015), who states that the focus in an ICU is the critically ill patient and family. The competencies needed by Intensive Care nurses to achieve quality patient outcomes as stated by Schmollgruber (2015) include management of acuity level, diversities, therapeutic interventions, inter- and intra-disciplinary collaboration, staffing mix, protocols, guidelines and evidence-based practice and knowledge, skills and competencies designed to achieve cost-effective care. Costing for activity-based services are not included and furthermore costing was not included in the competencies, as Intensive Care nurses are not engaged on a financial level during their training. Findings related to the junior participants is consistent with De Beer et al. (2011) as it explains that the ICU nurse, part of a multidisciplinary team, cares for patients with life-threatening diseases or injuries and works in a high mortality rate environment that is highly technological, requiring a broad knowledge base and a high level of decision-making skills.

The ICU nurse is torn between the patient and the costing, and it has already been established that the participants understand why the costing has to be done. This information assists to conceptualise exactly why the participants experienced ethical and moral dilemmas as a result of performing the daily activity-based costing. ICU nurses are performing a task that is not within their competency.

Further insight and deeper levels of knowledge are demonstrated by this comment that although the workload is increased and is overwhelming for staff, the need to ensure the institution is not negatively affected financially becomes an issue. Langley, Kisorio and Schmollgruber (2015, p36) found that ICU nurses experienced considerable moral distress, which was aggravated by an environment that "inhibits the nurses' assertiveness, 'voice' and influence in the healthcare system".

Some nurses are frustrated with the process of costing as they felt they were not consulted about the process, who should be costing, as well as the document used. This was evidenced by the inconsistency in how the costing was done between the different participants and units, and compounded the distress of the participants. The question that arises is whether nurses should be involved in the daily activity-based costing process. This is compounded by the distress of being forced to do the task of costing as it has been mandated that all who provides a service to the patient should fill in the UPFS charge sheet, however, only the nursing category is being audited and penalised for not ensuring that the task is done. Participants have stated that they feel bullied. Purpora, Cooper and Sharifi (2015, p52) state that "Bullying is an escalating process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts." This refers to horizontal violence within nursing and is birthed from the "Oppression Theory" (Purpora et al. 2015, p52), and results in defencelessness. The reported effects on the nurses in the workplace included physical and mental effects.

One participant felt that the costing process was a useless and futile exercise as most of the unemployed people were treated in the public sector; further distress was evoked in this scenario. According to the National Health Insurance for South Africa Towards Universal Health Cover, certain categories of users of the health system are required to pay a facility-based fee at hospital level that is based on the economic classification of the patient determined by income levels. However, National Health Insurance strategic purchasing and alternative re-imbursement models design is dependent on monitoring of utilisation and that sustainability requires both supply and demand side measures are put in place (Department of

Health, RSA, 2017). Seidel et al. (2006) support this by reinforcing that in order to allocate and utilise resources responsibly, accurate costing information is vital.

5.2.1.3: Teamwork

Participants felt that the process of costing should be shared amongst the multi-disciplinary team of professionals who render services to the patient in the hospital. The participants stated that it was the multi-disciplinary teams' responsibility to ensure the well-being of the patient, yet only the nurse's responsibility to ensure that resource usage was accounted for. However, the evidence and perception created is that the nurses are solely responsible for this task. Some participants had engaged and trained the multidisciplinary team about costing, but felt it was a waste of time following up on professionals to fill in the charge sheet for activity-based costing.

Policy Addendum 3 of Circular Minute no. 81 of 2007 (Gauteng Department of Health, 2007) for Gauteng Province, re-signed in 2014, states that all personnel (administrative officials, nurses and healthcare professionals) who come into contact with the patient should fill in the UPFS charge sheet. The UPFS charge sheet is to be used by all hospitals to facilitate comprehensive billing when providing healthcare services. The multidisciplinary team, of which the nurse is a part, ensures collaboration by demonstrating leadership and management skills (Schmollgruber, 2015) to advocate for quality patient outcomes. The perception is that the same team is not responsible or accountable for resource usage that ensures this outcome.

Another finding influencing teamwork relates to the patient's journey through the hospital from admission possibly a casualty, via the different levels of care, additional support services rendered, i.e. radiology, laboratory to discharge. It was found that the costing was not performed continuously from the patient's entrance to the hospital to discharge. The participants felt frustrated as the costing only began in the ICU, omitting all other activity-based costs. This situation corroborates the lack of teamwork between nurses from the different units in the hospital; ICU nurses felt victimised as the costing in ICU is monitored due to the

high cost impact of the unit. Nurses are the highest users of resources simply by being the highest number of healthcare professionals and spending the most amount of time with patients (Ntlabezo et al, 2004). Dasta et al. (2005) estimates that in the USA, daily ICU care costs three to five times more than care provided in a general medical/surgical ward and that a great proportion of this cost can be attributed to interventions such as mechanical ventilation. Dasta et al. (2005) concluded that ICU care costs are highest in the initial days of admission and any intervention that results in a decrease in the length of time spent in the ICU would contribute to significantly reducing the hospitalisation costs.

Some participants were happy to take responsibility for the costing of the resources used by themselves in the ICU. However, should nurses be solely responsible to resource monitoring? The attitude of costing in ICU could be very different if teamwork, on all levels, was collaborative and productive in a resource-restricted environment e.g. number of ICU beds available. According to De Beer et al. (2011), the public sector remains historically challenged due to the limited number of ICU beds available to the population. Seidel et al. (2006) advise on the importance of Intensive Care clinicians' awareness of how costs escalate related to therapeutic activity and clinical outcome. If nurses are not trained about costs, which professional in the multidisciplinary is aware of healthcare costs? In a study about cost awareness amongst health professionals, Nthathe (2017) concludes that the majority indicated that they had not received adequate training with regards to cost.

Thungjaroenkul et al. (2007) found that due to rising hospital costs, hospital administrators decreased the number of registered nurses and replaced them with unlicensed assistive personnel to decrease expenditure; this decreased the quality of care and increased costs and length of stay. This strategy was counterproductive to optimum patient safety and outcomes. The participants did not refer to unregistered staff working in the ICU, however, looking after more than one patient simultaneously was mentioned.

5.2.2 Factors that influence costing negatively

Nurses costing for the services rendered in an ICU have yielded various opinions from additional work, interference with quality patient care, loss of stock to accuracy of the costing, as well as the fact that the Units are dependent on the nurses' presence 24 hours a day, and therefore costing should be managed by the nurses. Herbert (2011) states that the ICU is a specialised area requiring technologically specialised and skilled personnel, where critically ill patients with life-threatening conditions are monitored and cared for. De Beer et al. (2011) who state that ICU doctors and nurses are specialists support this and their skill is a high costing resource, complicated by the nationwide non-utilisation of ICU beds due to staff and equipment shortages. The resource has to be rationalised, yet in this study, highly skilled nurses were managing the costing, redirecting time, energy and focus away from the patient who requires intensive care and is admitted to the Intensive Care Unit for this specific reason. Dasta et al (2005) concluded that ICU care costs much more than that in a general ward due to the interventions within the ICU, such as mechanical ventilation.

5.2.2.1 Ethical dilemma

Participants were torn between patient care, costing and the best time to cost so that nothing was missed and all resources accounted for. Participants were also weary of costing for services rendered to indigent patients. The senior participants, within their respective units, have the additional responsibility of supervising the staff as well ensuring quality patient outcomes. The administrative work, done to support the ICU units by ensuring it is a well-functioning, well-stocked unit able to cater for any type of emergency, patient and staff safety as well as research, is a full time job. This highly skilled, senior person is now supervising and checking to see if the costing has been done. One participant was opposed to nurses feeling conflicted for costing of services rendered versus the time and care that has to be rendered to the patient, sighting immaturity and lack of insight into health financing. One participant verbalised the bizarre dichotomy of the entire situation in these words, "Nurses feel that they should be costing because they are present 24/7 but at the same time feel overloaded with work and that costing is not their

responsibility." Nurses feel overwhelmed with the amount of work they have to do. The decrease in the professional pool, the volume of patients seen, in the Public sector, dwindling resources and the increase in litigation due to an increase in adverse events, is reinforced by literature. Patient well-being and quality outcomes remain the priority.

Ntlabezo et al (2004) explains that the Nurse Managers' dilemma stems from having to ensure cost-effective quality patient outcomes whilst cutting costs simultaneously. This dilemma is further impacted by the perception that nurses are the main users of resources by virtue of their direct interaction with the patients, despite nurses being the largest group of healthcare professionals. They therefore need to be cautious about their use of resources and about their selection of items and equipment, in order to contain costs. It appears that the senior ICU staff experience additional resultant stress compared to the junior staff due to additional responsibilities and heightened budget implications.

It appears that the act of "costing" for services in the Public sector generates a moral and ethical dilemma for some nurses, specifically relating to "Free healthcare," as a right in the Public sector, which services the majority of South Africans, where affordability is an issue. The nurse, costing for the entire multi-disciplinary team, now sees the amount of resources being used on an ICU patient. The assumption made is that the patient will automatically be billed for the services. The distinction between costing for resource usage for budget purposes versus patient billing has been separated by participants. However, a feeling of anxiety is still associated with this as the nurse is simultaneously responsible for monitoring the patient and collaborating with the multidisciplinary team to ensure quality outcomes.

Participants were aware of the economic challenges in healthcare, and based on their training, have a heightened awareness of the complexity of ICU activities and due to experience in the Unit, have an awareness of the costs involved in ICU. These insights have provided a fertile ground for improved decision-making to impact on cost control and resource management. This study found that the

participants had an understanding of cost reduction opportunities and a strong desire to drive possible change.

This finding is justified, as Oseifuah (2014) advises that activity-based costing is related to awareness of activities, costs created by these activities and improved decision-making.

5.2.2.2 Workload issues

Participants' verbalised time constraints due to staff shortages and that costing was perceived to be an additional job. This additional job, combined with all the other ICU activities, resulted in staff often forgetting to cost. Workload, disinterest, forgetfulness, patient care, time, nurses' attitude, fraud, management interest and keeping the focus on costing, staff morale all prevent/stop ICU nurses from completing the UPFS charge sheet. Scribante and Bhagwanjee (2007) advises that cost-effective use of resources is related to nurse-patient staffing ratios thus affecting the quality of care rendered and resultantly impacts "patient outcomes, adverse events and total cost of care" (Scribante and Bhagwanjee, 2007, p1315). Given the ICU context, not all nurses managed the costing in a similar manner. ICU costing is much greater than that in general wards; the resources and technology required to manage a patient requiring intensive care must match the seriousness of the condition. Staff morale is low when it comes to costing, and requires a lot of supervision and follow-up from the senior person in the ICU.. Staff are overwhelmed, because not all professionals have to do the costing. Senior participants have verbalised they have to compromise with staff to ensure that some of the costing is done. The patient's condition and severity thereof drives the tempo of the day; the patient is the priority and other "unnecessary" work is left aside.

Due to the rising burden of disease in South Africa, and the scarce resources available, issues are raised with regards to cost, cost-effectiveness and availability of critical care to all who need it (Naidoo et al., 2013), and could undermine quality care (Schellack et al., 2011). Schmollgruber (2015) refers to the drop in trained Critical Care nurse rate over a period of 5 years, between 2003 and 2008,

and to the shortage of trained professional nurses. The shortage of trained and experienced ICU nursing staff has led to discontent and low morale (Scribante and Bhagwanjee, 2007). Workload in an Intensive Care Unit is not comparable with that of a general ward. Langley et al. (2015) states that the Public provincial hospitals are managed by SA provincial health departments and cater for the majority of the population whilst having a high mortality rate in ICUs. This reinforces the fact that ICU nurses work in a highly stressful and pressurised area where the patient should be the priority.

Despite this, the participants' verbalised that nurses should be responsible for the costing of resources merely due to the fact they are always present and aware of the procedures done on the patient. In direct contrast to nurses wanting costing to be the nurse's responsibility, it is the responsibility of the multidisciplinary team. This finding was in agreement with Ntlabezo et al (2004), in that the nurse managers' perceptions of cost containment issues could influence the decisions taken and actions implemented, influencing the successes or failures of cost containment efforts. .

5.2.2.3 Continuity of Care

It was found the nursing staff costs for all the members of the multidisciplinary team (dietician, speech therapist, physiotherapist, occupational therapist and the doctors) in an effort to be collaborative. The nursing staff have stated that although they cost, most times they are unaware of what exactly was done, by other members of the multidisciplinary team. Nurses are supposed to provide continuity of care in the ward by being present 24 hours a day (Schmollgruber, 2015). However, according to one participant, a lot of time is spent chasing after the multidisciplinary team to ensure that resources used are accurately captured. There is no teamwork to ensure continuity of patient resource usage costing despite the Gauteng provincial circular that all should be costing.

Literature affirms that the ICU is a stressful technological environment with patients who are critically ill. Participants verbalised that care is provided but the services are not costed. The nursing staff tries to assist with the costing by reading

the clinical notes, and agree that this is rather frustrating because it is a waste of time and an expensive resource (the ICU nurse) and duplicated effort.

If all resources utilised are not accurately accounted for by the multidisciplinary team, this then is contrary to the literature, which states that in order to allocate and utilise resources responsibly, accurate costing information is required (Seidel et al, 2006) and is contributing to the disharmony amongst ICU staff (Scribante and Bhagwanjee, 2007). These are professionals in the employ of government, driven by their code of conduct as related to each discipline. Participants verbalised that no consequences are taken for not being collaborative with the nursing staff and contributing to resource wastage. Nethathe et al. (2017) found cost awareness to be low amongst healthcare professionals. Continuity of care also refers to the costing being done by each unit that the patient visits, including the laboratory as and radiology services, as per the findings. The participants verbalised that they are tired of being overworked and taken for granted and are questioning the roles and responsibilities of the multidisciplinary team. One participant felt certain areas within hospitals are more vulnerable than others are and are contributing adversely to the costing and continuity of care issue. Care is provided to the patients but no costing is done. One such area is Casualty, due to the trauma cases that are normally admitted. Some participants felt it was the responsibility of the nurses looking after the patient to manage the costing. The nurse is constantly present in an ICU setting and knows what is being used.

The participants are prepared to be an accountable member of the multidisciplinary team and are prepared to assist with the costing. Nurses can oversee and be present for teaching purposes, but they require the multidisciplinary team to cost as well. According to Nethathe et al. (2017), healthcare professionals perceive their training in cost awareness to be insufficient. Schmollgruber (2015) refers to inter-disciplinary and intra-disciplinary collaboration to achieve optimal goals.

5.2.2.4. Consultation

Opinions varied on why the responsibility currently lies with the nurses. The opinions ranged from not knowing, total patient care and rules being applied without consultation to the amount of time spent with the patient. “It is crucial that nurses have the ability to make accurate clinical judgements and to act on them” (Scribante and Bhagwanjee, 2007, p1317). One participant felt nurses were being taken for granted and abused by the dumping of other personnel’s “menial jobs” on nurses as compared to the other disciplines. One participant stated that as the National Core standard audits of costing forces the nurses to take responsibility for costing. However, the perception amongst the participants was that consultation about additional work did not occur despite nurses being autonomous in their professions and accountable for their actions to the South African Nursing Council.

Another participant was concerned whether the hard work regarding costing was taken seriously. Due to lack of consultation, misperceptions were created which in turn created more problems downstream. Participants advised that the billing department did not collect the UPFS cost sheets. One participant thought it was an experiment to see how the costing would work, and as nobody did any follow up it was just a case of not costing for activity-based procedures. One participant wanted to know what happened to the cost sheets post discharge. The participants were very aware that they had to cost for the resources used but had no idea how it was billed and an invoice generated for the patient. No consultation or discussion, just an instruction and the perception everyone was going to obey. One can also understand why the nurses were reluctant as they felt that costing was forced upon them. One participant commented that the unfortunate part of working in the public sector was that an instruction is given, it is then forced upon you, slowly, until you get used to it.

Oseifuah (2014) highlights that activity-based costing in the public sector is beneficial but is dependent on a number of factors with cooperation and commitment between departments, identification of cost drivers and successful

software packages being on the list. Change management is vital to the success of costing.

Some participants felt that costing should not be the responsibility of the nurses; quality patient outcomes should be the focus of the specialist nurse. A specialist nurse requires additional skills and knowledge not included in the basic training programmes to specialise (Matlakala and Botha, 2016).

5.2.2.5. Lack of support

All the participants interviewed have been battling with the challenge of costing and have thought about the possible solutions. However, a sense of hopelessness was communicated and experienced by various participants during the interviews. Participants felt unsupported, whether from management or from the case managers as evidenced in the ICU when the unit manager is not available to assist with a costing query. Senior participants have also cited management related issues with regard to costing, including the lack of support from management as evidenced when other units did not follow processes and rules, with no consequences being applied. An equal number of respondents have and have not spoken to management about their ideas or challenges with management. The perceived apathy and lack of support appears to be drawn from management. Oseifuah (2014) found there were many challenges in implementing activity-based costing; to highlight just a few, the resistance to change, lack of top management support, lack of cooperation and commitment among departments. Participants also verbalised that additional support in terms of others roles in the hospital is required and vital to patient care as evidenced by requests for administrative assistance with the costing. If these are not available, the nurse steps in to do it, as she is concerned about the patient.

Despite the lack of support, all the participants were prepared to take on the additional responsibility because they are concerned about the financial health of the institutions, as well as ensuring that the resources are adequate to cater for as many patients as possible. It can be perceived that the participants are prepared to advocate for their patients by ensuring that the resources are available and

appropriately used. However, participants are valuing their contribution to healthcare, patient care and resource usage, as is evident from modern day nursing management and post-graduate qualifications.

Matlakala and Botha (2016) advise that due to the shortage of critical care nurses, the ICU is now being staffed with enrolled nurses who work under supervision.

5.2.2.6. Appropriate use of resources

Although the majority of participants felt that costing was not their job, they were concerned about accuracy with regard to costing. In view of appropriate use of resources, which is clearly due to nursing knowledge, nurses felt obliged to take control of the costing activity. It was found that the participants were aware that their skill, which is a limited resource, the level of care and length of stay of patients in the ICU all influenced the costs. They were also aware of the importance of activity-based costing, which should include radiology and laboratory services. Appropriate use of the correct level of care for the patient's condition, as well as the length of stay (Thungjaroenkul et al, 2007) demonstrates in-depth knowledge by nurses. The different levels of care in a hospital cost differently and assistance with costing, as another idea on cost-effectiveness, was requested by the participants. This knowledge affirms the finding that in South Africa, Nurse Managers required better preparation for their cost control responsibilities and insights into issues affecting cost containment efforts besides staffing issues and security checks (Ntlabezo et al, 2004).

Popesko (2013) states that the effective use of limited resources, and to save on increasing costs of healthcare services, requires a deeper level of knowledge for achievement of appropriate use of resources, a sentiment affirmed by Seidel et al (2006).

5.2.3 Facilitators of costing

Many of the nurses experienced barriers of different forms. The participants identified the problem and thought about alternatives or solutions to the issue of

costing. These alternatives were categories of people, systems, processes, improved cost sheet, technology and training.

5.2.3.1 Role clarity and responsibility

Matlakala and Botha (2016) highlight the efficient use of resources in the ICU when allocating staff to patients in the ICU; the ICU nurses competency to provide care is influenced by the patients' acuity level or illness severity, for improved outcomes. Role specificity is vital to patient wellness and quality patient outcomes, yet participants have stated they are kept busy with other tasks and not that for which they are employed.

Shortage of nurses in the unit, resulting in lack of one-on-one nursing, was due to absenteeism or just a lack of Intensive Care trained nursing staff; the nurse to patient ratio then decreases resulting in one nurse looking after more than one critically ill patient. This scenario can also result from the use of agency staff, which may not be ICU trained or know the layout of the hospital or the Unit, or of students (Scribante and Bhagwanjee, 2007) . ICU nurses vary in their opinions on when the best time is to fill in the UPFS form, as this activity is dependent on the Unit's activity and speciality. Two participants with 30 years' experience between them and both with Intensive Care qualifications record usage as the day progresses, whilst two others also with 30 plus years of experience between them and post-graduate Intensive Care nursing qualifications, prioritise the patient and then cost for usage. Other participants also prioritised patient care over costing. Despite the challenging environment of an ICU, the participants have tried various ways to ensure the costing was done, however, the need for additional support staff so that the UPFS cost sheet can be filled in, was highlighted. Participants suggested having a case manager to assist with the costing in an ICU, whilst another suggestion was to take someone who was not a nurse to take responsibility. Other forthcoming suggestions were to use an administrative person with hospital experience and knowledge, retired nurses on half-day posts, or even medical interns to keep the UPFS cost up to date. Highlighting the importance that services are costed, reference is made to "gate keeping" (National Department of Health, 2007, p25) and cost centre management (National Department of Health, 2007),

Nurses need to be taught and given some insight during training to be aware of resource usage and cost. One participant disagreed that nurses should be taking the responsibility for costing as it was a waste of skill. The same participant also disagreed with using nurses who are no longer able to perform their nursing duties for the role of costing citing underutilisation of skill. Management support should be harnessed in order for the benefits to be reaped by all.

Gauteng Province has clearly defined that the responsibility of costing for healthcare services lies with all professionals. Role clarity and responsibility is therefore not required, however, nurses have the perception they are being held solely responsible for ensuring the costing forms (UPFS charge sheets) are completed for billing purposes. The Critical Care nurse's competency (SANC, 2014) does not include costing or finance, yet has to advocate for quality patient care, cost-effective outcomes whilst protecting the patient and institution from risk factors such as death, other preventable complications and litigation. An unjustified expectation is then created of the nurse. Ntlabezo et al (2004) found that 97.6% of respondents in her study were not in favour of nurses performing non-nursing duties as this could contribute to the costs. It was concluded that "Non-nursing tasks could be performed more cost effectively by non-nurses." (Ntlabezo et al, 2004, p39). Popesko (2013) reinforces this by stating that the workload and labour hours for collecting activity-based costing, even with a hospital information system, is difficult.

The introduction of a Resource specialist in the ICU who can control the entire stock in the unit efficiently might ease the task for the professionals. Accountability and responsibility lies with this person. The case manager and the multidisciplinary team could assist. These two comments tie up with earlier suggestions, from people with hospital experience, to assist with costing.

5.2.3.2 The costing process

One participant suggested that set treatment protocols and costing guidelines must be followed. Processes were suggested to ensure that accurate costing

occurs. Prior to sorting out the processes, attitudes have to be changed; this was the comment made. Whether the costing process is done electronically or on paper, the person responsible for the costing should train regularly. Suggestions made by participants were that nurses should be subjected to early training about costing, by it being part of the undergraduate studies. Older nurses in the employ should be sent on refresher courses or even introductory courses. Other suggestions received were the design of Unit specific cost sheets. Ntlabezo et al (2004) stated the majority of nurses understood the importance of standardised procedures to minimise costs however, Nurse Managers perceived their preparation orientation to cost containment in provincial hospitals to be inadequate. The findings were aligned to the literature and nurses do require better preparation about cost containment. However, It was found that the insights around what exactly affects costs and quality care have changed.

5.2.3.3 Review of document

Suggested alterations to the UPFS cost sheet were made, such as being standardised as per the respective ICU, e.g. cardiac ICU would get a cost sheet with all the cardiac procedures and items for costing, or alternatively standardise a cost for the ICU and one for the general wards. One participant disagreed with having Unit specific cost sheets due to multiple co-morbidities. The participants, with a heightened awareness of the importance of costing in an ICU verbalised the desperate need for a user-friendly tool to be able to comply. An electronic version of the form was requested. A suggestion of having a computer clerk to whom everything would be relayed for costing purposes resulting in one person using the computer or have a tick list and the clerk would capture the billable items in real time. The current form is not user friendly and is targeted towards the ICU's and the surgical wards, not necessarily incorporating the general wards. The UPFS form does not have all the items listed or enough space for writing additional items. One participant thought the source document was user friendly.

Nurses were also concerned about the accuracy and loss of resources not accounted for during the current process of costing. It is believed that stock might be lost and not be accounted for, as one procedure is costed and billed to the

patient although it may take twice the amount of stock to perform it correctly. Another finding was that if an alternative category of staff could do the costing it would minimise the degree and level of errors, however, that person would not be available 24 hours. The participants suggested that an administrative person shadow the nurse. Another participant reviewed unsuccessful previous costing practices, such as using an empty bag for used items that had to be costed at the end of the day. At the end of the shift, the nurse was busy costing and not finishing patient work. One participant requested a costing tool that would ensure savings . In-depth knowledge could also assist with costing for standard predictable conditions.

The need for accurate costing to assist budget planning is coming to the forefront in modern nursing management. Popesko (2013) advised that ABC costing was an economic tool used for quantifying the cost of the procedures carried out on a predefined budget and a reliable method was as vital as educating hospital staff.

The collection document must be user-friendly and visible. All items must be accessible on the cost-sheet so that it becomes habit once you have gotten used to the document. In-depth training must be provided so that no-room is left for misinterpretation. Everybody must use a standardised form.

Attitudes have to undergo repair so that we can be open to changes. The senior, experienced participants were more innovative with their suggestions as compared to the junior participants.

5.2.3.4 System review

Some participants felt the barriers stemmed from an attitude towards the costing. The attitude was as a result inconsistency, and lack of resources for the electronic version. A successful software package, as advised by Oseifuah (2014) is vital to the success of the process. Paper forms work better but get lost in the movement of the file and the patient. Costing has been sold in a negative way, so there is already a barrier to wanting to do it. Nurses are of the opinion that their job is to care and not charge the patient. The accounts and billing departments should be

costing and billing. Participants stated that the nurses were trying, but unlike in the private sector where they are strict about costing, in the public sector “it is done but not perfectly” (Participant 12). Participants have indicated they were not cost effective and did not have a business-minded mentality like the private sector.

System issues were reiterated and a system failure highlighted - the process does not start at the beginning of the patient’s admission to the hospital. One other possible system failure suggested was the possibility of autocratic decisions.

Other findings illustrated that the disinterest in the costing was a result of poor training and lack of knowledge within the hospital due to the high turnover of staff. Suggestions on possible solutions were forthcoming from the participants. Activity-based costing is not designed for profit driven information, rather on usage within a predetermined budget and that deeper knowledge would enable managers to use limited resources cost effectively (Popesko, 2013). This highlights the importance of ensuring that a dedicated person is allocated to cost, the tool is user-friendly and is obtaining relatively accurate information and the whole system works as processes are standardised and followed, with consequence management in the event that the process is not followed.
It appears that the participants have reviewed some of the processes involved in costing. Communication via all levels should be open and conducive to creating and sustaining change. Consequence management for not costing is required. Human capital is vital for the execution of this task.

Similarly, participants were frustrated and encountering various challenges with the costing. Teamwork as highlighted would involve speaking to the rest of the team. Participants felt unsupported by healthcare teams in the Units. Some participants had and some had not spoken to the multidisciplinary team. Other suggestions made by participants included medical interns, or recruiting unemployed students.

The determination to improve the availability of resources within the healthcare system, by ensuring the correct system is in place, is inspiring. One participant

advised that the system should be tested prior to introducing it; this is an indication of sustainable solutionist thinking.

Ntlabezo et al (2004) highlighted that the Nurse Managers should be knowledgeable and found that issues could be identified and circumscribed solutions limited to the Units could be verbalised. However, it could not be determined whether the nurses would be able to implement the necessary changes to enable the solutions.

Generally, the literature indicates that nurses should be knowledgeable about cost-containment, quality patient care and outcomes; but what does this mean? Are nurses empowered to know this? It would appear that all nurses should have the knowledge and insight, and that a change in the scope of practice of nurses should be looked into. Nurses are driving change, they have identified systemic issues and have provided solutions.

Whilst the researcher is in agreement with Ntlabezo et al (2004) on the required knowledge base, the researcher feels that nurses should be empowered even further.

5.3 LIMITATIONS

The interviews were conducted and transcribed verbatim by the sole researcher, with sections of conversation chosen to support and answer the research question. The danger was that the selected sections were chosen according to the researchers “own assumptions about the importance of data rather than focusing on the participants words” (Holloway and Wheeler, 2010, p283).

The researcher focused on her preconceived questions, and what she thought was important resulting in questions that would lead the conversation and restrict the participants’ thoughts. Holloway and Wheeler (2010, p287) caution researchers about “primacy of collected data” and not to focus only on what they think is important but on the ideas that emerge from the participants and what the participant thinks is significant.

The lack of generalisability of findings due to the sample size, however, saturation of data was confirmed. Additional interviews were performed and “no new data or developing theory emerged” (Holloway and Wheeler, 2010, p 341).

The other limitation was the decision to conduct the interviews in the participant’s environment. The noise and interruptions, despite a sign on the door, may have hampered the information received or disturbed the participants train of thought.

5.4 RECOMMENDATIONS

This study reveals that Intensive Care nurses acknowledge the importance of daily costing of healthcare for patients in the ICU and recommend that the barriers to costing experienced should be minimised and the facilitators of costing be enhanced. Recommendations from the findings of this study are presented within four areas: management, clinical practice, education and further research and emanate from findings, which concentrated on all the factors imposing on costing: the person performing the costing, document used, process for costing and hospital system.

5.4.1 Management

Accuracy of service costing and pricing to enable comparable cost information is vital (Oseifuah, 2014; Seidel et al, 2006) however the literature does not cover when would be the most convenient time to cost so that accuracy can be maintained. ICU nurses varied in their opinions on when was the best time to fill in the UPFS form. This activity was dependent on the Unit’s activity and speciality. Usage was recorded as the day progressed and upon the activity-based care being rendered whilst others prioritised the patient care and then cost for usage was recorded. The participants explained that both methods had negatives and positives associated to it but it would appear that the most accurate would be to record the usage shortly after the act. This practice would be sensible to prevent loss of stock that would later be difficult to account for.

Effective and efficient operational processes can be achieved, as ABC data will enable management to streamline and restructure (Oseifuah, 2014). ICU nurses suggested that for accuracy in costing to be achieved, processes have to be developed. Process mapping provides structural and useful information for eliminating non-value added steps and allows improvement in processes (Ridderstolpe, Johansson, Skau, Rutberg and Ahlfeldt, 2002). Accuracy should be evidenced-based. Evidenced-based processes that can be tested and assessed should be employed; this allows any measurable process to be improved upon. Process improvement methodology is considered necessary, Ridderstolpe et al (2002). Costing processes should not stop upon discharge of the patient but upon receipt of comprehensive invoice by the patient.

Suggested alterations to the UPFS cost sheet were made. From the design of Unit specific cost sheets to improving the perceived flaws within the current document and ensuring a user-friendly, visible charge sheet. Suggestions regarding the collection document that it must be user-friendly and visible. All items must be accessible on the cost-sheet so that it becomes habit forming. In-depth training must be provided so that no room is left for misinterpretation. Everybody must use a standardised form, i.e. only one version of the form must be accessible.

Change management engagement, to alter attitudes stemming from costing, so that consultation occurs with all professionals involved in patient care, is vital. This would ensure that the multidisciplinary team, as mandated, manages the task of costing and not just the nursing team.

System issues were reiterated and highlighted that the costing process did not start at the beginning of the patients admission to the hospital, hence a disjunction within the hospital system. “Implementation of a process-based costing system involves investments in both time and money and requires employee acceptance, commitment and organisational change” Ridderstolpe et al (2002, p.319). One has to consider whether the attitude toward costing was due to system failure. Management support should be harnessed for the benefits to be reaped by all. Communication via all levels should be open and conducive to creating and sustaining change.

The determination to improve the availability of resources within the healthcare system by ensuring that an electronic system is in place is priority. To ensure sustainability, one participant suggested that the system and entire costing process be tested prior to introducing it. Random audits should be done within a facility to ensure compliance and quality improvement.

5.4.2 Clinical Practice

Improved cost containment and control is possible as health care professionals are suitably positioned to act as gatekeepers for effective control and use of resources (Nethathe et al, 2017). ICU nurses are very busy, with quality patient outcome and safety being the priority. ICU is a very unpredictable environment. ICU nurses have stated that although they are not averse to costing for healthcare activities, they would appreciate assistance with the task, from a person that is not allocated to direct patient care so that quality of care is not affected and errors and adverse events don't increase. The WHO Teamstepps program (2009) recommends that the core team is responsible for direct patient care and the coordinating team is responsible for day-to-day functions and resource management. Three suggestions emanated from having a case manager, retired nurse, to an administrative person with hospital experience and knowledge that could be used; this would be beneficial, as the person would already know the system and / or have hospital experience.

The need for supportive administrative roles whilst encouraging optimal utilisation of skill is reinforced. A resource specialist should be the one to control the entire stock in the ward efficiently. According to WHO (2009), support staff would improve operational efficiency and patient safety. Accountability and responsibility would lie with this person. The Case Manager and the multidisciplinary team could assist. Consequence management for not costing should be done. Human capital is vital for the execution of this task.

Teamwork (WHO, 2009) has been highlighted as another solution, which would involve mobilising the rest of the multidisciplinary team. A patient safety culture is

reliant on a collaborative teamwork environment (Goh, Chan and Kuziemsky, 2013). Some participants had spoken to the multidisciplinary team while others had not. The emphasis on teamwork is not only to encourage good outcomes for patients but also to improve the quality of work life for healthcare professionals (Wheelan et al, 2003)

5.4.3 Education

Nethathe et al (2017) found that South African healthcare professionals indicated limited awareness of cost measures during training and that attention should be paid to improving cost awareness among this group. Whether the costing process is done electronically or on paper, the multidisciplinary team should be trained and the attitude should be subjected to change management. The implication is that both managers and employees learn new behaviours and new attitudes (Werner, 2012). The need for accurate costing to assist budget planning is coming to the forefront in modern nursing management. In-depth nurses' knowledge could assist with costing for standard predictable conditions. By ensuring that all activity-based services are costed, a much more accurate ward and hospital budget can be forecasted.

Other perceptions (Ntlabezo et al (2004) about costing and billing that require early intervention are that nurses need to be taught and given some insight during training to be aware of resource usage and cost control. Early intervention about awareness regarding costing and cost of healthcare should be introduced during the training of nurses. Improvement within this area is vital due to the resource limitations and should be a part of undergraduate studies. Older nurses in the employ should be sent on refresher courses or even introductory courses on resource management and cost containment.

5.4.4 Further Research

Further recommendations would be to have a focus group with the nurses in all high costing areas, to develop a source form or costing document that would

contain all items and/or activity-based costing items that would be inclusive and indicative of the continuity of patient care.

A further proposal would be to conduct a quasi-experimental intervention study using a mixed methods approach to develop a form that would be acceptable to test in a broader population and then to develope and conduct an educational intervention to determine its efficacy. Included would be to assess if all billable activities can be contained in one document, if it is user friendly and whether it can be standardised in the public sector with the aim to assist research data collection, make informed business decisions and quality assurance decisions pertaining to health costing and financing.

5.5 CONCLUSION

The issue of costing is of central importance for the understanding of cost effective quality patient outcomes. Despite this, little attention has been paid to costing for healthcare services done by nurses in hospitals. In this research, the researcher set out to explore the opinions of Intensive Care nurses towards costing and the barriers experienced with regard to costing. ICU Nurses, the Intensive Care Unit and the central hospital setting are expensive, and have limited resources within the South African Healthcare sector. Their views could influence future changes with regard to costing practice, facilitators and barriers of costing as well as cost effectiveness of the ICU and yield sustainable cost containment suggestions.

The researcher's interest was piqued as she is a case manager and often hears complaints about loss of revenue due to nurses not costing for services rendered.

The findings of this study reveal that nurses have a good understanding of why costing should be done and how essential its contribution is to providing healthcare. The nurse's opinions of costing and the barriers affecting the costing is directly related to the nursing competencies for Critical Care nurses which emphasises care to the unstable or critically ill patient (SANC, 2014). De Beer et al (2011, p6) refers to "intensive care as the sub-speciality of Critical Care". Costing for usage of resources is vital for the Unit, hospital and country, as well as

cost effective quality patient outcomes. However, the Intensive Care nurses feel that as quality patient outcomes are dependent on multidisciplinary teamwork, the multidisciplinary team should be held responsible for the costing. A collaborative team culture and teamwork had a positive impact on patient safety, staff psychology safety and financial results by impacting better adverse event reporting and better decisions being made (Goh et al, 2013) The nurses feel that a Case Manager or administrative support person should be responsible for the costing in the ward.

The findings support the idea that nurses require early training about costing and require assistance with the time-consuming costing of resource usage. In order to allocate and utilise resources responsibly, accurate costing information is vital (Seidel et al., 2006). The National Health Insurance strategic purchasing and alternative re-imbursement models design is dependent on monitoring of utilisation and that sustainability requires that both supply and demand side measures be put in place (Department of Health, RSA, 2017). Nurses and the multidisciplinary team form the core team for the patient and are involved in direct patient care. A coordinating team member should be available to assist with the activity-based costing (WHO, 2009). This study confirms earlier work by Ntlabezo et al (2004) that Nurse Managers require better preparation for their cost control responsibilities and insight into issues affecting cost containment efforts besides staffing issues and security checks (Ntlabezo et al, 2004, pp. 34-35). Suggestions that nurses have made significant progress in this area as the identification of barriers and solutions revealed that nurses are concerned about sustainable solutions to the cost of health as well as change management principles to implement and ease in the sustainable changes. Nurses are advocating for patients on a financial realm. It can be concluded that the heightened awareness of activities and costs created and improved decision making, provides better cost control and cost management leading to a better understanding of cost reduction opportunities (Oseifuah, 2014).

Ongoing training in the various units with regards to filling in the UPFS charge sheet continues. The training is inclusive of the multidisciplinary team with the aim

to foster team accountability of resources used. Creating awareness about the costs involved in healthcare is growing in momentum.

Further work needs to address the assistance that nurses require for resource usage management. Recommendations would be to have a focus group with the nurses in all high costing areas to develop a source form or costing document that would contain all items and/or activity-based costing items that would be inclusive and indicative of the continuity of patient care. A further proposal would be a quasi-experimental intervention study using a mixed methods approach to develop a form that would be acceptable to test in a broader population and then to conduct an educational intervention of its efficacy. Research on the specific role of a billing clerk based in the ICU would be of value in resource usage and control. It is hoped that this study will add to the existing body of knowledge.

LIST OF REFERENCES

Aldogan, M., Austill, D.A., Kocakülâh, M.C. 2014. The Excellence of Activity-Based Costing in Cost Calculation: Case Study of a Private Hospital in Turkey. *Journal of Health Care Finance,* 41(1): pp1-27

Board of Healthcare Funders Report. 2007. Investigation into a Procedural Coding System for South Africa*,* Pretoria

Burns, N. and Grove, S.K., 2009.*The Practice of Nursing Research – Appraisal, Synthesis and Generation of Evidence,* St. Louis: Saunders Elsevier.

Clarke, V & Braun, V. 2013. Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist*, 26(2): pp. 120-123.

Creswell, J.W., Poth, C.N. 2018. *Qualitative inquiry and research design. Choosing among five approaches*, Los Angeles: SAGE

Dasta, J.F., McLaughlin,T.P., Mody S.H., Piech, C.T., 2005. Daily cost of an Intensive Care Unit day: The contribution of mechanical ventilation. *Critical Care Medicine,* 33(6), pp. 1266-1271.

De Beer, J., Brysiewicz,P. & Bhengu, B.R., 2011. Intensive Care Nursing in South Africa. *Southern African Journal of Critical Care*, 27(1), Online ISSN: 2078-676X

Department of Health, RSA. 2017. *National Health Insurance Policy - Towards universal coverage*, Government Gazette

Department of Health, RSA., 2012. *The National Health Act, 2003*, Government notice no. R185 of 2 March 2012.

Gauteng Department of Health. 2007. Policy Addendum 3 of Circular Minute number 81 of 2007- Uniform Patient fee schedule costing

Gibson, D. 2004. The gaps in the gaze in South African hospitals. *Social Science and Medicine*, 59, pp 2013-2024.

Goh, S.C., Chan, C., Kuziemsky,C. 2013. Teamwork, organizational leaarning, patient safety and job outcomes. *International Journal of Health Care Quality Assurance*, 26(5), pp 420-432.

Herbert, V. 2011. Open visiting policy: Belief and attitudes of Intensive Care Clinicians. *Masters Dissertation: University of the Witwatersrand*

Holloway, I., Wheeler, S. 2010. *Qualitative Research in Nursing and Healthcare*. United Kingdom: Wiley-Blackwell

Hussain, S.T., Lei, S., Akram, T., Haider, M.J., Hussain, S.H., Ali, M. 2016. Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation & Knowledge,* 3 (2018), pp 123–127

Javid, M., Hadian, M., Ghaderi, H., Ghaffari, S., and Salehi, M., (2016). Application of the Activity-Based Costing Method for Unit-Cost Calculation in a Hospital. *Global Journal Health Science,* 8(1), pp165–172.

Karabatsou, D., Tsironi, M., Tsigou, E., Boutzouka, E., Katsoulas, T., Baltopoulos, G. 2016. Variable cost of ICU care, a micro-costing analysis. *Intensive and Critical Care Nursing*, 35, pp 66-73

Kisorio, L.C., Schmollgruber, S. 2009. Validity and reliability of the simplified Therapeutic intervention Scoring System in Intensive Care Units of a public sector hospital in Johannesburg. *South African Journal of Critical Care*, *25(2), pp36-43*

Langley, G.C., Kisorio, L., Schmollgruber, S. 2015. Moral distress experienced by Intensive Care nurses. *South African Journal of Critical Care*, 31(2), pp 36-41

Lincoln, Y.S., & Guba, E.G. 1985. *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

Matlakala, M.C. & Botha, A.D.H., 2016. Intensive Care Unit nurse managers' views regarding nurse staffing in their units in South Africa. *Intensive and Critical Care Nursing*, 32, pp 49-57

McLaughlin, A.M., Hardt, J., Canavan, J.B., Donnelly, M.B., 2009. Determining the economic cost of ICU treatment: a prospective "micro-costing" study. *Intensive Care Medicine*, 35, pp 2135-2140

Mercier, G., Naro, G. 2014, Costing Hospital Surgery Services: The Method Matters. *PLoS ONE* 9(5): e97290. doi:10.1371/journal.pone.0097290.

Merriam-Webster online dictionary.
https://www.merriam-webster.com/dictionary/dictionary
(accessed 15/01/2019)

Naidoo, K. J., Singh,K.J. & Lalloo, U. 2013. Critical analysis of ICU / HC beds in South Africa: 2008-2009. *South African Medical Journal*, 103(10), pp. 751-753.

National Department of Health. 2007. *Uniform Patient Fee Schedule for paying patients attending Public Facilities*. March 2007, Pretoria

National Treasury. 2010. *Public Finance Management Act No. 1 of 1999*, Government Gazette 33059 dated 1 April, 2010

Nethathe, G.D., Tshukutsoane, S. and Denny, K.J. 2017. Cost awareness among healthcare professionals at a South African hospital: A cross-sectional survey. *South African Medical Journal* , 107(11), pp 1010-1014.

Ntlabezo, E.T., Ehlers, V.J., Booyens, S.W. 2004. South African nurse managers' perceptions regarding cost containment in public hospitals. *Curationis*, Issue August, p. 34 to 42.

Oseifuah, E. 2014. Activity based costing (ABC) in the public sector: benefits and challenges. *Problems and Perspectives in Management,* 12(4), pp. 581-588.

Oxford South African Pocket Dictionary. 2006. Oxford University Press Southern Africa (Pty) Ltd . Third Edition.

Popesko, B. 2013. Specifics of the Activity-Based Costing applications in Hospital Management. *International Journal of Collaborative Research on Internal medicine & Public Health*, 5(3), pp. 179-186.

Purpora, C., Cooper, A., Sharifi, C. 2015. The prevalence of nurses' perceived exposure to workplace bullying and its effect on nurse, patient, organization and nursing-related outcomes in clinical settings: a quantitative systematic review protocol. *JBI Database of Systematic Reviews & Implementation Reports,* 13(9), pp 51 – 62.

Republic of South Africa. 2004. *National Health Act, 2003. No. 61.* Government gazette, Government printers.

Republic of South Africa. 2005. *Nursing Act, 2005. No. 33.* Government gazette, Government printers.

Ridderstolpe, L., Johansson, A., Skau, T., Rutberg, H., Ahlfeldt, H., 2002. Clinical process analysis and activity-based costing at a heart center. *Journal of Medical Systems,* 26(4), pp.309–322.

Schellack, N., Meyer, J.C. & Gous, A.G.S. 2011. Part 11 Health and economic context. South African Medical Journal, 101(8), pp. 558-561.

Schmollgruber, S. 2015. Development of competency standards to inform Intensive Care Nursing Practice. PhD Thesis *(Unpublished):* University of the Witwatersrand

Scribante, J. & Bhagwanjee, S. 2007. National audit of critical care resources in South Africa – nursing profile. *South African Medical Journal*, 97(12), pp1315-1318

Seidel, J., Whiting, P.C. & Edbrooke, D.L. 2006. The cost of Intensive Care. *Continuing Education in Anaesthesia, Critical Care & Plan,* 6 (4) pp 160-163. Available at : http://ceaccp.oxfordjournals.org/content/6/4/160.full

Shenton, A.K. 2004. Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*. 22(2004), pp 63–75.

South African Nursing Council (2014) - Proposed Competencies for Critical Care Nurse Specialist (Adult). Available at: http://www.sanc.co.za/pdf/Competencies/SANC%20Competencies-Critical%20Care%20Nurse%20Specialist%20(Adult)%202014-05.pdf (Accessed 16/1/2019)

The Business Dictionary (2019). WebFinance Incorporated. http://www.businessdictionary.com/definition/costing.html. (accessed 15/1/2019)

Thomas, G. 2013. *How to do your Research Project - a guide for students*. Second ed. London: Sage.

Thungjaroenkul, P., Cummings, G.G., and Embleton, A., 2007. The impact of nurse staffing on hospital costs and patient length of stay: A systematic review. *Nursing Economics*, 25(5), pp 255-265

Vassar, M. & Holzmann M, 2013. The retrospective chart review: important methodological considerations. Journal of Educational Evaluation for Health Professions, 10(12), pp. 1-7.

Werner, A. 2012. *Organisational Behaviour A contemporary South African perspective*. Third edition, Van Schaik Publishers, Pretoria, p386

Wheelan, S. A., Burchill, C.N., and Tilin, F., 2003. The link between teamwork and patients' outcomes in Intensive Care Units. *American Journal of Critical Care*, 12(6), 527-534

World Health Organisation. 2009. Topic 4: Being an effective team player. Available at: https://www.who.int/patientsafety/education/curriculum/who_mc_topic-4.pdf (accessed 16/01/2019)

APPENDIX A

EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARDS COSTING IN A CENTRAL HOSPITAL IN GAUTENG

Information Letter re: Participation in Research study

Dear Colleague

My name is Cindy Veran, and I am studying for a Master's Degree in Nursing, with the Department of Nursing Education, at the University of the Witwatersrand. I am conducting a research study and would like to request your consent to participate in the study. The topic is "An exploration of ICU nurses opinion and barriers experienced towards costing, in a central hospital in Gauteng."

The study includes nurses working in the ICU. Participation is strictly voluntary. Attached is a consent form to ensure voluntary participation and that you have not been coerced.

All information obtained will be analysed. No identifying information will be shared and strict confidentiality will be maintained. When the results are analysed, no identifying criteria will be shared.

The aim of the research study is to explore the opinions of ICU nurses regarding the current daily costing sheet, as their views can influence the cost effective treatment that is rendered to ICU patients. The results of the research study will be used to improve upon the current body of knowledge.

Thank you for your consideration to participate in the study.
Yours sincerely,
Cindy Veran
Master's degree student
University of the Witwatersrand Telephone: 083 510 2277

APPENDIX B

EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARD COSTING IN A CENTRAL HOSPITAL IN GAUTENG

Consent form to participate in Study

I , _____ (print name) have read the information letter provided and do, hereby consent to voluntary participation in the study "To explore ICU nurses opinion and barriers experienced toward costing, in a central hospital in Gauteng " I understand that confidentiality of my identification will be maintained.

_____

(Signature of Participant)

_____

(Date)

APPENDIX C

EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARDS COSTING IN A CENTRAL HOSPITAL IN GAUTENG

Consent form for recording of Interview

I , _____(print name) have read the information letter provided and hereby consent to the interview session/s being recorded in the study "To explore ICU nurses opinion and barriers experienced toward costing in a central hospital in Gauteng." I understand that confidentiality of my identification will be maintained.

_____

(Signature of Participant)

_____

(Date)

APPENDIX D

EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARDS COSTING IN A CENTRAL HOSPITAL IN GAUTENG

DEMOGRAPHIC DATA

Please read each item below and mark with an X at the correct answer or provide the correct response where required:

1. **Indicate your gender:**

Male	
Female	

2. **Indicate your age:**

< 25 years	
25-30 years	
31-40 years	
41-50 years	
51-60 years	
61-65 years	

3. **Indicate the years you have been working in an Intensive Care Unit:**

< 1 year	
1-5 years	
6-10 years	
11-15 years	
> 15 years	

4. **As a professional nurse what position do you hold in the Intensive Care Unit?**

Permanently employed working in a shift	
Agency worker	
Unit manager	
Shift leader	
Clinical facilitator/mentor	

5. **As a professional nurse do you hold an additional qualification with SANC?**

Yes	
No	

6. **If yes in question 5, kindly stipulate which qualification(s):**

_____

APPENDIX E

EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARDS COSTING IN A CENTRAL HOSPITAL IN GAUTENG

SEMI-STRUCTURED INTERVIEW PROCESS

Semi-structured Interview process	The aim is to ensure that the same general information areas are covered whilst allowing some freedom to the interviewee
Interview preparation	Setting - choose a quiet room. Put sign on door to prevent interruptions during interview Introduce myself and explain reason for doing the research. Explain confidentiality Ask for permission to record interview Interviewee able to ask questions at the end of interview Advise on approximate length of interview
Introduction	Explain the purpose of the study
Semi-Structured questions 1	Please tell me what do you understand by "costing for the services" that the patient receives ? Probe interviewee depending on the answer to examine feelings
2	Please explain what do you think about nurses costing for the services rendered in an ICU e.g. CVP insertion? Continue probing and exploring opinion
3	What do you think are the barriers that you experienced with regard to costing and completion of the UPFS forms/charge sheets? Continue probing to get interviewee to elaborate about behaviour
4	What could be done to ease the process for you, as nursing staff? Explore process knowledge
Termination of interview	Ask interviewee if he/she has any questions? Thank interviewee for participating Advise interviewee on how to contact me if necessary Stop recording.

APPENDIX F

EXPLORATION OF INTENSIVE CARE UNIT NURSES' OPINION AND BARRIERS EXPERIENCED TOWARD COSTING IN A CENTRAL HOSPITAL IN GAUTENG.

SEMISTRUCTURED INTERVIEW GUIDE AND PROBES

Semi-Structured questions	Possible questions	Possible follow-up questions	Probes
1	Please tell me what you understand by "costing for the services" that the patient receives ?	How does that make you feel?	Please elaborate on why you feel so strongly/negatively?
	Probe interviewee depending on the answer to examine feelings		
2	Please explain what you think about nurses costing for the services rendered in an ICU, e.g. CVP insertion?	You don't feel that it should be the responsibility of nurses?	Kindly explain further
		Why is it the responsibility of nurses?	
	Continue probing and exploring opinion		
3	What do you think are the barriers you experienced with regard to costing and completion of the UPFS forms/charge sheets?	What prevents/stops you from filling in the charge sheet?	Go on…. Explain that ……
		When do you find it convenient to fill in the form?	

	Continue probing to get interviewee to elaborate about behaviours		
4	What could be done to ease the process for you, as nursing staff?	So have you given some thought to this issue?	Ok?
		How long have you felt this way?	
		Have you discussed this with your superiors?	
	Explore process knowledge		

APPENDIX G

Example of Interview

Interviewer: Thank you for agreeing to be interviewed.

Interviewee: It's a pleasure.

Interviewer: My topic is "to explore ICU nurses opinion of costing for healthcare in a Central Hospital in Gauteng". I'd like your opinion, please. Everything that we are going to discuss will be confidential. Only my Supervisors and I will have access to the recordings. No personal information, nothing that will identify you will be shared once we write up the research. After the interview, I would give you some time to ask any questions if you have.

Interviewee: Hmm.

Interviewer: Ok! Are you Ok to start?

Interviewee: Yes

Interviewer: Please tell me what do you understand by costing for services that the patients receive?

Interviewee: Ok, so all patients in a hospital have a, uhmm, or incur a cost to that facility in which in a government sector is obviously incurred to the government and in private sector it's paid directly to the private sector company and so services would be things like supplying oxygen, supplying care for the patient as well as tangible things like the cost of the equipment that is used. So if you go to theatre you use gas, that has to be paid for. You have somebody on duty in the recovery room, you use monitors, so you use leads. So there is the cost for the services as well as the cost for the actual equipment and both cost the company and tax man, they both need to be recovered in some or other way. Whether it is a part recovery in the public sector or whether it is a total recovery as it would be in the private sector from either the patient or the medical aid.

Interviewer: And how do you feel about patients paying in the public sector for services?

Interviewee: Paying? There are a lot of indigent patients who can't pay and so I think that we have an obligation to or well the government has an obligation to pay for services rendered to indigent patients. I do think that we could apply a means test to see whether the patient can pay or really can't pay because I think that some patients do come to the hospital for treatment and are in the position to make some contribution and don't always do so. So I think that we should be able to do a means test and the patient pays according to the means test but those patients who can't pay certainly shouldn't be denied health services.

Interviewer: And the patients that can afford?

Interviewee: Well the patients that can afford, there is two things. One is if they can afford it, why don't they go to the private sector and pay and why are they taking bed space away from the indigent patient who can't pay and can't go to the private sector. Alternatively if it is some sort of treatment that they can only get it in the public health sector, for example, a liver transplant, generally, is only available in the public sector. I know here in Johannesburg, it isn't, but those kind of treatment, certain research type related treatments are only available in the public sector and if that's the only place the patient can get it then the patient should get in from the public sector. However, the patient should be billed and that patient should then pay, if they can afford it.

Interviewer: Ok and how do you feel about nurses managing the costing?

Interviewee: I think that nurses should be managing the costing because after all it is the nurse that is indirectly spending the money, so every time you open a syringe for a patient, you know that you have opened that syringe. So who else is going to bill the patient if you don't make a note that you have used a syringe on a patient? So I don't see a way unless you have other staff members shadowing the nurses to see what they are using, there is no other way around the nurse not paying, I mean charging . The nurse has to be billing because otherwise who knows how many webcol swabs has been used overnight, if the nurse is not making a note of it.

Interviewer: So some nurses are conflicted in terms of them billing for the services rendered versus the time and the care that they have to render to the patient. How do you feel about that?

Interviewee: sigh! I feel that ummh, I think that there is possibly a sign of immaturity because we all know that whatever we have, whatever we get, somebody has paid for it.

Interviewer: Yes?

Interviewee: so if I go to a shop and they say have a free sweet on your way out, I know that somewhere, the cost of the sweet has been billed into the charge of the goods that I am taking or whatever.

Interviewer: Yes

Interviewee: So the same thing happens in a hospital. Where do they think or who do they think is paying for the oxygen? Who do they think is paying for the cleaner who cleans the beds or whatever? That costs money. So where is that cost coming from, if the patient is not paying it then it's coming from somewhere and we know it comes from the health funding and the Minister of Health allocates to the hospitals. So indirectly, no directly the taxman or person paying tax is

paying for that. So it's not that by not billing the patient that you are doing anybody a favour. You are not doing anybody a favour because what happens then, is that by not charging appropriately, management can't budget and if they can't budget or put in an appropriate budget they will never get the funds to pay for the stuff and that is partly why hospitals run in this huge deficit all the time because the company that you bought it from wants his money but we haven't accounted for what we have spent. So it doesn't make sense. Even if the money was coming from a charity somewhere you still have to be able to say this is what we have consumed and this is what we have purchased and this is what it is going to cost us.

Interviewer: So do have any ideas on how do we deal with the immaturity with those feelings with regards to costing?

Interviewee: I think that we probably should start a whole lot earlier then when we are running a ward. We should already understand that health cost money when you are a student nurse and right from early on; the fact that there is a contribution towards your health funding should be a concept that is taught to student nurses. Not to say that you are going to now rip a patient off unnecessarily and that's, I think some people are of the opinion that you will bill for things that aren't done or over bill. I don't think it's that at all. At the end of the day, we all pay more in petrol because the price of petrol that the government is paying is going up. So, the same applies to everything else, education, schooling whatever and health. So unless we have the budget to be able to have a totally free health system, then we need to pay. Patients need to pay but the staff need to understand that it is not free….. (giggling) ….. somewhere, somebody is paying.

Interviewer: So just to clarify, you are saying that we should be teaching student nurses much earlier. There should be a greater awareness with regards to the cost of health care?

Interviewee: Ya

Interviewer: So besides teaching them much earlier, how else, we have nurses in the hospitals already that are unaware of or not totally aware of the true implication of not costing for the services because you are right when you say that if we don't have a true reflection of what we are using our budgets will always be skewed. Any other ideas on how we can manage our current qualified staff?

Interviewee: Maybe one should take a couple of them, obviously not all in one go, but over a period of time perhaps over a year and let them each spend a month or two in the billing department, where they actually see that the pharmacy has ordered all of this or I don't know what you call it, you know the people that receive the equipment and the disposables and that is what it is costing us and where is the money to pay for it all. So if they worked perhaps in some type of

billing area, they would get some idea of what it costs including gases because gases are expensive.

Interviewer: Yes

Interviewee: And gases are not even seen as a cost item. So if they perhaps were responsible for part of their , certainly their orientation , let's say at this late stage, of the effect of costs. They were responsible for writing some of the stuff up and seeing what is does cost to run a hospital. Never mind the nursing bill, that in itself, managing the salaries is also, have they spent some time in HR looking at how we pay people across the hospital. Certainly some in-service. Sometimes in-service lands on deaf ears but if you are working in retrospect, so in other words, we want to cost and want to bill but the people in the wards are not participating or not pulling their weight, then you have a backlog of in-service to be doing. So in-service is one thing but I think that there is nothing more shocking then if you go shopping having a ten rand note and saying I am going to buy myself a sandwich and you find the sandwich to be thirty rand. You can't have it.

Interviewer: Yes

Interviewee: So that kind of experience might jolt them into the importance of billing.

Interviewer: And the assistance of case managers with regards to costing? So if the nursing staff in this scenario that you've just related now are not able to manage the costing and the case managers manage it in the billing department afterwards or the billing staff, would that be something that would assist?

Interviewee: I don't think that I see the role of the case manager as a billing clerk, if I am going to stick a name on them. I don't. I think the case manager is actually more involved in actual case management or should be and if anything maybe audits the bill. When I say audits the bill, the case manager should be the liaison with the Medical Aids or anybody providing the care. So you can look and say can't we get this at a lesser price so ….or… if we use somewhere else or another or competitive company, maybe we could get a better price for it. So and if you are a case manager, you might say we've got ten children on dialysis for example who live in the hospital, can't we arrange for them to have , each one to have an IPAD for example and where would we get that. So you manage case more as a case manager then billing items.

Interviewer: Retrospectively?

Interviewee: Yes, you would have to supervise that the billing is correct and patients have been billed for the right things but I don't think that the manual input should be from the case manager.

Interviewer: So you believe that the responsibility should lie with the nurses at the bedside?

Interviewee: They are the only ones that can do it because they are the only ones that know what they have used. You can't go at the end of the month and say we have used a whole box of 5 ml syringes, that is a hundred syringes, let's divide the cost between the last hundred patients that were in here. You can't work like that. You need to say that this patient used a 5 ml syringe every hour or that one only used three per day.

Interviewer: So the input of some admin staff in the wards, do you think that would be of assistance to the nursing staff?

Interviewee: I do think billing can be done by administrative staff but I do think that it should be administrative staff that have hospital experience because I think part of successful hospital billing is that if you see that the patient had an appendicectomy, you know there must be a theatre bill somewhere. You know there must be swabs. You know there must be dressings, that the patient had a drip. So I want to see that there must be a vacolitre and a line charged for. If you are totally unfamiliar with hospitals, you not going to know that. You are going to say, there is the appendicectomy, there is the doctors bill and there is the theatre bill and half the stuff will be left off and you wouldn't know. The hospital admin clerk that does not have the hospital knowledge would not know if stuff has not been billed for and that is why I say it is important that the nurse bills. Because the nurse knows, that I have taken out a vacolitre, I have changed this one and put that one up. I must bill that vacolitre of saline.

Interviewer: So when you say hospital experience, please explain to me?

Interviewee: Hospital experience meaning that you are familiar with procedures and what procedures, items, equipment and type of stuff that goes with that procedure. I have just given an example of an appendicectomy which is a surgical procedure. So you know that your patient has been to theatre. Therefore unless the patient went to theatre for the appendicectomy awake, there must have been an anaesthetic. There must have been a syringe involved. There must have been a needle involved.

Interviewer: So it does not have to be a formal qualification like a nursing diploma or degree?

Interviewee: No, I think that it is an expensive option and as extra member of staff, it is an expensive option, but I do think that you could very well use retired people on a lesser salary. So you use them for half day posts. Come in and bill and pay them. So the fact that I am ICU trained, I don't get paid for my ICU qualification, I get paid a set salary. So if I want to come and work, for R20 000 for a half day job for the month, then I can accept that job and do that. I am not doing

it in my role as a highly specialised ICU, nephrology / lecturer or whatever. I am doing it because that is the job. It is a billing job and I have the qualification that would meet the requirements.

Interviewer: The insight / knowledge to bill and manage the costing properly

Interviewee: Ja and often retired people would work for a lesser salary

Interviewer: And more especially a half day post!.

Interviewee: Yes

Interviewer: Ok! What do you think are some of the barriers that you've experienced with regards to costing and completion of the UPFS charge sheet that is being used in the wards?

Interviewee: I think one of the barriers, probably the most common barrier is that it is another job for the nurse to do and she is already busy. I do think that, that is probably one of the bigger barriers. Secondly I think that there is a, it's been sold in a negative way, so there is already a barrier between wanting to do it. I also think that perhaps they need to be trained on how efficiently one can do it. So if you have a tick list and you have a bag. Anything you do use, you just throw the paper or covering in the bag and then bill when you have a moment to bill. Take it out and you say this is a 5 ml syringe; this is a 20 ml syringe. So you don't have to do it write up and give it, write it up and give it. So to make the system easier, doing that also would assist the or if you had a billing person who was not the nurse. If there is a bag of goods and they do it often enough in theatre. If you have a bag of goods, you just have to scratch in it, throw away as you bill it, so that the patient gets billed for the correct stuff. However, there are some things that you can't put in the bag and you not going to bill for. I know that in most places, gloves are not billed for but if they were, for example then how you keep the gloves, you need to throw them away. It is not a full proof way but it certainly is a reasonable way to get a whole lot of stuff billed.

Interviewer: It is a good idea. You refer to the barrier for the nurses. Do the nurses feel like they are being forced to do it? Is it perhaps the instruction that they are given or where is the negativity coming from?

Interviewee: I think that some of the nurses are of the opinion that their job is to care and not charge the patient that is the accounts department, billing department and therefore why should they take on the job. I think it's silly because if we have schooled them from early on, to say that somebody got pay for it, so we need to know what it is costing us, then one can get around that feeling of "why should I bill the patient?" But I do think, most people who are against it, is because it is another job to do.

Interviewer: Additional work too that the nurses have to do. Do you feel, I want to almost say, do you feel sorry for the nurses in the wards, at the bedside in terms of costing? Do you look at it as a big addition to the job?

Interviewee: I don't. I think that once you start billing, you are going to uhmm, get into the hang of it and it becomes second nature. You know for example that every time you admit a patient, and my experience in the ICU setting, is that you know what the patient uses. I either put on 3 or 5 electrodes. I have done this, I have put a tag on, I have done that because it is standard with every patient. So once you have done that with two or three days, you know exactly what the patient should be billed for. If you have put up a drip, so you know you have that to charge. Once you are doing it, it's actually, becomes second nature to run down your tick list and fill it in. The other thing you know is, we can use lists that are stuck at the bedside and as you use it, so can you tick it off. Think about it, as you are doing it so you are ticking it off. I think that it just a mindset, I think it needs getting your mind around something that you perhaps have not been held responsible for before. In this hospital, here, I was a unit manager and I had to sit down and budget what my machines were going to cost and how I was going to cut costs around that. Where is the money going to come from if we needed something? I have been involved with budgeting and involved with cost for many years. It is not something new. But it is just another job that the nurse has to do. As I said, it doesn't have to be done by a nurse but it needs somebody with some insight to know that if you can match your patient's diagnosis is with what type of treatment they are going to have.

Interviewer: You have touched on one of the other barriers in terms of the notes. So, what has been brought to our attention as well is that the fact that nurses deal with a lot of paper.

Interviewee: Hmmm

Interviewer: Working in ICU, there is one big ICU chart and that covers basically the whole table that the nurse has got to work on. Would it be ideal to include it somewhere on the chart or at the back of the ICU chart or do you think keeping it separately as a separate sheet? The nurses don't want too many pieces of paper, they want something that is there, that's in their face almost and they want to look at it and be able to do it whenever.

Interviewee: Uhmm, … (sigh)…. I think if that's what they want then give them that and it doesn't have to be on the existing chart as it is so you don't have to go and redesign the chart. You can make it like a flip chart on the edge of the big chart so that when they flip it open, it is all there and they can flip it close or not, depending on the length of their table sort of thing. If they have verbalized that that would make it easier for them, then I would go with it even if you test it only in a few units to get people use to the idea. I Once they can bill, then you can

change it if it doesn't work. If they are willing to try it, then I would meet them half way.

Interviewer: How do you feel about nurses costing it on a computer?

Interviewee: I think that's ideally the way to go. I am just, I think, it would be fair to say that some nurses are not that computer literate.

Interviewer: True

Interviewee: And that, then, in itself will present a problem. It shouldn't be a problem in ICU because most of us ICU nurses like technology. So you shouldn't find that in an ICU. I guess that you will because students that I deal with are not all computer literate. I know that. Perhaps you would have to give them some sort of training first to allow them to be able to access the computer and know how to use it.

Interviewer: So when you are looking after a patient at the bedside, what do you find most convenient? Do you set time aside to do your costing or do you do it whenever, whatever you have used, you bill it simultaneously? Do you do it before you go home in the evening, before lunch after tea?

Interviewee: I do it as I use it. So if I am doing medications now and must go and draw up another syringe for morphine or something like that. I go and fetch the syringe and needle and whatever and bill it then because otherwise, time can run away from you. If you are doing it at the end of the day, then I might have to stay on duty another half an hour, because I probably won't do it or the billing and I probably would have forgotten. So as you are doing it as you are doing it, then it is the best way of doing it. However, sometimes, particularly in an ICU, you are busy with a number of tasks at the same time and you don't get to bill it immediately, then you will bill it when you are writing the report or doing your documentation or doing your nursing things up to date. You can do it then as well, but you do stand the chance of forgetting some item if that's what you do.

Interviewer: Have you ever found that nurses would go home and remember to bill some important item and then call you and say "oops, I forgot to bill or charge an item on such and such ".

Interviewee: Yes

Interviewer: So it does mean that some nurses are interested in what is being used and the expenses that go into patient care?

Interviewee: Yes, I was very fortunate that I worked with a team of people that were very aware of billing and the need for billing. Our unit manager always kept us up to date about how the billing is going and if we were sort of out of budget for a certain item. They would say you know , let's say it was webcol swabs , and so

clearly this month people have not billed the webcol swabs and now we a short of a box because it was not billed for and now not replaced.

Interviewer: So the scene for costing is definitely set from a management point of view. Your manager does drive the importance in the ward with regards to costing.

Interviewee: Hmm!

Interviewer: Do you have any other ideas that you have thought about over the years on how we can improve costing within the hospitals?

Interviewee: Well the collection documents must be user friendly, so it must be something that is quick and easy and keep it in the same sequence, whatever, easy to read and so it is quick and easy to tick and fill it in. I do think that what they did in theatre , where they threw everything it in a bag and billed it once the patient was or left the theatre, worked well because everything that they used, there was evidence of it there.

Interviewer: Yes

Interviewee: So and if it works for you in an ICU, I also worked in an ICU where we resorted to that because we were quite short of staff and when you double up sometimes then you can't remember everything . If it was in the bag, we were unlikely to forget about it. But like I said not everything can fit in a bag.

Interviewer: Yes

Interviewee: So, uhmm, and certainly where I was working some things were not billed to the patient, it was ward stock and so we didn't bill for that but ja, certainly with a computer, I am seeing units in Australia where things are being billed on a computer, but what they did there, they had a computer clerk and then everybody or as you used an item, you relayed it to the computer clerk and the clerk would put it on the system. You didn't have everybody on the computer, you only had one person. But, of course, when you have 3 or 4 people using something at the same time, you rely on that. It's almost quicker to put it in yourself then to write down what you have taken. They had a tick list, which they would write down or tick what they used and had to the clerk and she would capture it.

Interviewer: Every day?

Interviewee: Every hour of every day. She was permanently capturing on the computer.

Interviewer: So it was real time billing?

Interviewee: Well real time within the hour.

Interviewer: Ok!

Interviewee: Because if there was six to ten staff on duty you would be getting items from ten people

Interviewer: The idea about the bag is simple, easy and practical. I mean you just tie a bag next to the patient's bedside and where you are writing your notes you just manage it from there.

Interviewee: Ja!

Interviewer: What could be done in your opinion to ease the process for nurses? We do know that it is an additional task. Do you have any ideas on how we can ease it for the nurses going forward?

Interviewee: Long pause …sigh…. I don't know …..I just think that one has to get across to them the importance of billing. If you are not committed to something you are not going to see it as important and really going to be last on the list of tasks that you are going to do. Whereas it can be part of the task that you do and really it doesn't take a lengthy time. There are some things, for example, I am thinking, when you have a patient going for cardiothoracic surgery, there is a lot of stuff that you are going to have when the patient comes back from theatre and you are going to change lines, drains and whatever. In those units we had a big bag and every patient coming in got a bag of things and whatever we used on the patient came out of that bag.

Interviewer: Ok?

Interviewee: The patient was charged for the bag

Interviewer: All the contents?

Interviewee: All of the content s of the bag. So what happened is, the stuff that you didn't use on the patient, you would put in another bag and return it and the patient was credited for it. Now that crediting is not done by the nursing. So you move that billing process to somebody off site and the creditor doesn't have to know anything about anything. They only have to know to say that this is a green pen, credit, this is a red pen, credit.

Interviewer: Take it off the account?

Interviewee: So they don't need to know. Unlike, if you have somebody who is going to do the billing at the bedside, they need to know, well this is what happens and this is what you bill for. The clerk has a bag of thing s and you credit whatever is left in that bag.

Interviewer: So there is no running around for the nursing staff preparing in advance for the procedure?

Interviewee: Ja

Interviewer: So it's a matter of somebody preparing the bag from pharmacy / stores etc.

Interviewee: Ja , we would say for example if the patient was going for a valve replacement, you would have so many electrodes, change this every day, add on whatever and whatever. So all these stuff was in there and when we set up for this patient, we packed out all these things into the bed space, but we kept the plastic bag. So anything that went back would go into the bag and then back for crediting.

Interviewer: So it was almost total patient care in a bag and not per procedure but total patient care?

Interviewee: Ja , with cardiothoracic surgery, there is standard things that you do. So if you have that kind of patient or an appendicectomy, there are standard things that you would do, a tonsillectomy, standard things that you do. So if you are doing that kind of surgery or that kind of procedure, you can do that. So after that obviously, if you had a complicated patient and you exceeded beyond that, then you would send those back for crediting and just go on in your normal manner after that.

Interviewer: Interesting idea, I like the idea…..total patient care in bag.

Interviewee: Laughing…..giggling….. you know if you have a whole lot of people together, I possibly for example would say, let's take all the ICU's, medical type ICU's and assess how are we going to do this . Let the unit managers come up with an idea because if it is their idea, they will manage it.

Interviewer: You will have the buy in?

Interviewee: Ja ! And then get all the surgical team together, then decide how they going to manage it and let them take ownership for how they are going to manage it in their unit.

Interviewer: Interesting, nice idea. So in terms of costing nurses are going to be, ideally they should be responsible for the costing. Costing for the other services like your physio's, OT's, allied services, who do you think should be responsible for that?

Interviewee: Well in a public sector hospital, if the physio has been to see the patient , then the physio can make a note in the chart and when the nurses are filling that in , they can see that the physio has been there . She has filled in a report on the ICU chart, and you can just tick because they have , probably have standard rates so if I visit the patient in ICU irrespective of what I do with the patient, you bill for an hour, let's just say. I don't know how they bill for half hours or an hour but whatever that cost per unit is, you can have a column that says physio unit , one unit or two units per day. Means the physio came twice in that

day to see the patient and Whoever does the final billing will know what that means, bill per unit.

Interviewer: Have you ever spoken to any Allied professionals about them costing on the cost sheet?

Interviewee: No, not here, I haven't. Uhmm, the uhmm , most of those that I have worked with , the ones in the public sector, we were not doing billing. The private sector, of course, bills them or the patient directly. So that billing is not done by the hospital.

Interviewer: They are independent practitioners.

Interviewee: Unless it was a foreign patient and we had to send one bill but then what happened was that the physios… (coughing) handed their bill in every day to the accounts department and they coordinated it. (Coughing)…..

Interviewer: Are you Ok?

Interviewee: Sure …..(coughing)….!

Interviewer: Some of the nurses believe that if all the professionals are responsible for costing for services that are rendered. They believe that the nurses or we would have a better buy-in from the nurses. They would feel much more positive not to say that nurses are being singled out to do a particular task and that it is everyone's responsibility. How do you feel about that?

Interviewee: I think that can work, it just means that we have to in-service more than just the nursing. But ja, I don't think that is a bad idea.

Interviewer: Ok! To sum up, you believe that costing should be the nurses' responsibility at the bedside ideally and computers can work, you have given me some good ideas on how we can manage or improve some of the areas. Anything, else that you would like to add?

Interviewee: No, other than the fact that the top management in the Government hospitals should be held accountable and they should be trained on how to manage a budget. What makes them any different from any other company anywhere else, working as the CEO; they would be expected to know to stick to budgets. You can't just work outside of a budget.

Interviewer: Nurses have highlighted the fact that costing is important and that management should, or the task should start with management. That management should be in-serviced first and then filter the training down to the people that are actually looking after the patients at the bedside.

Interviewee: Again you can involve, if you are , organizing training for nurse managers , now in a big hospital, you have more than one nurse manager, start

there with some top nurse managers on each floor and then invite those people that work in the wards , to attend that training as well. So that you would have an interaction between the manager and the staff that are actually on the floor and if you tell me why you want to be doing it that way , then I have a better understanding of why you want it like that and it might make for a better relationship and so I mean, people are quick to say that this is an instruction from management but management doesn't understand .

Interviewer: Yes

Interviewee: Well if you sit down together and talk about it together then they would understand and then maybe I would understand where management is coming from.

Interviewer: And management will understand the challenges to the people for the nursing staff that have to cost for it?

Interviewee: I just think and as much as we all say we are democratic and whatever, many of us are not democratic. So it is an autocratic decision and that's the problem.

Interviewer: Which is another barrier?

Interviewee: Hmm

Interviewer: Thank you! Do you have any questions for me?

Interviewee: No I don't think so. I suppose I have to admit that I have been in a management post, so, (laughing)that is how I would manage it. You know my experience of management is very….and definitely democratic and demographic. You can't run a hospital on your own. You are totally dependent on the people you work with. Get their buy-in.

Interviewer: For sure! For sure and it is a big hospital as well.

Interviewee: Ja

Interviewer: At the end of the day we all have to work together!

Interviewee: And I do think that if we sit them down and let them make the decision with you guiding the decision because , obviously, if we have to save money, we have to save money , at least try to recover the money or manage our budgets correctly. It what we have to do , so you can guide them into making the decision and say well, that wouldn't benefit us because it is going to cost us more. So guide them, let them make the decisions. It doesn't matter if you are using one procedure in block one and a different in block 2. It is what works for them is what you need to introduce and certainly in a hospital like this where you have different blocks, you could have something different working in each block . If you think

about it , for example, in the pediatric area where children's times are different to adults times. I worked in a hospital where in ICU between half past twelve and two o clock we had lights off during the day. The patients must rest. That was an ideal time to catch up on all these things.

Interviewer: On the admin for the nursing staff?

Interviewee: Yes !

Interviewer: That is a good idea.

Interviewee: so for kids it would be different. So I say don't be so rigid, that it has to be standard throughout the hospital. Here the one section is surgery. Surgery is different to medicine. Let it fit in and the people working there are the ones that will know what is best. During visiting hours, whatever. Let them make the decision, then they will stick to it. Or they will come back and say ," listen , we made a blups, it doesn't work like this, can we please change?"

Interviewer: Self-assessment and self-audit?

Interviewee: Yes? You see and buy-in because it was their decision.

Interviewer: Thank you very much

Interviewee: Ok!

Interviewer: Some very good ideas and I really appreciate you assisting me.

Interviewee: Pleasure!

Interviewer: If I have any questions once I have transcribed the interview, can I come back to you?

Interviewee: Ja, sure!

Interviewer: To read the interview and to assist if I need clarity with anything?

Interviewee: Yes, sure

Interviewer: Thank you very much for your time .

Interviewee: Good luck with your research

Interviewer: Thank you !

APPENDIX H

Ethical Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R14/49 Ms CD Veran

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M170861

NAME: Ms CD Veran
(Principal Investigator)
DEPARTMENT: School of Therapeutic Sciences
Department of Nursing Education
Charlotte Maxeke Johannesburg Academic Hospital

PROJECT TITLE: To explorer ICU nurses practice and opinion of costing for healthcare, in a central hospital in Gauteng

DATE CONSIDERED: 25/08/2017

DECISION: Approved unconditionally

CONDITIONS:

SUPERVISOR: Ms V Herbert

APPROVED BY: Professor CB Penny, Chairperson, HREC (Medical)

DATE OF APPROVAL: 16 /01/2018

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on 3rd floor, Phillip V Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/We fully understand the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially reviewed in **August** and will therefore be due in the month of **August** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature _____ Date _____

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX I

Hospital Approval Letter

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

CHARLOTTE MAXEKE JOHANNESBURG ACADEMIC HOSPITAL

Enquiries:
Ms. G. Ngwenya
Office of the Nursing Director
Tell: (011): 488-4558
Fax: (011): 488-3786
08 February 2018

Ms. Cindy Veran
Department of Nursing Education
School Therapeutic Sciences
University of Witwatersrand
NHRD REF: GP_201710_033

Dear. Ms Cindy Veran

RE: **"To explore ICU nurses opinion of costing for healthcare in a central hospital in Gauteng"**

Permission is granted for you to conduct the above recruitment activities as described in your request provided:

1. Charlotte Maxeke Johannesburg Academic hospital will not in anyway incur or inherit costs as a result of the said study.
2. Your study shall not disrupt services at the study sites.
3. Strict confidentiality shall be observed at all times.
4. Informed consent shall be solicited from patients participating in your study.

Please liaise with the Head of Department and Unit Manager or Sister in Charge to agree on the dates and time that would suit all parties.

Kindly forward this office with the results of your study on completion of the research.

Supported / ~~not supported~~
Ms. M.M Pule
Nursing Director
Date: 2018/08/09

Approved / not approved
Ms. G. Bogoshi
Chief Executive Officer

APPENDIX J

Language editing and proofing

Gill Smithies

Proofreading & Language Editing Services

59, Lewis Drive, Amanzimtoti, 4126, Kwazulu Natal

Cell: 071 352 5410 Email: moramist@vodamail.co.za

Work Certificate

To	Prof. Shelley Schmollgruber
Address	Wits Dept of Nursing Education
Date	03/03/2019
Subject	EXPLORATION OF ICU NURSES' OPINIONS AND BARRIERS EXPERIENCED TOWARDS COSTING IN A CENTRAL HOSPITAL IN GAUTENG
Ref	SS/GS/28

I certify that I have edited the following research report for language, grammar and style,

Chapters 1 to 5 and Appendices: Exploration of ICU nurses' opinions and barriers experienced towards costing in a central hospital in Gauteng, by C. Veran, to the standard as required by Wits Dept. of Nursing Education.

Gill Smithies